

MZUMBE UNIVERSITY

SCHOOL OF BUSINESS

**SCRUTINIZATION AND ASSESSMENT OF LOAN PORTFOLIO
DIVERSIFICATION IN FINANCIAL INSTITUTIONS IN TANZANIA:THE
CASE OF NATIONAL MICROFINANCE BANK (NMB)**

By

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**A Dissertation Report Submitted in Partial Fulfillment for the Requirements
for Award of Master's Degree of Science in Accounting and Finance (A&F) of
Mzumbe University**

2013

DECLARATION

I declared that this dissertation is my own original work, contained therein is my own except where explicitly and stated otherwise in the text, and that this work has not been submitted for any other degree or professional qualification except as specified.

Date 15 July 2013

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Gastory V. Suline

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My lovely sons Vincent, together with his sisters Lucy, and Penelope had to bear brunt of my long absence from home at the time when they needed me most surely are so special that I could feel myself blessed to have such a wonderful family

This work would have not been probable however, but for foundation of my education which was laid by parents, my late father, Vincent M. Suline and my Mom Elizabeth L. Pangamendo both of them for their foresight sacrifice, encouragement and force of commitment have remained to be my inspiration. Equally, I am gratefully to my brothers, sisters, and friends who never stopped encouraging me to pursue my studies.

DEDICATION

To my parents, Vincent Suline & Elizabeth Pangamendo

For the value of education and learning they installed to me

To my beloved wife Angel N. Mwiru

For her endless love, support and inspiration to strive for meaningful pursuits

To my children: Lucy, Penelope, & Vincent

For the joy and evocative of life

ABBREVIATION AND ACRONOYMS

RF : The Risk Free Rate

CAPAM: Capital Asset pricing model

ER : The Return on Risk Factor

NMB : National Microfinance Bank

FOREX : Foreign Exchange

BJ : The Weight of Factor

APT : Arbitrage Pricing Theory

IPO : Initial Public Offer

SMS : Small Medium Enterprises

THB : Tanzania Housing Banking

HHI : Hirschman Herfindal Index

NICOL : National investment company limited

DSE : Dar essalaam Stock Exchange

MFS : Microfinance Financial Institution

ABSTRACT

The researcher was dealing with investigation and assessment the extent of loan portfolio diversification in financial Institutions in Tanzania concentrated in National Microfinance Bank (NMB). The study used Hirschman Herfindahl index methods of diversification in bank portfolios. The data collected in NMB banks in Arusha Region in the period of three years from 2010-2012. The source of data included various documents which are internal records of this bank, such as credit review reports, loan concentration for the bank, sample of loan product offered, and annual report obtained from credit department.

Data were collected from questionnaire which was sent to bank officers and data analyzed using descriptive statistical analysis techniques.

More diversified banks tend to have a lower magnitude value of Hirschman Herfindal Index (HHI) than less diversified banks which implies the higher portfolio diversification for small magnitude values of HHI and lower portfolio diversification for the higher magnitude values of HHI.

Diversification indeed lead to increase performance and therefore great safety on the part of the Bank as traditional portfolio and Banking theory, this study investigate the extent portfolio diversification in the aspect of Bank profitability and their portfolio diversification across different industries broader economic sectors and geographical region, the study revealed that the impact of diversification strongly depend on the risk level, good strategies and credit policy and management of risk.

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CHAPTER ONE

INTRODUCTION AND BACKGROUND INFORMATION

1.0 introduction

Financial Institutions provide loans to borrowers under defined awareness rates and terms of settlement. The financial institution management is constantly aware of the risk involved in giving loans to borrowers. Fear of taking the risk on the other hand small the risk might be compels financial institution manager to diversify the categories of borrowers to reduce the extent of loss in case of defaulters in repayment.

In Tanzania Portfolio diversification in the banking industry may have far ranging and long lasting implications for financial sector efficiency, bank stability, industrial competitiveness, policies regulations, and institutions essential for long- run economic growth, some argue that portfolio diversification will intensify market power and thereby impasse competition and efficiency.

Lending is the principal business activity for most commercial banks. The loan portfolio is typically the largest asset and the predominant source of revenue. As such, it is one of the greatest sources of risk to a bank's safety and soundness. Whether due to negligent credit standards, poor portfolio risk management, or weakness in the economy, loan portfolio problems have historically been the major cause of bank losses and failures (Cornett 2003).

Others argue that economics of scale drive bank mergers and acquisition, so that increased diversification goes hand in hand with efficiency improvements. In terms of stability, greater portfolio diversification may argument the size, market power and profits of banks, and there by enhance performance and creates greater inceptives for secure banks to avoid imprudent risk taking. On the other hand, bigger, diversified banks may become more leveraged and take on less risk since they can rely on portfolio diversification to help when adverse shocks hurt their solvency or profitability.

1.1 National Microfinance Bank Plc.

Following the break-up of the old National Bank of Commerce in 1997, by act of Parliament, three new entities were created: (a) NBC Holdings Limited (b) National Bank of Tanzania (1997) and (c) National Microfinance Bank. Initially NMB could only offer savings accounts, with limited lending capabilities. National Microfinance Bank (NMB) is a commercial bank in Tanzania, it is one of the commercial banks licensed by the Tanzania under national banking regulates in 1997.

In 2005, The Government of the United Republic of Tanzania started the privatization process and sold part of its shareholding (49%) to a consortium led by the Cooperative Centrale Raiffeisen-Boerenleenbank B.A. ('Rabobank Group'). In 2008, the Government reduced its share to 30% through the sale of shares to the general public in an IPO (16%) and to the NMB staff (5%). NMB became listed on the Dar es Salaam Stock Exchange on 6th November; 2008. NMB is the largest bank in Tanzania, with over 143 branches we are located in more than 80% of Tanzania's districts. This broad branch network distinguishes NMB from other financial institutions in Tanzania.

Table 1.1: Name of the shareholders

RANK	INSTITUTION	PERCENTAGE
1	Rabobank of the Netherlands	34.9
2	Government of Tanzania	30.0
3	Private Investors Via DSE	21.0
4	National Investment Company Limited (NICOL)	6.6
5	Exim Bank Tanzania	5.8
6	TCCIA Investment Company Limited	1.7
	TOTAL	100

Source: Annual Management Report, 2011

1.1.1 Mission

Through innovative distribution, and its extensive branch network, NMB offers affordable, customer focused, financial services to the Tanzanian community, in order to realize sustainable benefits for all its stakeholders.

1.1.2 Vision

To be the preferred financial services partner in Tanzania for the management of companies, promoting and enabling environment for economic growth and development as supported by the private sector. Appropriate microfinance services in the most efficient and sustainable manner possible while simultaneously embracing the social and environmental interests of all its stakeholders.

1.2 Statement of the Research Problem.

Investment of any form is a risky undertaking, no matter how small the investment is, and any shortfall in the expected return of any investment is considered to be a cost. To minimize the total loan portfolio risk, financial institution can consider diversifying its loan portfolio. Therefore research her indicated that the correlations between portfolio components are often not considered by financial institutions. The financial institution is therefore exposed to low firm specific credit risk, but may be exposed to high total portfolio credit risk if the portfolio components are highly correlated. Taking an example of the non-operation Tanzania Housing Bank, in which hundred percent of its loan portfolio was given to one industry such that, in building houses only, when that particular industry defaulted, the Bank collapsed. Similarly the former Co-operative and rural Development Bank, in which hundred percent of its loan was focused to farmers who suffered liquidity problems and weather conditions.

The outcomes of financial institutions indicate the need for diversifying loan portfolio to mitigate credit risk, Banking threats fall under numerous categories as follows: Liquidity risk, interest rate risks, market risk, forex risks, solvency risks, operation risks and credit risk, these are among of the problems which face financial institutions in Tanzania, but credit risk is more common than other risks in financial

institution1 to minimize the total loan portfolio. This study investigated and assessed the extent of loan portfolio diversification in financial institutions more specially banks which are registered in Tanzania.

1.3 Research objective

1.3.1 General objective of the Research

The general objective of this study was to examine and evaluate the extent of applicability of loan portfolio diversification as a bank credit risk management tool in National Microfinance Bank in Tanzania.

1.3.2 Specific objective of the Research

The study addressed the following specific objectives;

- i) What does the practical implementation and the follow – up of loan portfolio diversification look like? Is there any measurement of diversification being done and if so, how is it measured.
- ii) To assess the degree of success in credit risk management that has been achieved by financial institutions which practice loan portfolio diversification in Tanzania
- iii) To scrutinize categories of borrowers or projects which are financed under loan portfolio source

1.4 Research Questions

In order to reach the stated purpose of assessing extent of loan portfolio diversification the study concentrates to attempt to find the answers to the following questions.

- i) What percentage of loan provided by NMB Plc, Tanzania practice loan portfolio Diversification as a credit risk management tool?
- ii) What are different diversification strategies which financial institution applied?

- iii) How does the National Microfinance Bank go about diversifying their loan portfolios? What are the diversification variables?
- iv) What classifications of borrowers or projects which are financed under loan portfolio diversification

1.5 Hypothesis

- i) The majority of Tanzania financial institutions practice loan portfolio diversification as credit risk management.
- ii) There are different numbers of corporate borrowers in their diversification, for instance farmers and workers

1.6 Significance of the study

The consequence of the study is believed to be important for the following details finding of the study were significant especially to financial institutions which give loans to large corporate customers in Tanzania. However, the results showed the degree of success of loan Portfolio Diversification in NMB Plc and induce more financial institutions to apply loan portfolio diversification in mitigating losses associated with loans given to borrowers and show the clear picture to the risk management within the financial institution, also the researcher was provide literature for further studies by other researchers, not only that but also research will be useful for researcher's partial fulfillment of the requirement award of finance degree at Mzumbe University, and other high learning institution.

1.7 Scope of the study

The nature of this study is where the researcher used information from National microfinance Bank clock tower Arusha; all questionnaires directed to respondents employed in National Microfinance Bank, all data and potential information for empirical evidence of the extent of loan diversification obtained from the National Microfinance Bank (NMB), where due to limitation of time and funds the researcher collected data through Investigation, interviews and questionnaire, the assessment of the extent of loan Portfolio diversification ranged from year 2010 to 2012.

1.8 Conceptual Frame Work

The study consist of two variables , independent and dependent variables where independent variable are factors which influence dependent variables, in this study loan portfolio diversification is the independent variable while financial institution is dependent variables, dependent variables are those that depend on the other variables to reflect a situation expected by the researcher in the exploring the difficult which is the fore most concern with the study the relationship between independent and dependent variables relies in the concept that the performance of financial institution depend on the extent of loan portfolio diversification.

According to educational researcher Smyth (2004), defined as a structured from a set of broad ideas and theories that help a researcher to properly identify the problem they are looking at, frame their questions and find suitable literature. Most academic research uses a conceptual framework at the outset because it helps the researcher to clarify his research question and aims. Also is a tool researchers use to guide their inquiry; it is a set of ideas used to structure the research, a sort of map that may include the research question, the literature review, methods and data analysis. Researchers use a conceptual framework to guide their data collection and analysis progress in that area.

1.9 Limitations of the study

The researcher used bank's corporate loan portfolio diversification and excluded the issues of product diversification, National Microfinance Bank, with four branches, clock tower, Summit center, Arusha market, and Arusha Business center, located in Arusha Region Tanzania was only premeditated. The study focused on assessing loan portfolio diversification in financial institution particularly in National Microfinance Bank.

1.10 Organization of the dissertation

This dissertation is organized into a series of chapters and sections anticipated to provide all information needed by a reader to understand the conclusions of research work, first chapter introduces the problem to the readers and it contains the following sections; Introduction of the chapter, background information, statement of the problem, the objectives of the research, the research questions, the hypothesis, the significance of the study, scope of the study and organization of the study. Chapter two involves setting the work into context and showing related methods together with literature review in solving the research problem,

The third chapter of this researcher described the methodology which has been used in data collection, validity and reliability of the data collected these includes primary and secondary methods, population sample, purposive sampling, questionnaire, interviews and data analysis method. In chapter four, the researcher presents findings in which data were analyzed by the use of descriptive analysis technics using a Statistical Package for Social Science (SPSS) version 20.0 for windows, discussion and interpretation of the research finding. Chapter five shows the conclusion and recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter describes both theoretical and empirical literature review meanwhile under theoretical review different records have been revised concerning the problem of the study, also empirical literature reviews concentrates on the thoughts provided by previous researchers reflecting this study.

2.1 Topology of risk faced by banks

Risk can be defined as the combination of probability of an event and its consequences which can constitute opportunities for a benefit or threat to success (ISO, IEC Guide 73)¹. This is an essential ingredient in the financial sector whereby as the institutions want to increase returns to investors, they are faced with increase cost of risk. In this sector, banks manage a greater number of risks and more diverse risks than any other type of business. However, through managing risk, banks are able to improve their performance and productivity; basis divide banking risk into different categories, liquidity risk, interest rate risk, market risk, exchange risk, solvency risk, operation risk, and credit risk.

2.1.1 Market Risk

Is the market deviation that may negatively influence the value of portfolio during the liquidation period, also market risk can be handled with different derivative and insurance product, the more volatile are the asset prices in the market in which the bank trades the greater are the market risks faced for those adopting open trading position. This risk can be further classified into directional and non-directional risks whereby the former deals with exposure to direct movements of financial variables

¹ ISO/IEC Guide 73 as cited in anonymous (2002). Risk Management Standards London: AIRMIC, ALARM.

such as stock prices and latter consists of non-linear exposure to hedge positions (Jorion, 2000)².

2.1.2 Credit Risk

Credit risk refers to the risk that a borrower will default on any type of debt by failing to make payments which it is obligated to do. The risk is primarily that of the lender and includes lost principal and interest, disruption to cash flows, and increased collection costs. The loss may be complete or partial and can arise in a number of circumstances. For example consumer may fail to make a payment due on a mortgage loan, credit card, line of credit, or other loan, or a company is unable to repay amounts secured by a fixed or floating charge over the assets of the company, etc. to reduce the lender's credit risk, the lender may perform a credit check on the prospective borrower, may require the borrower to take out appropriate insurance, such as mortgage insurance or seek security or guarantees of third parties, besides other possible strategies. In general, the higher the risk, the higher will be the interest rate that the debtor will be asked to pay on the debt. This is also a probability that the loan given to the borrower will not be paid in full term set out in the contract(Fielder, 1971)³.

2.1.2.1 Credit risk classification

Credit default risk The risk of loss arising from a debtor being unlikely to pay its loan obligations in full or the debtor is more than 90 days past due on any material credit obligation; default risk may impact all credit-sensitive transactions, including loans, securities and derivatives.

Concentration risk is associated with any single exposure or group of exposures with the potential to produce large enough losses to threaten a bank's core operations. It may arise in the form of single name concentration or industry concentration. Loan concentration risk arises when the loan portfolio is confined to a small number of

²Jorin, Philippe (2000) Value at Risk: The new Benchmark for Managing Financial Risk 2nd edition. New York: McGraw-Hill.

³ Fielder, E (1971) Measures of credit Risk and Experience. New York: Bureau of economic Research.

large loans. If one loan fails, this then has a major impact on the loan portfolio quality. Institutions prone to insider or connected lending are very subject to this type of risk.

Country risk is the risk of loss arising from sovereign state freezing foreign currency payments (transfer/conversion risk) or when it defaults on its obligations (sovereign risk).

2.1.3 Liquidity Risk

Is the point where liquidity asset that make up a buffer are diminished, this risk stemming from the lack of marketability of an investment that cannot be bought or sold quickly enough to prevent or minimize a loss, liquidity risk is typically reflected in unusually wide bid-ask spreads or large price movements (especially to the downside). The rule of thumb is that the smaller the size of the security or its issuer, the larger the liquidity risk. This is mismatch in the maturity patterns of assets and liabilities, Dowd (1987)⁴ believe that in the context of trading, this context of trading this risk arises from cost of inconvenience of unwinding a position.

<http://www.investopedia.com/terms/l/liquidityrisk.asp#ixzz2kzlrifdt>

2.1.4 Operation Risk

Operation risk is the risk of loss resulting from inadequate or failed of internal process, people and systems or from external events. The risk has both internal and external drivers. It is internally driven by accounting controls, information systems and supply chain. Regulation, Culture and broad composition will externally drive operational risk (Anonymous, 2002)⁵

2.1.5: Solvency risk

Is the risk exposing the bank into the situation where it is unable to cover its payment obligations therefore insolvency can occur if the bank exposed to any of the risk mentioned above.

⁴ Dowd, K. (1998), beyond value at risk: The new science of risk Management. Chichester: John Wiley& Sons.

⁵ Anonymous (2002)Internationa Financial Risk(IFCI) Ather Andersen Risk disclosure Survey

2.1.6 Other Risk

2.1.6.1 Reputation Risk

This risk exposes bank to the threat of losing customer loyalty if it does not treat them fairly. Therefore, banks face a challenge on balancing market competitiveness and customer satisfaction. According to Don McCree, deputy head of risk management at JP Morgan Chase, the bank spends an enormous amount of time analysis new risks such as reputation and litigation risk created by parties we do business with (Whighton 2005)⁶

2.1.6.2 Legal Risk

A description of the potential for loss arising from the uncertainty of legal proceedings, such as bankruptcy, and potential legal proceedings, this is the impact bank may faces as a result of changes in the application of regulations that govern it. It is common within those banks that operate across multiple jurisdictions whereby the complexity evolves on which jurisdiction to take precedence.

2.2.0 General overview of Bank Portfolio Diversification

2.2.1 Diversification in the context of growth Strategies

Portfolio diversification is a form of growth strategies. Growth strategies involve a significant increase in performance objectives (usually sales and market share) beyond past level of performance. Growth may also improve the effectiveness of the financial institution. Financial Institution which have diversified it portfolio have a number of advantages over institution operating in more diversification (Homburg 2005)⁷

2.2.2 Concentric Portfolio Diversification

It occurs when a firm adds related products or markets. The goal is to achieve strategic fit. Strategic fit allows an organization to achieve synergy. In essence,

⁶Whighton, D (2005).Risk management; Keeping Pace with Effective Results” Financial Times, Downloaded from [http: financialtimes.printthis.clickability.com/pt/cpt? Action= cpt& title= FT.com+%2F](http://financialtimes.printthis.clickability.com/pt/cpt? Action= cpt& title= FT.com+%2F)

⁷ Homburg, C.H Krohmer, and J. Worman (2005) Strategic Consensus and performance: The Role of Strategy Type and Market-Related Dynamism. Strategic Management Journal 20,339-358

synergy is the ability of two or more parts of an organization to achieve greater total effectiveness together than would be experienced if the efforts of the independent were summed.

2.2.3 Conglomerate Portfolio Diversification

According to (Amit and Livnat, 2003)⁸ Conglomerate diversification occurs when a firm diversifies into areas that are unrelated to its current line business. Synergy may result through the application of management expertise or financial resource, but the primary purpose of conglomerate diversification is improved probability of the acquiring firm.

2.2.4 External and Internal Diversifications

Diversification efforts may be either internal or external. Internal diversification occurs when a firm enters a different, usually related, line of business by developing the new line of business its self. Internal diversification frequently involves expanding a firm's product or market base. External diversification may achieve the same result; however the company enters a new area of business by purchasing another company or business unit. Mergers and Acquisitions are common forms of external diversification. (Calvet, L. Gonzalez-Eiras and Sodin, 2000)⁹

2.2.5 Vertical or Horizontal Diversification

Diversification strategies can also be classified by the direction of the diversification. Vertical diversification occurs when firms undertake operations at different stages of production. Involvement in the different stages of production can be developed inside the company (internal diversification). Horizontal integration or diversification involves the firm moving into operations at the same stage of production. Vertical integration is usually related to existing operations and would be considered

⁸Amit, R and J. Livnat, A Concept of Conglomerate Diversification, Academy of Management Journal 28 (2003): 593-604.

⁹Calvet, L., Gonzalez- Eiras and Sodin, P (2000) Financial Innovation Stock Market Participation and Asset prices, SSE/ WFI Working Paper 464

concentric or conglomerate form of diversification. (Grinblatt, M and Matti K 2000)¹⁰

2.3 Concepts of loan Diversification

Diversification of loan portfolio is the most important components in helping the banking industry to reach long –range financial goals while minimizing risk, at the same time diversification is not an ironclad guarantee against loss, no matter how much diversification is applied, or investing involves taking on some risk. According to portfolio theorists adding about 20 securities to the portfolios tend to reduce almost all of the individual security risk involved Gal I J, (1994). This assumes that loan asset should be lend of different size to various industries, to formalize loan are portioned into N segments. Let

2.3.1 Loan Diversification by Hirschman Herfindahl Index

The Hirschman- Herfindahl Index (HHI) is an ordinarily accepted measure of loan concentration. Nevertheless the formula can be used to measure the diversification of loan portfolio. For more illustration let's consider the formula below

$$HHI (X)$$

Where n is the number of groups and X_i measures exposure to industry, sector or region i . The smallest and largest possible values for the Herfindahl Index are given by $1/n = H = 1$. Hence, lending g is more concentrated the closer the Herfindahl Index is to one and is perfectly diversified if H equals $1/n$. In our case, we constructed three different kinds of Herfindahl Indices: one industrial (and household) sector Herfindahl Index (HI), one broad asset type (or sectorial) Herfindahl Index (HT) and one. Where small value of HHI means high diversification of loan portfolio and high value of HHI means diversification of loan portfolio.

¹⁰ Grinblatt, M and Matti K,(2000) The Investment Behavior and Performance of Various Investor Types: Journal of Financial Economics, 55(1), January, pp. 43-67.

Note that the lower the limit for the HHI is $1/N$ where N is the number of bank loans (industrial) and is attained when exposed to all loan segments. The HHI is equal to 1 when all loans are granted to one segment

2.3.2 Effect of Diversification of Portfolio

According to the Correia (2000) at the time of investment it is not known with certainty which investment succeed and which might fail. It is sensible to diversify into the number of investment in the expectation that those which are profitable may at least compensate for the losses sustainable from those that are not this effectively means diversification is the simplest against credit risk, include various asset with imperfect correlation into a loan portfolio allow the investor to reduce the general level of risk of the portfolio

In finance, diversification means reducing risk by investing in a variety of assets. If the asset values do not move up and down in perfect synchrony, a diversified portfolio will have less risk than the weighted average risk of its constituent assets, and often less risk than the least risky of its constituent, therefore, any risk averse investor will diversify to at least some extent, with more risk averse investors diversifying more completely than less risk-averse investors. Diversification is one of two general techniques for reducing investment risk. The other is hedging. Diversification relies on the lack of a tight positive relationship among the assets' returns, and works even when correlations are near zero or somewhat positive. Hedging relies on negative correlation among assets, or shorting assets with positive correlation by doing so will result to the following outcome, Increasing liquidity and lending capacity, reducing exposure to credit concentration, Credit portfolio at the bank level leads to better performance and lower risk, preserving customer relationships, and reducing Competitive Position for New financial Market.

2.3.3 Increasing liquidity and lending capacity

Bank can free up to not only risk based capital but also cash. By securitizing and selling a portfolio of commercial loans, the funds generated by a diversifying loan portfolio can then be reinvested in an additional commercial loans which may be

expected to results in origination fee income or in other higher yielding or lower risk weighted asset or can be used for other corporate purpose, depending upon market conditions a loan diversification can be a very source of funding for other bank lending activities.

2.3.4: Reduce exposure to credit concentration

Bank in most jurisdiction are subjected to loans to one borrower or lending limit regulation that limit the amount of credit exposure a bank can have to a single borrower and its affiliates. Moreover as a matter of general safety and soundness, most banks attempt to limits their exposure to particular concentrations of credit risk, which may include concentration of a loans to a particular borrower or to a group in a particular industries or geographical regions, loan portfolio diversification provide bank with an efficient means of transferring credit concentration to investors who are not exposed to such concentrations.

2.3.5: Managing other balance sheet characteristics

Bank use portfolio diversification to manage various balance sheet characteristics in addition to credit risk, such as spread , liquidity and concentration of asset tied to a particular index, by securitization assets having characteristics which are over represented in the portfolio, and originating or purchasing assets which are underrepresented, bank manage can fine tune the financial profile of the balance sheet.

2.3.6: Preserving customer Relationship

Loan portfolio diversification permit bank to transfer credit risk to while preserving relationship with borrower, a significant disadvantage to a bank of selling loans on a basis, is that the purchase of loans will then have an opportunity to establish a relationship with the borrower and therefore prospect for the future business. Most banks consider the ability to continue to deal with their customers to be a major advantage of a loan portfolio diversification over other possible of disposing of their loans.

2.3.7: Competitive Position for the new market place

One of the most compelling reasons for a bank to undertake a portfolio diversification is somewhat more subjective than the financial and regulatory objective described above, it is widely observed that the commercial banking markets and the global capital markets are rapidly becoming intergraded. Fundamental changing the mechanisms of funding business activity. Many of the world's premier investing banks have created formidable commercial lending units, and many of the world's largest commercial banks are actively involved in investing banking. Continuing regulatory reform in Tanzania and other countries is expected to adopt the further combining of the commercial banking, investment banking and insurance business toward an integrated service industry.

2.4 Related Empirical Literature

An impression of the existing empirical work on loan portfolios diversification illustrated that it is entirely unclear how loan portfolio diversification should be measured. The work of Pfingsten and Rudolph (2002) partial fill gap for German banks. Their analysis of loan portfolio diversification is based on aggregate data of German bank groups covering the period from 1970 to 2001. The authors explain the diversification by distance measures, quantifying the distance between a bank group's loan portfolio and markets loan portfolio.

The diversification is considered for up 16 industries. The data comprise the lending to business and only involve national loan origination. In running a time series analysis, Pfingsten and Rudolf (2002) found that bank groups increased their loan portfolio diversification over time. However, this result might be driven by aggregation of data. Aggregation data of banks that specialize in different industries may still lead to an increasingly diversified loan portfolio at bank group level. Pfingsten and Rudolph (2002) added several other measures and performed both a panel analysis and a time series analysis. This enabled them not only to examine the extent to which the strategy of loan portfolio diversification as opposed to focus individual German banks follow but also to establish how the bank behavior seem to have changed over time.

Acharya et al (2004)¹¹ analyzed the effects of loan portfolio diversification on risk and return. They examined 105 Italian banks over the period from 1993 to 1999. As a measure of diversification, they used the Hirschman-Herfindal Index (HHI), which they compute for industrial and sectorial diversification. The industrial HHI is the sum of the squares of relative exposures under the given classification of industries. The sectorial HHI is calculated analogously. The boundaries of the HHI are given by

$$1/n \leq \text{HHI} \leq 1$$

Where n= stands for the number of loan exposures.

HHI =value of Hirschman-Herfindahl Index

Note that the Index reaches its minimum concentration when the exposures to all segments (Industries, sectors) are equal one. It is 1 when all loans originate from one segment. The effect of diversification on different return and risk figures is analyzed using panel regression. The results show that industrial diversification is linked to a decrease in performance, expressed declining returns and even an increase in risk.

2.5 Modern Portfolio Theory and the Efficient Frontier

In 1952, Markowitz and other contributors created a framework for constructing portfolios of securities by quantitatively considering each investment in the context of a portfolio rather than in isolation. Modern Portfolio Theory's (MPT) primary optimization inputs include:

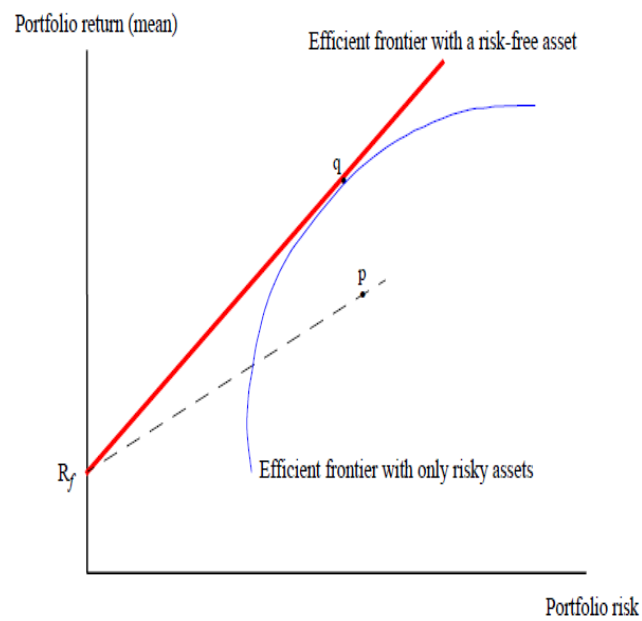
- (i)Expected return
- (ii)Expected standard deviation, a proxy for risk
- (iii)Expected correlations among all assets

One of the key insights of MPT is that correlations less than 100% lead to diversification benefits, which are considered the only free lunch in finance. Sharpe

¹¹ Acharya, V., (2004), Should Banks be diversified? Evidence from Individual Bank loan Portfolios. Tech.rep., London Business School, London Forthcoming in Journal of Business.

(et al.) extended and simplified MPT by compressing security characteristics into asset class groupings where a single market factor (beta) serves as a proxy for a multitude of security level characteristics. As illustrated in the figure.

Figure 2.1: Efficient frontier with risk free



Source: D'Souza, C. and A. Lai, 2002

Objective of MPT and the resulting Capital Asset Pricing Model (CAPM) is to generate mean Variance efficient portfolios via quadratic optimization, represented by the efficient frontier Portfolio.

2.6 Arbitrage Pricing Theory

Arbitrage Pricing Theory (APT) extends CAPM by allowing for multiple factors instead of just one “beta” factor as a proxy for the market. It states that:

The diagram shows the APT equation: $E(r_j) = r_f + b_{j1}RP_1 + b_{j2}RP_2 + b_{j3}RP_3 + \dots + b_{jn}RP_n$. Labels with arrows point to specific parts: 'The expected return of a given asset' points to $E(r_j)$; 'The risk-free rate' points to r_f ; 'The weight of factor 1' points to b_{j1} ; and 'The return on risk factor 1' points to RP_1 .

$$E(r_j) = r_f + b_{j1}RP_1 + b_{j2}RP_2 + b_{j3}RP_3 + \dots + b_{jn}RP_n$$

Source: Brender e.tal.

Put simply, this means the expected return of a given asset is equal to the risk-free rate plus risk factor return #1 times the weight of factor #1, summed for multiple factors.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter describes various methods that were applied in conducting the proposed research topic. It describes the research design, sampling techniques, and data collection methods and analysis strategy, types of data collected, and data analysis techniques to be employed during the whole study, also presents the approach of the research method and reflects on data collection procedures used in this dissertation.

3.1 Research Design

Research design has been defined by Kothari (1997:54) as a plan of action through which a researcher organizes his/ her work from data collection, organization to analysis. A research design according to this study is a process of planning the whole study in terms of combining theoretical data with empirical findings to answer the researcher questions.

Research strategy used research questions to lead the whole performance in the selection of source and types of information (cooper, 2003). It is a general plan of how the research is conducted and answering the research questions. The objective and methods of a research would affect the way research questions are approached, generally research are broadly classified into the exploratory, and descriptive, according to Sekaran (2006), exploratory research is undertaken to develop knowledge of the research problem which is not well known or the real problem are not clearly identified.

3.2 Area of the study

The study will be conduct in Arusha region. Four major banks located in Arusha will be assessed

3.3 Population Sample and Sampling Technique

3.3.1 Population Sample

All the items under consideration in any field of inquiry constitute a 'universe' or 'population'. A complete enumeration of all the items in the 'population' is known as a census inquiry. It can be presumed that in such an inquiry when all the items are covered no element of chance is left and highest accuracy is obtained. But in practice this may not be true. Even the slightest element of bias in such an inquiry will get larger and larger as the number of observations increases, this type of inquiry involves a great deal of time, money and energy.

3.3.2 Sample and Sampling technique

The researcher used purposive stratified and random sampling methods to select the sample for this study. In practice, several of the methods of sampling may well be used in the same study in which case it can be called mixed sampling. It may be pointed out here that normally one should resort to random sampling so that bias can be eliminated and sampling error can be estimated. The sample design used by the researcher was consider the nature of the inquiry and other related factors.

3.3.3 Purposive Sampling

Purposive sampling technique was used to select representative from National Microfinance Bank Plc, Managers and employees were involved in the data acquisition, the major reason for adopting purposive sampling was due to the nature of the research questions which demand the data to be collected from different department of the entity and management who have different ideal and experience. This enabled the research to assess the views of different group who have the supreme for portfolio diversification.

According to Saunders et al. (2007), purposive or judgment sampling enable the researcher to use his finding to select cases that is the best for answering research questions, interviews and questionnaires were consulted

3.3.4 Random Sampling

Random sampling is also known as Probability sampling or chance sampling'. Under this sampling design, every item of the universe has an equal chance of inclusion in the sample. It is, so to say, a lottery method in which individual units are picked up from the whole group not deliberately but by some mechanical process. Here it is blind chance alone that determines whether one item or others are selected. The results obtained from probability or random sampling assured in terms of probability such that researcher used to measure the errors of estimation and significance of results obtained from a random sample, this fact brings out the superiority of random sampling design over the deliberate sampling design.

Random sampling ensures the law of Statistical Regularity which states that if on an average the sample chosen is a random, the sample was the same composition and characteristics as the universe. This is the reason why random sampling is considered as the best technique of selecting a representative sample.

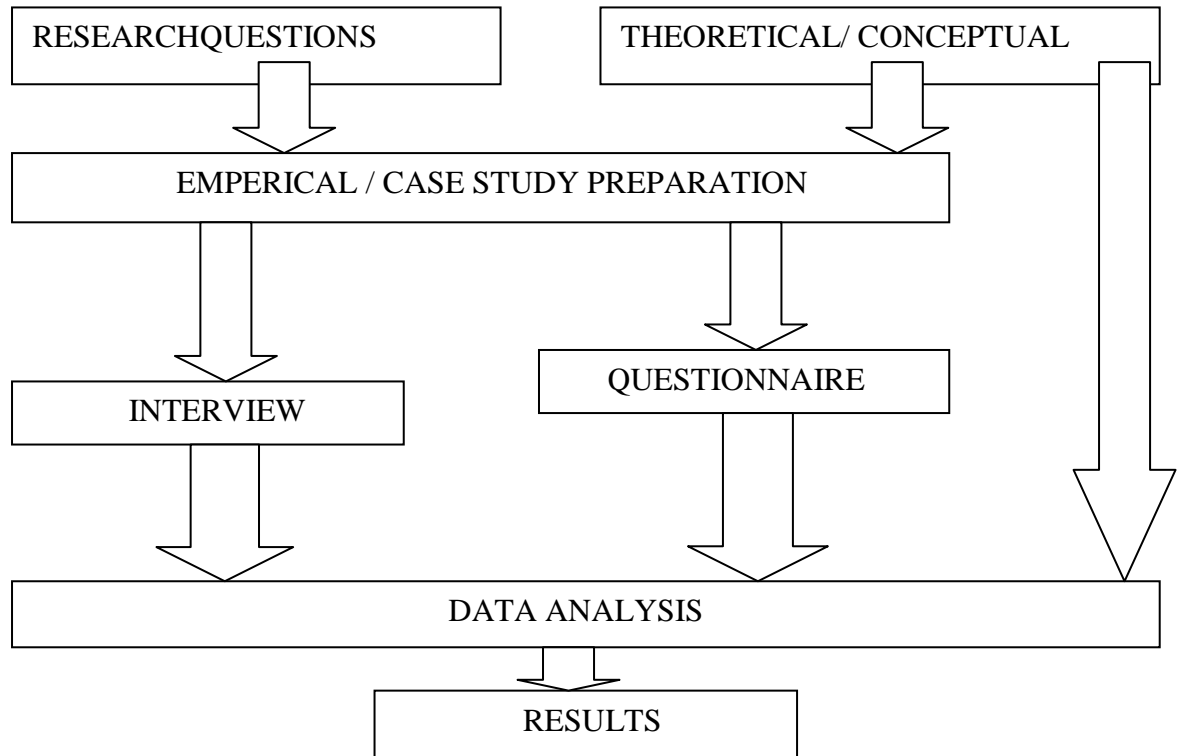
3.4 Data Collection Methods

Qualitative and quantitative are two widely used data collections methods and analysis procedures in conducting a research (Saunders et al. 2007) the quantitative method is based on the numerical data and usually presented in tables, diagrams and mainly use questionnaire as data collection method. In contrast, the qualitative method is based on texts and metaphors with a very low level of standardization, where the clarification of the data into categories is necessary, therefore the flexibility observe in qualitative is that variables and categories are analyzed along the way, and the dialog presents two ways communication based on the researcher preference.

Qualitative method was adopted as appropriate strategy for this study with the purpose of answering the research questions relevant to the nature of phenomenon with emphasis on described and giving meaning from participant's point of view the case study was carried out at National Microfinance Bank Plc, Arusha region. For this study the data used was based on primary data collected from the employees of

NMB, the main instruments used in data collection were questionnaire and interviews, the secondary data collected from published journal annual reports, and internet.

Figure: 3.1: Data collection and analysis strategy



Source: Constructed by the Research, 2013

3.4.1 Primary data collection.

Primary data are those which are collected a fresh and for the first time and thus happen to be original in character. Primary data is referring to the data collected from the study at hand by the researcher (Saunders et al. 2007). To obtain first hand answers to the research question, questionnaire and interview were suitable instruments for this research.

3.4.1.1 Questionnaire

This method of data collection is quite popular, particularly in case of big enquiries. It is being adopted by private individuals, research workers, private and public organizations and even by governments. A questionnaire consists of a number of questions printed or typed in a definite order form or set of forms , questionnaire were distributed to respondents who are expected to read and understand the questions and write down the reply in the space meant for the purpose in the questionnaire itself. The respondents answered the questions on their own. This helped the researcher to collect primary data. Questionnaires administered to employees of the NMB Plc. The researcher used this instrument because it was efficient technique of collecting package of information within a short time

3.4.1.2 Interviews

The researcher attended an in - depth face - to- face interview with branch managers, in order to gather valid and reliable data which supported research questions (Saunders et al. 2007), a semi structured interview type was implemented to undertake a series of open ended questions based on the this study. Furthermore the flexibility of the semi structured interview provided opportunity for both interviewer and interviewee to discuss some issues in more detail, it also enable the interviewer to ask interviewee comprehensive explanation or query the interviewee to elaborate the original response, hence an interview guide were prepared consist of seven questions and were open ended in nature (Appendix 2)

Before conducting the interview, prior permission and appointment were requested to key NMB staff who were capable of providing valuable information, moreover the aim of the research was explained to each interviewee and verbal consent was obtained subsequently, participants of the researcher introduced the objectives and expected benefits of research undertaking so as to enable the participants to listening, and responding to questions and raising questions about the discussion. (Yin, 1994). Interview was conducted lasting from 45-60minutes, all interviews were in oral format taken from the respondents, key points were noted during the interview and then reviewed on daily bases.

3.4.1.3 Direct observation

The observation method is the most commonly used method especially in studies relating to behavioral sciences. In this research observation method was not applied due to the nature of the study it require a serious knowledge and opinions, to collect primary data but not in looking way. Observation becomes a scientific tool and the method of data collection for the researcher, when it serves a formulated research purpose, is systematically planned and recorded and is subjected to checks and controls on validity and reliability. Under the observation method, the information sougheed by way of investigator's own direct observation without asking from the respondent. The main advantage of this method is that 'subjective bias is eliminated if observation is done accurately. Also the information obtained under this method relates to what is currently happening it is not complicated by either the past behavior or future intentions or attitudes.

3.4.2 Secondary Data Collection

The secondary data, on the other hand, are those which have already been collected by someone else and which have already been passed through the statistical process. The researcher decided to use both sort of data for this research accordingly.

3.4.2.1 Document method

Secondary data means data that are already available i.e. they refer to the data which have already been collected and analyzed by someone else. In collecting secondary data, the documentation method was used, this involved reading the previous and current documents and records of the organization and of different writers and researchers on the matter under study. It was hoped that a considerable number of records and documents would be obtained from technical and trade journals, books, magazines and newspaper, reports and publications of various associates connected with loan portfolio diversification in banks and reports prepared by research scholars in the related field.

3.5 Data Analysis

All the response were collected, compared, and crosschecked for the accuracy, validity and validity and coded. The data gathered from the questionnaire were analyzed using SPSS version 12.1 and Microsoft Excel 2010 then the summary of finding is presented. The interviews were in oral format and transcribed. Afterwards the salient data were filtered and classified into the prominent themes for easy analysis and implementations.

The researcher used the data for year, 2010, 2011, and 2012 then computed the loan portfolio diversification of those particular years by using the formulae of Hirschman-Herfindahl Index (HHI), and then computed the loan portfolio diversification of year 2011 and compared them to see the extent of loan portfolio diversification of the selected sample. The advantage of using Hirschman Herfindahl Index (HHI), over the other methods is its simplicity in application, because it is calculated by squaring the market share of each firm competing in a market, and then summing the resulting numbers. The HHI number can range from close to zero to 10,000 as follows.

$HHI = s_1^2 + s_2^2 + s_3^2 + \dots + s_n^2$ (where s_n is the market share of the firm).

3.6 Validity and Reliability

Validity and reliability of the collected data should be checked in order that the findings depict the reality and the desire outcomes (Saunders et al 2007). the validity and reliability has been highly considered in this research through the use of triangulation subsequently multiple method of data collection was used including questionnaires and interviews as a primary data, journals, websites etc., as secondary data. The combination of these methods enabled researcher to be comprehensive and rigorous, during the study the researcher made reasonable efforts to ensure validity by ensuring that data collected in a valid way.

CHAPTER FOUR

DATA ANALYSIS, DISCUSSION AND INTERPRETATION OF THE RESEARCH FINDINGS

4.0 Introduction

This chapter presents the data analysis, discussion and presentation of the research finding. Results of this study are presented in tables and figures for the purpose of illustrate and increase clarity to the report. Then followed by analysis and interpretation of the findings, in order to provide a structure for the presentation of research findings the results are divided into section and presented in the following order. First serving as orientation, findings, and background information of the respondents by looking at their gender, age, level of education, and length of service and their function, Secondly the results of the study questions are presented from the survey and questionnaire. And lastly, analysis and discussion of the data from the survey is to be presented.

4.1 General characteristics of the respondent

Basic demographical information, sex, age, length of service, and level of education in NMB Plc, were among the data collected under the topic of examine the extent of loan portfolio diversification during the questionnaire survey, the major rational behind this was to show the distribution of respondents and helps the reader to understand the relevant information that was collected from the sample in representing the target population, this information is important in this study as far as the objective of this study is concerned, where a total number of respondent is seventy nine participated in this survey.

4.1.1 Age of Respondents

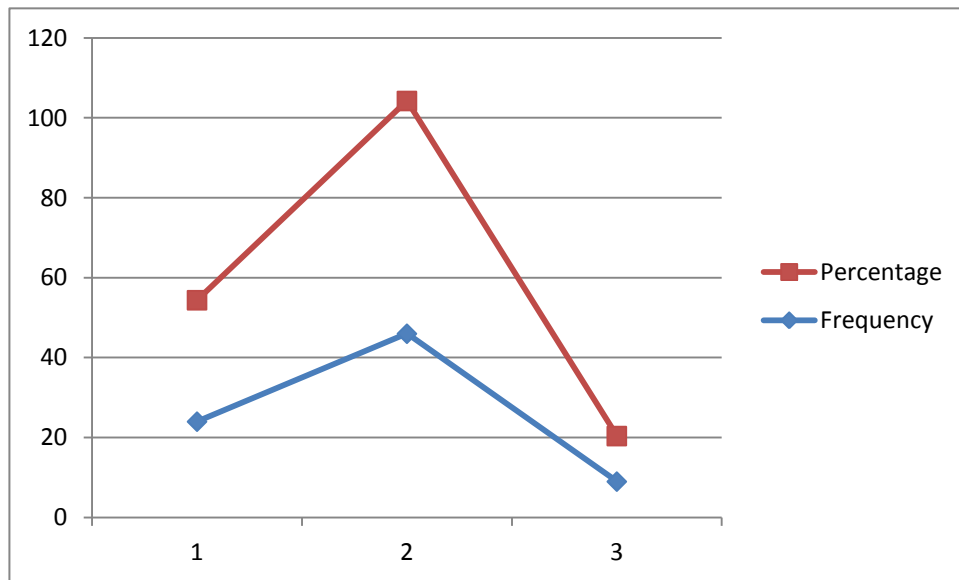
The researcher examines the age of the respondent to that to determine the training attended to support the study. Table 4.1 and Figure 4.1 represents the distribution of respondents by age, the age ratio of participants in less than or equal to 35 years were 30.4.1%, 36 years or equal to 50 years were 58.2.1% and 51 years and above were 11.4%

Table 4.1: Age Distribution of the Respondents

Age Interval	Frequency	Percent
<= 35	24	30.4
36<= 50	46	58.2
>=51	09	11.4

Source: Analyzed Data, 2013

Figure 4.1: Age Distribution of the Respondents



Source: Survey Data, 2013

4.1.2 Gender of the Respondents

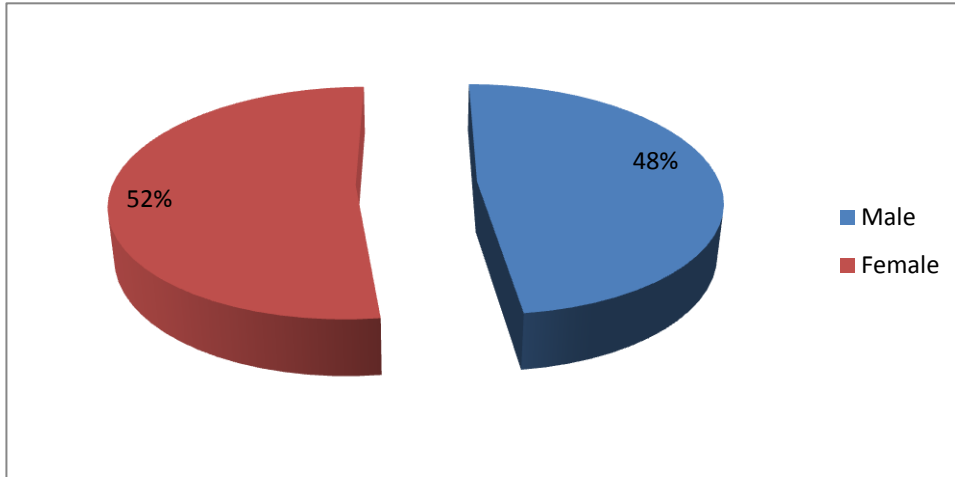
Out of 79 participants that responses the majority responses comprises 41 Female (52%) and Male were 38 (42%), as depicted in the graphical representation of the data Table 4.2 and Figure 4.2 the fact that there were more female in the sample than male, which is very clear identified there are more female staff at NMB Plc in Arusha Region most of them are from teller section, loan officers, operations section and marketing department.

Table 4.2: Sex of Respondents

Sex	Frequency	Percent
Male	38	48
Female	41	52

Source: Analyzed Data ,2013

Figure 4.2:Sex of the Respondents



Source: Survey Data, 2013

4.1.3 Level of Education

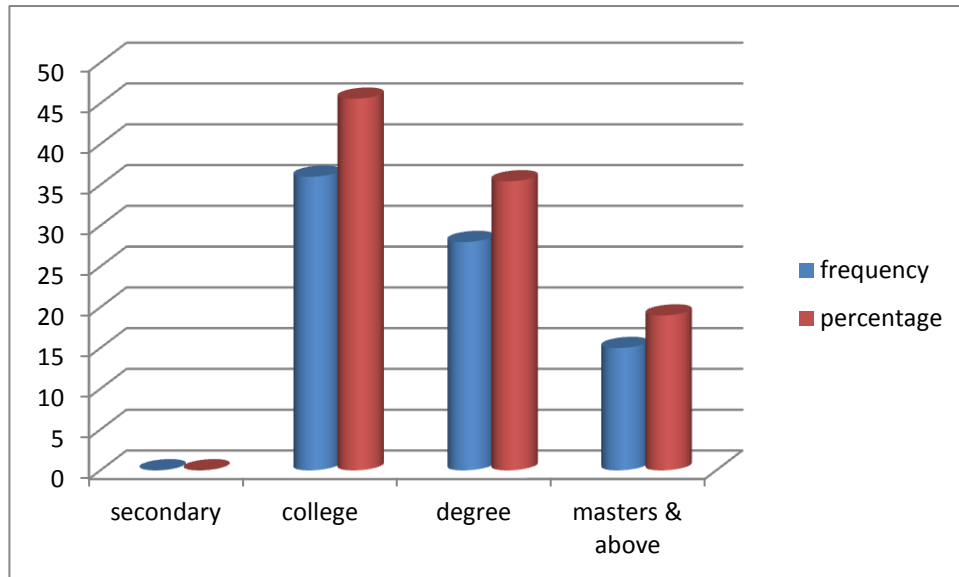
Education level of the respondent aiming to assess the level of training of the group participated in the loan portfolio diversification concept and lead to its implementation, the survey showed that there is no employees (0%)with the level of secondary education, meanwhile 36 (45.6%) respondent attended college, 28(35.4%) respondent have the level of degree and 15 (19%) respondent have the level of masters and above Table 4.3 and Figure 4.3 below illustrate the reality according subject to the research study.

Table 4.3: Level of Education

Education	Frequency	Percent
Secondary	0	0
College	36	45.6
Degree	28	35.4
Masters and above	15	19

Source: AnalyzedData ,2013

Figure 4.3: Level of Education



Source: Survey Data, 2013

4.1.4 Length of services.

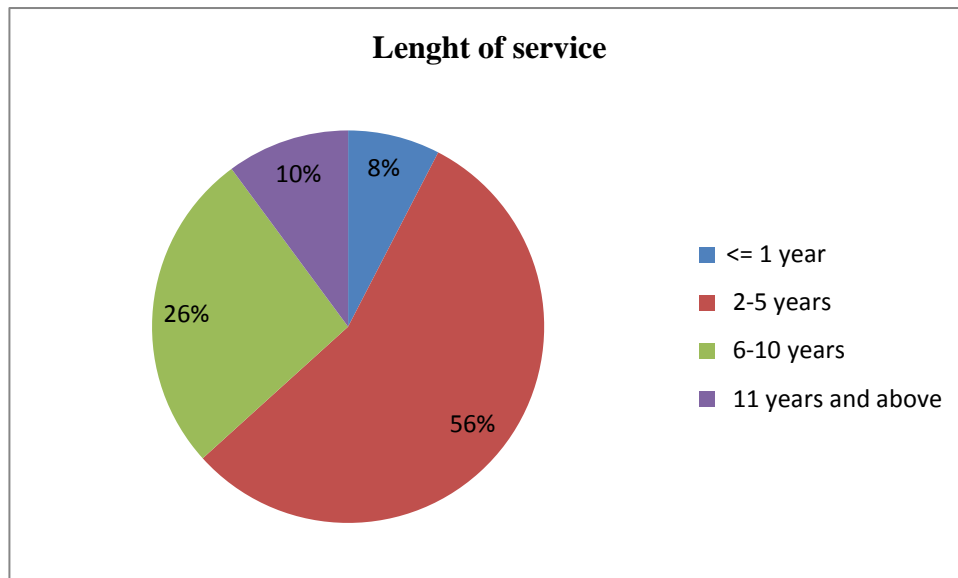
The Table 4.4 and Figure 4.4 below shows the distribution of respondent by length of services at NMB Plc, it clear that 8% of the respondents are relatively new entrants, who possess very little experience, working less than a year, whereas 56% represents, 2-5 years' experience at NMB, 27% with 6-10 years' experience and 10% has experience for more than eleven years

Table 4.4: Length of Service

Length of service	Frequency	Percent
<= 1 year	6	8
2-5 years	44	56
6-10 years	21	27
11 years and above	8	10

Source: Analyzed Data, 2013

Figure 4.4:Length of Service



Source: Survey Data,2013

4.2 Whether NMB Plc run-through loan portfolio diversification

Survey showed that majority respondents equivalent to 68 (86.1%) agreed NMB Plc, practice loan portfolio diversification in provide loans to various sector, meanwhile to enable the bank to increase performance and efficiency in terms of liquidity and lending capacity, reduce exposure to credit concentration, and preserve customer relationship as well, the above analysis correspond to the NMB credit policy which the evidence that NMB will strive to obtain an in-depth understanding of its customers base, their nature of business and growth patterns as a strategy for determine the bank maximum sector exposure, and identifies the following major sectors that the bank will extend its lending assets as follows, Agriculture, Livestock, Forestry, Manufacturing, Construction, Utilities, Transport communication and Distribution, Financial services, and Government , NMB's maximum sector exposure criteria developed by board of directors. Tanzania has adopted the international standard industrial classification of all economic activities ISIC Rev.3.1 consider Table 4.5 below;

Table 4.5: NMB plc, Practice loan portfolio diversification

	Frequency	Percent
Yes	68	86.1
No	11	13.9

Source: Analyzed Data ,2013

4.3 The knowledge of NMB Plc, employees on the concept of loan portfolio diversification

Research finding revealed that respondents 61 (72.2%) have no good knowledge about the concept of loan portfolio expansion, although about 18 (22.8%) have little knowledge on the stated concept, that 22.8% are employee from credit department and operation and finance section, the rest department possess little knowledge on

the loan portfolio diversification concept. Bank officer handling credit must have the skills and knowledge to handle this critical stage of the credit process, as it is at this level where the bank can inform the borrower of the bank's lending requirement and other eligibility criteria, the NMB management should develop a training course to make sure that all bank staff involved in credit administration clearly understand the credit policy for proper credit origination, sanctioning, and monitoring. Consider the Table 4.6 below

Table 4.6: Knowledge on the concept of loan portfolio for the employees of NMB Plc

	Frequency	Percent
Yes	18	22.8
No	61	77.2

Source: Analyzed Data ,2013

4.4 Strategies and efforts made by NMB Plc, to improve and control loan repayment rate

Table 4.7 shows that 59 (74.7%) respondent disagree that, the NMB plc have written strategies and efforts which is applied by the bank to improve loan repayment rate, while 20 (25.3%) participants agreed on the concept of written strategies and effort which are made by the bank. This correspond to the annual reports of 2011 of National Microfinance bank and its credit policy which doesn't contains any phrase which depict an evidence that there is written strategies and efforts which laid down by the bank in order to improve loan repayment rate this is subjected to the little knowledge which mostly employees possess on the concept of the loan portfolio. The Table below demonstrates the variation of respondent towards the thought.

Table 4.7: Strategies made by NMB plc, to improve and control loan repayment rate

	Frequency	Percent
Yes	20	25.3
No	59	74.7

Source: Survey Data, 2013

4.5 Business line undertake by NMB Plc, in lending process

Table 4.8 and Figure 4.5 below illustrate the response 60 (33.3%) respondents based on liquidity security line undertake by NMB followed by 42 response (23.3%) to non-mortgage, 28 (15.6%) response identifies mortgage lending, 21(11.7%) to security trading business line and finally 29(16.1%) to the security investment. The stated analysis results implies that the management of NMB is concentrated much on the liquidity management business line and non-mortgage lending line in the portfolio diversification and ignore mortgage lending, security trading and security investment business line which potential for reducing risk on portfolio.

Liquidity for a bank means the ability to meet its financial obligations as they come due. Liquidity represents the capability of a financial firm to maintain constantly equilibrium between the financial inflows and outflows over time. Bank lending finances investments in relatively illiquid assets, but it funds its loans with mostly short term liabilities. Thus one of the main challenges to a bank is ensuring its own liquidity under all reasonable conditions, Liquid assets which generate a return, they include securities and many kinds of commercial papers discounted, which can be converted into cash when needed, these reserves have multiple benefits which contribute to the strengthening of primary reserves, and contributes to bank profits

Markowitz had developed the portfolio basic model; he derived the expected rate of return for a portfolio of assets and their expected risk measure. Markowitz showed that the variance of the rate of return was a meaningful measure of portfolio risk under a reasonable set of assumptions; this theory indicated the importance of

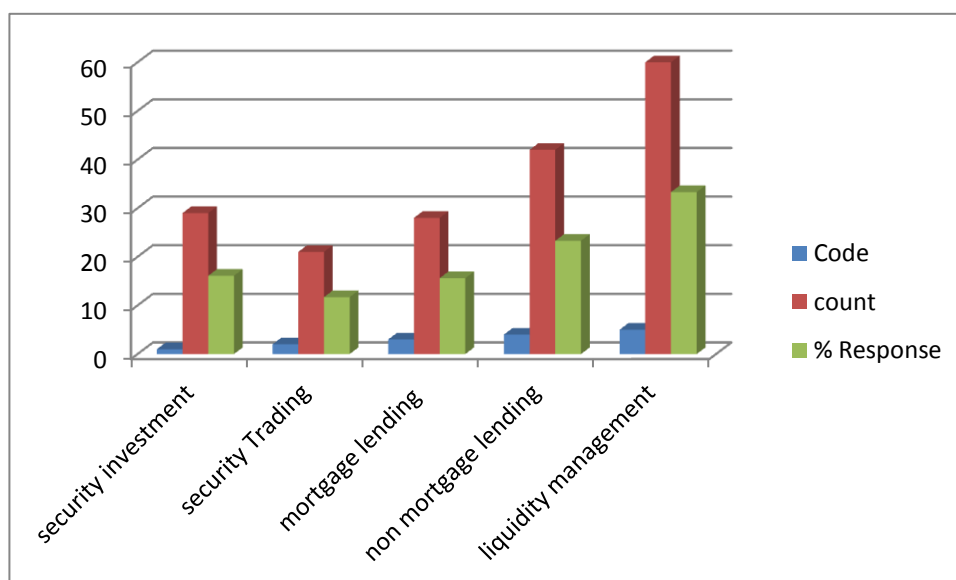
diversifying the investments to reduce the total risk of the portfolio, consider the Table 4.8 and Figure 4.5below.

Table 4.8: NMB undertake the following business line

Category label	Code	Count	% Responses
Liquidity management	1	60	33.3
Non mortgage lending	2	42	23.3
Mortgage lending	3	28	15.6
Security trading	4	21	11.7
Security investment	5	29	16.1
TOTAL		180	100

Source: Survey Data ,2013

Figure:4.5:Response for business line accepted by NMB Plc.



Source: Survey Data ,2013

4.6 Goals and objectives for loan portfolio diversification

According to the survey the NMB have no written goals and objective towards the loan portfolio diversification apart from the credit risk policy which fail to disclose the clear picture on how the bank go about to diversify its loans exposure, Table 4.9 demonstrate the total number of 59 (74.7%) respondents corresponding to the concept while 20 (25.3%) respondent disagreed to the matter, but the survey justify that there is no written goal and objective for the thought discussed. It is important for management of NMB to have objectives and goals for Loan portfolio, because it enables to establish specific, measurable goals for the portfolio. They are an outgrowth of the credit culture and risk profile. The board of directors of NMB bank must ensure that loans are made with the following three basic objectives in mind:(i) To grant loans on a sound and collectible basis, (ii) To invest the bank's funds profitably for the benefit of shareholders and the protection of depositors (iii) To serve the legitimate credit needs of their communities particularly Tanzanian citizen's

Table 4.9: Goals and objectives of NMB for loan portfolio diversification

	Frequency	Percent
Yes	20	25.3
No	59	74.7

Source: Survey Data ,2013

4.7 Ordinarily acceptable measure to amount loan concentration

The Table4.10 below gives an indication that the majority of respondent 58(73.4%) Corresponding to the finding that NMB bank used ordinary acceptable measure to amount the extent of loan concentration, and 21(26.6%) have negative ideal about it, it should be noted that Managing the loan portfolio includes managing any concentrations of risk. By segmenting the portfolio into pools of loans with similar

characteristics, management can evaluate them in light of the bank’s portfolio objectives and risk tolerances and, when necessary, develop strategies for reducing, diversifying, or otherwise mitigating the associated risks. For many banks, “portfolio segmentation” has customarily meant dividing the loan portfolio into broad categories by loan types such as commercial and industrial loans, real estate loans, and consumer loans. As segmentation techniques became more sophisticated, banks identified industry Concentrations. Although these divisions are a good starting point, the full benefits of portfolio segmentation can be realized only if the bank is able to form segments using a broader range of risk characteristics.

Table 4.10: Ordinarily acceptable measure to amount loan concentration

	Frequency	Percent
Yes	58	73.4
No	21	26.6

Source: Analyzed Data, 2013

4.8 The contents which included in the loan policies of NMB Plc.

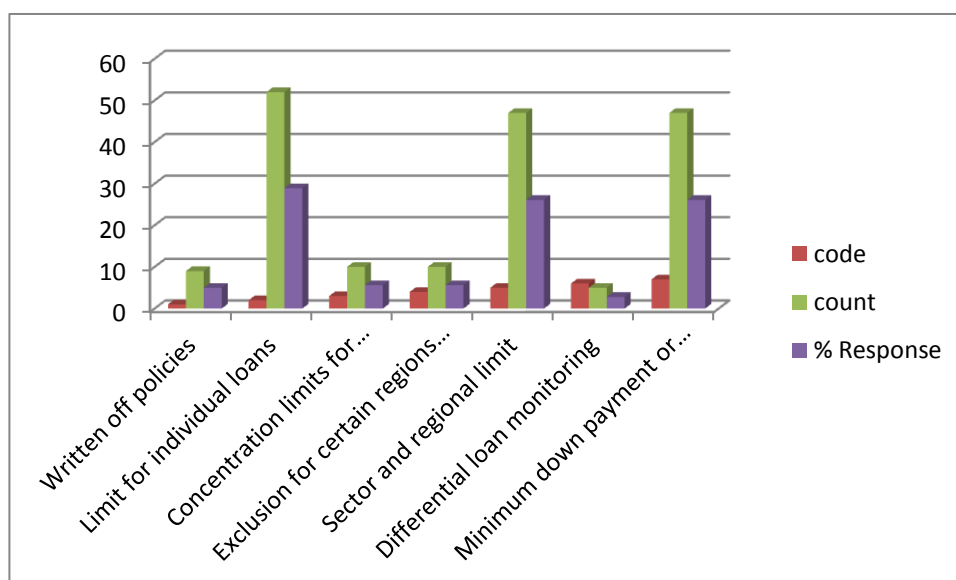
The Table 4.11 shows the response of the respondent in to the various strategies for active loan portfolio management the study indicate high response and lower response respectively, 52 count (28.9%) depict the limits for individual loans, 47 count (26.1%) portray sector and regional limits, 47 count (26.1%) expose to minimum down payment or equity for various loans offered, 09 count (5%) illustrate to written off policies, 10 count (5.6%) shows concentration limits for credit within specific industry, while 05 count (2.7%) indicate differential loan monitoring, and 10 count reveal for exclusion for certain regions and economic sector and regional limit. This analysis specified that NMB do not concentrate much to the lower responses loan policies meanwhile they have much significant to the active loan portfolio management.

Table 4.11: The contents which included in the loan policies of NMB

Category label	Count	% Responses
Written off policies	09	5.0
Limit for individual loans	52	28.9
Concentration limits for credit within specific industry	10	5.6
Exclusion for certain regions and economic Sector and regional limit	10	5.6
Sector and regional limit	47	26.1
Differential loan monitoring	05	2.7
Minimum down payment or equity for various loans offered	47	26.1
TOTAL	180	100

Source: Survey Data ,2013

Figure4.6: The loan policies which include any of the following rules



Source: Survey Data, 2013

4.9 Percentage of loans to assets/ deposit that NMB strives to maintain portfolio

The Table 4.12 below designates that 57(72.2%) of the respondent accepting that there is no level of percentage which is set through portfolio management where the NMB strive to maintain, and the rest 22 (27.8%) respondent disagreed with the concept, therefore the study revealed that NMB have no calculation in terms of base level which the bank struggles to maintain apart from monitoring the portfolio by inspecting the value of loans exposed to the different sector in the specific period of time. but it is very important for any financial institution to have the level of percentage of loans to assets rather than depending on the value of the loans exposed to the various sector.

Table 4.12: Percentages of loans to assets/ deposits that NMBplc strives to maintain portfolio composition goals

	Frequency	Percent
Yes	22	27.8
No	57	72.2

Source: Survey Data ,2013

4.10 Loans exposed by NMB to the different industry as a percentage wise.

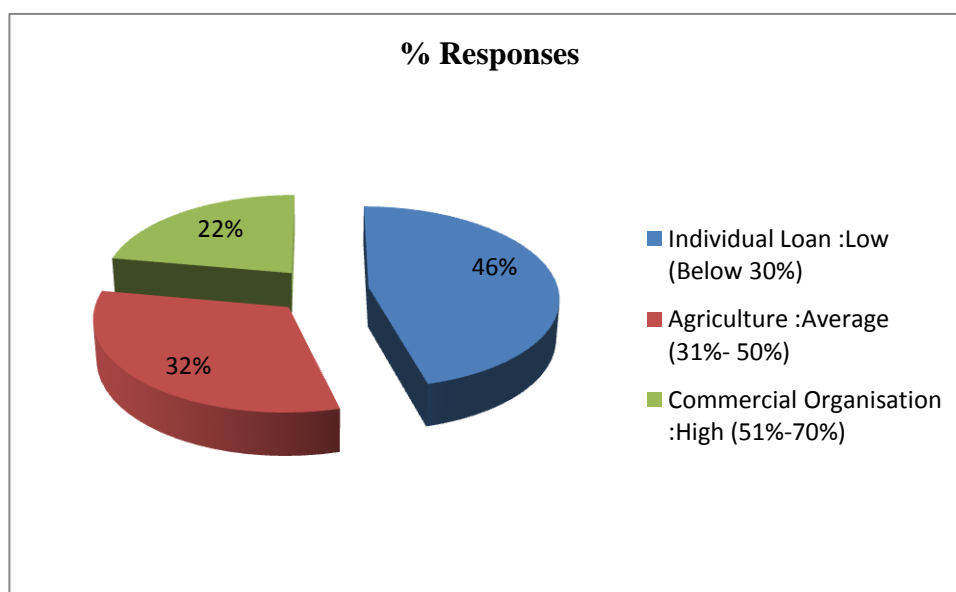
The Table 4.12 and Figure 4.7 below depict response about agreed that individual loans offered by NMB is estimated to be 46% of the total loans, agriculture showed 32% and commercial organization portrayed 22%, the evidence from credit policy of the bank shows that government related 55%, government guaranteed 25%, FCB Guaranteed 20%, corporate Banking 25%, MFI/Sacco's 10%, Staff 05%, Micro finance as individual loans 20%, SME 15%. By reflecting the survey date is shows that , bank have exceed the maximum exposure as a total percentage to individual loans segment which in return can put the bank into severe risk in the case of debtor fail to payback their advances, and will increase credit risk which associating with risk concentration.

Table 4.13: Levels of loan portfolio is exposed

Category label	Code	Count	% Responses
Low (Below 30%)	1	62	45.9
Average (31%- 50%)	2	43	31.9
High (51%-70%)	3	30	22.2
TOTAL		135	100.0

Source: Survey Data, 2013

Figure 4.7: Levels of loan portfolio



Source: Survey Data,2013

4.11 Aspects which encourage NMB to manage risk concentration

From the survey data indicated in the Table 4.13 and Figure 4.8, evidence is shows that 52% of the response allocate great volatility in commodity price and operation cost as the factor with high rank which influence the management of NMB to manage risk concentration and the rest of the factors are given very minimum percentage response, as shown in the table below. Hence this analysis drives the

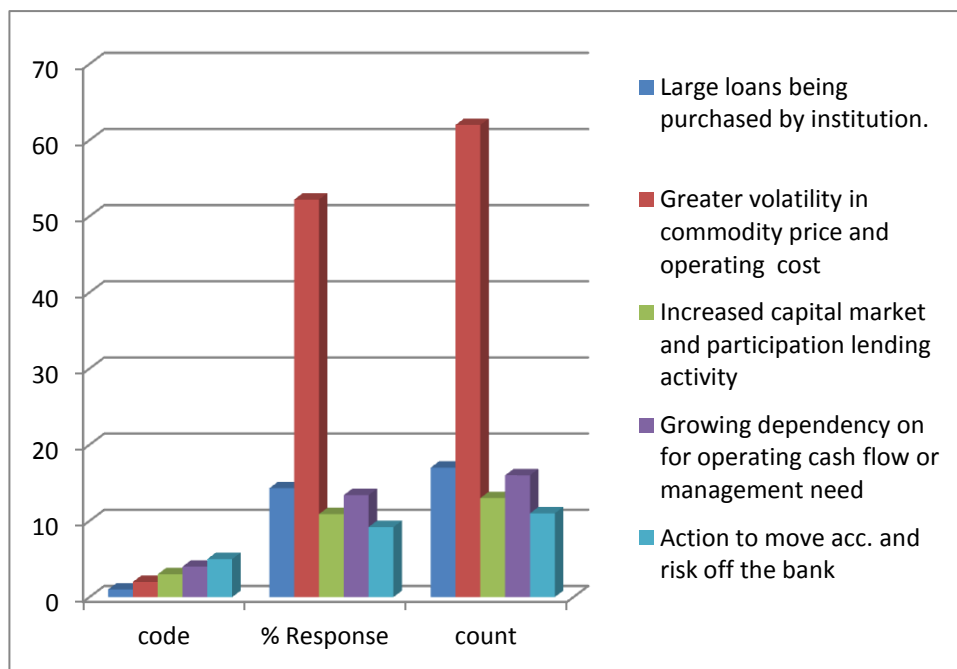
researcher into the concept that, the reason of the bank to implementing concentration risk management was caused by only one factor which is not corresponding to the NMB credit policy and Banking and financial Regulation Act,2006. Consider the evidence underneath.

Table 4.14: Factors which influence NMB plc, to manage risk concentration

Category label	Count	% Responses
Large loans being purchased by institution.	17	14.3
Greater volatility in commodity price and operating cost.	62	52.1
Increased capital market and participation lending activity.	13	10.9
Growing dependency on for operating cash flow or management need.	16	13.4
Action to move acc. and risk off the ins	11	09.2
TOTAL	180	100

Source: Survey Data, 2013

Figure4.8: Factors influence NMB to manage risk concentration



Source: Survey Data, 2013

4.12 Diversification growth strategies applied by NMB

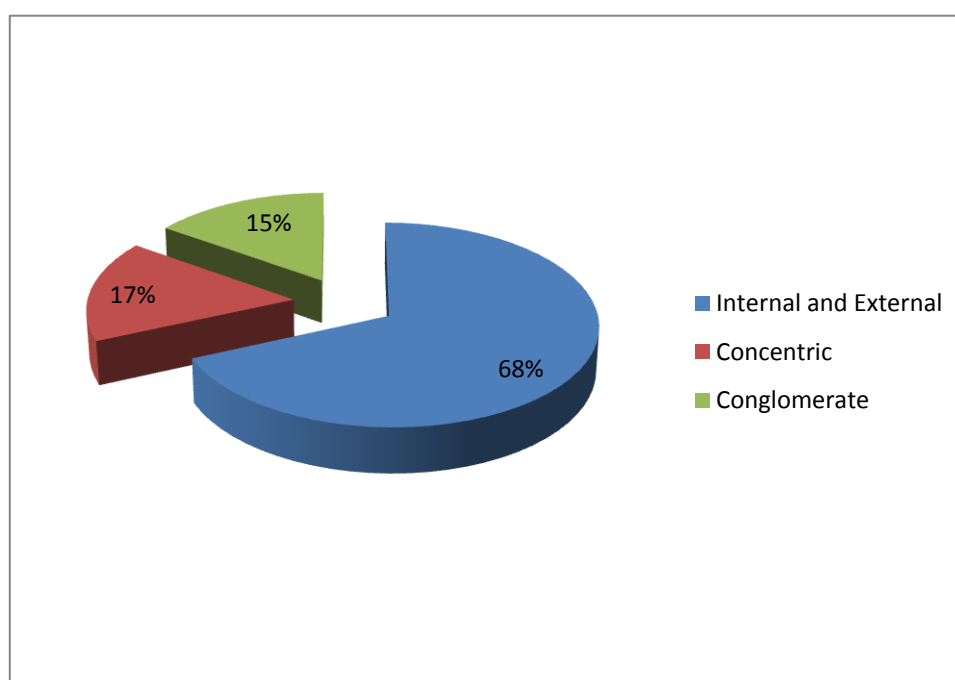
According to the study, Table 4.14 and Figure 4.9 justify that, the management of NMB practice internal and external growth strategies so that to increase performance objective of the bank, survey showed that 54(68%) respondent pointed out internal and external growth schemes, while 13(17%) respondent identify concentric diversification tactics, and 12(15%) are comfortable with conglomerate strategies. It is clear that these growth strategies are used to apply depending on the condition and situation of the bank, concentric diversification occurs when a firm add related product or market, so as to archive strategic fit, and conglomerate occurs when the firm diversifies into area that are unrelated to its current line of business, therefore a bank to increase performance, and efficiency should apply all of the above strategies.

Table 4.15: Diversification growth strategies which NMB plc, is applied

	Frequency	Percent
Internal and External	54	68
Concentric	13	17
Conglomerate	12	15

Source: Survey Data, 2013

Figure 4.9: Diversification growth strategies which NMB plc, is applied



Source: Survey Data, 2013

4.13: Ordinary accepted measure of loan portfolio diversification concentration

Figure 11 provide a better understanding what user like in using Var , around 65 (82%) of the respondents are justified that the management of NMB use value at risk to measure the loan portfolio concentration of risk of financial asset with credit risk exposure, corresponding to the interviews conducted consists of two branch managers also agreed to use such dimension to amount the concentration, while 08(10%) respondent agreed to Hirschman Herfindalh Index, and 06 (8%) tally to modern portfolio method. According to the study it revealed that national microfinance bank use value at risk parameter to amount for the loan portfolio concentration as illustrated in the table below, but this is a technique used to estimate the probability of portfolio losses based on the statistical analysis of historical price trends and volatilities. Value at risk is commonly used by banks, security firms and companies that are involved in trading energy and other commodities. VAR is able to measure risk while it happens and is an important consideration when firms make trading or hedging decision (Simon Manganelli and Robert Engle, 2001).Specific, a VAR statistic has three components: a time period, a confidence level and a loss amount (or loss percentage). Keep these three let's take note of this as we give some examples of variations of the questions that VAR answers.

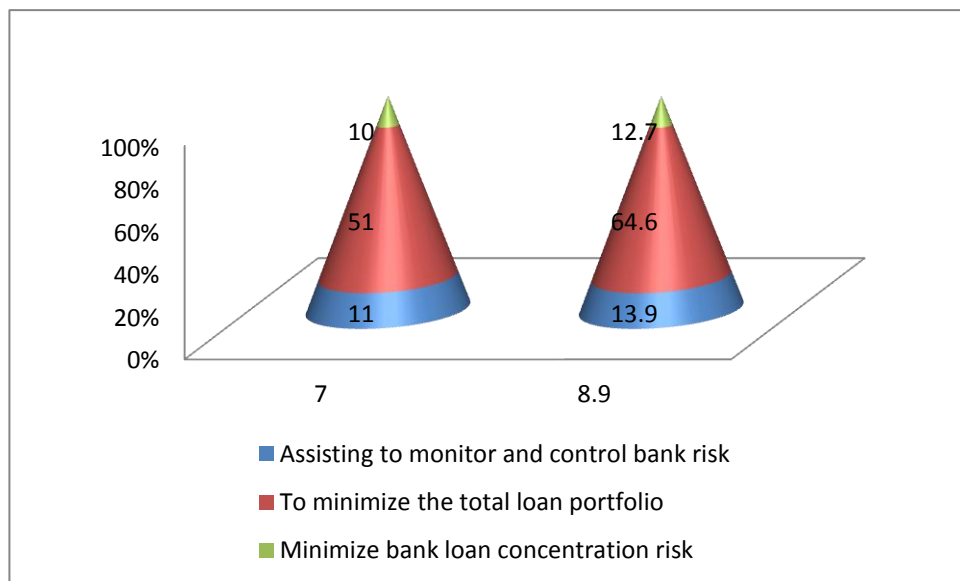
- i) What is the most I can - with a 95% or 99% level of confidence - expect to lose in default on loan repayment over the next month?
- ii) What is the maximum percentage I can - with 95% or 99% confidence - expect to Lose over the next year? We can see how the "VAR question" has three elements, a relatively high level of confidence (typically either 95% or 99%), a time period (a day, a month or a year) and an estimate of lose on loan default (expressed either in terms of money value or percentage) (David Harper, 2008)

Table 4.16: Accepted measure to evaluate the extent of loan portfolio concentration,

	Frequency	Percent
Value at risk	65	82
Hirschman Herfindal Index	8	10
Modern portfolio theory	6	8

Source: Survey Data, 2013

Figure 4.10: Ordinarily accepted measure of loan portfolio concentration



Source: Survey Data, 2013

4.14 Factors which influence NMB to implement loan portfolio as credit risk management

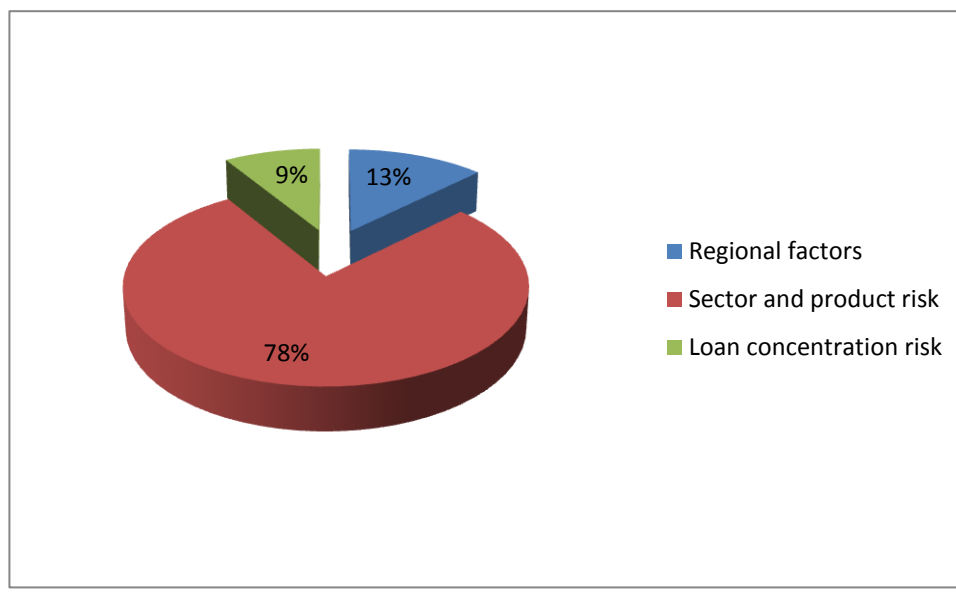
Table 4.17 and Figure 4.11 indicating 62 (78.5%) respondent noted sector and product risk to be the most factor which accelerate the NMB to adopt loan portfolio as the credit management, moreover 10(12.6%) relies to regional factor, and 07(8.9) agreed to loan concentration risk, according to the survey and interview results the most appropriate factor which drives the NMB to adopt loan portfolio as the credit risk management is sector and product risk, but in reality this is not the core feature for managing credit risk, regional factors and loan concentration risk have great significant in the managing of risk of a portfolio so that to keep covariance risk at a minimum, consider the figure below and table below,

Table4.17:Factors which influence NMB to adopt loan portfolio as credit risk management

	Frequency	Percent
Regional factors	10	12.6
Sector and product risk	62	78.5
Loan concentration risk	7	8.9

Source: Survey Data, 2013

Figure4.11: Features for NMB to adopt loan portfolio as credit risk management



Source: Survey Data, 2013

4.15 By experience Loan portfolio diversification has positive impact to the NMB

The analysis revealed 72(91.1%) respondent taken out of total sample, have said that based on their experience loan portfolio diversification have positive impact to the NMB, meanwhile 07(8.9%) have alleged that loan portfolios diversification contribute nothing to the bank, but from the Table 4.18 observation of the majority prove the important of the loan portfolio diversification in the operation of the bank, this analysis reflect reason provided in the Table 4.18.1, described why it is important “ the majority identify that effective management of the loan portfolio and the credit function is fundamental to a bank’s safety and soundness. Loan portfolio management (LPM) is the process by which risks that are inherent in the credit process are managed and controlled.

Table4.18: By experience Loan portfolio diversification has positive impact to the NMB

	Frequency	Percent
Yes	72	91.1
No	7	8.9

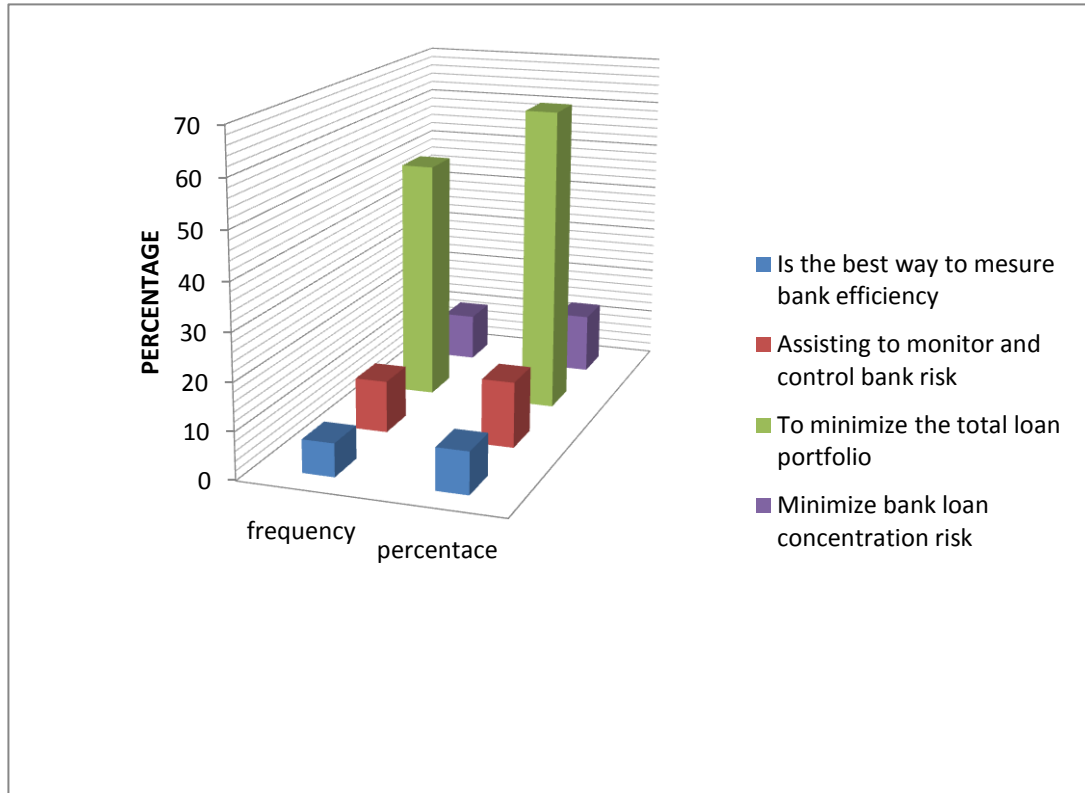
Source: Survey Data, 2013

Table 4.18.1: Provide short narration why portfolio diversification is important to NMB

	Frequency	Percent
Is the best way to measure bank efficiency	7	8.9
Assist to monitor and control bank risk.	11	13.9
Minimize the total loan portfolio risk.	51	64.6
Used as a tool to minimize bank loan concentration.	10	12.7

Source: Survey Data, 2013

Figure4.12: Provide narration why portfolio diversification is important to NMB



Source: Survey Data, 2013

4.16 : Efforts that NMB has taken to reduce risk concentration, minimize credit risk

The evidence from the Table 4.18 above and Table 4.19 and 4.20 below illustrates that management of NMB has just strives to reduce concentration of credit risk exposure from the year 2010 to 2011, in order to minimize the total concentration risk of the bank relative to the asset available, diversification improves banks' profitability only in the case of moderate risk levels and industrial diversification. Hence, from a policy point of view, our results suggest that bank regulations which may increase the level of industrial, sectorial or geographical diversification should be carefully evaluated.

Table4.19: Efforts that NMB has taken to reduce risk concentration, minimize credit risk

	Frequency	Percent
Yes	20	25.3
No	59	74.7

Source: Survey Data, 2013

Table 4.20: Concentration of risk for financial assets with credit risk exposure 2010

(Amounts are in Millions)

Particulars	Tanzania	Europe	America	Others	Total
AS at 31 DECEMBER 2010	235,074	-	-	-	235,074
Balance with the Bank of Tanzania	126,251	15,852	10,197	6	152,306
Loans and advances to banks	633,964	-	-	-	633,964
Investment securities held to maturity					-
Loans and advances to Customers:					-
Loans to individual					-
MSEs	108,006	-	-	-	108,006
consumer Loans	447,335	-	-	-	447,335
Loans to corporate entities:					-
Corporate customers	240,629	-	-	-	240,629
SMEs	61,815	-	-	-	61,815
Other assets	402	-	-	-	402
AS at 31 DECEMBER 2010	1,853,476	15,852	10,197	6	1,879,531
Credit risk relating to off Balance sheet asset are as follows:					
Guarantees and Indemnities	150	-	-	-	150
Overdraft	72,168	-	-	-	72,168
Acceptance and Letter of credit	553	-	-	-	553
AS at 31 DECEMBER 2010	72,871	-	-	-	72,871

Source: NMB Annual Report, 2011

Table 4.21: Concentration of risk for financial assets with credit risk exposure 2011

(Amounts are in Millions)

Particulars	Tanzania	Europe	America	Others	Total
AS at 31 DECEMBER 2011	243,606	-	-	-	243,606
Balance with the Bank of Tanzania	115,821	18,637	38,268	11	172,737
Loans and advances to banks	361,943	-	-	-	361,943
Investment securities held to maturity					-
Loans and advances to Customers:					-
Loans to individual					-
MSEs	105,886	-	-	-	105,886
Consumer Loans	611,545	-	-	-	611,545
Loans to corporate entities:					-
Corporate customers	236,543	-	-	-	236,543
SMEs	169,544	-	-	-	169,544
Other assets	3,490	-	-	-	3,490
AS at 31 DECEMBER 2011	1,848,378	18,637	38,268	11	1,905,294
Credit risk relating to off Balance sheet asset are as follows:					
Guarantees and Indemnities	230	-	-	-	230
Overdraft	47,829	-	-	-	47,829
Acceptance and Letter of credit	11,338	-	-	-	11,338
AS at 31 DECEMBER 2010	59,397	-	-	-	59,397

Source: NMB Annual report, 2011

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.0 Introduction:

This chapter presents conclusion, and recommendation and possible future of the research to Assessing Loan portfolio Diversification. This strategy is also crucial for a bank as a financial institution. Banks can intend to diversify its credit portfolio to increase the performance and to reduce the credit portfolio risk.

5.1 Conclusion:

NMB aims for a low risk profile compared to others financial institutions, with important banking activities, Predictable and consistent financial results and solid balance sheet ratios are essential in this regards, maintaining its reputation requires reticence, strong and soft control, the low risk profile should contribute to a greater stability of earnings whereby keeping away large incidental losses as much as possible. Table 4.5 shows the bank practice loan portfolio so that make it possible to archive low risk profile, but table 4.6 illustrate that most of the staff of NMB have little knowledge of loan portfolio diversification, Bank officer handling credit must have the skills and knowledge to handle this critical stage of the credit process, as it is at this level where the bank can inform the borrower of the bank's lending requirement and other eligibility criteria, the NMB management should develop a training course to make sure that all bank staff involved in credit administration clearly understand the credit policy for proper credit origination, sanctioning, and monitoring.

The performance of a NMB concerns other firms and sectors in the economy. Focusing or diversifying credit portfolios influence the risk level that banks take on. Losses in one sector or location can be compensated from the gain obtained from other sector or location etc. On the other hand, if the diversification level increases, it leads to rising of costs that are undertaken and diversification may not be associated

with higher returns in every circumstances. It is important for the management of NMB to make strategic decisions for a bank, in cases of risk and return preferences.

Lending is the principal business activity for most commercial banks. The loan portfolio is typically the largest asset and the predominate source of revenue. As such, it is one of the greatest sources of risk to a bank's safety and soundness. Whether due to lax credit standards, poor portfolio risk management, or weakness in the economy, loan portfolio problems have historically been the major cause of bank losses and failures.

A primary objective of loan portfolio management is to control the strategic risk associated with a bank's lending activities. Inappropriate strategic or tactical decisions about underwriting standards, loan portfolio growth, new loan products, or geographic and demographic markets can compromise a bank's future. Examiners should be particularly attentive to new business and product ventures. These ventures require significant planning and careful oversight to ensure the risks are appropriately identified and managed. For example, many banks are extending their consumer.

5.2 Recommendations

5.2.1 Management of risk to avoid negative threat

Managing risk is a complex task for any financial organization, and increasingly important in a world where economic events and financial systems are linked. Global financial institutions and banking regulators have emphasized risk management as an essential element of long-term success. Rather than focusing on current or historical financial performance, management and regulators now focus on an organization's ability to identify and manage future risks as the best predictor of long-term success. National Microfinance Bank as financial institutions should effective manages risk so that drive the institution to identify the opportunities as well as avoiding negative threats.

5.2.2 Effective management of loan portfolio

Diversification issue is important in the context of banks as they are affected by several regulations that create incentives either to diversify or to focus their portfolios, such that the imposition of capital requirements tied to the risk of the banks' assets or asset investment restrictions..

Effective management of the loan portfolio's credit risk requires that the NMB board and management understand and control the bank's risk profile and its credit culture. To accomplish this, they must have a thorough knowledge of the portfolio's composition and its inherent risks. They must understand the portfolio's product mix, industry and geographic concentrations, average risk ratings, and other aggregate characteristics. They must be sure that the policies, processes, and practices implemented to control the risks of individual loans and portfolio segments are sound and that lending personnel adhere to them.

5.2.3 Developing and maintaining Credit Approval Authority structure.

The lending policy of NMB should describe who is authorized to approve credit and should establish specific approval limits for credit approvers. Lending limits may also be set for a group, allowing a combination of officers or a committee to approve loans larger than the members would be permitted to approve individually. Group approval may include dual controls, one approver from the line business unit and another from credit policy or a different line unit. The policy should describe reporting procedures and the frequency of committee meetings. Loan approval systems need to have sufficient flexibility to respond to unanticipated needs while maintaining adequate controls to prevent unwarranted risk

As per the results reached, researchers recommend the following. In composing an investment portfolio, the bank should diversify this portfolio in the sense that the return of any investment tool is appropriate for the degree of its risk, i.e. there will be a trade-off between return and risk. The bank has to follow a balanced policy when composing an investment portfolio so as to maintain the relation between risk and return at any time.

5.2.4 Reviewing the adequacy of credit training across the bank

National Microfinance Banks targeting for a low risk profile compared to others financial institutions, with important banking activities, maintaining its reputation requires reticence, strong and soft control, the low risk profile should contribute to a greater stability of earnings whereby keeping away large incidental losses as much as possible. Table 4.5 shows the bank practice loan portfolio so that make it possible to archive low risk profile, but table 4.6 illustrate that most of the staff of NMB have little knowledge of loan portfolio diversification, Bank officer handling credit must have the skills and knowledge to handle this critical stage of the credit process, as it is at this level where the bank can inform the borrower of the bank's lending requirement and other eligibility criteria, the NMB management should develop a training course to make sure that all bank staff involved in credit administration clearly understand the credit policy for proper credit origination, sanctioning, and monitoring.

Significant relationship between bank performance, (in terms of profitability) and credit risk management (in terms of loan performance). Better credit risk management results in better bank performance. Thus, it is of crucial importance that banks practice prudent credit risk management and safeguarding the assets of the banks and protect the investors' interests

The National Microfinance Bank Board of Directors and senior management are responsible for ensuring that the banks have appropriate credit risk assessment processes and effective internal controls to consistently determine provisions for loan losses in accordance with the bank's stated policies and procedures, the applicable accounting framework and supervisory guidance commensurate with the size, nature and complexity of the bank's lending operations.

5.2.5 Management, monitoring, and effective control of risks concentration

Managing risk concentration allows institutions to control risk exposure to different types of portfolio concentration, these concentration maybe industry, geographical area, large loans exposures, individual borrower, reliance on third parties etc, effective management of risk concentration allows Bank to minimize risk exposure so that to avoid and protect modern changing of economic cycle issues affecting the total portfolio of Bank. If the management capable to control concentration will be in the position to combat the following threat:-

- i) Large loans being made or purchased by institution
- ii) Great volatility in commodity price and increase in operating cost
- iii) Growing dependence on the other parties for operations cash flow or management needs
- iv) Action to move account and risk of the Bank balance sheet

The board of the director and the management of NMB need to establish a clear direction for managing risk concentration and assure sound process and control are in place, risk concentration exposure must be commensurable with risk bearing and earnings capacity of the Bank and risk management skill, and ability of the board and management appropriate concentration level are not static therefore are needed to be continually evaluated and adjusted to ensure prudent and manageable risk exposure.

5.2.6 Evaluate the performance of Bank loan policy and strategies

The board of the director should have responsibility for reviewing and approving at least annually the credit risk strategy and significant credit risks policy to see whether the performance meet specific objectives of the Bank. Also strategy should reflect the Bank tolerance for risk and level of profitability that the Bank expect to archive for incurring various credit risk, supervisors should conduct an independent evaluation of a Bank strategies policies procedures and practices related to granting of credit and ongoing managerial of the portfolio.

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APPLICATION LETTER FOR QUESTIONNAIRE

MZUMBE UNIVERSITY

DIRECTORATE OF GRADUATE STUDIES

General Questionnaire

Dear respondent,

This questionnaire is meant to collect information on the extent to which Financial Institution diversify their loan portfolio in Tanzania. The information obtained therefore is intended to be used for writing the report on the study to assess the extent of the loan portfolio diversification in financial institution in Tanzania.

The study is partial fulfillment of Masters in accountancy and finance (MSCA&F) of Mzumbe University. The collected information shall not be used for the purpose other than academic purpose.

Kindly respond to the question attached as accurately as possible. Where addition space is required use the backside of the questionnaire forms the information you give are strictly confidential. The researcher will not disclose the identity of the respondent under any circumstances. I will appreciate to receive the filled questionnaire within three weeks.

Thank you in advance

Gastory V. Suline

QUESTIONNAIRES

PART I: EMPLOYEE PROFILE

Please tick (√) in the place that best fits your opinion

1. Background Information

a. Respondent age ≤ 35 { } 36 ≤ 50 { } ≥ 51 { }

b. Sex Male { } Female { }

c. Education Primary { } Secondary { } college { } Degree { } Masters & above { }

d. Length of service in Nmb ≤ 1 yr. { } 2-5 yrs. { } 6 -10 yrs. { } 11 & above yrs. { }

PART II: USER'S PERCEPTION ON LOAN PORTFOLIO

Please tick (√) in the place that best fits your opinion

2. Does NMB Plc, practice loan portfolio diversification?

(i) Yes ()

(ii) No ()

3. The employees of NMB Plc, have enough knowledge on the concept of loan portfolio diversification?

(i) Yes ()

(ii) NO ()

4. Is there any written strategies and efforts which are made by NMB Plc to improve and control loan repayment rate?

(i) Yes ()

(ii) NO ()

5. Is the National Microfinance Bank undertakes any of the following business lines?

(i)Liquidity Management ()

(ii) Non mortgage lending ()

(iii) Mortgage lending ()

(iv) Security trading ()

(v) Security investment ()

PART III: EMPLOYEES KNOWLEDGE ON LOAN PORTFOLIO

Please tick (√) in the place that best fits your opinion

6. Does the NMB plc, have written goals and objectives for loan portfolio diversification?

(i) Yes ()

(ii) No ()

7. Is the National Microfinance Bank used ordinarily acceptable measure to amount loan concentration?

(i) Yes ()

(ii) No ()

8. Does the NMB Plc, have the loan policies which include any of the following items?

- (i)Written- off Policies ()
- (ii)Limit for individual loans ()
- (iii)Concentration limits for credit within specific industries? ()
- (iv) Exclusion of certain regions and economic sector from accessing loan ()
- (v)Sector and Regional limits ()
- (vi)Differential loan monitoring()
- (vii)Minimum down payments or equity for various loans offered? ()

9. Is the loan policy compatible with business plan and conditions of NMB Plc?

- (i) Yes ()
- (ii) No ()

10. The NMB Plc, has a written policy that addresses loan portfolio diversification?

- (i)Yes ()
- (ii) No ()

11.Is there a percentage of loans to assets/deposits that the NMB Plc, strives to maintain Portfolio composition goals?

- (i)Yes ()
- (ii) No ()

12. If a concentration exists based upon a particular industry, does the NMB Plc, make a periodic review of industry performance and trends?

(i) Yes ()

(ii) No ()

13. Is there any management reports does NMB Plc, use to monitor these various concentrations of credit?

(i) Yes ()

(ii) No ()

14. Based on your experience, what percentage of loan portfolio is exposed to the following Industries?

(i) Agriculture ()

(ii) Fishing ()

(iii) Forest and tourism ()

(iv)Transport Communication ()

(v) Manufacturing ()

(vi) Building and Construction ()

(vii)Trade ()

(vii)Hotel and Restaurants ()

15. Managing risk concentrations allows institutions to control risk exposure to different types of portfolio concentrations. These concentrations may be by industry, geographical area, large loan exposures, individual borrowers/groups of borrowers, reliance on third parties etc. Identify factors among the following which influence NMB Plc, to manage risk concentration.

- (i) Large loans being purchased by institution ()
- (ii) Greater volatility in commodity price and operating cost ()
- (iii) increased capital market and participation lending activity ()
- (iv) Growing dependency on for operating cash flow or management need ()
- (v) Action to move accounts and risk off the institution balance sheet ()

16. Categorize kind of diversification growth strategies which NMB Plc is applied?

- (i) Internal and External ()
- (ii) Concentric ()
- (iii) Conglomerate ()
- (iii) Both of the above ()

17. Which of the following ordinarily accepted measure of loan portfolio concentration NMB Plc is functional to evaluate the extent of loan portfolio?

- (i) Value at Risk (Var) ()
- (ii) Hirschman Herfindal Index (HHI) ()
- (iii) Modern Portfolio Theory (MPT) ()
- (iv) Capital Asset Pricing Model (CAPM) ()

(v) None of the above ()

18. Among of the following ascertain the factors which influence NMB Plc to adopt loan portfolio diversification as a credit risk management?

(i) Regional factors example macro-economic condition etc. ()

(ii) Sector and product risk example exposure to macro-economic risk ()

(iii) Loan concentration risk ()

19. According to your experience, loan portfolio diversification has positive impact to the National Microfinance Bank Plc?

(i) Yes ()

(ii) No ()

Why.....

.....

20. As a potential employee are you satisfy with the efforts that NMB Plc, has taken to reduce risk concentrations or minimize Credit concentration risk?

(i) Yes ()

(ii) No ()

This is the end of questionnaire

Thank you for completing this form

Please remember to return it to Mr. Gastory V. Suline or HR office at NMB plc.

INTERVIEW GUIDE

1. What are the factors which influence NMB Plc, to adopt loan portfolio diversification as a credit risk management?
2. What is the ordinary accepted measure of loan portfolio concentration, why NMB Plc applied to evaluate the extent of loan portfolio? And state its merits and demerits.
3. What is the benefit of the loan portfolio diversification to the NMB Plc?
4. Describe any risk reduction efforts and factors besides diversification that the association uses to limit risk from concentrations.
5. Explain the strategies employed by the bank to improve loan repayment rate?
6. What are the written goals and objectives of NMB Plc beyond loan portfolio diversification?
7. Is the management satisfied with the strategies which are used to control credit risk? If the answer is No explain the proposed best alternatives.

This is the end of interview

Thank you for your corporation.