

**THE EFFECT OF OPERATIONAL RISK MANAGEMENT PRACTICES ON
THE FINANCIAL PERFORMANCE IN COMMERCIAL BANKS IN TANZANIA**

BY

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DECLARATION

This research project report is my original work and has not been submitted for the award of degree in any other university.

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ABBREVIATIONS

AMA	–	Advanced Measurement Approach
BIA	–	Basic Indicator Approach
BIS	–	Bank of International Settlement
BOT-		Bank of Tanzania
DSE	-	Dar Es Saalam Stock Exchange
NBC	–	National Bank of Commerce
NMB	-	National Microfinance Bank
NPLs	–	Non –Performing Loans
ROA	-	Return on Assets
THB	–	Tanzania Housing Bank
TIB	–	Tanzania Investment Bank

ABSTRACT

A stable financial sector helps promote and strengthen economic growth by mobilizing resources for investment. It also provides a frame work for undertaking monetary policy. The banking sector is very important in any economy, considering its basic function of which is to relocate funds from agents with surplus to those with deficit .The purpose of this study was to establish the effect of operational risk on the financial performance of commercial banks in Tanzania. The total population consisted of all 36 commercial banks in Tanzania as at 31st December 2013. Since the population of the study was small there was no need for sampling hence the whole population was used for the study. The study was used secondary data which was readily available from the Bank of Tanzania and the all the commercial banks hence a census study. The study adopted a descriptive survey of the commercial banks in Tanzania. Secondary data was collected from financial reports of commercial banks in Tanzania from 2009 to 2013. Regression analysis was conducted in order to establish the effect of Operational risk management on financial performance of commercial banks in Tanzania. These variables included the Credit risk, the Insolvency risk and the Operations efficiency usually provided by the Bank of Tanzania. The dependent variable of the study was the financial performance of the commercial banks in Tanzania and this was measured using the return on assets as a percentage. The findings from the study confirmed that the independent variables such as such as Credit risk, Insolvency risk and Operation efficiency had varying degrees of relationship with the financial performance of the commercial banks in Tanzania. The study also revealed that Operations risk management positively influenced returns of the commercial banks in Tanzania. This study also established that Operations efficiency were positively correlated with the financial performance of the commercial banks in Tanzania while the Credit risk and Insolvency risk rate negatively influenced the financial performance of commercial banks Tanzania. This study therefore recommended that the Commercial banks should handle their risk factors appropriately as the changes in the risk factors like operational risk bring about devaluation of the currency and affect the performance of the commercial banks listed in the DSE.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Commercial banks like other corporations are established so as to maximize their shareholder wealth. Wealth is the function of risk and return. In financial markets, as well as in many commercial activities if one wants to achieve higher rate of return on average, one often has to assume higher risk. Commercial banks are in the risk business. In the process of providing financial services, they assume various kinds of financial risks. The risks differ in their natures and occurrences pertaining to different business activities. That is to say that certain risk is particular in their natures that specifically affect the operations of banking industry (Young, 2012).

Likewise, risks associated with banking service differ by type of service rendered. Banks face a number of risks in order to conduct their business, and how well these risks are managed and understood is a key driver behind profitability, and how much capital a bank is required to hold. Some of the main risks faced by banks include credit risk, market risk and operational risk. Credit risk is the risk of loss of principal or loss of a financial reward stemming from the borrower's failure to repay a loan or meet contractual obligations. Market risk is the risk of losses arising from changes in value of the market risk factors Kimei (2007).

There are three common market risk factors to banks and these are liquidity, interest rates and foreign exchange rates. Operational risk refers to the financial loss to business as a consequence of conducting it in an improper or inadequate manner and may result from external factors. Operational Risk may tangibly manifest itself in the likes of business disruption, control failures, errors, misdeeds or external events.

1.1.1 Operational Risk Management

The Bank of International Settlement (BIS), the principal organization of central banks (based in Basel Switzerland) in the major economies of the world has defined operational risk as the risk of losses resulting from inadequate or failed internal processes, people and system or from external events. Operational risk can be divided into those losses that are expected and those that are unexpected. Operational risk is not a new risk, but hard evidence suggests that this risk is significant and maybe growing, virtually every catastrophic financial institution loss that has taken place during the past 20 years Bloom & Galloway (1999). Example of operation risk occurred in the past years; a bond trader of Daiwa Bank in New York had caused and hidden losses of USD 1.1 billion through non-compliant transactions and scam deals. Daiwa did not have any appreciable management controls or even the simplest internal control that could have immediately expose the fraudulent transactions. The bank become insolvent, eleven senior executives were ordered to pay damages as they failed to supervise staff. (Jorion, 2001)

Globalization and new technology have provided banking industry with profit making opportunities but have also made it more vulnerable to operational risk, (Bloom &

Galloway, 1999). It seems that the industry's risk control capability has not kept pace with these developments as proved by, example the Barings Bank saga in 1995. The occurrence together with many others motivated banks to take a more proactive approach to operational risk management.

The Basel Committee on Banking Supervision (2003) suggests that risks other than credit, interest and market risks can be substantial. The committee identifies the following examples of the new and growing risks faced by banks; the greater use of highly automated technology has the potential to transform risk from manual processing errors to system failure risks as greater reliance is placed on globally integrated systems. The growth of e-commerce brings with it potential risk such as internal and external frauds and systems security issues that are not fully understood. The emergence of banks acting as large volume service providers creates the need for continual maintenance of high grade internal controls and backup systems. According to the Credit-Suisse Group (2001), banks may engage in risk mitigation techniques to optimize the exposure to market and credit risk but which may in turn produce other forms of risk like operational risks which the group categorized as organizational risks, process risks, technology risks, human risks and external risks.

1.1.2 Financial performance

The financial performance assessment is devoid of such a multitude of options and methodologies despite critical importance of financial sustainability. Though an ambition for sustainable institutions has been often articulated, there was also an opinion that most

financial institutions working in this field have been unsustainable. Research studies have shown that this is predominantly connected to the perception of micro borrowers' risk and creditworthiness, and the diseconomies of scale in making small loans (Quach, 2005). According to Dayson et al., (2006), microfinance has been attractive to lending agencies because of demonstrated sustainability and low cost of operations. Liquidity measures the ability of the business to meet financial obligations as they come due, without disrupting the normal, ongoing operations of the business. Liquidity can be analyzed both structurally and operationally. Structural liquidity refers to the balance sheet (assets and liabilities) and operational liquidity refers to cash flow measures.

On the other hand Quach, (2005) indicated that solvency measures the amount of borrowed capital used by the business relative the amount of owner's equity capital invested in the business. In other words, solvency measures provide an indication of the business' ability to repay all indebtedness if all of the assets were sold. Solvency measures also provide an indication of the business' ability to withstand risks by providing information about the firm's ability to continue operating after a major financial adversity. Profitability measures the extent to which a business generates a profit from the factors of production: labor, management and capital. Profitability analysis focuses on the relationship between revenues and expenses and on the level of profits relative to the size of investment in the business. Four useful measures of firm profitability are the rate of return on assets (ROA), the rate of return on equity (ROE), operating profit margin and net firm income. The ROA measures the return to all firm assets and is often used as an overall index of profitability, and the higher the value, the

more profitable the firm business. The ROE measures the rate of return on the owner's equity employed in the firm business. It is useful to consider the ROE in relation to ROA to determine if the firm is making a profitable return on their borrowed money (Zenios et al., 1999)

1.1.3 Operational Risk Management and Financial performance

Rasid et al (2011), on his study support the theoretical argument brought to light by Soin (2005), Williamson (2004) and Collier et al., (2004) that risk management in an organization influence the organization profitability, through enhanced risk management practices. Rasid et al., (2011) further revealed that risk analysis of financial statement was allegedly the largest contributor towards risk management while budgeting and strategic planning are indispensable players in managing risk which affect the bank's profitability. Williamson (2004), revealed that a year-to-year cost income ratio, equity to total assets ratio, total asset growth ratio and ratio of loan loss reserve to gross loans positively influences the likelihood of financial distress in the coming year however, macroeconomic information shows little impact on the possibility of financial distress on financial institution (Zaki et al., 2011) and a similar study conducted on German banks by Nuxoll (2003) supports this conclusion.

Mwaipopo (2012) revealed that some risk management practices do have significant effect on financial performance more than others i.e. the existence of a risk management policy and the integration of risk management in setting of organizational objectives were considered to be the key risk management practices that had a direct effect on financial

performance. This means that although there are other determinants of performance not included in the study, the banks can improve their performance by focusing on developing strong risk management policies and integrating risk management in the process of setting achievable organizational objectives.

1.1.4 Commercial Banks in Tanzania

Tanzania's economic freedom score is 57.5, making its economy the 109th freest in the 2015 Index. Its score has decreased by 0.3 point since last year due to declines in trade freedom and business freedom that overweigh improvements in half of the 10 economic freedoms, including freedom from corruption and monetary freedom. Tanzania is ranked 17th out of 46 countries in the Sub-Saharan Africa region, and its overall score is lower than the world average. The total population is 46.3 and GDP of \$79.4 billion.

Today the banking industry in Tanzania is growing very fast following the liberalization of banking sector in 1991, and it consists of 34 commercial banks, 20 licensed financial institutions and 2 development banks which are holding about 43% of the economy. In spite of some successful reforms, the banking industry tends to play only a small role to the country's economy, the fact that the industry is plagued by bad loans, the lenders have chosen to go slow in terms of credit off take, Tanzania Securities (2004). Fiscal 2014 saw a combination of various internal and external events caused by poor operational risk management in banks that kept the market turbulent, interest rates high and investor confidence low, resulting in shrinking investment and GDP, (Kambanga, 2009).

Over the years has been an increase in the number of bank failures in both centralized and decentralized economies, (Saunders, 1994). In Tanzania empirical evidence suggests that bank failures are due to external (macro) and internal (micro) factors (William, 1995). Included in the internal factors are reckless lending, corruption, fraud and dishonest, embezzlement, management deficiencies, poor credit documentation, risk assessment methods, lending to the insiders and poor supervision capacity. External factors such as poor monetary and fiscal policies, bank deregulation/regulation, policies and procedures, lack of information among bank customers, homogeneity of the banking business and connections among banks do cause bank failure, (Johansson, 2006). In centrally planned economies, government and political interference in the banking policies and operations also contributed to bank failure. For some developing countries, globalization is also contributing to the bank failure. The small and inexperienced banks fail to cope with the stiff competition of the big multinational banks in terms of products and services offered Kimei (2007).

Commercial banks in Tanzania experience losses due to poor management of operational risks. This class of risks has unlimited downside and it expose banks to serious financial and reputational losses. In Tanzania, operational risk management in commercial banks have been very difficult to measure as unlike credit ratings for credit risk and price volatility for market risk, (Jobst (2010). Banks experience difficulties in implementation of a sound operational risk management framework primarily due to lack of conceptual understanding, inadequate expertise in modelling techniques and poor risk management culture.

Besides the expansion of banking industry in Tanzania, it calls for a sound risk management practices and techniques for their survival, as well as, to be competitive enough in this turbulent business environment in service delivery, as it's a key driver behind profitability. To do so, it's a must to identify, select and apply the appropriate risk measurement and management mechanisms, which are simple but effective risk management tools or techniques.

In Tanzania, a less developed economy provides an excellent case for studying how commercial banks operating in economies with less developed financial sector, manage their operational risk. The research will identify issues to be studied further in order to establish an operational risk management system by commercial banks operating in Tanzania.

1.2 Research Problem

Financial disasters in banks and non-banking institutions and in governmental agencies point out need for risk management. Major bank failures have occurred due to unidentified risks within the banks. Many of these highly improbable events such as the terrorist attacks on September 11, unauthorized trading losses at Barings Bank, resulting in its collapse in 1995, and other rogue trading, have contributed to a growing focus on identification and measurement of operational risk. Banks generally operate in environments where risk changes often, hence the need for an efficient risk management process, categorized by risk type to be able to address the specific risk factors. A clear

description of all the risk factors will ensure the allocation of accountability and responsibility to deal with each factor. Such descriptions for operational risk still lacks as it seems that all the risk factors that cannot be address under credit, market and liquidity risk types are included in operational risk. This may lead to the situation where operational risk becomes a dumping ground for risk factors and may result in critical focus being neglected.

Therefore it seems as if operational risk management, as one of the latest management problem areas, is still treated as wild card. This present a problem regarding the acceptance and management of operational risk and the risk factors it comprises. This research is therefore necessary to determine the current status, conceptual issues and underlying factors of operational risk management in order to provide a comprehensive description of this risk category and to differentiate it from other risks in Tanzania's commercial banks environment. Also the study undertakes critical analysis of operational risk faced by commercial banks and strategies for managing this risk that the banks have adopted.

1.3 Research Objectives

- i) To determine the operational risks management practices and financial performance in commercial banks in Tanzania.
- ii) To identify the sources of operational risks exposures among commercial banks in Tanzania

1.4 Value of the Study

The goal of operational risks management is to make sure the day to day operations of the bank are going as planned. The findings of this research will be important to the following: Senior managers of banks as it will provide guidance on the framework of management and identification of operational risks by decision makers within the banking industry. Commercial banks staff members who involved in the day to day operational risk management will be able to draw inference to the study in picking up areas of improvements.

Regulators, the Tanzanian regulators are yet to publish guidelines on operational risk management for the local banks. This study will provide an insight to the Banking Supervision department of the Central Bank of Tanzania. Scholars with an interest in the subject of study will form a basis for conducting further research on the subject. The study will add to the body of knowledge in the finance discipline. Also to the management consultants as they will ponder on the development tool for the management and the quantification of operational risks.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter seeks to identify the types of operational risks in commercial banks and also to identify the operational risk management practices in commercial banks. Further empirical studies done on this area and their findings will be highlighted. Conclusion on this chapter will cover the knowledge gap in the area under study and how this research will intends to fill the gap. “Operational risk is not a new risk... However, the idea that operational risk management is a discipline with its own management structure, tools and processes... is new.” This quotation from British Bankers Association in Power (2005) well describes the development of operational risk management in the last years. Until Basel II requirements in the mid-1990s, operational risk was largely a residual category for risks and uncertainties that were difficult to quantify, insure and manage in traditional ways. For this reasons one cannot find many studies focused primarily on operational risk until the late 1990s, although the term ‘operations risk’ already existed in 1991 as a generic concept of Committee of Sponsoring Organizations of the Tread way Commission.

2.2 Theoretical Literature Review

Different scholars have designed several theories to explain operational risk management in the financial sector. This study analyses some of the operational risk management theories studied by various scholars.

2.2.1 Extreme Value Theory

According to Paul Embrechts (1999), Extreme value theory (EVA) is a branch of statistics dealing with the extreme deviations from the median of probability distributions. It seeks to assess from a given order sample of a given random variable, the probability of events that are more extreme than previously observed. The financial industry including banking and insurance is undergoing major changes. The reinsurance industry is increasingly exposed to catastrophic losses for which requested cover is only available. An increasing complexity for financial instruments calls for sophisticated risk management tool.

This theory expands the knowledge of operational risk management as it indicates the securitization of risk and alternative risk transfer highlight the convergence of finance and insurance at the product level. Extreme value theory plays an important methodological role within risk management for insurance, reinsurance and finance.

2.2.2 Regulation Innovation Theory

Scylla (1982) put forward the regulation innovation theory. They argued researching financial innovation from the perspective of economy development history. And they thought financial innovation connects with social regulation closely, and it is a regulation transformation which has mutual influence and is mutual causality with economic regulation. They thought that it is very difficult to have space of financial innovation in the planned economy with strict control and in the pure free-market economy, so any

change led by regulation reform in financial system can be regarded as financial innovation.

The Omni-directional finance innovative activities can only appear in the market economy controlled by government. When government's intervention and the management have hindered the finance activities, there will be many kinds of financial innovation which intend to circumvent or get rid of government controls. In this theory which expanded the scope of operational risk management, government activity is also regarded as the origin of financial innovation. But it regards regulation innovation as one part of financial innovation which put more concern in operational risk management in banks. Especially, it regards rules and regulations which are used to control as financial innovation.

2.2.3 Efficiency Models

Leibenstein (1966) introduced the X-efficiency. This measure describes all the technical and allocative efficiencies of individual firms that are not scale or scope dependent. Thus X-efficiency is a measure of how well management is aligning technology, human resource management, and other resources to produce a given level of output. The X efficiency hypothesis argues that financial institutions with better management and practices control costs and increase profit, moving the firms to best-practice, lower bound cost curve. Charnes et al. (1994) recently surveyed the new efficiency theory and applications of this field and Sengupta (1995) has considered its dynamic and stochastic extensions.

The theory explores Data envelopment analysis (DEA) which is a new technique developed in operations research and management science over the last two decades for measuring efficiency of decision making units (DMU) in the public and private sectors. Recently the DEA techniques have been generalized in several directions e.g., (a) dynamic situations involving capital inputs yielding outputs over several time periods (Sengupta (1995), (b) stochastic cases where distribution of efficiency is analyzed to see the extent of divergence from the mean or median efficiency level Sengupta (1989), (c) goal programming where the objective function of the DEA model is extended so as to include differential weights on the goals and sub goals of the manager not previously considered Stewart (1996), and finally (d) the case of allocative efficiencies and assurance regions, which include price information on the inputs and outputs whenever available and also adjoin additional constraints on the virtual multipliers so as to reflect the preferences of the DMU Cooper, Thompson and Thrall (1996).

Efficiency wage theory was pioneered by Leibenstein (1957) to help resolve the apparent paradox of there being long-run surplus labor in less developed economics at positive real wages. Surplus labor can take the form of either hidden or actual unemployment. All agents in his modeling framework are rational and maximizing with regard to profit (marginal cost equals marginal benefit) and utility. Leibenstein breaks with the conventional wisdom by introducing the empirically based assumption that input varies positively with real wages. Since real wages affect the physiological ability of workers to work more or less hard will be translated into actual changes in effort input on the job. In

the conventional modeling effort input remains constant in the face of change in real wages.

2.3 Determinants of Operational Risk Management in Commercial Banks

Operational risk management in banks has been increasingly emphasized in the past decade. Big financial scandals, frauds and information technology system failures are important drivers for the greater attention both inside and outside banking institutions to their exposures to and internal handling of such risk. The exposure to different kinds of operational risk is nothing new for the individual bank, but as Moosa (2007) stresses; “The trend towards greater dependence on technology, more intensive competition, and globalization have left the corporate world more exposed to operational risk than ever before.” For banks, the occurrence of an extreme and major “one-off event in its daily operations may even be more damaging than its credit losses in connection to the current collapse of the financial markets. However, the ability of the bank to properly assess and control, or hedge itself against, the negative economic consequences of such events seems to be less developed than its management of credit and market risks,(Flores, Ponte & Rodríguez 2006).

It is important to indicate that the objective of this sub-section is to consider the current operational risk management practice and related issues in the banking industry and not to any recommendation on which best practices to adopt on managing operational risk within the banking industry.

2.3.1 Approaches in Risk Management

Calomiris and Herring (2002) stated that firms in general, respond to risks in three different ways: "lay off" the risk, try to reduce the risk; and retain the risk and deal with it by actively managing it. The exact approach a bank adopts for dealing with its risks depends on both the nature of risk and the strategy of the individual organization. This view is also supported by Lopez (2002), when he stated that there was so far no clearly established single way or approach to manage operational risk and that each bank would establish and develop its own method.

Bloom and Galloway (2000) and Allen and Saunders (2002) all agreed that many banks currently adopt a top-down approach, i.e. using a percentage of their non-interest expenses to calculate their operational risk capital. Fung (2006) indicated that there are a number of drawbacks of this approach. This approach does not truly reflect a bank's risk profile against which the capital is required. It is only a rough estimate of the amount of insurance the bank should be carrying to mitigate the effects of potential exposure to operational risk.

It is clear that this top-down approach could no longer meet the real business needs of banks, which increasingly require a more sophisticated means of assessing and mitigating operational risk. For this reason, some of the banks are switching to a bottom-up approach, which can provide a better approach to risk management. A bottom-up approach evaluates operational risk from the perspective of individual business unit that make up an organization's production process. The advantage of this approach is that it

creates a loop so that banks can avoid the worst repercussions of operational failures, such as crisis management and management shake-ups.

2.3.2 Identification in Risk Management

The first step of managing operational risk is to identify it. According to Muermann and Oktem (2002), identifying operational risk is especially challenging in banking industry because the operational factors are not well defined. Geiger (2000) suggested using a risk identification matrix (RIM) to identify and segregate operational risk. The causes are used to differentiate the operational from other risks. Operational risks are all unexpected losses, which have their origin in internal errors, or staff related deficiencies in the processes and systems and also in external events.

2.3.3 Measuring in Risk Management

When the term operational risk management first came on the scene, there were two distinct schools of thought. One school held the idea that it was not possible to manage something which one could not measure and therefore, they stressed on quantitative tools such as loss distributions, risk indicators and economic models. The other school believed that operational risk could not be quantified effectively and therefore they focused more on humanistic, qualitative approaches, such as self-assessments, risk maps and audit findings. However, very soon, people realized the problems of using only one approach but without the others, Geiger (1999), Muermann and Oktem (2002). The scope of operational risk is measured by the probability and impact of the unexpected losses from a lack of internal control to external event occurrences.

2.3.4 Managing Operational Risk

Each bank should define their own approach, the extent of the analysis, and which method, either quantitative or qualitative, will be used in the analysis, Davies and Haubenstock (2002). Croupy, Galai and Mark (2001) stated that it was important for a bank to set a clear guiding principle for the operational risk management process which should ensure that it provided an appropriate measure of operational risk across all lines of business throughout the bank. The process of implementing a sound operational risk management should contain certain stage of development.

Davies and Haubenstock (2002) mentioned that good operational risk management needed the support and involvement of senior management who could decide that operational risk was important and deserved attention and the most important point was to allocate resources accordingly. Without their support, operational risk management will be ranked on the last on the list or will be only carry out with the minimum requirement of regulatory body. One important point is that the senior management should play an important role in establishing a corporate environment in which operational risk management can flourish (Croupy, Gala and Mark, 2001).

2.4 Empirical Literature Review

A number of studies have looked at the operational risk management practices in different parts of the world. Some of these studies carried out in Tanzania and outside Tanzania are as follows;

Yusuf, (2005) in a survey approach examined the operational risk management by commercial banks in Kenya. The study indicates that quantification of risks into various categories was widely practiced by Kenyan commercial banks, the research indicate that only sixteen (16) out of twenty two (22) banks surveyed had segregated risks into various categories and thus only few of these banks used various models to quantify risks. In additional the study notes that a Central Bank of Kenya survey of July 2005, published in the daily nation indicated that only seventeen (17) banks of the total banks registered in Kenya had set aside funds to cover against operations risk management activities and only ten (10) out of seventeen (17) has submitted adequate and consistent risk monitoring reports. In conclusion the study undertakes that in Kenya banks do not necessarily make an attempt to predict the degree of occurrence of risks.

A Boston Consulting Group survey, Pourquery and Mulder (2009), found that operational risk management has yet to gain widespread acceptance as an essential component of the business. The survey covered 60 banks from around the world, the mix of participants include retail, wholesale and universal banks. About 70 percent of COOs viewed operational risk as “very important” compared with only 30 percent of heads of business. This business units have a primarily responsibility of managing operational risk on a day to day basis. Their support is essential to establishing a risk culture that permeates the bank and is effective at identifying, assessing and managing operational risk. In the same study they indicated that about 70 percent of CEOs and heads of business said that operational risk management is aligned with or exceed their expectations. This result may owe more to low expectations or a narrowly defined view of operational risk rather than

to banks' actual capabilities for managing operational risk. Also the survey found that regulatory compliance and fraud are seen as the top priorities for operational risk management. Few senior managers see operational risk management playing a role in transformation and cost initiatives. It is likely that senior managers view money spent on operational risk management as the cost of regulatory compliance, rather than an investment in a value adding function that could help reduce cost, improve processes or ensure the bank's survival.

Kamau (2010) in a study of adaptation of risk management by commercial banks in Kenya, indicated that operational risk was very critical and it was 44% out of the other risks that occurred in commercial banks, and this is due to the high increase in the use of automated technology, lack of qualified staffs and lack of management supports in the organizations, and also the internal and external frauds.

Macha (2010), in his study on operational risk management in the financial sectors in Tanzania found that 56 financial intermediaries, only 20 of them have insurance against operational risk. According to Bank of Tanzania it is very risk and possibility of the bank failure is very high if the bank will not secure its cash or properties by insuring them. The study showed that although there are a number of cash operation risks facing commercial banks, lack of integrity among the staff members and the nature of business that the banking organizations deal with are the major cash operation risks that face the commercial banks. The study further established that cash operation risk management practices are very critical business process, due to the nature of business that banks

engage in. that explain why there has been a huge investment to put in place adequate risk management practices across the industry in an effort to secure the banks business activities. To a very great extent each bank has engaged in the use of regulators guidelines which provide the minimum threshold of practices that must be used by all banks in managing the cash operations risks.

Hiwatashi (2002) outlines several approaches to operational risk management in banks. He notes first that banks traditionally controlled operational risk based on qualitative risk management checklists and guidelines. This has become inadequate due to the increased complexity and speed of bank operations. Now, banks must first try to measure operational risk so that senior managers can establish objectives in prioritizing risk control among different business lines and risk categories, in order to supplement internal control in a more robust way. Measurement also is necessary for the management to determine whether the banks have appropriate capital for their level of operational risk. In addition, measurement also enables the bank to tie performance to employees risk management effectiveness.

Kwasi (2010) on his risk based assessment of Eco bank Ghana limited has revealed that, the bank had adequate risk management structure to ensure sound risk management of operational risks, which can be supported with the fact that existence of Strong risk culture in the bank as all staff are conscious about the risks inherent in their activities are always on the lookout to avoid or minimize the incidence of risk. This has been made possible through extensive regular education and training on risk issues in the bank

coupled with the central role risk awareness play in the performance base and remuneration system.

Herring (2002) challenges the rationale for employing capital charge suggested by New Basel Capital Accord to mitigate operational risk. Operational risk unlike other risks is idiosyncratic, thereby involves less systemic implications. Tanase and Serbu (2010) suggest that banks with the help of technological advancements have been able to manage operational risk by offering innovative products like e-banking, which has been able to reduce a lot of their operational risk exposure by minimizing the human intervention in their overall process. Martin (2009) argues that the culture of an organization is critical to its success in managing operational risk. Operational risk according to the author has two causes, an act of God (flood, earthquake and windstorm) and a person. People, who are at the heart of the culture of an organization design and maintain processes and systems and cause operational risk events by either doing something they should not be doing or not doing something that they should be doing. He argues that the culture of an organization is critical to its success in managing operational risk.

Johnemark (2012) in his study of modeling operational risk in Sweden, indicates that modeling operational risk seems very easy at first. Take a sample of data, fit a frequency distribution and a severity distribution and start simulating losses. And perhaps for certain cells with many data points it is relatively easy. But operational risk is such a wide concept and to develop a model that must include all types makes it really hard,

especially when you have less data in a cell than you have fingers on your hands. And even if you have a lot of data, one single observation can have a huge impact on the outcome. Nevertheless, there are some techniques and methods that have proven to work well.

Koomson (2011) in her study on operational risk management in Ghanaian banking industry indicates that operational risk management is indeed quite new in the Ghanaian banking industry. However, banks have come to realize that there are risks inherent in their day to day activities which when not managed will cause them to lose significantly (loss of customers, money and reputation). As a result the Bank of Ghana regulation for banks to be fully compliant with the Basel II directive of setting aside some capital to cater for operational issues when they occur, and the urge to stay ahead of competitors in this era of increased competition, banks are gradually embracing operational risk management. Operational risk management is the responsibility of everyone in the organization including the board of directors and as such banks are aligning their strategies and objectives to operational risk management. In this competitive environment banks are becoming increasingly aware of their critical success factors and how these can help them gain competitive advantage in the industry. There are a number of sources to competitive advantage for banks (i.e. staff, strength of network, primary position in domestic market, technology, product differentiation, image and reputation and internal guidelines and policy on operational risk). These sources play a collective role ensuring that banks stay ahead of their competitors. Each of these sources play a role in operational risk and banks are realizing that they need to take a critical look at each of

them by assessing the role they each play in their day to day activities in ensuing that they gain competitive advantage.

2.5 Summary of Literature Review

This chapter focused on the concepts of operational risk management in commercial banks. From this literature review it is evident that operational risk management is current an important topic in the banking industry compared to the increasingly technological environment. It seems the main operation exposures to a bank fall within the broad categories of people, processes, systems and those factors outside the direct control of the bank. It is also evident that a bank risk manager should consider the outcomes of more than one results methodology before making crucial risk management decisions in order to insure sound decision making. Also the role of the board of directors, line managers and internal audit are emphasized in this discussion to ensure a sound operational risk management .Policies and procedures, internal controls and risk reporting are the other elements of risk management which are identified as forming an important part of operational risk management.

CHAPTER THREE

RESEARCH DESIGN & METHODOLOGY

3.0 Introduction

This chapter sets out a description of the research methodology. Research methodology provides details regarding the procedures to be used in conducting the study, (Mugenda & Mugenda, 2003). Perera (2005) states that research methodology is a specific plan for studying the research problem and constitutes the blue print for the proposed data collection, measurement and analysis of the data. Included in the methodology section are descriptions of the research design, the population, the sample and sampling techniques, and a description of instruments or tools used to collect data, the measurement of variables and the techniques to be used in analyzing the data.

3.1 Research Design

The research problem was studied by use of a descriptive research design. Descriptive research is the investigation in which quantitative data is collected and analyzed in order to describe the specific phenomenon in its current trends, events and linkages between different factors at the current time. Descriptive research design enables the researcher to generalize findings to a larger population. The descriptive design approach has been credited to the fact that it allows analysis the relations of variable.

3.2 Target Population

The population of the study was consisted of all commercial banks in Tanzania. There are 36 licensed commercial banks in Tanzania, as of 31 December 2013 by Bank and Financial Institutional Act. The target population of this study therefore was the 36 commercial banks in Tanzania.

3.3 Sample Design

The study used the sample size of 36 commercial banks in Tanzania. Therefore all the commercial banks participated in equally.

3.4 Data Collection

Secondary data from financial statements of Commercial banks in Kenya was collected. The study collected secondary data for the last five years starting year 2009 to 2013 from financial statements of the commercial banks during the same period disclosed as per the BOT prudential guidelines, on the effect of operational risk management practices and financial performance of commercial banks in Tanzania.

3.5 Data Analysis

The data gathered was analyzed and presented using descriptive statistics. Schacher, (2002), has suggested that descriptive studies be analyzed using descriptive statistics. Descriptive statistics include tabulation and organization of data in order to demonstrate their main characteristics and involves use of techniques such as measures of central tendency, measures of dispersion, correlation and graphical presentations.

3.5.1 Analytical Model

The data collected was analyzed in order to determine the relationship between operational risk management practices and financial performance in commercial banks in Tanzania. The results were tested to see the extent of relationship using the following linear regression equation model:

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \epsilon$$

Where;

Y= Financial performance of Commercial Banks in Tanzania measured by Return on Assets (ROA)

X₁ the credit risk which is a measure of banks' exposure to counterparty risk; it was measured by ratio of gross Loans to Total asset.

X₂ the Insolvency risk forced by liquidity, in the case of bankruptcy where short term obligations cannot be met and the bank is forced to liquidate part of its fixed assets below their market value; it is measured using the liquidity ratio: liquid assets divided by current liabilities

X₃ is the Operating efficiency as a measure of management quality; it was measured by the ratio of Operating expenses to net operating income

ϵ = Error term

Regression analysis was used. The **B** coefficient from the equation represented the strength and direction of the relationship between the variables.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the research findings to the effect of operational risk management practices on financial performance of commercial banks in Tanzania. The study was conducted on 5 years period where secondary data from the period of 2009 to 2013 was used in the analysis. Regression analysis was used in analysis the data. The independent variables are the credit risk, the insolvency risk and the operational efficiency. The dependent variable is the financial performance of commercial banks in Tanzania which was measured by the Return on Assets.

4.2 Descriptive statistics

Table 4.1 Descriptive statistics

	CREDIT			
	ROA	RISK	LQR	OPR
Mean	0.263111	0.276806	0.538444	0.265028
Standard Error	0.032935	0.035873	0.03927	0.033285
Standard Deviation	0.197609	0.215236	0.235618	0.19971
Sample variance	0.3904932	0.04632654	0.05551584	0.03988
Minimum	0.101	0.02	0.19	0.005
Maximum	0.95	0.95	0.973	0.93
N	36	36	36	36

For the independent variables in table 4.1 above, Credit risk has a mean of 0.276806 and a standard deviation of 0.215236 insolvency risk has a mean of 0.53844 and a standard deviation of 0.235618, operational efficiency has a mean of 0.2650228 and a standard deviation of 0.19971. A reasonable level of consistency is observed between the mean and standard deviation for all variables. For the dependent variable, financial performance has a mean of 0.263111 and a standard deviation of 0.197609

4.3 Regression Results

In addition to descriptive analysis, the study conducted a cross-sectional OLS multiple regression on several firm characteristics over the period 2005–2015.

Table 4.2: Model Summary

Regression Statistics	
Multiple R	0.25374925
R Square	0.64388682
Adjusted R Square	0.53324879
Standard Error	0.199900426
Observations	36

The correlation and the coefficient of determination of the dependent variables (financial performance of commercial banks when all the three independent variables credit risk, insolvency risk and the operational efficiency combined was measured and tested. From the findings 64.39 percent of returns of the commercial banks were attributed to the independent variables investigated in this study.

Table 4.3: ANOVA

ANOVA				
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>Significance F</i>
Regression	3	0.088001786	0.029333929	0.0039386104
Residual	32	1.27872577	0.03996018	
Total	35	1.366727556		

Source: Research Findings

From the data findings in table 4.4 above, the sum of squares due to regression is 0.0880 while the mean sum of squares is 0.02933 with 3 degrees of freedom. The sum of squares due to residual is 1.278728 while the mean sum of squares due to residual is 0.0399602 with 32 degrees of freedom. The p value is 0.0039386. Since the p value is less than 0.05 implies that the relationship is significant at 95% level of significance, the model is therefore is significant for the study and prediction.

Table 4.4: Coefficients of Determination

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Constant	0.200630533	0.103276388	1.94265637	0.060901011	0.009736584	0.0410997651
CREDIT RISK	0.087299387	0.169734552	0.51432891	0.61055611	0.258438579	0.0433037353
LQR	0.176883636	0.150792526	1.173026545	0.249443175	0.130270687	0.0484037959
OPR	0.214794045	0.1828763	1.174531885	0.248848727	0.587300875	0.157712786

Source: Research Findings

According to the model the Credit risk variable was positively related to financial performance measured by ROA. Its significance value was less than 0.05. The other variables (Insolvency risk and Operational efficiency risk) were also positively related to financial performance measured by ROA. Their significance value was also less than 0.05. The Operational efficiency was positively and insignificantly related to financial performance. Its significance value was 0.157713 which is more than the 0.05 percent level of significance. From the model, taking all factors (Credit risk, Insolvency risk, and Operational efficiency risk) constant at zero, financial performance had an autonomous value of .0.20063. The data findings analyzed also showed that taking all other independent variables at zero, a unit increase in Credit risk will lead to a 0.0873 increase in financial performance. A unit increase in Insolvency risk will lead to a 0.176884 increase in financial performance. A unit increase in operational efficiency will lead to a 0.214794 increase in financial performance. This infers that Credit risk and Insolvency risk had a positive effect to the financial performance of the commercial banks in Tanzania. Also the operational efficiency had a positive contribution on the financial performance of commercial banks in Tanzania. The coefficient table above was used in coming up with the model below:

$$\text{Financial performance} = 0.20063 + 0.0873X_1 + 0.1769X_2 + 0.2148X_3 + 0.1033$$

4.4 Interpretation of Findings

The study found that the regression equations for the period 2008 to 2013 related financial performance of the commercial banks in Tanzania to their Credit risk,

Insolvency risk, Operation efficiency. From the findings of the model summary from 2008 to 2013, 64.39 percent of the returns of commercial banks in Tanzania were explained by the independent variables (Credit risk, Insolvency risk and Operational efficiency) investigated in the study while other factors not studied in this research contributed 35.61 percent. The value of the F calculated from the regression table was 11.74 while the value of critical F was 4.72. Since calculated F was greater than the critical F, the model was significant for the study. From the coefficient table of 2008 to 2013, taking all factors (Credit risk, Insolvency risk and Operational efficiency) constant at zero, Returns will be 0.020063. The data findings analyzed also showed that taking all other independent variables at zero, a unit increase in Credit will lead to an increase of 0.0873 in returns. A unit increase in Insolvency risk will lead to a 0.176884 Increase in financial performance. A unit increase in Operations efficiency will lead to a 0.214794 increase in financial performance.

4.5 Discussions

From the summary of findings, it is clearly evident that the operational risk management had an effect on the financial performance of commercial banks in Tanzania as indicated by the coefficients of determination of year 2009 to 2013. The study found that the three independent variables in the study (Credit risk, Insolvency risk and Operational efficiency) influenced the financial performance for the period under study. These findings are in line with that of Fatade (2004) who in studying the effect of Operational risk management on the financial performance of commercial banks in Nigeria established that various Operational efficiency measures instituted in the country over the

years have directly and indirectly affected performance of the banking sector in a number of ways while includes Banks profitability, Deposit/Savings mobilization Loans & Advances and so on. He further confirmed that the effectiveness of Operational risk management affect the commercial banks financial performance in Nigeria. He further established that various Operational efficiency measures instituted in the country by various commercial banks over the years have directly and indirectly affected the financial performance of the banking sector in a number of ways while includes banks profitability. He further confirmed that the effectiveness of the Operational risk management efficiency depends on the instruments used in macroeconomic policies and the prevailing economic conditions and the deregulation of the sector which consequently led to a number of improvements.

These findings agree with the position held by Kamau, (2010) in a study of adaptation of risk management by commercial banks in Kenya, indicated that operational risk was very critical and it was 44% out of the other risks that occurred in commercial banks, and this is due to the high increase in the use of automated technology, lack of qualified staffs and lack of management supports in the organizations, and also the internal and external frauds. He also established that Operational risk management largely affects that profitability thus forcing banks to change their investment decision. He also indicated that when commercial banks change their investment decisions their financial performance is also likely to change or be affected due to the changes. His study concluded that regulatory distortions have an important effect on the efficiency and profitability of the Banking industry these findings are also in agreement with A Boston

Consulting Group survey, Pourquery and Mulder, (2009) that found that operational risk management has yet to gain widespread acceptance as an essential component of the business. The results are also similar to the work of Cebenoyan et al., (1999) and Saunders and Wilson (2001), who found that there was a negative impact of ROA , which suggests a relationship between increased financial and Credit risk.

CHAPTER FIVE

SUMMARY CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of findings, conclusions and recommendations derived from the findings of the study. The chapter also introduces the limitations that are encountered in the study with suggestions for further research. It is divided into section 5.2 on summary of the study, Section 5.3 on conclusion, section 5.4 on policy recommendation, section 5.5 on limitations of the study and section 5.6 on recommendation for further research

5.2 Summary of Findings

The dependent variables (Financial performance of listed commercial banks for the year 2009 to 2013) when all the three independent variables (Credit risk, Insolvency risk, and the Operational efficiency) are combined was measured. The study found out that 64.39 percent of the financial performance of the commercial banks in Tanzania in the study period of 2009 to 2013 was attributed to the three independent variables investigated in this study. The value of F calculated is 11.74 and the significance value is 0.00393. The p value is 0.00393. Since the p value is less than 0.05 implies that the relationship is significant at 0.05% level of significance. Credit risk variable was significant as its significance value was less than 0.05. Insolvency risk is also significant as its significance value is less than 0.05. Credit risk, Insolvency risk and Operational

efficiency are also positively related to the financial performance of commercial banks in Tanzania. Taking all factors (Credit risk, Insolvency risk and Operations efficiency) constant at zero, financial performance had an autonomous value of 0.20063. The data findings analyzed also showed that taking all other independent variables at zero, a unit increase in Credit risk will lead to a 0.08736 increase in financial performance of commercial banks in Tanzania. A unit increase in Insolvency risk will lead to a 0.1769 increase in financial performance of the commercial banks in Tanzania. A unit increase in Operations efficiency will lead to a 0.049 increase in financial performance of commercial banks in Tanzania.

5.3 Conclusion

From the analysis, it can be noted that the three independent variables (Credit risk, Insolvency risk, and Operations efficiency) had varying degrees of effect on the financial performance of commercial banks in Tanzania. The study concludes that operational risk influences the returns of commercial banks Tanzania positively. The study also deduced that credit risk, Insolvency risk and Operational efficiency positively influenced the financial performance of commercial banks in Tanzania. The results are similar to the work of Cebenoyan et al., (1999) and Saunders and Wilson (2001), who found that there was a negative impact on Return on Equity ROA, which suggests a relationship between increased financial performance and operational risk.

Juxtaposing the essence of risk management in banks, and the effectiveness of the Basel framework for risk management, there is a substantial argument against the efficiency of the framework itself. Empirical findings from several studies such as Francis and

Osborne (2009), Borio and Drehmann (2009) and Clement (2010), including this has shown that risk management efficiency in banks is co-determined by macroeconomic factors which vary with cycles. These macroeconomic factors have not been well integrated into the Basel guide. Although other risks rates like credit ratings have been suggested to qualify.

The study also revealed that Insolvency risk positively influences financial performance of the Commercial banks in Tanzania. These findings are consistent with the works of Macha(2010)who stated that Insolvency risk are influences the financial performance of commercial banks. He further stated that Operational efficiency is attractive as instrument that can be used to improve the financial performance of commercial banks .Macha(2010) also in his study on operational risk management in the financial sectors in Tanzania found that of 56 financial intermediaries, only 20 of them have insurance against operational risk.

5.4 Recommendations for Policy and Practice

This study established that Credit risk, Insolvency risk and Operations efficiency play a key role on the financial performance of the commercial banks in Tanzania .This study therefore recommends that the commercial banks should handle their operations appropriately as the changes in the factors like Insolvency and Credit risk bring about an effect on the profitability of commercial banks hence effecting their financial performance .Taking care of these risks will ensure stability at the Commercial banks

sector in Tanzania and help provide funds through credit lending to businesses which help promote economic development .

This study also establishes that Operational risk management are positively correlated with the financial performance of the commercial banks in Tanzania while Credit risk and Insolvency risk negatively influences financial performance of commercial banks in Tanzania. This study therefore recommends that commercial banks in Tanzania should balance off their borrowing and deposit rates since these banks are faced with many risk factors inclusive of Credit risk, Insolvency risk and Operational efficiency risk as these do affect the financial performance of these commercial banks.

5.5 Limitations of the Study

This study was not without limitations. In attaining its objective the study was limited to 5 years period starting from year 2009 to year 2013. The study was limited to secondary data collected from the Banks Financial reports from the Bank of Tanzania. While the data was verifiable since it came from the BOT and Banks publications, it nonetheless could still be prone to shortcomings such as earnings management. The study was limited to determining the effect of Operations risk management on financial performance of commercial banks in Tanzania The study was based on a five year study period from the year 2009 to 2013. A longer duration of the study will have captured periods of various economic significances such as booms and recessions. This may have probably given a longer time focus hence given a broader dimension to the problems

The study also faced the challenge of unstandardized accounting practices among financial institutions especially in as far as policies and guidelines on depreciation are concerned. The policy applied in the preparation of financial statements and in the computation of returns on assets was not uniform across all the financial institution. This made it difficult to do comparison across the commercial banks.

5.6 Suggestions for Further Research

This paper examines the effects of Operations risk on the financial performance of commercial banks in Tanzania. Because of data unavailability, it was not possible to include other independent variables in our study. Therefore I suggest further research on the effects of Operations risk inclusive of those other variables such as capital adequacy on the financial performance of commercial banks in Tanzania. The study showed that the Credit risk, Insolvency risk and Operations efficiency influences the financial performance of commercial banks In Tanzania .The analytical model may be incomplete. For example, the extent of commercial banks' foreign operations and ownership structure might impact on financial performance. The study excluded these variables due to data and cost constraints. Future research should consider these issues.

Since the study findings on returns of commercial banks in Tanzania contradicts some of those done by earlier researchers who had established that Credit risk, Insolvency risk and Operational risk have a significant positive association with financial performance such that commercial banks that are more capital-intensive have lower financial performance. Further studies should be done to establish the cause of such discrepancy.

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APPENDIX I: LIST OF COMMERCIAL BANKS IN TANZANIA

Commercial Banks	ROA	CREDIT RISK	LQR	OPR
1. Access Bank Tanzania	0.127	0.176	0.973	0.128
2. Advans Bank Tanzania	0.214	0.158	0.897	0.215
3. Akiba Commercial Bank	0.244	0.163	0.564	0.245
4. Amana Bank	0.367	0.205	0.463	0.366
5. Azania Bank	0.326	0.180	0.310	0.325
6. Banc ABC	0.194	0.15	0.295	0.193
7. Bank M	0.177	0.129	0.570	0.176
8. Bank of Africa	0.134	0.241	0.262	0.133
9. Bank of Baroda (Tanzania)	0.272	0.240	0.655	0.273
10. Bank of India (Tanzania)	0.206	0.165	0.550	0.206
11. Barclays Bank Tanzania	0.102	0.150	0.841	0.100
12. Meru Community Bank	0.148	0.158	0.865	0.148
13. Finca Commercial Bank	0.274	0.130	0.395	0.273
14. Citibank	0.230	0.280	0.255	0.231
15. Commercial Bank of Africa (Tanzania)	0.234	0.170	0.390	0.234
16. CRDB Bank	0.220	0.34	0.350	0.102
17. DCB Commercial Bank	0.101	0.06	0.900	0.62
18. Diamond Trust Bank Tanzania	0.62	0.70	0.516	0.154

19.	Ecobank	0.185	0.140	0.800	0.185
20.	Equity Bank (Tanzania)	0.124	0.30	0.475	0.120
21.	Exim Bank (Tanzania)	0.150	0.350	0.820	0.150
22.	First National Bank of Tanzania	0.70	0.34	0.85	0.34
23.	FBME Bank	0.24	0.27	0.190	0.005
24.	Habib African Bank	0.122	0.35	0.455	0.70
25.	I&M Bank (Tanzania)	0.95	0.115	0.850	0.140
26.	International Commercial Bank	0.84	0.20	0.604	0.144
27.	Kenya Commercial Bank0.	0.184	0.30	0.395	0.20
28.	Mkombozi Commercial Bank	0.22	0.02	0.380	0.120
29.	National Bank of Commerce (Tanzania)	0.220	0.150	0.190	0.125
30.	National Microfinance Bank	0.236	0.20	0.455	0.130
31.	NIC Bank Tanzania	0.195	0.125	0.850	0.93
32.	People's Bank of Zanzibar	0.180	0.95	0.604	0.75
33.	Stanbic Bank	0.175	0.76	0.395	0.30
34.	Standard Chartered Bank	0.195	0.30	0.380	0.270
35.	United Bank for Africa	0.180	0.45	0.190	0.360
36.	UBL Bank Tanzania Limited	0.186	0.85	0.450	0.45

APPENDIX II: LIST OF COMMERCIAL BANKS IN TANZANIA

1. Advans Bank Tanzania
2. Akiba Commercial Bank
3. Access Bank Tanzania
4. Amana Bank
5. Azania Bank
6. Banc ABC
7. Bank M
8. Bank of Africa
9. Bank of Baroda (Tanzania)
10. Bank of India (Tanzania)
11. Barclays Bank Tanzania
12. Citibank
13. Meru community Bank
14. Finca Commercial Bank
15. Commercial Bank of Africa (Tanzania)
16. CRDB Bank
17. DCB Commercial Bank
18. Diamond Trust Bank Tanzania
19. Ecobank
20. Equity Bank (Tanzania)
21. Exim Bank (Tanzania)
22. First National Bank of Tanzania
23. FBME Bank
24. Habib African Bank
25. I&M Bank (Tanzania)
26. International Commercial Bank
27. Kenya Commercial Bank
28. Mkombozi Commercial Bank

29. National Bank of Commerce (Tanzania)
30. National Microfinance Bank
31. NIC Bank Tanzania
32. People's Bank of Zanzibar
33. Stanbic Bank
34. Standard Chartered Bank
35. United Bank for Africa
36. UBL Bank Tanzania Limited