THE ROLE OF TREASURY MANAGEMENT IN MITIGATION OF LIQUIDITY RISK IN THE TANZANIA BANKING INDUSTRY

THE CASE OF AZANIA BANK LIMITED

THE ROLE OF TREASURY MANAGEMENT IN MITIGATION OF LIQUIDITY RISK IN THE TANZANIA BANKING INDUSTRY
THE CASE OF AZANIA BANK LIMITED

By

Halimeshi Hamis Kuyeko

A Dissertation Submitted to Mzumbe University Dar es Salaam Campus College in Partial Fulfilment of the Requirement for the Award of Degree of Master of Science in Accounting and Finance (MSc – A&F) of Mzumbe University

2014

i

CERTIFICATION

We, the undersigned, certify that we have read and hereby recommend for acceptance by the Mzumbe University a dissertation entitled the **Role of Treasury Management in Mitigation of Liquidity Risk in the Tanzania Banking Industry: The Case of Azania Bank Limited** in partial fulfilment for the requirements for award of degree of Master of Science in Accounting and Finance (MSc – A&F) of Mzumbe University Dar es Salaam Campus College.

…………………

Major Supervisor

…………………

External Examiner

Accepted for the Board of ……………………………………

_____

**DEAN DIRECTOR FACULTY/DIROCTORATE/SCHOOL/BOARD
DECLARATION**

AND

COPYRIGHT

I, **Halimeshi Hamis Kuyeko** declare that, this is my own work and that it has not
been presented to any other University for similar or other degree award.

Signature ……………………………..

Date…………………………………..

DEDICATION

This dissertation is dedicated to the Almighty God for keeping me healthy and making it possible for me to reach this end. To my beloved mother for her considerable financial and moral support during the course of studies. To Azania Bank staff for their cooperation and the Management for granting me access to the necessary data towards completion of this study.

ACKNOWLEDGEMENT

First and foremost, I would like to extend my sincere gratitude and appreciation to my supervisor Mr. Freddy Feruzi for his indispensable and valuable guidance, critique, suggestions, feedbacks and patience which have consequently led to successful accomplishment of this dissertation. I will remain highly indebted to him for sparing his time to advise and guide me in writing this work.

I would also like to thank the Managing Director of Azania Bank Limited for allowing me access to various data, and also all bank officers and managers who in one way or the other participated in filling questionnaires. With the same measure of recognition, I would like to appreciate the cooperation extended to me by colleagues from the Msc Accounting and Finance class of 2011 at Mzumbe University, Dar es Salaam Campus College.

Finally, I would like to take this opportunity to thank all my family and friends who have continuously and tirelessly helped me during the course of my studies.

While acknowledging all those who contributed towards successful completion of this work, I stand firm to be criticized and responsible for all the views and shortcomings in this dissertation.

LIST OF ABBREVIATIONS

ATM   -   Automated Teller Machine

BOT   -   Bank of Tanzania

CFP   -   Contingent Funding Plan

CMSA   -   Capital Markets and Securities Authority

DSE   -   Dar es Salaam Stock Exchange

MFI   -   Microfinance Institution

NPL   -   Non-Performing Loans

USA   -   United States of America

ABSTRACT

The principal purpose of this study was to assess the role of treasury management in mitigation of liquidity risk in the Tanzania banking industry. The main objectives of the study were; firstly to determine how the treasury management support banks in mitigation of liquidity risk. Secondly to assess whether treasury management have the capacity to manage liquidity risk. And lastly to establish how banks in Tanzania implement risk management procedures.

In achieving the formulated objectives, data were collected from both primary and secondary sources. Primary sources of data collection involved the use of questionnaires and interview, which were administered to respondents from different public sector entities. Data were then analysed qualitatively and quantitatively in order to arrive at the results which were discussed and presented in chapter four.

It was found that, management of liquidity risk is among the responsibility of the staff of the department of treasury, and that, there are procedures in place for mitigating liquidity risk that are stipulated in the risk management manual. Furthermore, the bank has a set of guidelines and policies concerning the issues of liquidity that are adhered by the bank.

It was also found that, the bank has competent personnel in dealing with liquidity risk. However, the staffs are not regularly updated, as they do not frequently participate in training. Furthermore, It was found that the Azania bank is implementing the requirement of the Bank of Tanzania as they do have set of procedures in managing liquidity risk.

The study noted that proper management of liquidity risk needs serious considerations in terms of resources, capacity building to its staff as well as efficiency adherence to the set of procedures and rules stated in the policy for managing risk.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER ONE

PROBLEM SETTING

1.1   Introduction

This research employs the concept of risk management in an attempt to assess the role of treasury management in mitigation of liquidity risk in the Tanzania banking industry. The analysis is aimed at providing an insight in the various roles of the banks treasury function in relation to their influence towards mitigation of liquidity risk. Before going through the theoretical part of the research, it is imperative to understand the historical evolution and the current status of the problem.

1.2   Evolution of Liquidity Risk

In Tanzania, liquidity problems of commercial banks started long time ago before financial reforms. Many commercial banks witnessed undergoing insolvency due to higher level of non-performing loans (Chijoriga, 1997). With those liquidity problems the government of Tanzania decided to make institutional and economic innovation towards the impediment of the financial systems. Among the measures adopted is the liberalization of the market forces so as to create the fair play ground to the economic system. The adopted liberization of economic system increased the efficiency, liquidity and enhanced competition in the financial system (Aikaeli, 2008). The market liberalization increased the banking industry and shifted the markets from the government owned banks to private owned banks.

Commercial banks are the most significant instrument in the economy and in most cases are viewed as the public goods, therefore the liquidity position need to be stable. In the context of Tanzania environment they carry more than 96% of the total assets of the banking assets (Timothy, 2010). The growth of any economy depends on the liquidity position of commercial banks as they provide in terms of loans to MFIs, the government and the people at large. The recent economic crisis in Europe and America give the world cautions to periodically review the financial structure in terms of assets, liquidity, capital adequacy etc. Moreover the functioning of the

capital markets and money market depends much on the liquidity position of the commercial banks. To ensure the activities of commercial banks are not hampered there is a need to confirm on the liquidity position of commercial banks (Bank of Tanzania, 2008)[1].

Liquidity risk also arises due to mismatch between assets which are generally long term in nature and liabilities such as deposits and borrowings which usually are of short term. The maturity profile of the assets and liabilities of banks gives an indication of the magnitude of liquidity risks in a banking institution. Regulatory requirements such as minimum cash or liquid assets ratio are imposed to ensure that banks are all the time capable of meeting the average cash withdraws at short notice (BOT 2008, *op.cit*). However, in the event of long or short positions, banks may have recourse either to interbank money market or the liquidity windows of the Bank of Tanzania.

By end of June 2010, the ratio of liquid assets to demand liabilities was 46.9 percent, which was above the regulatory minimum limit of 20.0 percent (BOT, 2010)[2]. It was further pointed out that the high level of liquidity in the banking sector is attributed to a cautionary lending approach adopted by banks in the wake of uncertainty of the global financial crisis and the slowdown in domestic economic activity. The growth rate of excess reserves in the banking system has slowed in response to positive prospects of improved performance of the domestic economy for 2010.

Many risks arise from the fact that today's banks are engaged in a wide range of activities (Hillier, 2003). Majority of commercial banks trade in all kinds of cash instruments as well as derivative products such as swaps, forward contract, futures and options-either for their own account or to facilitate customer transactions (Crouhy et al, 2001).

---

[1] The banking and financial institutions (liquidity management) regulation

[2] Financial and stability report

1.3   Evolution of Treasury Management

Treasury management is regarded as the efficient management of financial risk and liquidity of the business, often refered to as risk management. Risk Management in its context is managing risks facing banks (Hillier 2003, *op.cit*). In Tanzania, treasury management function has grown dramatically since the gradual easing of foreign exchange controls by the Bank of Tanzania. The liberalization of foreign trade and the free foreign exchange regime that was effected in March 1992 (through the enactment of the Foreign Exchange Act, 1991 that has replaced the Exchange Control Ordinance (which was not compatible with the dynamic macroeconomic policies adopted under Enterprise Risk Program (ERP) is the main reason for the establishment of treasury management unit in majority of commercial banks in Tanzania.

1.4   Statement of the Problem

The Sungard[3] published on its website that historically treasurers were responsible with management of cash and market risk and ensuring that the company has access to sufficient sources of funding as well as dealing with complex compliance issues. It argues that the transformation has been driven by changes in information and communication technologies, increased mandates around regulatory compliance, and the emergence of a truly global economy. It was concluded that a treasury management workstations are vital for helping to meet the challenges by delivering enabling technology necessary to drive integration, automation, visibility and collaboration while also offering modeling and analysis tools to help manage risk, maximize liquidity, and drive growth.

> *A recent study on currency risk management was carried out by Moremi Marwa. He identified the presence of weakness in the banks' internal controls especially in management of currency risk. He argued that the problem can have serious impact on the existence and sustainability of the banks both financially and operationally. He concluded that the role of treasury in risk management depends on the*

---

[3]http://www.sungard.com/campaigns/fs/corporations/avantgardtreasury/solutions/treasury.aspx

treasury structure and ownership of the bank. The treasury department should be divided into two units; the front and back office. Where the former deals with the daily trading activities and the later deals with the risk management.

In 2011 the banking sector's Total Assets increased by 16%, the ratio of earning assets to Total Assets decreased to 78.6%, deposits increased by 16% while Shareholders' funds increased by 14%. The liquidity was by and large satisfactory, with the ratio of liquid assets to deposits at 54% (Ernst & Young, 2012). This is typical indication of a mediocre performance of the industry.

A commercial bank's income is contributed mainly by interest income. Funds are borrowed on short term from surplus units and advanced on long term as loans to various sectors. It is therefore imperative for the bank to ascertain the timing and magnitude of interest on the borrowed and lent funds by effectively guiding and controlling the flow of funds to avoid illiquidity. Treasury units should not only concentrate on managing the banks liquidity position by mitigating the risk, but rather come up with alternative sources of income to compensate the losses caused by non performing loans and adverse movements in the foreign exchange exposures. Given a low development and utilization of financial derivatives like Swaps, futures and options in the financial market, the banks could tap a considerable reward on trading these financial instruments.

As it can be appreciated that, there are very few literatures that are available in Tanzania on the issue of treasury management. It is against this background that the researcher decided to measure the influence of treasury management on the liquidity risk in Tanzanian banking sector.

1.5   Objectives of the Study

The main objective of the study was to provide an insight on the role of the treasury management in mitigation of liquidity risk.

The specific objectives were;

(i) To determine how treasury management support banks in mitigation of liquidity risk.

(ii) To assess whether treasury management have the capacity to manage liquidity risk.

(iii) To establish how banks in Tanzania implement liquidity risk management procedures.

1.6 Research Questions

(i) Does the treasury management operation policy comprise of mechanisms for curbing liquidity risk?

(ii) Do banks treasury management have the adequate resources for managing liquidity risk?

(iii) How do commercial banks establish and implement their formal liquidity risk management procedures?

1.7 Scope of the Study

The study only covered Azania Bank limited as a case study. This is due to ease of access to information as the researcher is an employee of the same bank. It is hoped that the strategy will also cut the cost down and minimize the amount of time required and hence enable the researcher to effectively complete the study.

1.8 Study Rationale

For academic purposes, this research is for the immediate fulfilment of the requirement for the degree of Masters of Science in Accounting and Finance; others are to develop research skills as well as pointing a reference for other academicians build on the findings obtained from the study. In terms of knowledge it will bring challenges to the banking industry and various stakeholders of business studies for further research and add value to my employment career as a change agent. The findings of the study will reinforce the commercial banks and other financial institutions internal controls for liquidity risk and hence accelerate their wellbeing.

CHAPTER TWO

LITERATURE REVIEW

2.1   Introduction

According to the theories of financial intermediation, the two most crucial reasons for the existence of financial institutions, especially banks, are their provision of liquidity and financial services. Regarding the provision of liquidity, banks accept funds from depositors and extend such funds to the real sector while providing liquidity for any withdrawal of deposits. However, the banks' role in transforming short-term deposits into long-term loans makes them inherently vulnerable to liquidity risk (Bank for International Settlements (BIS), 2008b:1).

> *This chapter provides readers with review of literature related to the study in terms of theories, conceptual models and review of previous studies.*

2.2   Definition of Key Terms

2.2.1 Bank

A bank is a financial intermediary authorised to engage on banking business, which according to Bank of Tanzania act, 1965 means the business of receiving funds from the general public through the acceptance of money deposit payable upon demand or after a fixed period after notice or similar operation through frequent sale or placement of bond, certificates, notes or other securities, and use of such fund either in whole or part for loans or investment for the account of risk of the period doing such business.

2.2.2 Commercial Bank

A commercial bank is a depository financial intermediary providing a variety of services to customers that include:

(i.)   A relative safe and convenient place to store money and earn a modest but secured return.

(ii.)   The convenience of demand deposit (cheque book money) that can be transferred by personal cheque

(iii.) Granting credit because depositors as a whole do not withdraw all their funds at once, bank keeps only fraction of money deposited with them in reserve to cover withdraws. The reminder is available to lend at interest to household firm and government.

(iv.)   Other services include accepting saving and time deposit, selling money orders or traveller's cheque, buying bonds and offering financial cancelling to businesses.

2.2.3   Liquidity

Liquidity is the degree to which an asset or security can be bought or sold in the market without affecting the asset's price. National Bank of Commerce (2012), provides that the inability to continue operating as a going concern because of a lack of funding is refered to as Liquidity Risk. The risk manifests itself in being unable to meet payment obligations when they fall due and to replace funds when they are withdrawn, in particular, its failure to meet obligations to repay sources of funding and fulfil commitments to lend. Liquidity is the ability of a bank to fund increases in assets and meet obligations as they come due, without incurring unacceptable losses. The fundamental role of banks in the maturity transformation of short-term deposits into long-term loans makes banks inherently vulnerable to liquidity risk, both of an institution-specific nature and that which affects markets as a whole (Ioan and Dragos, 2008).

2.2.4   Liquidity Risk

A bank's liquidity risk refers to a comparison of its liquidity needs for deposit outflows and loan increases with the actual or potential sources of liquidity from either selling an asset it holds or acquiring an additional liability. Banking liquidity risk is therefore associated both to banks' ability to fulfil their obligation to depositors (borrowers) to transform their deposits into legal money (to receive cash by drawing down the credit lines), and their function of maintaining a balance between the ingoing and outgoing cash flows deriving from the management of

7

payments made using banking money. Means of payment are created and cash flows managed under the direction and control of the Central Banks, which guarantee the availability of the monetary base needed to sustain the ordered creation of banking money. The Central Banks also play a key role in the creation and strengthening of the infrastructures needed to settle payments within the financial system (Chijoriga et al, 2008).

2.2.5 Liquidity Risk Management

The term 'Liquidity' means the ability of an organization to realize value in money the post liquid among all assets. It implies conversion of assets into cash during the normal course of business and to have regular uninterrupted flow of cash to need outside current liabilities as and when due and payable and also ensure availability of money for day-to-day business operations. The concept of liquidity in case of companies has two dimensions viz; the quantitative and qualitative. The quantitative aspect includes the quantum, structure and utilization of liquid assets. The qualitative aspect emphasizes upon the ability of a firm to meet all present and potential demand on cash in a manner that minimize cost and maximize the value of the business.

The liquidity is a vital factor in business operations. For the very survival of business, the firm should have requisite degree of liquidity. It should be neither excessive nor inadequate. Excessive liquidity means accumulation of ideal funds. Which may lead to lower profitability, increase speculation, and unjustified extension, extension of liberal credit terms, liberal dividend policy etc; whereas inadequate liquidity result in interruptions of business operations. A proper balance between these two extreme situations therefore should be maintained for efficient operation of business through skill full liquidity management.

Virtually every financial transaction or commitment has implications for a bank's liquidity. Effective liquidity risk management helps ensure a bank's ability to meet cash flow obligations, which are uncertain as they are affected by external events and other agents' behaviour. Liquidity risk management is of paramount importance because a liquidity shortfall at a single institution can have system-wide

repercussions. Financial market developments in the past decade have increased the complexity of liquidity risk and its management.

2.2.6 Treasury Management

Treasury management is the efficient management of financial risk and liquidity of the business; it is often called risk management, which is simply managing risks facing banks (Hillier 2003, *op.cit*).

2.2.7 Derivatives

A derivative is a financial instrument which derives its value from the value of underlying entities such as an asset, index, or interest rate. "A derivative is a financial contract whose value is derived from the performance of underlying market factors, such as interest rates, currency exchange rates, and commodity, credit, and equity prices. Derivative transactions include an assortment of financial contracts, including structured debt obligations and deposits, swaps, futures, options, caps, floors, collars, forwards, and various combinations thereof." In practice, it is a contract between two parties that specifies conditions (especially the dates, resulting values and definitions of the underlying variables, the parties' contractual obligations, and the notional amount) under which payments are to be made between the parties. The most common underlying assets include: commodities, stocks, bonds, interest rates and currencies.

2.3 Theoretical Literature Review

Banking liquidity represents the capacity of a bank to efficiently finance transactions. It is also a probability of failing to honour its obligations to its clients in terms of withdrawal of deposits, maturity of other debt, and cover additional funding requirements for the loan portfolio and investment. The management of the liquidity risk presents important at least from two points of view: primarily an inadequate level of liquidity may lead to the need to attract additional sources of with higher costs reducing profitability of the bank that will lead ultimately insolvency; and secondly an excessive liquidity may lead to a decrease of the return on assets and in consequence poor financial performance (Ioan and Dragos, 2008).

The concept of liquidity in finance principally lies in two areas: (a) the liquidity of financial instruments in the financial market, and (b) the liquidity related to solvency. The former relates to liquid financial markets and financial instruments. Examples of these include: marketable financial instruments, smooth transactions, and no financial barriers. The latter discusses the obligation of banks to make payments to third parties (Fiedler, 2000). Some examples of this include: setting up liquidity management policies, reserving liquidity, balancing assets and liabilities and, preparing liquid financial instruments.

A bank has a potential of appropriate liquidities when it is in condition to obtain the funds immediately and at a reasonable cost, when these are necessary. In practice, achieving and maintaining optimum liquidity is a real art of bank management. Maintaining an adequate degree of liquidity in the whole banking system is extremely important, because the registration of a liquidity crisis at a single bank can have negative repercussions over the whole banking system thanks to the risk of contagion through interbank settlements. The sophistication of liquidity management and liquidity risk depends on the size and characteristics of each bank as do the nature and complexity of activities held by it. The management of liquidity policies of a bank has to include a decisional structure for the risk management, a strategy for approaching operations and funding, a set of exposure limits to liquidity risk and a set of procedures for planning liquidities after alternative scenarios including crisis situations (Wikipedia, 2013).

The structure of decision-making reflects the importance that the management is showing to liquidity in general: the banks which emphasize the liquidity risk management normally implement a structure for managing liquidity risk from ALCO (Assets and Liabilities Committee) and includes the responsibility to establish a liquidity policy and decision – making to the highest level of management.

2.3.1 Risks in Banking Institutions

Risk in financial terms is usually defined as the probability that the actual return may

differ from the expected return (Howells and Bain, 1999). In the financial system there are at least three broad categories of risks, (1) financial risk, (2) business risk, and (3) operational risk. Financial risk concerns risks arising from the business activities of banks, while business risk and operational risk relate to the bank's internal affairs. In this respect, liquidity risk is classified under the financial risk category along with credit risk and market risk.

2.3.2   Factors Affecting Liquidity of an Organization

The company must maintenance adequate amount of liquidity to meet it daily obligations but liquidity in excess of what is adequately required by the firms to finance its operations may be unproductive. The liquidity requirement of firms differs depending on the circumstances of the company, Pandy (2005) as cited by Owolabi et al, 2012 outline the following as some of the factors that influence the liquidity requirement of a company.

2.3.2.1 Nature and Size of Business

The liquidity needs of a firm are basically influenced by the nature of its business. Trading and financial firms generally have a low investment in fixed assets, but require a large investment in working capital. Retail stores, for example, must carry large stocks of a variety of merchandise to satisfy the varied demand of their customers. Some manufacturing businesses' like tobacco, and construction firms also have to invest substantially in working capital but only a nominal amount in fixed assets. In contrast, public utilities have a limited need for working capital and have to invest abundantly in fixed assets. Their working capital requirements are nominal because they have cash sales only and they supply services, not products. Thus, the amount of funds tied up with debtors or in stocks is either nil or very small. Liquidity of manufacturing lies between trading companies and public companies.

2.3.2.2 Manufacturing Cycle

The manufacturing cycle starts with the purchase of raw materials and is completed with the production of finished goods. If the manufacturing cycle involves a longer period, then the need for working capital will be more, because an extended

manufacturing time span means a larger tie-up of funds in inventories. Any delay at any stage of manufacturing process will result in accumulation of work-in-process and will enhance the requirement of working capital. Firms making heavy machinery or other such products, involving long manufacturing cycle, attempt to minimize their investment in inventories (and thereby in working capital) by seeking advance or periodic payments from customers.

2.3.2.3 Business Fluctuations

Seasonal and cyclical fluctuations in demand for a product affect the working capital requirement considerably, especially the temporary working capital requirements of the firm. An upward swing in the economy leads to increased sales, resulting in an increase in the firm's investment in inventory and receivables or book debts. On the other hand, a decline in the economy may register a fall in sales and, consequently, a fall in the levels of stocks and book debts. Seasonal fluctuations may also create production problems. Increase in production level may be expensive during peak period. A firm may follow a policy of steady production in all season and their quick disposal in peak season. Therefore, financial arrangement for seasonal working capital requirement should be made in advance. The financial plan should be flexible enough to take care of any seasonal fluctuation

2.3.2.4 Production Policy/ Just-in-Time

If a firm follows steady production policy, even when the demand is seasonal, inventory will accumulate during off-season periods and there will be higher inventory costs and risks. If the costs and risks of maintaining a constant production schedule are high, the firm may adopt the policy of varying its production schedule in accordance with the changes in demand. Firms whose physical facilities can be utilized for manufacturing a variety of products can have the advantage of diversified activities. Such firms manufacture their main products during the season and other products during off-season. Thus, production policies may differ from firm to firm, depending upon the circumstances. Accordingly, the need for working capital will also vary.

2.3.2.5 Turnover of Circulating Capital

The speed with which the operating cycle completes its round (for example, cash to raw materials to finished product to accounts receivables finally to cash) plays a decisive role in influencing the working capital needs.

2.3.2.6 Credit Terms of the company

The credit policy of the firm affects the size of working capital by influencing the level of book debts. Though the credit terms granted to customers to a great extent depend upon the norms and practices of the industry or trade to which the firm belongs; yet it may endeavor to shape its credit policy within such constraints. A long collection period will generally mean tying of larger funds in book debts. Slack collection procedures may even increase the chances of bad debts. The working capital requirements of a firm are also affected by credit terms granted by its creditors. A firm enjoying laissez-faire credit terms will need less working capital.

2.3.2.7 Growth and Expansion Activities of the Company

As a company grows, logically, larger amount of working capital will be needed, though it is difficult to state any firm rules regarding the relationship between growth in the volume of a firm's business and its working capital needs. The fact to recognize is that the need for increased working capital funds may precede the growth in business activities, rather than following it. The shift in composition of working capital in a company may be observed with changes in economic circumstances and corporate practices. Growing industries require more working capital than those that are static. This could be measured using the percentage increase in total assets.

2.3.2.8 Operating Efficiency

Operating efficiency means optimum utilization of resources. The firm can minimize its need for working capital by efficiently controlling its operating costs. With increased operating efficiency the use of working capital is improved and pace of cash cycle is accelerated. Better utilization of resources improves profitability and helps in relieving the pressure on working capital. Operating efficiency can measured

using the Total asset to Sale ratios. This measures the percentage of investment in assets that is needed to generate the annual sales level. If the percentage is very high, it probably indicates that a business is not being aggressive in its sales efforts.

2.3.2.9 Price Level Changes

Generally, rising price levels requires a higher investment in working capital. With increasing prices the same levels of current assets need enhanced investment. However, firms which can immediately revise prices of their product upwards may not face severe working capital problems in periods of rising levels. The effects of increasing price level may, however, be felt differently by different firms due to variation in individual prices. It is possible that some companies may not be affected by the rising prices, whereas others may be seriously affected by it.

An enterprise needs liquidity to operate profitably. The working capital of a business reflects the short-term uses of funds. Apart from the investment in the long-term assets such as buildings, plant and equipment, funds are also needed for meeting day to day operating expenses and for amounts held in current assets. Within the time span of one year there is a continuing cycle or turnover of these assets. Cash is used, to acquire stock, which on being sold results in an inflow of cash, either immediately or after a time lag in case the sales are on credit. The rate of turnover of current assets in relation to total sales of a given time period is of critical importance to the total funds employed in those assets.

However, in the banking sector, there are many factors that affect banks own liquidity and in turn affect the amount of liquidity they can create. These factors have a varying degree of influence on the balance between liquidity risk and liquidity creation, or a bank's liquidity management. A bank's assets and liabilities play a central role in their balancing of liquidity risk and creation. A bank's liabilities include all the banks sources of funds. Banks have three main sources of funds: deposit accounts, borrowed funds, and long term funds. The amounts and sources of funds clearly affect how much liquidity risk a bank has and how much liquidity it can create. The easier a bank can access funds the less risk it has and the higher amount

of funds it holds the more liquidity it can create, if willing to do so. Deposit accounts are made up of transaction deposits, also known as demand deposits, savings deposits, time deposits, and money market deposit accounts. The longer term sources of funds for banks are bonds that banks issue and bank capital (Madura, 2007)

2.3.3 Sources of Liquidity Risk

Liquidity risk can have many sources. Matz and Neu (2007) agree with this view and state that these sources can arise on both sides of a bank's balance sheet and, in order for a bank to be able to manage it sufficiently; it should first know and understand the possible sources of liquidity risk. The sources can be classified as external sources and internal sources.

2.3.3.1 External Sources

External sources of liquidity risk are factors considered to be macro-factors exogenous to the bank. Macro-factors may include:

(i)   Market Volatility

Market movements may have negative effects on banks, for example, unexpected volatility in prices of collateralized over-the-counter (OTC) derivatives may lead to margin calls from the counterparties which will put strain on liquidity so that the bank can cushion such margins (Kronseder, 2003).

(ii)   Product Driven

If a bank is experiencing a liquidity squeeze and has to liquidate a large position or an inherently illiquid instrument at short notice, it may have to incur losses. Furthermore, when the market realises that the bank has dealt at a loss, it may affect the bank's reputation in the market and may render it difficult for the bank to gain access to the backup loans that it would normally have access to (Kronseder, 2003).

(iii)   Competition

Competition is an important source of external liquidity risk, because depositors may decide to shift their deposits to another bank offering more favorable interest rates or

lower banking charges. The main driver behind competition is a change in demographics, meaning that the general public is more knowledgeable and educated in terms of different offerings from different banks (Clarke, 2007). In addition, timed payments strain intra-day liquidity because they increase competition in domestic and cross-border markets for high-grade collateral. The effect of such timed funding obligations on the demand for high-grade collateral is not yet fully understood. Competition may also be amplified in times of world economic recession, when many banks will be in pursuit of eroding liquidity

(iv)   Changes in the Regulatory Environment

When authorities change rules, for example allowing or promoting more competition, or increasing liquid assets and/or cash reserve requirements, liquidity will be (Clarke, 2007).

2.3.3.2 Internal Sources

Internal sources of liquidity risk are described as factors inside the bank over which it has control in terms of financing and operational policies (Syed, 2004). Internal factors may include the following:

(i)   Funding Sources and Structures

Funding sources and structures are important potential sources of liquidity risk. Too much reliance on *volatile funding,* such as overseas loans or borrowing from large creditors which are interest rate sensitive, may result in liquidity risk. Funding from numerous retail depositors is more stable. In addition, *concentrated funding sources* are likely to increase a bank's liquidity risk (Syed, 2004). Concentrated funding sources refer to a bank's deposits or loans originating mainly in the same currency, or with maturities within the same period, or funding from the same source or the same types of instruments (BOT, 2003). Kronseder (2003) states that many funding arrangements seem to include option-like structures, especially if the provider of funds is allowed to withdraw funds with only a few days' notice, without having to disclose reasons for withdrawing funds. Funding with option-like structures increases the risk that these options may be exercised during periods of strain, leaving the

option-buyers exposed.

(ii)   Business Strategies/Policies

Strategies such as changes in deposit rates, service fees or the structure of assets, liabilities and off-balance sheet transactions aimed to increase the bank's market share may unintentionally change a bank's financial structure. For example, deposits may flow in at an amount that far exceeds demand while the management of liquidity risk can become more complicated due to the maturity of transactions outside the balance sheet. In this sense, complications may include difficulty in pricing correctly, or service fees increasing to above market-related fees because of the new financial structure of the bank. Conversely, existing customers may move their deposits to competitors because of their lower service fees, for example.

(iii)   Off-balance Sheet Transactions

Examples of off-balance sheet transactions may include complicated derivatives instruments for which it is difficult to estimate liquidity. Other examples of such transactions include obligations under letters of credit or guarantees, or credit facilities that have already been approved by the bank but not yet withdrawn by depositors such as mortgage loans, overdrafts and credit cards (Syed, 2004).

(iv)   Defective Operating System

If the management reporting systems used by the various departments within the bank to send information to the bank's treasury for liquidity management, cause delayed or inaccurate information, a bank may be faced with a liquidity crunch which may cause damage to its reputation in the market. In other words, this is operational risk.

2.3.4   Liquidity Risk and Bank Solvency

Liquidity risk represents liquid assets/deposits. The higher the ratio the lower the liquidity risk and the lower the opportunity for profit. Liquid assets are used to measure the size of available cash and near cash assets to meet the withdrawal demand. This demand could be demand for loans withdrawals of demand deposits

and opportunities for investments in securities. Failure to provide adequate liquidity to meet the demands of depositors or creditors can cause a shutdown of a bank within a short period. Liquidity risk result in a decrease of the portfolio value, but could also jeopardize the investors own credit rating thus in other words if a fund is unable to fulfill a redemption request as agreed, the investor in turn may fail to fulfill his own credit commitments thus according to Marshall et al (2010).

Inclusion of liquidity risk in the definition of risk appetite takes an intermediated form through its effect on profit and loss (by identifying the highest acceptable the cost of funding), and its impact on balance sheet structure (by defining the size and composition of the liquidity buffer a bank can afford to hold given there are high opportunity cost and negative carrying cost associated with the liquid assets thus according to Tumasyan et al 2010.

Liquidity risk is a major and intrinsic part of the banking business model and it is not possible for banks to shy away from it. In order to meet the demands of both depositors and borrowers simultaneously, banks convert short-term deposits into long-term loans with this activity being known as maturity transformation. However, this maturity transformation activity exposes banks to the following three major risks, firstly, credit risk as banks are contractually obligated to repay the depositor's capital plus interest regardless of whether or not its own loans are cash positive; secondly, banks also take on interest rate risk as a result of timing differences between the change in asset and liabilities rates; and finally, as a result of maturity transformation banks assume an extensive degree of liquidity risk Matz (2004), which is depicted pictorially in figure 2.1

Figure 2.1:   Liquidity Risk Model
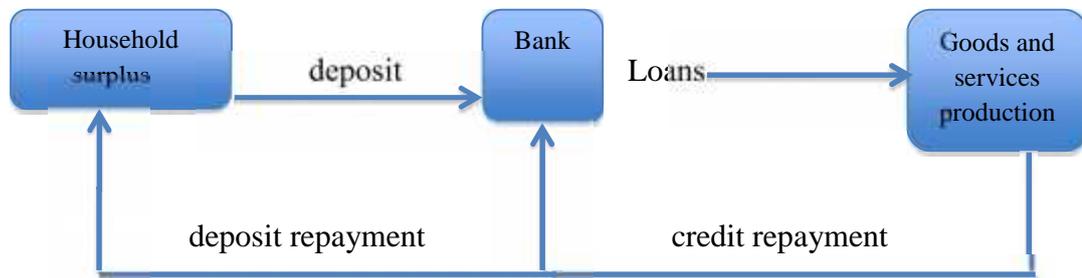
Source: Matz, 2004

2.3.5   Profile of Liquidity Risk in Banking Institutions

Liquidity risk management in banks is defined as the risk of being unable either to meet their obligations to depositors or to fund increases in assets as they fall due without incurring unacceptable costs or losses (Ismail, 2010). This risk occurs when the depositors collectively decide to withdraw more funds than the bank immediately has on hand (Hubbard, 2002), or when the borrowers fail to meet their financial obligation to the banks. In the other words, liquidity risk occurs in two cases.

Firstly, it arises symmetrically to the borrowers in their relationship with the banks, for example when the banks decide to terminate the loans but the borrowers cannot afford it. Secondly, it arises in the context of the banks' relationships with their depositors, for example, when the depositors decide to redeem their deposits but the banks cannot afford it (Greenbaum and Thakor, 1995).

In practice, the banks regularly find imbalances (gaps) between the asset and the liability side that need to be equalized because, by nature, banks accept liquid liabilities but invest in illiquid assets (Zhu, 2001). If a bank fails to balance such a gap, liquidity risk might occur, followed by some undesirable consequences such as insolvency risk, government bailout risk, and reputation risk. The failure or inefficiency of liquidity management is caused by the strength of liquidity pressure, the preparation of a bank's liquid instruments, the bank's condition at the time of

liquidity pressure, and the inability of the bank to find internal or external liquid sources. Table 2.1 below lists some internal and external factors in banks that may potentially lead to the liquidity risk problems.

Table 2. 1:   Internal and External Factors Leading to Liquidity Risk Problems

Internal Banking Factors	External Banking Factors
High off-balance sheet exposures.	Very sensitive financial markets and depositors.
The banks rely heavily on the short-term corporate deposits.	External and internal economic shocks.
A gap in the maturity dates of assets and liabilities.	Low/slow economic performances.
The banks' rapid asset expansions exceed the available funds on the liability side.	Decreasing depositors' trust on the banking sector.
Concentration of deposits in the short- term tenor.	Non-economic factors (political unrest, etc.).
Less allocation in the liquid government instruments.	Sudden and massive liquidity withdrawals from depositors.
Fewer placements of funds in long-term deposits	Unplanned termination of government deposits.

Source: Compiled by the Researcher

2.3.6   Potential Causes of a Liquidity Crisis

Diamond & Dybvig (1983) developed a model of bank runs and liquidity crises which is widely considered today by academics as the most influential in the field. They demonstrated that the bank's business model in terms of which daily activity involved accepting inherently illiquid assets (i.e. mortgages) and offering liquid

liabilities (i.e. deposits) made banks susceptible to bank runs. They also provided an insight into the mechanics of demand deposits and liquidity.

Assuming there is zero or little correlation among depositors; Diamond & Dybvig (1983) assert that demand deposit contracts provide much needed liquidity to banks. In addition to liquidity, the pooling of deposit contracts provides a superior risk sharing and diversification among depositors. However, in the case of a depositor panic, liquidity could be eroded, immediately giving rise to a self-fulfilling frenzy among depositors as "herd behaviour" becomes evident with first withdrawals being followed by withdrawals by those depositors who would have in the first place preferred to leave their deposits put had they not been anxious about the potential bank failure. Thus, a liquidity crisis may be avoided provided that confidence in the financial institution is maintained. In the Diamond & Dybvig (1983) model, the fundamental ground for depositors' withdrawals is a shift in expectations. In other words, a run on a bank or a liquidity crisis materialises because bank's assets, which are liquid but unsecure, are not sufficient to cover the nominally fixed liability (i.e., demand deposits), and, as a result, depositors withdraw their money to reduce the anticipated losses.

However, it is not explicitly stated in the Diamond & Dybvig (1983) model that it is not feasible to imagine and to anticipate every possible event that may cause a liquidity crisis. Modern banking activities are extremely complex and liquidity itself has proved to be a consequential risk. As Matz (2011) explains, from a banking perspective, the fundamental issues in a liquidity crisis may be classified as either endogenous or exogenous. Endogenous problems, which are bank specific, are primarily as a result of the poor management of credit risk and, occasionally, operational risk events; whereas exogenous liquidity problems are triggered by market disruptions which are usually the result of payment system disruptions, country rating downgrades and, to some extent, surprises.

2.3.7   Bank Specific Crisis

A bank specific (idiosyncratic) funding disruption is typified by a loss of confidence in the bank concerned. Bank's liabilities which are mostly in the form of deposits are extremely confidence-sensitive and triggers for unexpected, large-scale loss of depositor's confidence are extremely difficult to predict and it is therefore essential to understand that liquidity events are to be placed in the context of their underlying cause(s). Liquidity events may not be the cause of impending failure but the underlying cause at the time. In a stress and increasingly volatile environment, the possibility of a risk precipitation is compounded. The immediacy, severity and duration of the crisis is highly reliant on particular circumstances and, more often than not, resulting in a panic-driven withdrawal of deposits coalesced with a drawdown under loan commitments (i.e. credit cards and loan overdrafts), as customers fear that their credit facility with the bank will dry up. The following categories in terms of bank-specific crises may be considered:

(i)   Credit risk events such as the recent subprime crisis, resulting in a substantial financial misfortune.

(ii)   Market risk event (i.e. unauthorised trading), resulting in a material financial deficit

(iii)   Reputation risk event as a result of a sudden loss of confidence in the bank which, in turn, results in large cash withdrawals

(iv)   An inadequate liquidity management process, resulting in an inability to meet obligations as they fall due or to fund asset growth

(v)   Taxation risk event.

(vi)   Insurance risk event

(vii)   Solvency risk event having a material effect on the capital adequacy position of the banks

2.3.8   Measurement and Monitoring of Liquidity Risk

An effective measurement and monitoring process is essential for adequately managing liquidity risk. At a very basic level, liquidity measurement involves assessing all of an institution's cash inflows against its outflows to identify the potential for any net shortfalls going forward. This includes funding requirements for

off-balance sheet commitments. A number of techniques can be used for measuring liquidity risk, ranging from simple calculations and static simulations based on current holdings to highly sophisticated modeling techniques. As all institutions are affected by changes in the economic climate and market conditions, the monitoring of economic and market trends is key to liquidity risk management.

An important aspect of managing liquidity is making assumptions about future funding needs. While certain cash inflows and outflows can be easily calculated or predicted, institutions must also make assumptions about future liquidity needs, both in the very short-term and for longer time periods. One important factor to consider is the critical role an institution's reputation plays in its ability to access funds readily and at reasonable terms. For that reason, institution staff responsible for managing overall liquidity should be aware of any information (such as an announcement of a decline in earnings or a downgrading by a rating agency) that could have an impact on market and public perceptions about the soundness of the institution.

An effective liquidity risk measurement and monitoring system not only helps in managing liquidity in times of crisis but also optimize return through efficient utilization of available funds. Discussed below are some commonly used liquidity measurement and monitoring techniques that may be adopted by the institutions.

In order to develop comprehensive liquidity risk management framework, institutions should have in place plans to address stress scenarios. Such a plan commonly known as CFP is a set of policies and procedures that serves as a blue print for an institution to meet its funding needs in a timely manner and at a reasonable cost. A CFP is a projection of future cash flows and funding sources of an institution under market scenarios including aggressive asset growth or rapid liability erosion. To be effective it is important that a CFP should represent management's best estimate of balance sheet changes that may result from a liquidity or credit event. A CFP can provide a useful framework for managing liquidity risk both short term and in the long term. Further, it helps to ensure that a financial institution can prudently and efficiently manage routine and extraordinary fluctuations in liquidity.

The scope of the CFP is discussed in more detail below.

For day-to-day liquidity risk management integration, liquidity scenarios will ensure that the institution is best prepared to respond to an unexpected problem. In this sense, a CFP is an extension of ongoing liquidity management and formalizes the objectives of liquidity management by ensuring:

It is not always that liquidity crisis shows up gradually. In case of a sudden liquidity stress, it is important for an institution to seem organized, candid, and efficient to meet its obligations to the stakeholders. Since such a situation requires a spontaneous action, institutions that already have plans to deal with such situation could address the liquidity problem more efficiently and effectively. A CFP can help ensure that institution management and key staff are ready to respond to such situations. Institution liquidity is very sensitive to negative trends in credit, capital, or reputation. Deterioration in the institution's financial condition (reflected in items such as asset quality indicators, earnings, or capital), management composition, or other relevant issues may result in reduced access to funding.

2.3.9 Techniques to Mitigate Liquidity Risk

One of the common techniques used in banking theory to analyse the performance of asset and liability is called the Gap Analysis. This technique assists the output of the assets side (particularly from the interest rate return of bank credits) and the liability side over a certain period of time (Heffernan, 2001). It suggests that banks maintain a higher return on the asset side than the liability side. In particular, the ratio of total return from bank credits to total payments of interest on deposits should always be positive. If it is found negative, the banks should:

(i)   Increase total equity or;
(ii)   Increase interest on bank credit to prevent asset-liability imbalance and maturity mismatch risk.

Nonetheless, increasing interest on bank credit might potentially increase NPL and interrupt performance of the asset side. As such, banks are suggested to diversify their funding sources or increase the contingent liquidity sources (BIS, 2008 a).

Further, in their daily operations, banks need to provide and maintain liquidity to resolve the regular and irregular demand for liquidity from depositors. The regular demand comes from daily business activities of depositors (BIS, 2008a). Meanwhile, the irregular demand can be further broken down into (a) the predictable irregular demand for liquidity, and (b) the unpredictable irregular demand for liquidity.

The former arises from non-routine business activities of depositors such as government withdrawals for fiscal operations, termination of automatic rolled over time deposits, and execution of non-mature time deposits. The latter arises from the sudden and massive demand for liquidity such as the contagious banking crisis, the economic or global financial crisis, the oil price shock (economic issues), social and political unrest, and natural disasters (non-economic issues).

To manage the regular demand for liquidity, banks ought to maintain a standby account on the asset side. It is a pool of funds that can be withdrawn to provide liquidity, if needed, on a daily basis. Obviously, larger banks are required to maintain a larger pool of liquid assets than smaller banks (BIS, 2008a). According to Helmen et al. (1994), such an account should consist of:

(i) Currencies (cash in vault). These are the liquidity that banks hold to meet daily transaction needs and that will be placed in the central bank if there is a surplus;

(ii) Central bank certificates. These are the safe and liquid deposits in the central bank;

(iii) Other commercial bank deposits. These are the bank's short-term deposits in the other commercial banks. Although these are less liquid than the central bank certificates, these deposits can also be redeemed on short notice;

(iv) Cash items in the process of collection. These include the checks deposited in the central bank or the other commercial bank deposits for which credits have not yet been received. Greenbaum and Thakor (1995) further propose three techniques to mitigate the regular demand for liquidity. The first one is to invest more funds in liquid loans and/or keep more cash in hand. The second one is to diversify sources of funding from various depositors. The final one is to use the central bank as the last resort to provide emergency liquidity to

fulfill the regular demand for liquidity from depositors.

To manage the predictable irregular demand for liquidity, banks should have an estimate of the short-term demand for liquidity based on their past experiences (patterns of liquidity needs). Specifically, in estimating, assumptions are made that the predictable irregular demand for liquidity has seasonal, cyclical, and trend factors (Helmen et al., 1994). Therefore, unless there is an error condition, it should be possible to identify the predictable irregular demand for liquidity. In order to increase the accuracy of their estimation, the banks should find out from their clients details on the schedule of their intended deposit withdrawals.

Other considerations in mitigating liquidity risk include;

(i)   Counter measures

Banks must have the appropriate measures in place to respond to the potential threat that liquidity risk poses.

(ii)   Understanding liquidity drivers

It is a necessity for banks to understand the drivers and other components of liquidity, in other words, those aspects that are not driven by market incidents alone, but rather by credit, operational and reputational risk.

(iii)   Strong Financial Standing

Having a strong financial position is the best and cheapest mechanism for a bank to reduce liquidity risk. This involves a bank having a strong and reliable financial position in order to give the market assurance and to avoid large deposit runs. It is, however, noteworthy that past experiences have indicated that when a bank's financial status is declining and its reputation has been harmed, very high levels of liquidity may not be enough to cope with deposit runs, loan terminations or demand for immediate payment by other financial institutions

(iv)   Stable Funding Sources

Banks with stable and reliable sources of funding are likely to have less liquidity risk

than banks that rely on volatile funding sources. A means of obtaining stable funding sources is by way of irrevocable credit lines which are stable and less likely to be withdrawn in times of tight market conditions. Because stable funding sources can be considered of a higher quality than volatile funding sources, banks may have to pay a premium for these higher quality funding sources.

(v)   Customer Service
Banks can mitigate liquidity risk by ensuring that they deliver good customer service. This especially applies to banks that have a heavy reliance on deposits from small retail customers. If service quality declines, they will move to competitors, therefore the potential cost of poor customer service may outweigh the cost of investing in good quality customer service.

(vi)   Risk Management
Effective and efficient risk management techniques assist banks in mitigating the liquidity risk that they face. This involves the adequate planning of liquidity, which is extremely important, whether management has opted for stable or volatile funding sources, or a number of funding sources. There are no set rules for the planning of liquidity because it may differ between banks depending on their financial structures. For example, a bank with stable and predictable cash-flows might not need a complicated tool for liquidity planning.

Lastly, the unpredictable irregular demand for liquidity is the most difficult one to anticipate given that unfavorable economic/business conditions and non-economic issues are sometimes unpredictable. For this type of demand for liquidity, there are various pro- active actions that banks can adopt, including: (i) having a contingency funding plan (CFP), (ii) a combination of cash flow matching and liquid assets, (iii) a prudential allocation of assets, (iv) an integrated structure of banking organization and, (v) employing the deposit insurance company.

2.3.10 Liquidity Risk and the Changing International Environment
To some degree, the greatest liquidity risk to global financial stability may be the

pace of change and the need to understand what is new, modified, or inter- acting differently. The economic environment is rapidly changing. A study of environmental factors that influence the liquidity risk then becomes inevitable. According to the report by Institute of International finance (IFC, 2006), there are several environmental factors that affect the liquidity risk in this changing world. These factors include;

Economic Context. In the recent past there have been indications that concerns about global growth and inflation and the ability of industrial countries to manage monetary policy effectively in an uncertain environment will lead to higher volatility in financial markets and a new risk aversion among investors. In reaction to these events, there were withdrawals of liquidity from the global financial system by investors as the appeal of carry strategies declined and economic fundamentals came into question in high- yield markets.

Globalization Context. The increasing consolidation and centralization of financial groups with the grow- ing integration of financial markets means that firms will increasingly have dispersed, multilateral obligations, commitments, and assets that they will need to subject to coherent risk management. Globalization of the financial system collides with the policies and procedures of traditional home and host supervisors and local supervision of international payment and settlement systems. This divergence from traditional jurisdiction-circumscribed regulatory, monetary, and political management constitutes a profound policy challenge for public and private sectors alike.

Technological Context. The acceleration of communications and the vastly increased power of firms to collect and analyze data are well known. Internet banking is developing rapidly, even (or especially) for small retail customers. While Internet banking changes delivery channels, it may also affect the nature and behavior of products. These changes allow corporate and retail customers to more easily compare product offerings and economics and make rational decisions.

2.3.11 Treasury Management

Sometimes Treasury Management is used as synonymous to Cash Management, but there are differences. Compared to Cash Management, Treasury Management focus more on the process of short-term investment, or lending, and borrowings, and the process of assuring that decisions are in accordance with the company's risk policy, the three last stated points of the Cash Management components. Treasury Management can be defined as follows: "The management of monetary assets and liabilities, financial risk and banking relationship in such a way as to maximize yields, minimize costs and control risk subject to the agreed corporate policy" Furthermore one can state: "The treasury function in most corporations will vary, depending on its size, complexity, geography and organization" One has to consider the different flows in the company as follows: "These flows have four aspects: amount, currency, time and place. Of course each aspect must be managed. One of the most important of these is maintaining liquidity to ensure that the right amount of funds in the right currency is in the right place at the right time". This definition however is viewed from a company perspective. The definition would have embraced more and different factors if it had been out of a banking perspective.

2.3.12 Theories of Liquidity
2.3.12.1 Trade off Theory Liquidity

Under perfect capital market assumptions holding cash neither creates nor destroys value. The firm can always raise funds from capital markets when funds are needed, there are no transaction costs in raising these funds, and the funds can always be raised at a fair price because the capital markets are assumed to be fully informed about the prospects of the firm. The trade-off theory suggests that firms target an optimal level of liquidity to balance the benefit and cost of holding cash. The cost of holding cash includes low rate of return of these assets because of liquidity premium and possibly tax disadvantage. The benefits of holding cash are in twofold:

The firm save transaction costs to raise funds and does not need to liquidate assets to make payments. The firm can use liquid assets to finance its activities and investment if other sources of funding are not available or are extremely expensive.

Jensen (1986) presents agency problem associated with free-cash flow. He suggests that – free cash flow problem can be somehow controlled by increasing the stake of managers in the business or by increasing debt in the capital structure, thereby reducing the amount of "free" cash available to managers. As theory, the use of trade off model cannot be ignored, as it explains that, firms with high leverage attracts high cost of servicing the debt thereby affecting its profitability and it becomes difficult for them to raise funds through other sources. Holding cash on that point is not only maintained by the smaller firm but also larger firms. So firm size does not matter when the question of bankruptcy interrupt the capital structure decision

2.3.12.2 Pecking Order Theory Liquidity

The theory emerges as a result of asymmetric information existing in the financial markets, that is, corporate managers often have better information about the health of their companies than outside investors. Apart from the transaction costs of issuing new securities, companies have to accept the information costs arising from asymmetric information. In this way, new securities issued on the financial market could be infra–valued because of informational asymmetries, and this is especially true in the case of new equities.

Myers & Majluf (1984) introduced very influential pecking order theory saying; manager prefers to finance deficit of capital by issuing SAFE security. The theory states that, in the event where retained earnings and other internal source of financing will be low to invest then manager will issue debt and only issue new equity with possibility of issuing junk debt (Financial distress possibility). An important survey of Myers (2003) documented the following findings on the pecking order theory of corporate financing:

(i)   Firms prefer to use internal source of fund as their first choice.

(ii)   Dividend payout ratio has separate determinants. A change in dividend payout ratio does not facilitate capital expenditure.

(iii)   In the question of external financing, debt issuance is more preferable by the firm than issuance of equity.

(iv)   The firm's debt ratio shows their requirement of external financing.

A determinant of cash holding from the perspective of pecking order theory has been supported by other researchers more than trade off theory. Sebastian (2010) Examine Dutch firm's liquidity and solvency and their effect on financial decision. He discovers that, corporate liquidity and solvency interact through information, hedging, and leverage channels. The information and hedging channels increase equity-value of firms which helps to pay regular dividend and most importantly reduce volatility in cash flow.

Frank & Goyel (2002) Studied USA firms (1971-1998) and came up with evidence that bigger firms are more organized to take decision followed by this theory. Smaller firms were not following this theory and being traded publicly during that time which also supports trade-off theory. As the smaller firms moved away from pecking order theory so, overall average moves further from the pecking order.

Soku (2008) tested USA firms (1971-2006) and found different security issues pattern by small, medium and large industry. While testing financial flexibility and capital structure of the firms the author observed that, large mature firms prefer using internal funds and safe debt in order to recharge financial flexibility rather than issuing equity. In case of small firms though they have low leverage, in order to cope with lack of cash at hand, they prefer to issue equity and increase cash holdings. However he ends up with Financial flexibility hypothesis which refers firms hold cash and expect future cash flow, and that characterize their future investment plan and current ability to sort out financial constraints.

Salehi & Bigler (2009) studied performance of Firms in Iran and find it relationship with capital structure. They found that, book value and market value of equity both are measure are often used to determining expected cash flow. For Iranian firms, market value of equity was given more emphasis while considering responsible variable to hold cash. Firms with high profitability and good performance hold less debt. Two important decisions has been taken here; market value of equity is an important measurement to see how much cash is at firms hand and good firm may have less debt, though they may have high profitability. So these firms also carry

high possible cost of financial distress. All three major variables also play an important role behind firms' cash holding decision which is another face of capital structure.

2.4   Empirical Literature Review

Substantial researches have been made with regard to liquidity risk management. (Hillier 2003, *op. cit*) provides that treasury management is the efficient management of financial risk and liquidity of the business; it is often called risk management, which is simply managing risks facing banks. Shin (2007) indicated that in turbulent economic sphere liquidity position is very important as any changes will bring the changes in the network of the banks. Drehmann and Nikolaon (2009) pointed out that funding for liquidity are stable and sometimes low in turmoil period, therefore liquidity management is necessary.

Moreover in the Nordic investment policy (2009), it has been pointed out that bank liquidity is very important to meet both un expected and expected losses, it includes both cash and cash equivalent, placement with other banks and investment in securities, therefore liquidity is very crucial as it can absorb loses and increase profitability of the commercial banks. Basel committee (2009) indicated that the liquidity level of the commercial banks is the paramount importance for the sustainability of the banks and they further indicated that the entire inner role of the bank is to ensure the stability of the cash flow.

Mchomvu (2007), through his study came up with a conclusion that it is right time to exercise derivatives in Tanzania and common derivatives used in Tanzania are; foreign exchange swap, forwards, options, interest swaps, futures and forward rate agreement. The main participants of derivatives are commercial banks and big corporate customers. The study also revealed that the regulatory body hasn't yet put enough effort to promote the derivative markets in Tanzania. He further recommended that the Tanzania Financial market will not develop fully if banks and big corporate companies are not taking active part in the modern financial products

like these. If banks utilize derivatives fully, then, it would help even to stabilize our Tanzanian Shillings against major currencies.

The CMSA through its Business and Institutional Strengthening Plan for the period 2007/8 to 2011/12, announced that the capital market in Tanzania was not sufficiently mature or deep enough to support derivatives on equities. Therefore it was evident that within the period covered by the Strategic Plan, no consideration was given to equity options, single stock futures, or exchange traded funds. However it did see the possibility of other derivatives such as: Index futures or index options, Interest rate futures, Currency futures or options and Commodity futures.

2.5   Conceptual Framework

Treasury management is the efficient management of financial risk and liquidity of the business; it is often called risk management, which is simply managing risks facing banks (Hillier, 2003).The specialist treasury management is a recent development for many banks (Hillier, 2003). In Tanzania, treasury management function has grown dramatically since the gradual easing of foreign exchange controls by the Bank of Tanzania (BOT). The liberalization of foreign trade and the free foreign exchange regime that was effected in March 1992 (through the enactment of the Foreign Exchange Act, 1991 that has replaced the Exchange Control Ordinance (which was not compatible with the dynamic macroeconomic policies adopted under Enterprise Risk Program (ERP)) is the main reason for the establishment of treasury management unit in majority of commercial banks in Tanzania.

As per the best practices, management of risks has to have the following process:
(i)   The identification of the risks to which a bank is exposed;
(ii)   The quantification of the exposure;
(iii)   The determination of possible outcomes of exposure
(iv)   The design of a strategy to transform risk exposures to achieve a desired outcome.

A common problem in managing liquidity risk is that most banks only realize that they have been at risk when losses have occurred. In an ideal situation however, liquidity risk management should begin before the exposure occurs; otherwise fundamental operating, investing and financing decisions would be taken on the basis of incomplete information (Hillier, 2003). Thus, efficient management of liquidity risk is of vital importance for both banks and regulatory bodies.

Figure 2.2:   Conceptual framework
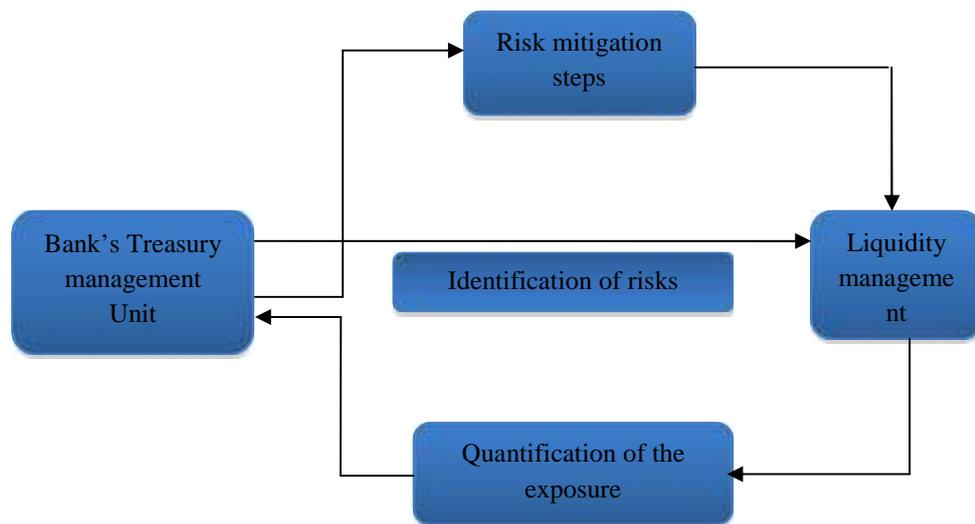
Source: Compiled by the researcher

2.6   Research Gap

Following the extensive review of the literature above. It can be depicted that, a lot of researches have been carried out on the understanding liquidity risk, factors for liquidity risk as well as mitigating liquidity risk. This research underscores the liquidity risk by focusing on the role of bank's treasury management in the overall issue of liquidity management.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter explains the research design and area of study that were used in this study. Sample and sampling technique as well as nature of data and its sources was also employed. This involved the use of proper collection techniques, data analysis and the strategies that were pursued to ensure validity and reliability of data and information collected.

3.2 Research Design

A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure (Kothari, 2004). The main emphasis of the study was to gain ideas and insights by exploring the existing magnitude of the effects of liquidity risk, prevalence, mitigations and extent to which it has affected the financial system as a whole. Case study research design was employed in this research as it provides a detailed and intensive analysis of a single case (Bryman and Bell, 2007). This design is more appropriate in situations where more detailed information is needed in order to have a more meaningful research study. Case study design is of two types, a descriptive and explanatory case study. A descriptive case study makes possible analysis of a unit but it is restricted to describing the current practice only (Collis and Hussey, 2009). On the other hand, an explanatory case study makes use of the current theory to explain and understand the object under consideration (*ibid)*. It is advantageous to use case study as it can combine different techniques in data analysis.

The researcher used this design taking Azania bank as a case under consideration. This design was favored by the researcher due to its potential in providing wealth of information about a unit of study. Also, the case study design was used as it is useful in exploring solutions and various alternatives for a given issue thus allowing both

qualitative and quantitative analyses to be possible. In this respect therefore, the design facilitated in investigating the magnitude of the effects of liquidity risk, prevalence, mitigations and extent to which it has affected the financial system as a whole.

3.3   Research Strategies

Research strategy is referred to as a general orientation to the conduct of a research (Bryman and Bell, 2007). This orientation can be done qualitatively, quantitatively or a combination of qualitative and quantitative methods.

3.3.1   Qualitative Research

Is the one which does not involve the use of statistical methods or other means of quantification in carrying out the research (Saunders et al., 2007). It involves examinations and reflection on different perceptions so as get an understanding of social and human activities (Collis and Hussey, 2003). In this kind of research, data are collected through qualitative means and are analysed by the qualitative methods. In addition, the qualitative research employed in this study helps in investigating ways that information and expertise is shared among different business owners, thus provide a new insight into the networks that facilitate knowledge exchange in the rural economy.

3.3.2   Quantitative Research

Is the one that follows objective approach in gathering quantitative data and makes use of statistical methods in analyzing those data (Collis and Hussey, 2003). That is in a quantitative research, numerical data are collected, arranged properly and then are being analysed using the appropriate analytical tests.

In regard to the study, the researcher used both qualitative and quantitative research in obtaining data and followed both qualitative and quantitative methods in analyzing the data. The rationale for using these two types comes from the collected data. In this case there were qualitative data which are easily analysed qualitatively, some of

which have been quantified and then analysed quantitatively. This is done in order to increase the reliability of the results.

3.4 Target Population

Target population means the individuals or objects that meet prescribed or certain requirements for membership in the overall group. In this study, the target population was all the commercial banks in Tanzania.

3.5 Size and Sampling Procedures

Sampling is "an act, process, or technique of selecting a suitable sample, or a representative part of a population for the purpose of determining parameters or characteristics of the whole population" (Gummesson, 2000:9). It is a process whereby information is obtained from selected parts of an entity, with the aim of making general statements that apply to the entity as a whole, or an identifiable part of it. Samples can be selected using representative (probability) or non-probability/judgmental techniques. Probability techniques of sampling assign equal chance for all units of the population to be selected (Bryman and Bell, 2003). On the other hand, in the non-probability techniques not all units of the population have equal chance of getting selected as selection of the sample depends on some assumptions and judgments of the researcher.

3.5.1 Sample Size

Since sample size has a direct relation to the cost and resource utilization. The preferred sample in this study was 10% of Azania Bank Limited and was selected judgementally in the sense that enabled the study to obtain a sample believed to deliver the best information that met the research objectives.

Table 3.1:   **Sample**

S/N	DEPARTMENT	NUMBER OF RESPONDENT
1	Finance	10
2	Credit	10
3	Operations	10

3.5.2 Sampling Technique

Sampling means drawing only part of population and studying it and then making inferences about the population. Sampling saves time and organization of data collection becomes more manageable as fewer people are involved. It is argued that using sampling makes it possible for higher overall accuracy than census (Saunders 2009). In this study a non probability sampling technique was employed. This involved a quota sampling since the study needs a limited number of elements from the sub group due to budget constraints. The researcher judgmentally selected the respondents by considering their knowledge on the areas of the study thereby reducing the effect that can be caused by bias.

3.6 Data Collection Methods

During the study, several methods were applied in order to obtain relevant data. These methods include Primary and Secondary data.

3.6.1 Primary Data

This is first hand information which the researcher directly collects that has not been previously collected (Saunders, 2007). In this study two methods were used to collect primary data namely questionnaire and interview.

(i) Questionnaire

The researcher used questionnaires as a major research instrument. Both close-ended and open-ended questionnaires were used. Questionnaire is more preferred because it is relatively cheap and collects large information within short period of time. The other advantage of the method is that bias is reduced as respondents are independent when filling the questionnaires. Questionnaires contain both open and close-ended

questions. Open-ended questions give respondents freedom to give detailed answers or opinions while close-ended questions give respondents alternatives and asked to choose the one.

Then the collected questionnaires were analysed by listing the respondent view to come up with proper information.

(ii)   Interview

Interview is another method of collecting primary data where the identified respondents are asked questions in order to ascertain their views and opinions (Collis and Hussey, 2009). It represents a systematic method of collecting data by a way of conversation between people with the aim of obtaining information (Saunders et al, 2009, Bryman and Bell, 2007). This method was useful as it provides flexibility for both interviewer and interviewee to ask for clarification in cases of issues that were not clear.

This method was employed to solicit information necessary from the group more quickly. The interview was conducted to selected number of employees who could give reliable information. Officially the treasury department was interviewed for the purpose of getting information required. Interview assists the researcher to get clarification on issues which was not clear from other methods of data collection.

Interviews were carried out in order to collect data mainly, qualitative data, which the questionnaire could otherwise not be able to collect. Some of the interviews were conducted via telephone as it was difficult to meet some of the respondents. The interview was conducted using semi-structured interview method. The method was important because of the nature of study requiring clear clarification of the topic to get from the respondents and in-depth information. It was also useful to utilize interview as it was designed to cover both open and closed-ended questions hence gave an ample room of flexibility. Open ended questions allowed free expression of ideas by respondents as well as clarification by researcher where necessary. In addition interview gave the researcher greater control over the data collection process

and allowed the interviewer to assist respondents in case they failed to understand questions.

3.6.2   Secondary Data

Secondary data consists of published and unpublished records and reports (Kothari, 2004). For this purpose various Bank documents such as Azania bank Annual reports, Azania Bank prospectus etc were reviewed to obtain necessary information required for the study. This is for the purpose of understanding the policies and procedures the Commercial Bank has established about liquidity risk management. The performed review enabled the researcher to obtain information considered necessary to provide sufficient evidence as to whether; the prescribed procedures about mitigating liquidity are being carried out on sound commercial basis and in conformity with the banks policy.

3.7   Data Analysis

The researcher examined all the questionnaires for completeness and consistency, and then categorizes all the items before coding. The collected data were analyzed using SPSS (statistical package for social sciences). They are presented in pie charts, bar charts and graphs. Descriptive statistics such as mean, mode, median were used to present the characteristics of data.

3.8   Data Quality

Credibility of research findings relies on the attention paid to two particular emphases on research design: reliability and validity (Saunders et al, 2000). In this study, reliability and validity aspects were handled with great concern to avoid getting wrong answers to the research questions and objectives.

3.8.1   Validity

In research, validity is taken to show how well the data collection methods have measured what was intended and also to show the extent of the accuracy of the research findings (Saunders, 2003). It is the extent to which the concept one wishes to measure is actually being measured by a particular scale, i.e. the extent to which

an account accurately represents the social phenomena to which it refers (Babbie, 2004).

In ensuring the higher degree of validity, the researcher counterchecked the results of all the analyses made and also at the point of collection and analysis of data, appropriate collection and analytical tools were used.

3.8.2   Reliability

This refers to how consistent or stable ratings generated by the scale are. It entails that the measure or data collection methods shall be influenced by changes in the context. Reliability is the extent to which data collection methods will produce similar and consistent results upon repeated trials (Saunders, 2003). It represents the consistency with which repeated measures produce the same results across time and across observers (Patton, 2002).

In order to ensure a consistency in the results, the researcher placed greater care in formulating questionnaires and interview guide and also ensured all respondents were fully aware of what was being required.

3.11   Data Presentation

The results obtained from the data analysis have been presented in various forms. Both tables and descriptive texts method were used to assist in presenting the analyzed research findings. Each method was specific to the kind of data collected. Tables were used to clarify more the descriptions made. Moreover, each question or group of questions were structured in such a way that they could provide the underlying information and answers of a particular research question and meet the intended objectives.

CHAPTER FOUR

RESEARCH FINDINGS, PRESENTATION AND DISCUSSION

4.1   Introduction

This chapter presents the findings of the research from the field work, which comprised of interview and secondary data collection. The findings were analysed in relation to the objective of the study. The findings were presented by frequency table manipulated with the SPSS package and occasional pie-charts. Frequency analysis was used to analyse the respondent's profile while analysis of mean was used to rank. Accordingly, the results were carefully interpreted and discussed throughout the chapter.

This study proposed to involve a total of 30 respondents from three departments within Azania Bank Limited. During data collection, all respondents participated fully in the study and that makes a response rate of 100%. The interview questionnaires were distributed over a three week period to the selected departments' employees with relevant knowledge in their fields of work.

4.2   Demographic Characteristics of the Respondents

Demographic characteristics of the respondent's variables (gender, age, qualification, area of professionalism, working department and working experience) were analysed in details.

Figure 4.1:   Gender Distribution of the Respondents
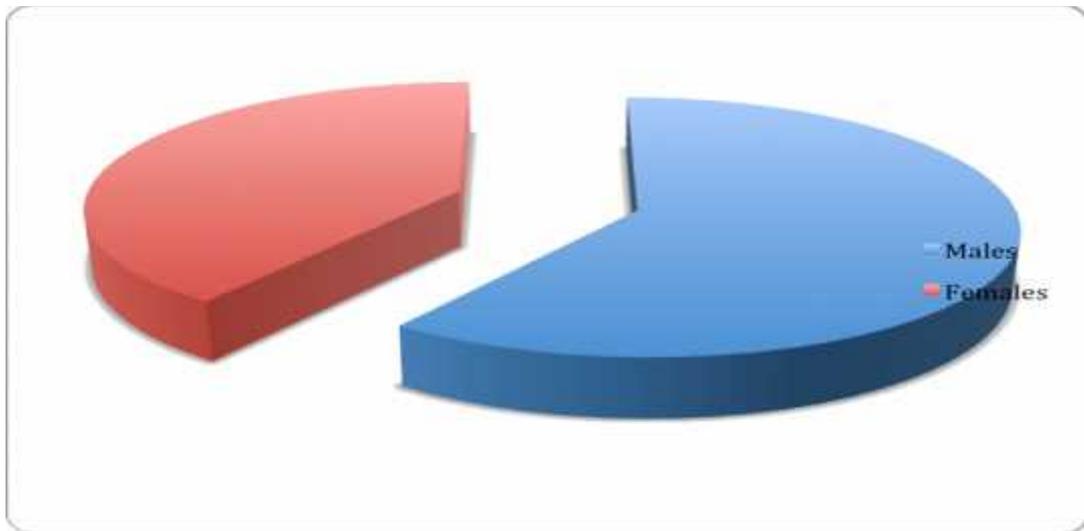
Source: Resercher's Survey Data, 2013

The above findings indicate that the majority of the respondents (60%) who participated into the study were males while (40%) were females. This suggests that there is uneven distribution of gender within the respondents. Uneven distribution of gender within respondents can be explained by the trends of employment in Azania Bank, where the number of male staff exceeds that of female staff.

4.2.2   Age of the Respondents

Table 4.1:   Age Distribution of Respondents

Age	Frequency	Percent
20-35 years	21	70
36-50 years	9	30
51-65 years	0	0
Over 65 years	0	0
Total	**30**	**100**

Source: Researcher's survey data, 2013

Findings above indicate that majority of the respondents (70%) had age between 20 – 35 years and (30%) had age between 36 – 50 years. This suggest that respondents were matured enough to participate into the study and the responses provided are

valid in the sense that it is within the age group that most of the employees have attained their professional qualifications and are employed by the bank.

4.2.3 Educational Qualification

Table 4.2:   Respondent's Level of Education

Education level	Frequency	Percent
High school	0	0%
Undergraduate	0	0%
Graduate	27	90%
Other	3	10%
Total	30	100%

Source: Researchers Survey Data, 2013

Majority of respondents (90%) are graduates followed by (10%) who posses post graduate degrees. These findings suggest that all the respondents have sufficient educational qualifications which mean they also provided reliable information from their work fields.

4.2.4 Respondents Number of Years Worked in the Department

Table 4.3:   Respondents' Number of Years Worked in the Department

Number of years in the department	Frequency	Percentage
1-2	1	3%
3-5	14	47%
6-10	13	43%
Over 10	2	7%
Total	30	100%

Source: Researchers survey data, 2013

3% of the respondents have worked in the current department between 1-2 years, 47% have worked between 3-5 years, 43% have worked between 6-10 years, while

7% have worked for over 10 years. The findings indicate that most of the respondents have worked in their departments for a considerable duration, which means their responses are outcomes of their work experiences.

4.2.5 Respondents Number of other Departments Worked Before Joining Current Department

Table 4.4:   Respondents' Number of other Departments Worked Before Joining Current Department

Number of other department worked	Frequency	Percentage
None	1	3%
One	14	47%
Two	10	33%
Three or more	5	17%
Total	30	100%

Source: Researchers survey data, 2013

3% of the respondents have not worked in other departments, 47% have worked have worked in another department before joining the current one, 33% have worked have worked in other two departments, while 17% have worked in three or more departments. The findings indicate that most of the respondents work experiences cut across several departments, hence increasing their exposure to multiple challenges facing the bank. Responses from such respondents are much more reliable and free from bias and speculation.

4.2.6 Respondents Job Status

Table 4.5:   Respondents Job Status

Job status	Frequency	Percentage
Top Management	0	0%
Middle Management	6	20%
First level Supervisor	1	3%
Non Managerial	23	77%
Clerical/artisan	0	0%
Total	30	100%

Source: Researchers Survey Data, 2013

None of the respondents belong to the top management, 20% are middle management officials, 3% are first level supervisors, 77% are non managerial officials while none are neither clerical nor artisan. The findings indicate that most of the respondents are non managerial and hence are in the real day to day work field. Responses from such respondents are much more reliable.

4.2.6 Respondents Designation

Table 4.6:   Respondents Designation

Designation	Frequency	Percentage
Customer service officer	3	10%
Operations officer	6	20%
Credit Officer	6	20%
Treasury Officer	3	10%
Finance Officer	6	20%
Business Credit Executive	1	3%
Operations Manager	1	3%
Insurance Officer	1	3%
Trade finance officer	1	3%
Credit Administration Supervisor	1	3%
Risk officer	1	3%
Total	30	100%

Source: Researchers survey data, 2013

None of the respondents belong to the top management, 20% are middle management officials, 3% are first level supervisors, 77% are non managerial officials while none are neither clerical nor artisan. The findings indicate that most of the respondents are non managerial and hence are in the real day to day work field. Responses from such respondents are much more reliable.

4.3   The role of Treasury Management Unit in Mitigation of Liquidity Risk

The findings about treasury management unit functions are vital in providing results about the researcher's first objective that is "To determine how treasury management support banks in mitigation of liquidity risk" and the findings were analyzed using frequencies and percentages represented in tabular and figure formats.

4.3.1   The Functions of the Treasury Management Unit

Through observation and interview, it was found that at Azania bank, there is a department of treasury. The main functions of the unit are in the following folds;

Cash management; cash management has the following purposes: controlling spending in the aggregate, implementing the budget efficiently, and maximizing the opportunity cost of resources. Control of cash is a key element in macroeconomic and budget management. However, for budget management purposes, it must be complemented by an adequate system for managing commitments, and it is not a substitute for sound budget preparation.

Risk Management: Treasury will aid Management on one hand and Bank's clients on the other hand, in managing market risk.

4.3.2   The Role of the Treasury Unit in Mitigating Risk

Liquidity risk is considered a major risk for institutions. It arises when the cushion provided by the liquid assets are not sufficient enough to meet maturing obligations. In such a situation institutions often meet their liquidity requirements from the market. However conditions of funding through the market depend upon liquidity in the market and borrowing institution's creditworthiness. Accordingly, an institution short of liquidity may have to undertake transactions at heavy cost resulting in a loss

of earnings or in worst case scenario, the liquidity risk could result in bankruptcy of the institution if it is unable to undertake transactions even at current market prices. It is against this background then the treasury department of the Azania bank makes efforts in mitigating the liquidity risk.

Through interview and observations, it was discovered that, in the course of mitigating the liquidity, the treasury unit performs the following procedures;

4.3.3   Staff and Strategy

The treasury unit is staffed with personnel who are responsible for overseeing the liquidity issues of the bank. In addition to this, there is a clear strategy formulated that spells out the banks approach in liquidity management.

4.3.5   Policies in Liquidity Management

The researcher wanted to know if there are policies in managing the liquidity risk, and if the staff is aware of the policies involved. It was found that, there is a policy that guides the liquidity management at the bank. However, results from the questionnaire shows that 90% of respondents are aware of the existing policy and procedures as it can be shown in the figure 4.2.

**Figure 4.2:   Awareness of Policies in Managing Liquidity Risk**
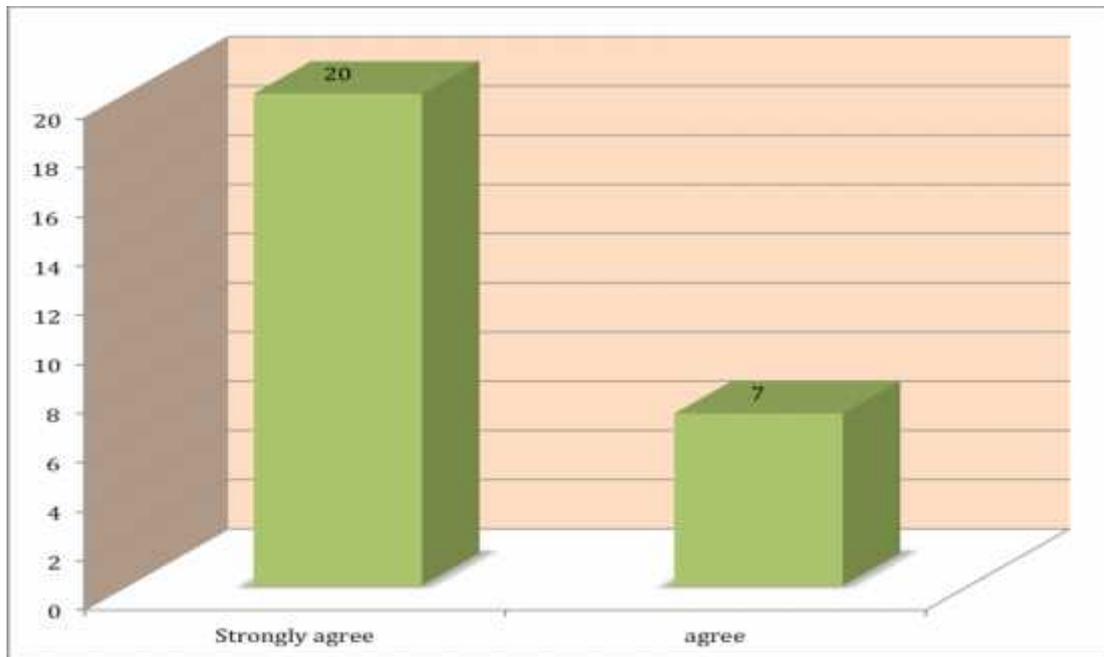
Source: Researchers survey data, 2013

In regard to the policies, it was further noted that, there is a general liquidity strategy (short- and long-term), specific goals and objectives in relation to liquidity risk management, process for strategy formulation. Also, the policy defines the roles and responsibilities of individuals performing liquidity risk management functions, including structural balance sheet management, pricing, marketing, contingency planning, management reporting, lines of authority and responsibility for liquidity decisions. Furthermore, the policy clearly outline contingency plan for handling liquidity crises.

4.3.6   Effectiveness of the Risk and Treasury Management Policy

Respondents were asked to present their views on the effectiveness of the risk and treasury management policies of the bank. This was in the context of the relevance of the policy and if it takes into account new developments in the financial markets. It was found that, in total 27 (90%) respondents agree that the policy is not effective in taking into account the changes and development of financial markets, while only 3 (3%) disagreed.

Figure 4.3:   The Current Treasury Management Policy Does not Take into Account New Development in the Financial Markets
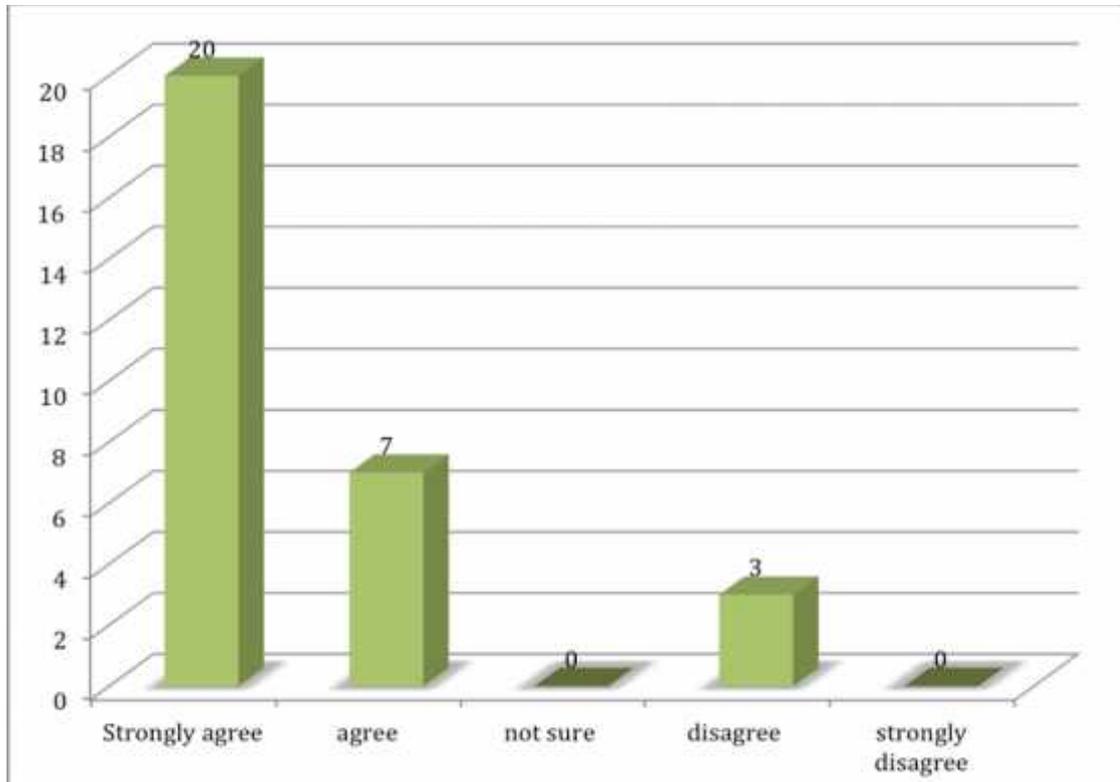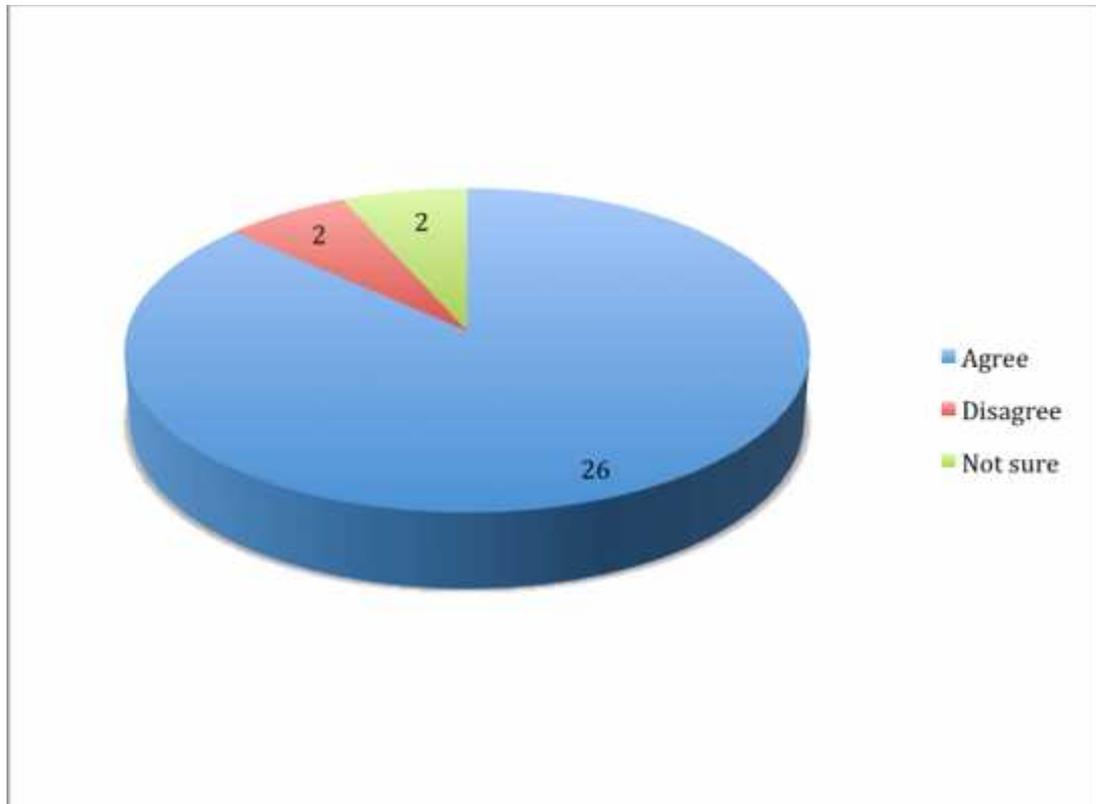

Source: Researchers survey data, 2013

The above presentation then implies that, there is a need to improve on the policies by taking into account the changes in the financial markets. As it can be appreciated that, the business environment is rapidly changing, hence, banks should try to keep pace with the changes in the business environment.

4.3.7 Relationship between Liquidity Risk Management and Treasury Management

The researcher wanted to establish if there is a relationship between risk management and the treasury management at Azania bank. The respondents were thus asked to present their views on the relationship between the risk management and treasury management. It was found that, 26 (86.7%) said there is the relationship between risk management and treasury management, 2 (6.7%) said there is no such relationship and 2 (6.7) said they are not sure.

Figure 4.4: **To what extent do you agree that there is a Relationship between Liquidity Risk Management and Treasury Management in the Bank?**

Source: Researchers survey data, 2013

As it can be depicted above, there is a relationship between the two. This relationship was further understood by the researcher in the context that, the treasury management unit was responsible for the risk management functions of the bank.

4.4 To assess whether Treasury Management Have the Capacity to Manage Liquidity Risk

The findings from this section helped the Researcher to get information on the second objective of the study which was "To assess whether treasury management unit have the capacity to manage liquidity risk". Basing on the questionnaire and interview results, the following aspects were considered in assessing the treasury management unit in managing liquidity risk; competence of the staff, adequacy of the resources as well as staff training.

4.4.1 Competence of the Staff

The level of knowledge, experience and education has a significant impact on the performance of the unit. It was discovered that at treasury management unit, there are experienced staff, and all of them have a bachelor degree as a minimum requirement. With this it can be expected that, they can perform well the tasks related to the management of liquidity risk and other activities. This was also confirmed through the response from one of the questions in the questionnaire, which aimed at assessing the level of competence. All respondents agreed that there is competence in the treasury management in terms of the education level.

4.4.2 Adequacy of Resources

In addition to the above, the researcher was interested to know if the treasury unit has adequate tools necessary for detection, monitoring and control liquidity risk. The results are presented in the figure 4.5, whereas it shows that almost all respondents think that the unit is not fully supplied with the necessary tools in detection, monitoring and control liquidity risk.

Figure 4.5:   Do you Think Treasury Management Has Been Provided with Adequate Tools Necessary for Detection, Monitoring and Control Liquidity Risk?
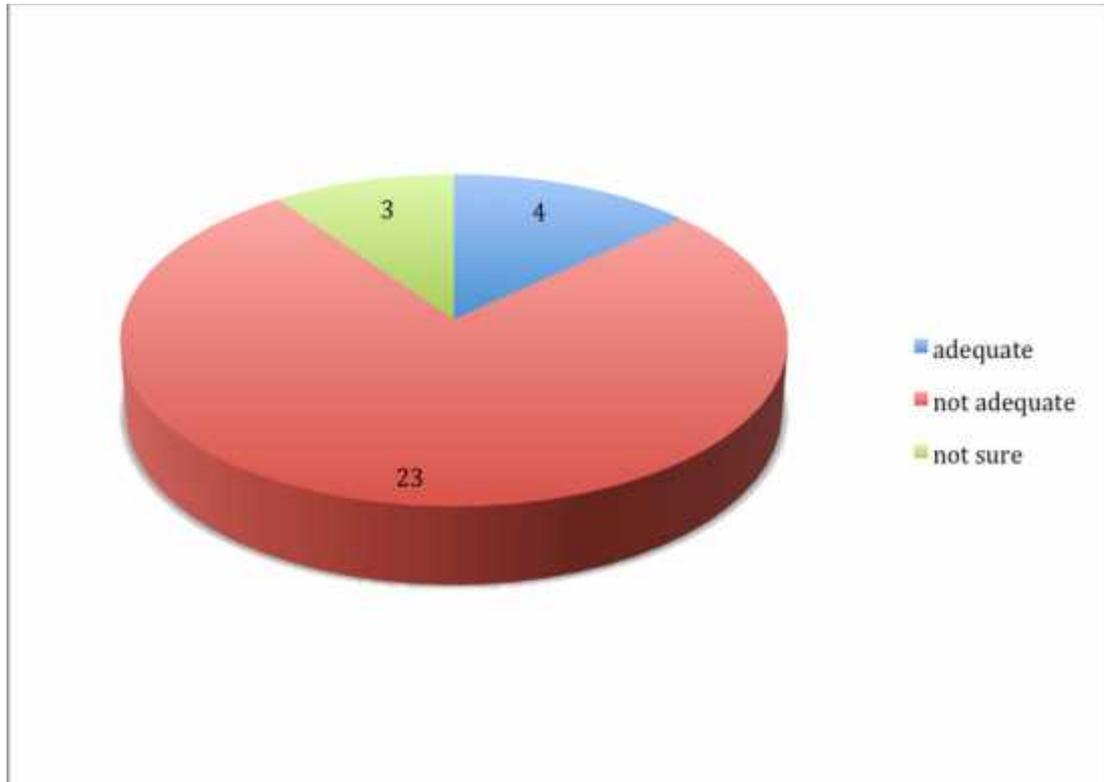
Source: Researchers survey data, 2013

Adequate resources are necessary in the proper management of liquidity risk as they provide avenue into smoothing the exercise of detection and mitigating the risk.

4.4.3   Training

Proper dissemination of information is necessary for the smooth operation of any control system or the activities of any organisation. Therefore, continuous update of knowledge will enable to take proactive measures to the identified problem hence corrective actions are going to be taken. This can be achieved through advice, counsel; facilitation, process design and training which are intended to add value and improve organisation operations. The researcher considered training as among the tools for improvement in performance of liquidity management. Figure 4.6 present the frequency of trainings for continuous improvement. As it can be seen, only small

percentages (16.7%) of the staff in the treasury management unit do attend frequently the trainings. This may imply that more training is needed for continuous improvement.

The development and establishment of a training and capacity building system for liquidity risks management is extremely important from the viewpoint of ensuring the soundness and appropriateness of a financial institution's business. Therefore, the institution's management is charged with and responsible for taking the initiative in developing and establishing such a system.

Figure 4.6:   How often do you Attend Training?
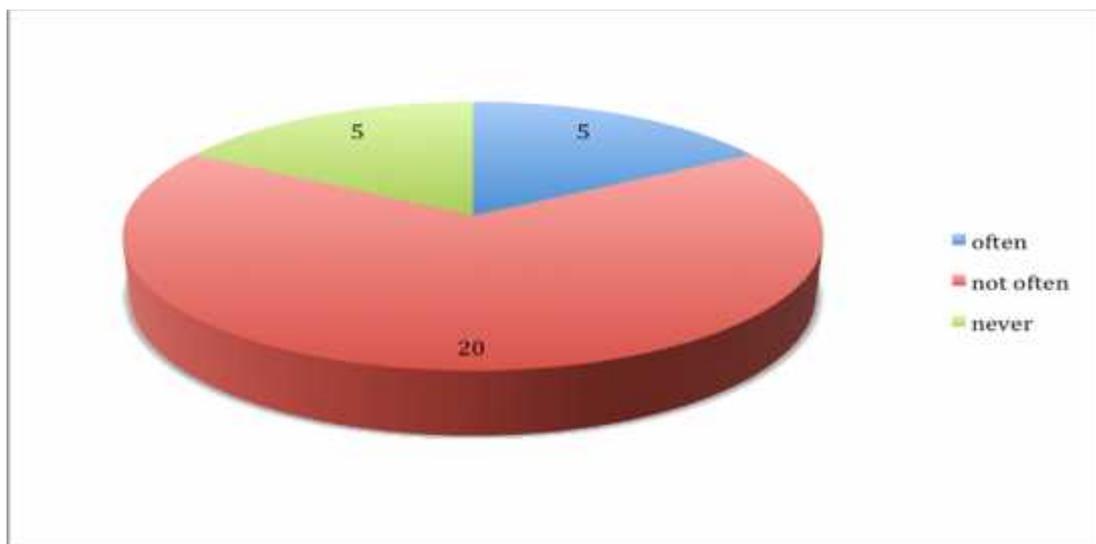
Source: Researchers survey data, 2013

4.5 To Establish How Banks in Tanzania Implement Liquidity Risk Management Procedures

These findings helped the Researcher to get information about the third objective that is the "To establish how banks in Tanzania implement liquidity risk management procedures".

In 2010 the bank of Tanzania issued guidelines known as "risk management guidelines for banks and financial institutions, 2010". The aims of these guidelines are to ensure that institutions operate in a safe and sound manner. This goal can be

largely attained if institutions effectively manage their risks. Also, they aim at enhancing risk management practices among institutions.

According to the guideline (BOT, 2010), Institutions should establish appropriate procedures, processes and limits to implement their liquidity policies. The procedural manual should explicitly narrate the necessary operational steps and processes to execute the relevant liquidity risk controls. The manual should be periodically reviewed and updated to take into account new activities, changes in risk management approaches and systems.

At Azania bank, it was found out that, this requirement is in place and that, the organization has risk management policies and a manual that stipulates different procedures in managing risks.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1   Introduction

This chapter presents summary of findings, conclusion and recommendations of the study in light of the objectives stated in the chapter one. The chapter thus contains, summary of the study, conclusion of the study and the study recommendations.

5.2   Summary of Findings

The main objective of the study was to provide an insight on the role of the treasury management in mitigation of liquidity risk.

The study had other specific objectives, which included; to determine how treasury management support banks in mitigation of liquidity risk, to assess whether treasury management have the capacity to manage liquidity risk and to establish how banks in Tanzania implement liquidity risk management procedures.

In achieving the formulated objectives, data were collected from both primary and secondary sources. Primary sources of data collection involved the use of questionnaires and interview, which were administered to respondents from different public sector entities. Data were then analysed qualitatively and quantitatively in order to arrive at the results which were discussed and presented in chapter four.

5.2.1   Objective 1: To Determine How Treasury Management Support Banks in Mitigation of Liquidity Risk

In the quest of determining how the treasury management unit support the bank in managing liquidity risk, the researcher considered different aspects such; policies and procedure and the role of the department of treasury in mitigating liquidity risk.

As stated in chapter four, it was found that, management of liquidity risk is among the responsibility of the staff of the department of treasury, and that, there are

56

procedures in place for mitigating liquidity risk that are stipulated in the risk management manual.

Furthermore, the bank has a set of guidelines and policies concerning the issues of liquidity that are adhered by the bank.

5.2.2 Objective 2: To Assess Whether Treasury Management Have the Capacity to Manage Liquidity Risk

In meeting this objective, the researcher was interested in determining the level of education, experience as well as the constant update of the knowledge through training.

It was found that, the bank has competent personnel in dealing with liquidity risk. However, the staffs are not regularly updated, as they do not frequently participate in training.

5.2.3 Objective 3: To Establish How Banks in Tanzania Implement Liquidity Risk Management Procedures

The bank of Tanzania issued the guidelines and calls for the bank to follow some specific guidelines in managing liquidity risk. According to these guidelines, institutions should set procedural manual, which should explicitly narrate the necessary operational steps and processes to execute the relevant liquidity risk controls. The manual should be periodically reviewed and updated to take into account new activities, changes in risk management approaches and systems.

It was found that the Azania bank is implementing the requirement of the Bank of Tanzania as they do have set of procedures in managing liquidity risk.

5.3 Conclusion

Liquidity risk is considered a major risk for institutions. It arises when the cushion provided by the liquid assets are not sufficient enough to meet maturing obligations. In such a situation institutions often meet their liquidity requirements from the market. The study noted that proper management of liquidity risk needs serious considerations in terms of resources, capacity building to its staff as well as

efficiency adherence to the set of procedures and rules stated in the policy for managing risk.

5.5 Recommendations

The study recommends the following to the bank;

(i)   Training: There should be regular training to staff. This will keep assist in keeping their minds sharp and constantly help them to earn various techniques in managing liquidity risk.

(ii)   Constantly updating the system: The development and establishment of a system for liquidity risks management is extremely important from the viewpoint of ensuring the soundness and appropriateness of a financial institution's business. Therefore, the institution's management is charged with and responsible for taking the initiative in developing and establishing such a system.

(iii)   Investing in resources: The resources are necessary in managing risk. It is worth noting that, the environment is rapidly changing. In order to keep up with the changes, banks should invest in modern resources and the use of modern Technology so as to properly address the issue of liquidity risk.

REFERENCES

Aikaeli. J. (2006). *Efficiency of commercial banks in Tanzania.*

Bank for International Settlement. (2008a). Liquidity Risk: Management and Supervisory Challenges. Bank for International Settlement Paper, Basel Committee on Banking Supervision, Basel. Retrieved on June 11th, 2014, from: http://www.bis.org.

Bank of Tanzania (2008). *The banking and financial institutions (liquidity management) regulation.*

Bank of Tanzania (2010). *Financial stability report.*

Bank of Tanzania (2010). *Risk management guidelines for banks and financial institutions.*

Bryman, A., and Bell, E., (2007), Business Research Methods, Second Edition, Oxford University Press, New York.

Capital Markets and Securities Authority (2007). *Business and Institutional Strengthening Plan for the period 2007/8 to 2011/12.*

Chijoriga, M. M. (1997). *Application of credit scoring and financial distress prediction models to commercial banks' lending: the case of Tanzania.* Vienna: Wirts Chaftsnnversitat Wien (WU).

Chijoriga, R. et al (2008) Liquidity risk management system of a commercial bank in Tanzania, www.emerald insight.com

Clarke, J. 2007. Liquidity Risk, *Presentation to the South African Reserve Bank: Bank Supervision Department by CitiGroup.* 28 February. Pretoria, South Africa.

Collis, J., and Hussey, R., (2009), Business Research: A Practical Guide to Undergraduate and Postgraduate Students, 3rd Edition, Palgrave Macmillan, UK.

Crouhy, M; Galai, D; and Mark, R (2001) *Risk Management*. McGraw-Hill.

Diamond, D. W., & Dybvig, P. H. (1983, June). Bank Runs, Depsoit Insurance, and Liquidity. Journal of Political Economy, 91(3), pp. 401-419.

Drehman, D. and Nikolaou, K. (2009). *Funding liquidity risk, definition and measurement. European central bank*.

Ernst & Young (2012). *Tanzania banking sector performance review for the year ended 31st December 2011*.

Fiedler, R. (2000). Liquidity Risk. The Professional Handbook of Financial Risk Management, Great Britain.

Greenbaum, S. I. and Thakor, A. V. (2007). Contemporary Financial Intermediation. America: Elsevier Publication, 2nd Edition.

Gummesson, E. (2000), Qualitative Methods in Management Research, Second edition, London, Sage Publications, Inc.

Heffernan, S. (2001). Modern Banking in Theory and Practices. West Sussex, England: John Wiley & Sons Ltd, Baffins Lane, Chichester.

Helmen, G.; Simonson, D.; Coleman, A. (1994). Bank Management: Text and Cases. America: John Wiley & Sons, Inc, 4th Edition.

Hillier , D (2003) Treasury and Risk Management in the Emerging Markets. Unpublished Book

Howells, P. and Bain, K. (1999). The Economics of Money, Banking and Finance, a European Text. Essex CM20 2JE, England: Pearson Education Limited, Edinburgh Gate, Harlow.

Hubbard, G. R. (2002). Money, The Financial System, and the Economy. New Jersey: The Addison Wesley Series in Economics, Person Education Inc.

Ismail, A. G. (2010). Money, Islamic Banks and the Real Economy. Singapore: Cengage Learning Asia Pte. Ltd.

Kothari, C. R. (2004). *Research Methodology: Methods and Techniques* (2nd Ed.).New Delhi, India: New Age International Publishers.

Kronseder, C. 2003c. *Managing Liquidity Risk.* 20 August. Credit Suisse First Boston. Boston, United Sates of America. [Internet] http://www.qtnews.com/article/5125.cfm

Madura, J. (2007). *Financial Markets and Institutions.* Mason: South-Western/Cengage Learning.

Matz, L. (2011b). A Variety of Systemic and Bank-Specific Funding Disruptions. In Liquidity Risk Measurement and Management Basel III and Beyond (p. 2628 of 13616). United States of America: XLIBRIS.

Mchomvu, Mbajo P. (2007). *Development and challenges of derivative markets in Tanzania*. The case of derivatives in commercial banks.

61

Moremi Marwa. *A Study on the role of treasury management on currency risk management: the case of selected commercial banks in Tanzania.*

Moreno, R. (2006). The Changing Nature of Risk Facing Banks? Bank for International Settlement Working Paper No 28, Basel. Retrieved on June 10th, 2014 from: http://www.bis.org/.

National Bank of Commerce (2012). *Liquidity risk control framework.*

Nordic Investment Policy. (2009). *Liquidity policy of commercial banks.* Retrieved from http://www.nib.int/filebank/755-LiquidityPolicy.pdf

Patton, M.Q., (2002), Qualitative Research and Evaluation Methods, 3rd Edition, Thousand Oaks, Sage Publications.

Saunders M, Lewis,P & Thornhill A, (2007), Research Methods for Business Students, Pearson Education, 3rd Edition, New Delhi, India,

Shin. H, & Adam T. (2007). *Liquidity and leverage position of commercial banks.*

Syed A. S. 2004. Islamic Modes of Finance and Associated Liquidity Risks, *Paper Prepared for Conference on Monetary Sector in Iran: Structure, Performance and Challenging Issues.* February. Tehran, Iran.

Timothy .V. (2010). *The financial performance of commercial banks in Tanzania.*

Trenca Ioan and Paun Dragos (2008). *Policies of the commercial banks liquidity management in the crisis context*

Zhu, H. (2001). Bank Runs, Welfare and Policy Implications. Bank for International Settlement Working Paper no 107, Basel. Retrieved on June 21st, 2014 from: http://www.bis.org/.

Appendix I: **Questionnaire**

Dear participant,

This questionnaire is designed to study the role of treasury management in mitigation of liquidity risk in the Tanzania banking industry: A case study of Azania Bank Limited. The information you provide will help us to understand how liquidity risk is controlled in the bank and also help to understand how the bank employs treasury management in the management of liquidity risk. As an employee of the bank in the study, please assist by answering the questions honestly and completely.

Your response will be kept strictly confidential and sorely used for the academic purpose. Only the findings of the study will be published in the final report. As you do not need to assign your name, anonymity is assured.

Your cooperation towards completion of this study will highly be appreciated, and upon your wish a copy of the summary of the results will be availed to you.

Cordially,

Halimeshi Hamis Kuyeko

SECTION ONE: PERSONAL DATA

Please circle the numbers representing the most appropriate responses for you in respect of the following items;

1. Gender

i   Male

ii   Female

2. Age

i   20 – 35

ii   36 – 50

iii   51 – 65

iv   Over 65

3. Your highest education level

i   High school

ii   Undergraduate

iii   Graduate

iv   Other (specify) ⎢⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯⎢

4.   Number of years worked in the department

i   Less than 1

ii   1 – 2

iii   3 – 5

iv   6 – 10

v   Over 10

5.   Number of other department worked before joining this department

i   None

ii   One

iii   Two

iv   Three or more

6.   Job status

i   Top management

ii   Middle management

iii   First level supervisor

iv   Non managerial

v   Clerical/artisan

SECTION TWO: Work related Questions

My designation of work is:

RESEARCH QUESTIONS:

1. **Treasury management operation policy**

   Q.1   To what extent do you agree that:

   (Circle appropriately: 1 - Strongly agree, 2 - Agree, 3 - Disagree, 4 - Strongly disagree)

   a.   Liquidity risk management exists in the bank (1   2   3   4)

   b.   Treasury management is practiced in the bank (1   2   3   4)

   c.   Liquidity risk is still at its highest level despite of the controls in place (1   2

   3   4)

Q.2 To what extent do you agree that there is a relationship between liquidity risk management and treasury management in the bank?

1. Strongly agree

2. Agree

3. Not sure

4. Disagree

5. Strongly disagree

Q.3 Are there specified policies for liquidity risk management.

1. Strongly agree

2. Agree

3. Not sure

4. Disagree

5. Strongly disagree

Q.4 Are there specific policies for treasury management?

1. Strongly agree

2. Agree

3. Not sure

4. Disagree

5. Strongly disagree

Q.5 The current treasury management policy does not take into account new developments in the financial market, hence needs to be reviewed to improve its effectiveness and efficiency?

1. Strongly agree

2. Agree

3. Not sure

4. Disagree

5. Strongly disagree

2.   Treasury management resources

Q.6   Treasury unit is adequately staffed.

1.   Strongly agree

2.   Agree

3.   Not sure

4.   Disagree

5.   Strongly disagree

Q.7   There is competence relevant to treasury management.

1.   Strongly agree

2.   Agree

3.   Not sure

4.   Disagree

5.   Strongly disagree

Q.8   Do you think the treasury unit has been provided with adequate tools necessary for   detection, monitoring and control of liquidity risk?

1.   Adequate

2.   Not adequate

3.   Not sure

Q.9   How often do you attend training?

1.   Often

2.   Not Often

3.   Never

3. Formulation and implementation of liquidity risk management procedures

Q.9   Do you think the costs of formulating and operating an effective treasury function exceeds the benefits of employing it in mitigation of liquidity risk?

1.   Strongly agree

2.   Agree

3.   Not sure

4.   Disagree

5.   Strongly disagree

Q.10   Treasury management have been fully deployed towards management of liquidity risk in the bank?

1.   Strongly agree

2.   Agree

3.   Not sure

4.   Disagree

5.   Strongly disagree

Thanks you for your time