

**THE EFFECT OF LIQUIDITY RISK MANAGEMENT ON FINANCIAL
PERFORMANCE OF SHARIA COMPLIANT BANKS IN KENYA**

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DECLARATION

This research project is my original work and has not been submitted for examination in any other university.

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This research project has been submitted for examination with my approval as the university supervisor.

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DEDICATION

I dedicate this project to my late maternal grandmother Josephine Atieno Awele and my Mother Margaret Omala Awele without whose prayers and constant encouragement I would not have ventured into the complex yet fulfilling world of Finance. Thank you!

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I would like to express my special thanks of gratitude to the almighty God for his graces throughout this academic journey. Glory be to him always.

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ABSTRACT

The study sought to illustrate the effect of liquidity risk management on financial performance of Sharia Compliant Banks in Kenya. Risk management plays a key role in financial institutions and largely determines the progressive and going concern of most financial enterprises. Shariah compliant banking is growing exponentially in the middle East and has recently gained popularity in Kenya and many parts of the world. Indeed, it is estimated to have a far greater potential (of \$4.2 Trillion as at 2014 only) compared to the growth that has been witnessed thus far (of 1.66 trillion as at the same period) hence the interest of this study. Indeed, in estimation with economic hope, that Islamic finance will be in a magnitude accounting for 50% of all banking assets within a decade's timeline in Islamic countries. The study conducted descriptive analysis by adopting linear regression using SPSS Statistics to measure the link between the variables (independent and dependent) and to interpret and report the results and therefore explain the direction and degree of the relationships existing through coefficients. The study found out that with more credit facilities to customers, there is an existence of a negative influence on the financial performance of Shariah Compliant banks whereas increased customer numbers and savings has a positive influence on the worth of banks in terms of capital strength and the risk to core ownership. The study therefore, concludes that there is a direct liquidity risk management influence on the financial performance of the Shariah Compliant Banks.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Most bank failures, whether Islamic or conventional, are due to the difficulties in managing their liquidity needs (Abdul Majid, 2003). One of the most essential functions of the banks is the ability of utilizing otherwise capitalizing the customer deposits to create credit in terms of long term loan financing. The transformation visible in the balance sheet occurs in situations that the short term liabilities are into long term payable assets which in further does offer a clear liquidity risk management description that occur in financial institutions in particular the lending banks (Berger and Bouwman, 2009; Diamond, 2007; Diamond and Dybvig, 1983 and Bryant, 1980).

A bank's success or failure is therefore highly dependent on how that liquidity is managed. Out of the trust held by the depositors, it is in believe; that the bank will pay the depositor in that particular the depositor requires the amount. Reputation damage is not new phenomenon whenever the very bank in which the depositors place their case does fail to honour the demand to pay the amount. The so called "run on the bank" is evident with such cases from the customers and distorts the solidness expected in the entire financial system of a country (Sabri, 2013). The risk exposure is resultant in such situations and never differentiates the banking categorisation-conventional and Islamic banks-that is founded on corrosion on the available assets to address in liquidity costs of the customers (Allen and Gale 2004; Berger and Bouwman, 2009; Allen and Santomero, 1998).

Among the summation of all Islamic financial institutions, banks emerged at the beginning. Mit Ghamr Savings Bank established in 1963 happens to be the first Islamic Bank. In an accumulation to the tune of 90%, the assets of the Islamic Banks have been contributing greatly to the Islamic industry in the financial (Sobol, 2013). Per the records of Ernst & Young, Islamic banks' summed asset accumulation amounted to USD 1.3 trillion in 2011 and it was estimated at the time that this figure would reach over \$2 trillion in 2014. As at 2013, the total asset value was estimated at 1.66 trillion (GIER, 2014-15) Currently, Islamic banks operate in over 75 countries. Indeed most of the major conventional banks globally now offer Islamic finance services through Islamic windows. In a Global Islamic Economy Report (GIER, 2014-15), it notes the actual magnitude of Islamic Financial delivery in service to a tune of USD 1.66 trillion presenting a growth rate of Islamic funds at 14% year-on-year, whereas banking experienced a 5% drop in its assets. However, the potential global size of Islamic financial service industry is calculated at \$4.2 trillion in 2014 (GIER, 2014-15). In a decade timing, the magnitude of the Islamic Finance will be at 50% of the summed banking assets in the countries that practice Islamic banking (Farhani and Dastan, 2013; GIFR, 2010).

The financial practice with Islamic inclusion of the recent times has been picking in Kenya. Although, only First Community Bank Limited and Gulf African Bank Limited are licensed to offer full Islamic products and services in the Kenyan banking sector, a number of conventional banks have initiated Islamic finance windows. In 2006, Barclays Bank of Kenya introduced interest free accounts called *La-Riba* to its customers and one of the large asset based banks, Kenya Commercial Bank Limited followed suit in 2007. Soon thereafter, Chase Bank Limited (under receivership) and

National Bank of Kenya Limited also launched Islamic finance windows. With approximately 4.3 million people in Kenya being Muslim (KNBS, 2009), compounded by the increasing state of global economy that has affected Kenyans as a whole, Islamic Finance is gaining popularity and is bound to grow exponentially in due course.

Although lacking a universal definition, the Islamic banking practice has been simply coined to be provision of financial services through mobilisation and fund investments subject to the outlined Shariah compliance principles. Shariah Compliance comes with application of the basic principles such as the non-receivership of the usury (*riba*), uncertainty avoidance (*gharar*), speculation avoidance (*maysir*) and avoidance of engaging in illegal products (*haram*). All these compliance principles are as contained in the Muslim Holy Book-*the Quaran* or Koran which provides lengthy descriptions and lessons of the Prophet Muhammad who is the Messenger of Allah (Sobol, 2013). Zaman (2001) argues that the concept of *riba* is viewed by economists in the field of Islamic Finance to be any additional increase over the amount that is in principal. Risk occurrence in the banks has been an attribution of some factors among them the experienced volatility in the markets that increases, the continuous innovative developments in the finance area, and too the dynamic changes observed with the completion and regulation of the whole sector (Iqbal & Mirakhor, 2007). Dusuki (2007) argues that individual product segmentation by the Islamic Banks to their customers and the experienced severity towards addressing the liquidity risk exposures gets in complication with the Shariah Law Compliance constraints.

The mismatch exposed in the liabilities and assets of the Islamic Banks is critical as they have to ensure there is a well maintained fund adequacy to address the very mismatch in the balance sheets (Sabri, 2013). Dusuki (2007) offers a similar view arguing that despite the large pooling of liquid funds, the very financial institutions would alternatively increase the costs with positive taste with an opposite effect towards the bank to anchor high profitability. This solely does offer a challenge into addressing the equilibrium and bank profitability while towing with the banks' Shariah compliance. Liquidity risk is more with the Islamic banks even though the interest based loans are not allowed (Ahmad & Khan, 2001). The relation is relevant in cases the instruments applicable for liquidity risk management cannot be applied with the conventional banks in cases whereby the Central Bank is the central player in the addressing the debt issue and being the last lender of resorting to. The financial performance of the Islamic banks is threatened by the liquidity risks and other external risks do pose similar constraints.

1.1.1 Liquidity Risk Management

Liquidity risk is an exposure risk to the Islamic Banks among the many risk pool they face in the conduct of financial endeavours with a clear resultant mismatch in the maturity of the duo assets and liabilities. It has been defined as the ability in which the banks endure to meet the depository withdrawal demands by the customers, and maturity credit request and liabilities (Ghannadian & Goswami, 2004). The Basel report defines liquidity risk as the ability of a bank to fund increases in assets and meet obligations as they come due, without incurring unacceptable losses (Basel Committee on Banking Supervision, 2008). The different maturity structure of assets (mainly medium and long-term) and liabilities (in most cases short-term) in which it

generates the risk of the bank's inability to address the repayment plans or makes it to do sell offs to mitigate the pressure where most fetch a lesser value (Ferrari, 2013).

The conventional banks do have financial liquidity risk management instruments among them include the internal and secondary markets, window system for discounting from the Central Banks which is enabling in the management of risks exposed to the Islamic banks. With no accessibility to instruments that attract interest, the Islamic banks accessibility is mainly in interbank market limitation which is not such developed and the illiquid secondary for addressing the liabilities. Developing a universal money market system for them is difficult due to the varied Sharia law interpretations. The instrument tool usage since the tradition of banks, such limitations are constraining to the management of the liquidity.

1.1.2 Financial Performance

The technical application of the financial ratios is essential in measuring the financial performance of financial institutions and cost benchmarking for the expected expenditures (Avkiran, 1995). The economic development and growth gets more push in contribution from the financial institutions in particular the banks. Financial crises in the sector are mainly pegged at the profitability behaviour in the economy sector. The conceptual understanding of the determinants that lead to profitability is essential and would be a clear bail for them to avoid the emergent decisions during the recovery and adjustments situations.

This study sought to use Return on equity as the appropriate measure of profitability considering that Sharia compliant banking is itself based on equity funding and its profitability measures as against the actual return on the invested equity as opposed to

Return on Assets (ROA) for example which considers the percentage return on both equity and debt – the latter of which is interest based and therefore *Riba* based. The Return on Equity has been defined to be the amount of the shareholders' equity which is net returned in income as a percentage indicated on the balance sheet. The ratio identity provides the much earned profits of an institution while comparing to the amount of shareholders' equity. With its significance contribution into financial analysis and metrics, it has been argued as the most crucial ratio to obtain from the financial reports by the institutions of focus. In the employability of equity and the tune of investment gains the ratio clearly illustrates the backing profitability and is mostly calculated as the ratio of the after tax net income against/to the shareholders' equity in average.

1.1.3 Liquidity Risk Management and Financial Performance

In a country, banks play an important role such as enhancing the mobility of goods and services and too aiding the systematic financial flow and payment of the purchases and sales made. They are also essential stimulants of the economic growth and in aiding the capital gains as the investments made rewards. In resultant, the various composition functions under the banks do make them subjects of liquidity risk exposures making them scary in the meeting of the customer obligation demands (Jenkison, 2008). In addition, the depositors in these banks do make unscheduled demands and may induce the sale of assets to address the financial demands posed by the customers thus causing unexpected profitability decreases to the banks (Douglas & Raghuram 2011). The holding of liquid assets by the very banks is proper in improving the profitability and too in ensuring the financial demands and the net opportunity cost experienced in possessing low return assets may exceed the expected

benefits from an increment into the banks liquidity (Aramco, Kosowski, Naik, & Teo, 2011). Llewellyn (1999) offers thoughts that this kind of situation in the banks may lead to an insolvency of the banks or otherwise contribute to drastic instabilities in the whole financial sector. Excessive liquidity is not such significant to the banking sector as it does cause negative corrosion on the profitability and adjustments in the competition with costing in the high liquidity and hefty risks with the low liquidity thus the overall aim should be anchored to the process of managing the liquidity of bank to ensure profitability.

1.1.4 Sharia Compliant Banks in Kenya

Kenya boosts to be the African county in the Central and eastern region to adopt the Islamic Banking into the financial system (CBK, 2010). In this regard, two banks have so far been licensed in to exclusively offer Shariah compliant products i.e. First Community Bank Limited and Gulf African Bank Limited. In collective market share as at the closure of financial in December 2010 the 31st, the duo banks controlled a 0.9% in the Kenyan banking sector boasting a gross asset base of KES 16.54 Billion and net credit facilities of KES 9.23 Billion and deposits base of KES 13.79 Billion with customer accounts to the tune of 58,101 and loan accounts of 2,609 within a period of four years (CBK Governor, 2011). Stiff competition attributed to Islamic Finance products as had the conventional banks to open banking products of Islamic inclusion to manage the window creation in the financial system. Barclays Bank of Kenya for instance introduced interest free accounts called *La-Riba* to its customers; Kenya Commercial Bank Limited, Chase Bank Limited (under receivership) and National Bank of Kenya Limited have also launched Islamic finance windows

Sharia Compliant banks are therefore expected to keep growing given the number of current accounts held in these banks vis-à-vis the Muslim population in the country and the potential attraction of the traditional customer to Sharia compliant banking with the passage of time. Undoubtedly the influence of the Gulf Cooperation Council states in our trading and investment activities will play a major role in influencing growth in this area.

1.2 Research Problem

There is an increasing pressure from external parties and other stakeholders in the management of the banks with considerations on the capital constraints (Basel Committee on Banking Supervision, 2014). Risk management plays a key role in financial institutions and largely determines the progressive and going concern of most enterprises. Studies have been conducted globally to illustrate the relationship of liquidity risk management and financial performance. Oloo, (2009) illustrates that banks must take keen focus in identifying, controlling and monitoring their risk exposures. In Kenya however, studies in this area have tended to be biased to conventional banks. Local literature on Islamic Banking is limited mainly owing to its emerging nature yet as illustrated above, Islamic finance is quickly gaining traction in Kenya and regionally. Given the interconnectedness of the global economy, the demonstrated appetite for innovative financial products in Kenya and generally and the important role banks play in an economy, it is important that we stay ahead of these emerging issues for our economic well-being hence the research question: what is the effect of liquidity risk management on the financial performance of Sharia Complaint Banks in Kenya?

1.3 Research Objective

The objective of the study is to illustrate the effect of liquidity risk management on financial performance of Sharia Compliant Banks in Kenya.

1.4 Value of the Study

The study is justified given that Islamic banking in Africa and Kenya in particular is just taking shape with a growing customer base requiring the Islamic products and services. The study will provide invaluable knowledge and reference empirical material for use by key players in the policy and legislative arena

The results of the study will hopefully be a useful guide to regulators of the financial sector including the Central Bank of Kenya and Capital Markets Authority. As the key shapers of policy that inform legislation, these institutions play a critical role in ensuring sound policies are passed and translated into practical laws that create an enabling safe and clear environment for economic prosperity and wealth creation.

Secondly, the consumer will be better informed to appreciate the risks appurtenant to Islamic finance and how the same are managed. Perception in a free market economy is essential and ignorance can influence negative perceptions with dire ramifications.

Thirdly, legislators will also hopefully benefit from the study from an informational perspective and better understand the underlying principles that inform policy developed by regulators such as the Central Bank of Kenya and which in turn translate to clear laws.

Last but not least, the study will be of great importance to scholars and will hopefully help in development of curricula in the finance department for those interested in Islamic Finance field of study. Naturally, the study will also provoke further areas of research in Islamic finance in Kenya.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter illustrates the theoretical including the financial performance determinants and empirical studies, research gap and conceptual framework.

2.2 Theoretical Literature

2.2.1 Trade-off Theory

The theory provides observations in perfect and imperfect market establishments whereby capital structure is irrelevant to the cost of capital-firms value (Modigliani & Miller, 1958). The theory argues added imperfections to capital markets to create an existence capital structure with the assumption that there is market efficiency and information symmetry thus ensuring no business failures are expected. Modigliani and Miller, (1958) further notes existence of more equity by high costs of financial distortions or distress and heavy taxation imposition on the dividend earnings does offer more leverage. A trade-off is created by the observed imperfections between the costs incurrence and relevant benefits accrued. The theory further focuses capital embodiment as benefits from debt financing and relevant associated marginal costs. Lemmon & Zender (2002) argue that debt ratios are not independently realistic as most financial institutions tend to rely on capital markets performance to have their values at close with the real optimum.

2.2.2 Risk Aversion and Expected Utility Theory

Risk aversion is the nature of a person or entity to bargain with the unknown payoff rather than bargain with confidence for more certain pay off. Arrow (1971) in

formulating the theory, it provides that persons are neutral to risks when the magnitude stake is lower or little. Further, the theory notes that the expected utility maximization entity with a differentiable utility function there is the need to adequately acquire a smaller stake in any positive-expected-value bet. This is to imply that the expected satisfactions are naturally nearer to the neutrality of risk when the stakes are considerably small. Universally, it is assumed that the risk neutrality predication bears presentable stakes-negligible in nature. This explains the perceptions of banking lenders to their customers.

2.2.3 Balanced Portfolio Theory

The balance portfolio theory (BPT) is essential theory with many insights into the bank risk management and the liquidation (Nzongang & Atemnkeng, 2006). As a function of the decisions in policy, the portfolio wealth held by the owner in each asset as this is determined by the returns by vector rates on the assets, the returns of vector rates on the risks that come from the ownership of the assets in equating to the financial magnitude. The management of the bank in making the decisions for the portfolio holding does make the diversification.

The ability to produce one unit of benefit from each asset and too the determination of the management in making decisions does influence the ability to have high maximum profits (Nzongang & Atemnkeng, 2006). By the use of risks and returns, the banks' management is expected to make critical decisions that set aside efficient assets and the dominance magnitude of the portfolio is anchored on the coefficient correlations of the asset basing. There is no actual optimality in the portfolio however,

the estimations of samples will offer the right view as it does provide the zone of trade off existence and variance occurrence (Roll, 1992).

From the theories reviewed above, it is evident that the bank liquidity comes out as an important parameter that should be maintained at any given time. The investment opportunities that a bank undertakes should consider its liquidity position and the capacity to pay the customer deposit on demand. The risk management practices of the bank also came out as an important aspect that should be considered and factor the required liquidity position of the firm.

2.3 Empirical Literature

Properly managed liquidity risks provide significance in maximization of value that a firm has (Nocco & Stulz, 2006). In a study conducted about the risk management and financial performance of Islamic Banks with focus on evidence from Malaysia, the Malaysian Islamic banks were found to apply technically advanced risk exposure measurement techniques applied in the credit ratings and analysis however, being new they do not have adequate resources to employ more technical techniques (Ariffin & Salina, 2011). Warr (2009) notes in a study about the factors that affect the firm enterprise risk management that the more leverage in firms are directly proportional to the volatility in earnings.

Kassim et al., (2009) notes that profit motivated customers find it difficult to place their investments in the Islamic Banks (IBs) that adhere to Shar'iah Laws as they prefer conventional banks that are interest-based. Islamic banks are known to rely on the commodity (mark-up) based on investments and liquidity management. In a study

conducted to determine risk management practices and financial performance in Jordan, the study finds that liquidity management in Islamic Banking is difficult due to lack of adequate instruments (Imane, 2015).

Ali (2013) in a study “*State of Liquidity Management in Islamic Financial Institutions*” argues that competition experienced from the conventional banks contributes greatly to liquidity and further need to address systematic changes in the Islamic Banking sector whose financial principles of Islam require fully implementation. He further opines that proper management in the regulations and capital requirements will be recipe for good liquidity risk management. Ernest & Young (2010) “*Making Strides in financial Services Risk Management*” report survey covering 62 banks-large-drew conclusions that most banks are making the liquidity risk management part of the decision making in the strategy, face critical uncertainty with resident regulations and that most of the Islamic Banks are concerned about the data and consistency management and over 92 per cent of the covered banks made progressive input to addressing the management of liquidity risk.

Ismail (2010) concludes in a survey of the Indonesian Islamic Banking Industry’s liquidity risk management that, the depositors of the banks have three similarities including the religious concept, the purposes of the transactions and profit in this case for higher returns, when they place the client-depositor interaction relationship. He further argues that there is need for the banks in the Islamic financing and the relevant agencies to conduct mutual knowledge focused information dissemination to the public about the *Sharia* law applicability to minimize the liquidity and financial issues between the banks and the depositors-who might be conventionally, guided towards

the Islamic Banks. Ramzan (2014) using a least square regression model in the analysis with sample of 5 Islamic Banks in Pakistan from 2007 to 2011 to investigate the liquidity risk management in the very banks, he concludes that a more asset base is a requirement for a stronger banking control. Further, the study finds out that the banks must ensure usability of more of the commodity known as *Murabahah* to mitigate the liquidity risks and need for high magnitude of cash levels to quell the dearth that may arise from liquidity. Mohammed (2013) in a survey study about liquidity risk management in Islamic Banks concludes that for minimization of the risk exposure, there is need to review policies, innovate new management approaches and adequacy of the financial instruments will improve the efficiency in the Islamic Banking Industry.

2.4 Determinants of Financial Performance

Yaqoobi (2007) offers thoughts that in regardless of the funds expenditures, the balance sheet's liability side does create the liabilities posing an optimization utility with a mismatch occurrence in the liability and asset sides of the balance sheet. Further, he opines that streams of short term liabilities do fund the medium all through the short term assets held by the bank. This therefore largely creates an imbalance equilibrium whereby there is requirement of fully stabilization than face the insolvency risks.

Ismail (2010) offers insights into the Islamic banks operationalization that they are required to ensure trust ability and the entire system of relating with the shareholders', customers and partners including the financial management composition. This will largely contribute to information flow with no asymmetry and equilibrium in the

assets and liabilities. The implication of the Islamic Banks' model to be different despite operating in the banking sector offers an inclusion into the share growth and revenues without interest charges as too the amounts not offered for lending and investment in the bank will be less for the very banks (Abdullah, 2011).

Ismail (2010) provides insights into the efficiency by noting that there is an ambiguity of whether the Islamic Banks or the Conventional ones ought to be efficient whereby monitoring and screening costs may be lower for the banks and complexity occurrence may result to higher costs thus the lower efficiency records. The quality differences in the products provided by the two categorical banks do pose a difference in liquidity positioning and depict a tendency towards the funding from the equity whereby the accessibility is stimulated by the incentives provided.

Muhammad & Manarvi (2011) provides the view that the role of passing through and sharing of risks arrangement of the Islamic Banks maybe a reduction factor in risks. Increase of liquidity risk in the Islamic Banks is evident with the absence of the interest rate risk measurement that is available in assessing the stress in the conventional banks. Attributes of risk management that is to include the adverse selection and the moral hazard nature might be on the reduction if the customers depositing maybe having much stronger incentives to monitor the bank discipline progress. The non-trading of the risk itemization makes the Islamic Banks stable than the conventional banks however, the complexities of the application of the Shariah law and ensuring there is fully compliance with it makes the Islamic Banks a subject of operational risks (Diamond & Rajan, 2002).

A business going concern is always dependent on the good will of the relationship it has to the customers and entirely how the services are dispensed to the customers. Banks are dependent on the deposits from the customers to maintain their operations and make the credit creation process a going on procedure than fall into the deep of closure due to limited deposits (Central Bank of Kenya, 2010). Customer utility is the satisfaction received by the customers from their buyers in this case the banks. Banks sell bank accounts in exchange for cash deposits which are used to create credit and in return provide interest to the customers and to ensure all their concerns are addressed in time (Tirimaba *et al*, 2014). The Know Your Customer (KYC) policy has been instrumental in the banking industry in this regard (Kenya Bankers Association, 2013). In deposits, the number of customers can be noted and too from the bank accounts opened in a given period of time. Kenya Bankers Association, (2013) offers insight that banks continuously open and close dormant accounts after given period of time with consultation with the relevant customer. In this way, the financial performance can be noted as constant, diminishing or increasing depending on customer elasticity in each individual bank.

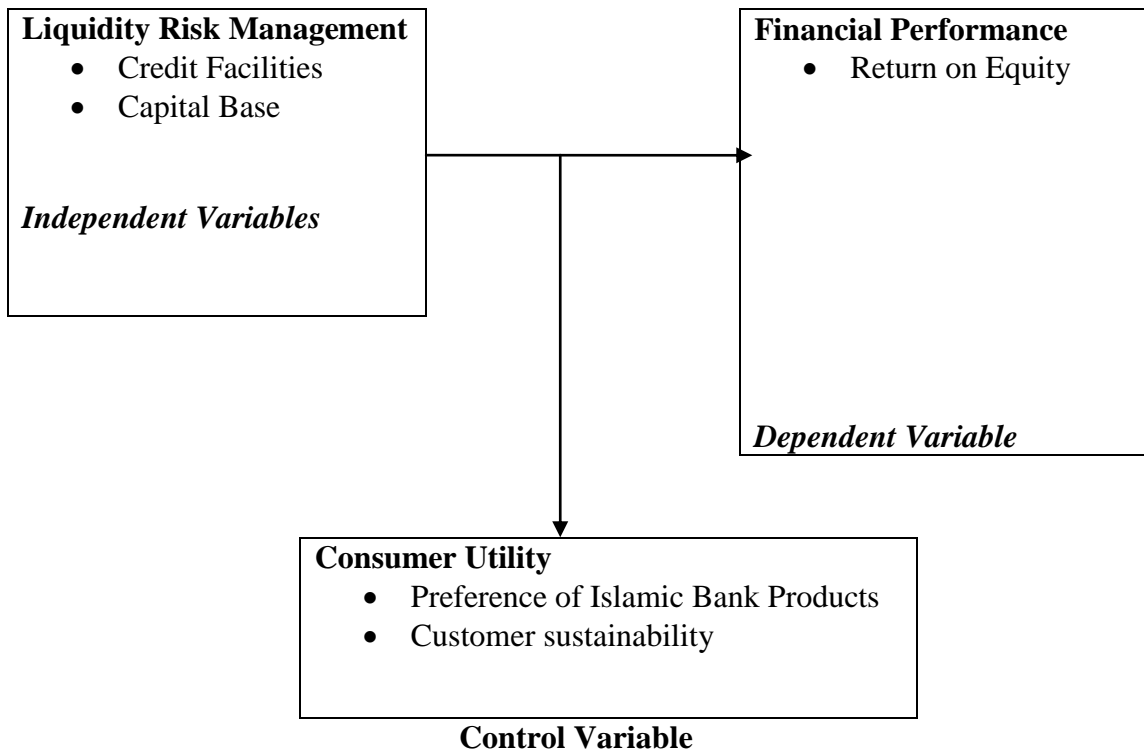
2.5 Research Gap

Given the non-stable economic situations in various countries, there is no clear illustration of liquidity risk management and what its influence on financial performance of Islamic banks is.

2.6 Conceptual Framework

The conceptual framework illustrates the dependent and independent variable of the study including the intervening variables.

Figure 1 Conceptual Framework



CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The chapter presents research design, the adopted model, target population, sample design, data collection procedures and instruments, reliability and viability of the instruments, pilot test, data collection methods, data analysis, and research ethics.

3.2 Research Design

Sekran (2001) describes research design as a logical plan of the research that provides the leads on how the particular research is to be carried out. The study sought to adopt descriptive research design in collecting and analysing the data (Kothari, 2004). This kind of design provides a description of the procedures, involved terms for adherence and other existing links or relationship with the research problem. Given the wide secondary data to be obtained and further the fact that sharia compliant banks are a relatively new phenomenon in Kenya, descriptive research design was the most appropriate to inter-alia acquire information through and identify variables & hypothetical constructs which can be further investigated through other means.

3.3 Target Population

Target population has been defined as the set of group or individual or details bearing similar observable characteristics (Mugenda, 2003). Further, Neuman (2000) argues that the target population is a set of elements under investigation for a particular research outcome. The study sought to obtain financial results for the last five years (2010-2015) in sharia compliant banks in Kenya. The study data was obtained from Central Bank of Kenya and respective banks in Nairobi City County where the

particular financial institutions are situated. Two fully fledged Sharia compliant banks have been identified in Kenya and will form the main focus of data collection. Additionally, five conventional banks with Islamic finance windows shall be considered.

3.4 Data Collection Procedures and Instruments

The secondary data collected from the Central Bank of Kenya and respective banks covering half a decade (2010-2015) was used. This is essential time given the span Islamic Banks have been around and was to provide the sufficient information to determine the existing relationship between the variables. The financial statements that were obtained are those audited and approved, and quarterly reports by the Central Bank of Kenya. A data collection tool is provided at appendix II. The ratios of independent variables were collected from audited financial statements of the banks shown in Appendix 1 over the five (5) year period of study. In the event, Customer Sustainability to Customer Account Growth data was obtained from the number of customer deposits against the number of accounts opened annually. The Capital Base to Risk Exposure was captured from the statutory capital availability and shareholder ownership (in ratio) against the statutory liquidity risk ratio calculations. Finally, the Credit Facilities to Returns Expected were measured through amount in loans against the interest and principal amount collections.

3.4.1 Reliability and Validity of Instruments

Saunders *et al* (2007) describe reliability as the consistency and validity as the adherence of tested items or measurable factors. The research proved the financial statements with comparability of the ones submitted to the regulators and ensure they

are those signed by the respective auditors. The study conducted a pilot survey of the Islamic Banks and other financial institutions providing Islamic banking products to their consumers. The study sought to cover 7 institutions.

3.5 Data Analysis

Mugenda & Mugenda (2003) note that data collected from the field is raw unless it is cleaned and coded for analysis and outcomes measured appropriately. Further, data analysis is described as a method of applying statistical techniques to illustrate/measure particular set of data (Resnik, 2011). The study conducted descriptive analysis by adopting linear regression using SPSS Statistics to measure the link between the variables (independent and dependent) and to interpret and report the results and therefore explain the direction and degree of the relationships existing through coefficients.

3.5.1 Analytical Model

The study used linear multiple regression model to measure the link between the variables (independent and dependent) to aid in explaining the direction and degree of the relationships existing through coefficients. The study strictly adopted this model:

$$Y = \alpha + \beta X_i + \beta X_{ii} + \beta X_{iii} + \beta X_{iv} + \varepsilon$$

Where:

Y= Return on Equity of Islamic Banks (IBs) as measured against the asset turnover;

X is the set of liquidity risk management indicators measured against the financial performance of the Islamic Banks (IBs) whereby in this case;

X_i=the proportion of credit facilities as measured against the returns expected;

X_{ii}=proportion of the capital base as measured against the Risk exposure;

X_{iii} = proportion of customer sustainability as measured against the customer account growth;

X_{iv} = proportion of Islamic Bank products as measured against the business portfolio growth of products offered by the Islamic Banks.

The α is the autonomous for the financial performance of Islamic Banks (IBs);

The β is the slope;

The ε is the error of estimation.

3.5.2 Test of Significance and Operationalization

The desired degree of accuracy in the study is placed at 0.05 with correspondence to a level of significance at 1.96 and F and R^2 test will be applicable.

Table 3.1 Operationalization of the Variables

Variables	Type of Variable	Operationalization	Measurement	Hypothesized Path
Liquidity Risk Management	Independent	Credit Facilities Capital base	Strongly Agree	Positive
	Independent	Preference of Islamic Bank Products Customer sustainability	Strongly Agree	Negative
Financial Performance	Dependent	Return on Equity	Agree	Depends

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSIONS

4.1 Introduction

This chapter explains the data analysis and findings in order to achieve the objectives of the study i.e. to illustrate the effect of liquidity risk management on financial performance of Sharia Compliant Banks in Kenya. The secondary data used in the analysis was obtained from the specified banks and the Central Bank of Kenya.

4.2 Descriptive Statistics

The analysis is provided in accordance with data obtained from the seven (7) covered Shariah compliant institutions. The presentation is in the form of tables with an explanation of the findings.

4.2.1 Return of equity

Table 4. 1 Return on Equity

Bank Name	Return On Equity		
	2013	2014	2015
First Community Bank Ltd	9.34	0.03	-0.01
Gulf African Bank Ltd	9.41	7.69	0.52
Middle East Bank Limited	11.38	9.31	0.63
Kenya Commercial Bank Limited	18.69	20.55	22.61
National Bank of Kenya Limited	16.82	18.50	20.35
Barclays Bank of Kenya Limited	18.87	20.76	22.84
Chase Bank limited (under Receivership)	10.35	8.46	0.57
Mean	13.55	12.19	9.64
Min.	9.34	0.03	-0.01
Max.	18.87	20.76	22.84
SD	4.38	7.89	11.52

The above Table 4.1 illustrates descriptive statistics of the return on equity of the 7 covered financial institutions that are Shariah compliant in Kenya for the 2013, 2014 and 2015 years. The study finds out that the Shariah compliant banks have a return on equity of above 1% with a represented maximum of 22.84 and minimum of -0.01. The low standard of deviation implies a low variance within the period of this study. There is an observed consistent increase from 2013 to 2014 and significant decrease in the return on equity in the subsequent year. This implies that there was high profitability in the two years with experienced poor performance in 2015.

4.2.2 Asset Turnover

Table 4. 2 Asset Turnover of banks

Bank Name	Return on Assets		
	2013	2014	2015
First Community Bank Ltd	0.04	0.05	0.08
Gulf African Bank Ltd	0.10	0.14	0.10
Middle East Bank Limited	0.15	0.16	0.18
Kenya Commercial Bank Limited	0.19	0.38	0.76
National Bank of Kenya Limited	0.17	0.34	0.68
Barclays Bank of Kenya Limited	0.21	0.23	0.26
Chase Bank limited (under Receivership)	0.16	0.18	0.20
Mean	0.14	0.21	0.32
Min.	0.04	0.05	0.08
Max.	0.21	0.38	0.76
SD	0.06	0.11	0.28

Table 4.3 illustrates the asset turnover of the Shariah compliant banks covered from 2013 to 2015. Asset turnover is essential in determining the sales revenues generations by the financial institutions. It shows a minimum of 0.04 and maximum of 0.76 with a high mean of 0.32 and standard deviation of 0.28. The high asset

turnover implies a low profitability margins over the years as opposite is true. This is so evident with National Bank of Kenya and Kenya Commercial Bank Ltd in the 2015 year. The Shariah compliant banks whose dependence is pegged on the asset use in generating more earnings offer insights into the variance that may be attributed to the other banks (conventional) with wide product variety for high profit margins.

4.2.3 Financial Leverage

Table 4. 3 Financial Leverage

Bank Name	Financial Leverage		
	2013	2014	2015
First Community Bank Ltd	9.34	10.07	9.04
Gulf African Bank Ltd	5.98	6.28	6.37
Middle East Bank Limited	6.69	7.36	8.10
Kenya Commercial Bank Limited	12.15	13.36	14.70
National Bank of Kenya Limited	10.93	12.02	13.23
Barclays Bank of Kenya Limited	7.47	10.82	11.90
Chase Bank limited (under Receivership)	6.76	9.74	10.71
Mean	8.47	9.95	10.58
Min.	5.98	6.28	6.37
Max.	12.15	13.36	14.70
SD	2.37	2.48	2.94

Table 4.3 illustrates financial leverage outcomes over 2013 to 2015 from the Shariah compliant banks. The ratio is essential in determining the how debt can be applied for more asset acquiring or the trade on equity. From the study findings, there is a minimum of 5.98 and maximum of 12.15 with a mean of 10.58 at the highest and standard deviation of 2.94. This provides an implication of high risk take to the banks

posting high financial leverage values as compared to the ones with low financial leverage.

4.3 Correlation Analysis

Table 4. 4 Correlation Matrix

	<i>ROE</i>	<i>Credit Facilities</i>	<i>Capital Base</i>	<i>Customer Sustainability</i>	<i>Islamic Product Performance</i>
ROE	1				
Credit Facilities	0.99	1			
Capital Base	0.99	0.99889	1		
Customer Sustainability	9535	0.99889	0.9998	1	
Islamic Product Performance	0.99	0.998772	0.9963	0.997723	1
	9334	0.995455	84		

Table 4.4 indicates a correlation matrix between the predictor and predicted variables in the study. The correlation coefficient between the credit facilities to returns expected and capital base to the risk exposure is positive ($r=0.9999$) and significant at 5% implying that an increase (decrease) in credit facilities to returns expected would ensure an increase (decrease) of capital base to the risk exposure. The correlation between the credit facilities to returns expected and customer sustainability to customer account growth is positive ($r=0.9998$) and significant at 5% with an implication of an increase (decrease) in the credit facilities to returns expected would have an increase (decrease) in customer sustainability to customer account growth. Further, the correlation between the capital base to the risk exposure and customer sustainability to customer account growth is positive ($r=0.9999$) and significant at 5% with an implication of an increase (decrease) in the capital base to the risk exposure would have an increase (decrease) in customer sustainability to customer account growth. Finally, the correlation between the customer sustainability to customer account growth and Islamic Product performance to the portfolio growth of the

products is positive ($r=0.998$) and significant at 5% with an implication of an increase (decrease) of customer sustainability to customer account growth would lead to an increase (decrease) of Islamic Product performance to the portfolio growth of the products.

4.4 The Linear Regression Analysis

4.4.1 Model Summary

Table 4. 5 Model Summary

<i>Regression Statistics</i>	
Multiple R	0.980385
R Square	0.961156
Adjusted R Square	0.844623
Standard Error	14.63536
Observations	4

Predictors: (Constant), Credit Facilities, Capital Base Ratio, Customer Sustainability

Table 4.5 indicates a model summary outlining the fitness of the model. The R Square value indicates the variance in the dependent variable (ROE) by the predictor variables (credit facilities to returns expected, capital base to the risk exposure, and customer sustainability to customer account growth). 96.1% of the variance in the dependent variable (ROE) is jointly accounted by the existing variations in the independent variables.

4.4.2 Regression Coefficients

Table 4. 6 Regression Coefficients

	<i>Coeffi</i>	<i>Standar</i>		<i>P-</i>	<i>Lower</i>	<i>Upper</i>	<i>Lower</i>	<i>Upper</i>
	<i>icients</i>	<i>d Error</i>	<i>t Stat</i>	<i>valu</i>	<i>95%</i>	<i>95%</i>	<i>95.0%</i>	<i>95.0%</i>
Constant	253.0 111	47.3056 5	5.34 8432	0.00 7076	228.0 24	644.0 56	228.02 4	644.05 6
Credit Facilities	-382.5	134.748 9	2.83 861	0.03 9629	3957. 43	1945. 278	3957.4 3	1945.2 78
Capital Base	59.71 704	58.7136 9	1.01 7089	0.00 6617	246.3 22	675.2 462	246.32 2	675.24 62
Customer Sustainabilit y	178.8 3	43.5736 1	4.10 4089	0.00 2659	157.8 21	352.4 633	157.82 1	352.46 33

Dependent Variable: Return on Equity

The regression equation was established by the study

$$Y=253.01-382.5X_i+ 59.72X_{ii}+ 178.83X_{iii}+ \varepsilon$$

Table 4.6 indicates regression outcomes where the ROE is the predicted variable regressed against the predictor variables: Credit Facilities to Returns Expected, Capital Base to the Risk Exposure, and Customer Sustainability to Customer Account Growth.

The study reveals that credit facilities to returns expected is negative ($\beta =382.5$) and significant ($p\text{-value}=0.0396$). This provides an implication that an increase in the ratio of credit facilities to returns expected leads to a decrease in the returns on equity. Further, from the study outcomes, the existence of bad debts on credit advanced to customers and slow or otherwise lagged recoveries may contribute to the poor returns thus providing a corrosive influence on the returns on equity.

The results further indicate that the capital base to the risk exposure ratio is positive ($\beta=59.72$) and significant ($p\text{-value}=0.0066$). It implies that an increase in the ratio of the capital base to the risk exposure ratio leads to an increase in the returns on equity.

In addition, the result show the customer sustainability to customer account growth is positive ($\beta=178.83$) and significant ($p\text{-value}=0.00266$). This implies that an increase in the ratio of customer sustainability to customer account growth leads to an increase in the return on equity.

4.4.3 Analysis of Variance

Table 4. 7 Anova Outcomes

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	3	16578.801	5526.267	228.652	0.027532
Residual	1	24.1689	24.1689		
Total	4	16602.9699			

Table 4.7 indicates the Anova Outcomes that contain information about the variability existing in the regression model and are the foundation of the test of significance. It indicates that the model is jointly significance at p-value<0.05.

4.5 Discussions on the study findings

As observed from the findings in the R Square there is a variation of Return on Equity as an effect from the changes in the Credit Facilities to Returns Expected, Capital Base to the Risk Exposure, and Customer Sustainability to Customer Account Growth. The outcomes as indicated in the below equation indicate that the performance of Shariah compliant banks is heavily influenced by the increase in liquidity risk measures by the said banks.

$$Y=253.01-382.5X_i+ 59.72X_{ii}+ 178.83X_{iii}$$

The lending from the banks to customers as credit facilities present an influence of 38.2% implying that a unit increase in the Credit Facilities to Returns Expected will impose a decrease on the returns on equity meaning a further negative financial performance of the banks by 38.2%. This is in conformity with the Li (2007) that found out that a high increase in credit advancement had poor influence on the returns on equity.

The Customer Sustainability to Customer Account Growth has a positive impact on the returns on equity implying a good financial performance to the Shariah compliant banks. The unit increase in the ratio of Customer Sustainability to Customer Account Growth has a significant influence on the performance of the Shariah compliant banks by 1.7% on the improvement of returns on equity. This further means that the existence of more customers and more deposits by the customers will aid more credit creation spread and subject more trading on liquid asset thus more profitability response in the market. It confirms the Dang (2009) study results that the composition levels of liquidity have a positive growth in the profitability of the bank.

The study finds that Capital Base to the Risk Exposure increase does influence the returns on equity of the Shariah Banking financial performance. By this, a unit increment in the Capital Base to the Risk Exposure imposes an increase on the returns on equity by 0.59% of the Shariah banks. It implies further, that increased levels of capital base is positively influencing the returns on equity that the very banks may expect

Therefore Shariah Compliant banking's financial performance is largely found to be influenced by the Credit Facilities to Returns Expected, Capital Base to the Risk Exposure, and Customer Sustainability to Customer Account Growth.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter outlines the summary of the findings in chapter four and conclusions drawn from the findings with respective recommendations made by the study.

5.2 Summary of the Findings

From the above observations in chapter four, the research makes a summary of the findings. The data was analysed using descriptive and applicable regression model.

The regression model equation in the period under study was:

$$Y=253.01-382.5X_i+ 59.72X_{ii}+ 178.83X_{iii}+ \epsilon$$

There is a significant influence of liquidity risk management on the financial performance (return on equity) of the Shariah compliant banks in Kenya. The study reveals that a unit increase of credit facilities to returns expected leads to a decrease on return on equity by 38.2% and unit increase in capital base to the risk exposure ratio leads to an increase on return on equity by 0.59% and subsequent unit increase in customer sustainability to customer account growth leads to an increase on return on equity by 1.7%.

5.3 Conclusions of the Study

The study draws conclusions from the findings of the study that credit facilities provided to customers of sharia compliant banks do have negative implications on

returns on equity thus increasing the instability of the banks. The study concludes that the capital base of the bank is correlated to the return on equity of the banks. The high capital base and exposure of risk poses high returns on equity. This is observable with the ability of the banks to progressively lend to their customers without any cap limits on the credit advancement. Further, there is an effect of customer sustainability and credit facilities provided on the performance of Shariah compliant banks in Kenya.

5.4 Policy Recommendations

National leaders should take the initiative to establish regulations in the Islamic finance industry; and develop the robust governance needed for a healthy feasible and working environment. The researcher therefore makes the following recommendations for consideration.

First, there is the need to embrace the Islamic Banking sector through encouraging more investment in the area. By this, it will increase more competition and create confidence in the financial markets. Further, existence of more Islamic Banks will be viable area for diversified investment preferences by consumers who use banks as their source of finances and savings.

Secondly, there is need to increase the capital base for the Islamic compliant banks to manage the interested customers demand for their products in particular the credit facilities. In this case, it will encourage more stability and confidence in trading in Islamic products and financing self needs with Shariah Compliant bank lending.

Thirdly, there is need for inclusive sensitization programme to the general public about the Islamic Banking Concept and the benefits expected by the relevant parties. This will increase the trading and transaction growth otherwise boost the portfolio performance of the Islamic Banks in the competitive banking sector.

Fourthly, Shariah governance needs to be standardized to ensure stability. The growth of Islamic finance is currently impeded because each institution is setting its own rules based on the suitability of the financial institution. Standards should be set and hence it should be obligatory for all authorities to follow these regulations.

5.5 Limitations of the Study

The study was limited by concentration on return on equity (ROE) as a measure of financial performance. Further, the study was limited to data in the period of 2010 to 2015 given the limited period in which Shariah Compliance regulations and banks have existed in Kenya i.e. since 2007. The study relied solely on the financial statement performance of the particular banks for analysis. Therefore, in case of the shocks and balances in the economy the results maybe different or not bear the expected consistence.

5.6 Suggestions for Further Research

Further research is called for in the identifiable macroeconomic adjustments that maybe influencing the performance of Shariah compliant banks in particular the financial spectrum. In this case during the economic shocks, there is need for research to find out their effect on liquidity risk management of these banks in the same period for further advisory on how to manage such maybe on recession and boom periods.

In addition, there is need for further research on specific product attribution and the impact on returns on investments and magnitude of increased demand for the Islamic Product attributes. In this case, the Islamic products may be gender focused and it would therefore be relevant to bring forth the behaviour of such in the market spectrum.

Subsequently, there is need to focus further research on the innovations and technology inclusion impact and the processing of the Islamic products to customers. In this case, the emerging mobile solutions and pressure and how those transaction levels impact the financial performance of a Shariah compliant bank would be key.

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APPENDICES

APPENDIX I: LIST OF LICENCED SHARIA COMPLIANT BANKS IN KENYA

1. First Community Bank Limited
2. Gulf African Bank Limited
3. Middle East Bank Limited
4. Kenya Commercial Bank Limited
5. National Bank of Kenya Limited
6. Barclays Bank of Kenya Limited
7. Chase Bank limited (under Receivership)

APPENDIX II: DATA COLLECTION INSTRUMENT

YEAR	Profit Margin =Net come/Sales	Asset Turnover = Sales/Assets	Financial Leverage = Assets/Shareholders' equity
2010			
2011			
2012			
2013			
2014			
2015			