

**FACTORS INFLUENCING IMPLEMENTATION OF CORE  
BANKING SYSTEM PROJECTS BY COMMERCIAL BANKS IN  
KENYA: THE CASE OF NIC BANK KENYA LIMITED**

**BY  
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**A research project report submitted in partial fulfilment of the requirements  
of the award of the degree of Master of Project Planning and Management of  
the University of Nairobi**

**2015**

## DECLARATION

This research project report is my original work and has not been presented for a degree or any other award in any other university.

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

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## **DEDICATION**

This research project report is dedicated to my dear wife, Mary and everyone else who contributed to the success of the project.

## **ACKNOWLEDGEMENT**

My gratitude goes out to my university supervisor, Professor David Macharia, for his technical input and guidance in drafting this proposal. His counsel was timely and adequate.

Special thanks to all the lecturers at the Nairobi Extra-Mural Centre: each one of them contributed to the completion of the academic coursework.

I thank the University of Nairobi for providing an enabling environment for me to gain academic skills and expand my professional networks.

Chege Thumbi, the Director, Technology and Operations, NIC Bank who encouraged and supported me in determining factors that influence successful implementation of core banking system in Kenyan banks having worked in various banks across Africa. Thomas Kong'ong'o, Director, Technology of PWC for his influence on my decision to research on the subject. Judy Gitari, a colleague at work deserves special mention for assisting in the research design and review of proposal as well as provision of relevant materials for this study.

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## **LIST OF ABBREVIATIONS**

AML – Anti-Money Laundering  
KCB – Kenya Commercial Bank  
CBA – Commercial Bank of Africa  
CBK – Central Bank of Kenya  
KBA – Kenya Bankers Association  
BBK – Barclays Bank of Kenya  
T24 - Core Banking System  
MIS - Management Information Systems  
ERP - Enterprise Resource Programs  
USA – United States of America  
POS – Point of Sale  
CBS – Core Banking System  
CF – Core Functionality  
FV – Future Version  
CP – Companion Product  
LC – Local Customization  
RFS- Request for Proposal  
IT – Information Technology  
ICT – Information Communication Technology  
NMO – Network Management Office  
EQUINOX/PIBAS – Legacy system  
PWC - PricewaterhouseCoopers

## **ABSTRACT**

The objective of this study was to establish the factors influencing successful implementation of core banking system. The specific objectives of the study were; to determine the influence of human resource management on the implementation of core banking systems by commercial banks in Kenya, to establish the influence of project scope on implementation of the core banking system by commercial banks in Kenya, to establish how project risks management influence the implementation of core banking system by commercial banks in Kenya and to establish the influence of vendor selection on the implementation of core banking system by commercial banks in Kenya. This study used descriptive survey research design approach to address the questions raised in the document. The population for this study comprised of all staff from departments of the bank who were charged with core banking system development and implementation. For the purpose of this study, 45 staff were interviewed. The researcher used primary data. The study concluded that human resource management greatly influences core banking system implementation as indicated by 82.2% of the respondents. This is mostly influenced by availability of adequate resources and tools to support the project. The study concluded that project scope management influences successful implementation of the core banking system to a very great extent as indicated by 82.1% of the respondents through the organization maintaining records of all scope changes during the project and communicating changes to those authorized by management, involvement of business experts, involvement of technical experts and the vendor understanding and defining the user requirement. Ease of integration of the system being implemented, problem definition, project scope assumptions and constraints also play a great role in the implementation of a core banking system as indicated by 91.2% of the respondents. The study also concluded that risk management influences core banking system implementation to a great extent as indicated by 91% of the respondents. The areas that influenced core banking implementation were product delivery risk analysis, strategic risk, ensuring that risk mitigation were in place, resources risk analysis and risk and issue identification, business risk analysis, operational risk analysis , process and controls risk analysis, risk assessment procedure and process and controls risk analysis, ICT Risk analysis and accounting risk analysis. The study established that liquidity/ market risk/ profitability risk analysis, legal, regulatory and taxation compliance risk analysis were important factors on risk management influence core banking system implementation. The study concludes that vendor selection positively influence core banking system implementation in Kenya to a great extent and project implementation methodology, project management staff skills and system support mechanisms were the factors that most affected vendor selection. The study recommends that top management should provide the necessary support by ensuring that the necessary resources are availed for successful implementation, human resources department should ensure that necessary training is carried out prior to project implementation and the risk and compliance department of the organization needs to be involved in order to ensure that there are proper risk control measures in place.

## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.1 Background to the Study**

Project management empowers people with a wonderful set of tools which improve their ability to plan, implement and manage activities to accomplish specific objectives, this is according to Gray, Larson and Desai (2010). They purport that project management spans all avenues of work ranging from construction industry, consulting, automotive to community projects. Through project management, social problems are resolved as well as complex issues are managed through bringing up of work teams to tackle an impossible undertaking and turn it into a magnanimous venture. Projects do not normally start by accident as they are carefully thought out and planned hence the need to understand project cycle. A project has a starting point and an end point. Kosura (2000) posits that a project has a cycle and this cycle begins at the project identification stage (inception) followed by preparation, appraisal, selection, negotiation and financing, planning and implementation, reporting, evaluation, feedback and culminating in the termination state. All these stages are vital in the success of a project and hence should not be overlooked.

An important component of the project is the implementation. However, the implementation stage must be planned well during project planning phase. This calls for a clear establishment of project objectives, the choice of the right strategy for achieving this objective, clear breakdown of the project into manageable units, clear definition of performance standards, establishing of adequate timelines for delivery of each unit, establishing of proper sequence of competing the various sub units, establishing a standard and clear schedule to manage all the activities hence avoid any confusion and overlaps, designing proper staff organization and allocating each staff duties and responsibility for accountability, determining the cost involved, establishing need for training and ensuring staff are adequately trained to safeguard the quality standards and establishing the necessary policies and procedures to guide the delivery of the project (Kosura, 2000).

Managing and coordinating a massive system like a core banking system for a bank is not an easy task. This is because effective and specific communication is required when leading and guiding all the stakeholders in a project. Leadership is the cornerstone of a project success and this if not entrusted in the right hands may lead to a project which falls short of observing the cardinal rule in project management which requires that quality, timeliness and budget are observed. Many organizations have attempted to roll out systems and have been met with a shock as more often than not, the costs have grown three fold, the quality remained wanting-below par, and the amount of time taken has been unacceptable. These system challenges sends shiver in the corporate world whenever they think of rolling out a massive project. The corporate world does not by any chance wish to distort their customer loyalty. However, system changes have destabilized that loyalty which most of these companies have been having for a long time leading to serious problems in these companies. Traditionally, the banking industry has been faced with the challenge of keeping projects on schedule, under budget, and completed within the quality specified (Skibniewski, 2007). The reason for this can firstly be attributed to the inability to keep the project within the timelines agreed as a result of lack of adequate time management mechanism. Secondly, budget issues can be related to cost overlaps as a result of inability of the sponsor to quantify the required cost of the project and lastly quality can be related to lack of adequate specifications during inception (Kosura, 2000). Although the banking industry is one of the largest contributors to the economy, it is considered to be one of the most sophisticated when it comes to projects related to its core banking system.

Banks have been known to hold very sensitive yet important information. This makes core banking system development become a very sensitive (so as not to lose important information) yet large projects which depend on various determinants including complexity, duration of development, available budget and the desired quality of the project. In the core banking system projects, the complexity depends on the project scope, including the number of business functions affected and the extent to which the core system implementation changes business processes, procedures and functionalities (Koch, 2002). Studies have shown that changing banking systems is a nightmare to banks

(Nairaland, 2008) in his study demonstrated how Zenith Bank was thrown into a mess after the bank upgraded its core banking system. Hexaware technologies (2012) acknowledges that the challenges of core banking systems implementation is related to; non availability of updated business requirements documents, lack of required business scenarios specific to the bank, incomplete traceability of the test scenarios to the business requirements, testing all the interfaces with respect to the business process to ensure test coverage, excessive local customization leading to risk in regression, lack of proper audit trail in manual testing and issues in data integrity. In addition, CBK had delays in processing bonds due to its core banking system implementation challenges and incompatibility with the bond trading system (Anyanzwa, 2012).

### **1.1.1 Commercial Banks in Kenya**

Commercial Banks and Mortgage Finance Institutions are licensed and regulated pursuant to the provisions of the Banking Act and the Regulations and Prudential Guidelines issued there under. They are the dominant players in the Kenyan Banking system and closer attention is paid to them while conducting off-site and on-site surveillance to ensure that they are in compliance with the laws and regulations. Currently, there are 44 licensed commercial banks. (Appendix V).

### **1.1.2 NIC Bank**

NIC Bank is amongst the leading commercial banks in the region's vibrant financial services sector serving a wide range of customers through a variety of channels. NIC has been in operation as a commercial bank since 1995 and has spread its presence in the region through acquisition of Savings and Finance Commercial Bank Tanzania (SFCB) in 2009 and has recently opened a new branch in Uganda in June 2012. NIC Bank has distinguished itself as a leading financial services provider in its target market through differentiated service delivery and innovation. In its quest for continuous improvement in its operations and flexibility, NIC has made significant investments in technology. Part of this investment is the recently concluded implementation of the core banking system from Temenos. The implementation of core banking system, which covered all its

operations in the region commenced May 2011 culminating in a successful go-live and transition in September 2012.

## **1.2 Statement of the Problem**

The banking industry has seen lots of challenges when it comes to core banking system changes. These challenges have been caused by lack of proper mechanism for management of projects as most organizations concentrate on project formulation at the expense of implementation. The consequences of improper implementation of banking systems have led to stoppage of the roll-out of new systems midstream for fear of losing their customers. Other banks have had to incur exorbitant costs in trying to procure expertise to fix post-go live problems while others still have had to incur serious losses due to the bugs inherent in their system which have led to customer losing funds thereby instituting legal cases in the courts of law seeking compensation. These challenges have left the industry in shock as most of the banks have continued to rely on their current systems even beyond their “*sell-by-date*.”

In the recent past, Kenya Commercial Bank (KCB), Barclays bank of Kenya (BBK), Commercial Bank of Africa (CBA), CFC Stanbic Bank, Family Bank, Equity bank, Central Bank of Kenya (CBK), Kenya Bankers Association (KBA) and NIC Bank just to mention but a few, have changed their core banking systems. The experience that these banks have gone through is worth documenting so that the banking fraternity can learn from the mistakes of their predecessors to avoid the pitfalls which befell their colleagues.

Studies have shown that changing banking systems is a big challenge to banks. (Nairaland, 2008) in his study demonstrated how Zenith Bank was thrown into a mess after the bank upgraded its core banking system. Hexaware technologies (2012) acknowledges that the challenges of core banking systems implementation is related to; non availability of updated business requirements documents, lack of required business scenarios specific to the bank, incomplete traceability of the test scenarios to the business requirements, testing all the interfaces with respect to the business process to ensure test coverage, excessive local customization leading to risk in regression, lack of proper audit trail in manual testing and issues in data integrity. In addition, CBK had delays in

processing bonds due to its core banking system implementation challenges and due to incompatibility with the bond trading system (Anyanzwa, 2012). This study intends to investigate factors that influence the implementation of a core banking system.

This research aimed at establishing the factors influencing implementation of core banking system. The research is informed by the fact that literature is missing in this area to inform the industry on the challenges of implementation and the areas to when implementing core banking systems. NIC bank successfully deployed its core banking system in September, 2012 (Business Daily, 12<sup>th</sup> December, 2012) This success of NIC bank is what has led to the choice of NIC bank as a case so that the other banks can learn from the deployment of a core banking system in Africa.

### **1.3 Purpose of the study**

The purpose of the study was to establish the factors that influence implementation of core banking systems by commercial banks in Kenya.

### **1.4 Objectives of the study**

This study was guided by the following objectives;

- i. To determine the influence of human resource management on the implementation of core banking systems by NIC Bank Kenya limited.
- ii. To establish the influence of project scope on implementation of the core banking system by NIC Bank Kenya limited.
- iii. To establish how project risks management influence the implementation of core banking system by NIC Bank Kenya limited.
- iv. To determine the influence of vendor selection on the implementation of core banking system by NIC Bank Kenya limited.



## **1.5 Research Questions**

The following constituted the research questions of this study;

- i) What is the influence of human resource management on implementation of core banking system by NIC Bank Kenya limited?
- ii) How does project scope influence implementation of the core banking system by NIC Bank Kenya limited?
- iii) How does project risks management influence the implementation of core banking system by NIC Bank Kenya limited?
- iv) To what extent does vendor selection influence implementation of core banking system by NIC Bank Kenya limited?

## **1.6 Significance of the study**

It is hoped that the study will be of significance to organizations by contributing to a better understanding and knowledge to influence the implementation of core banking system by commercial banks in Kenya. The study may not just help the banks themselves since the policy makers will be informed by its findings. This will help in forming guidelines in regard to core banking system implementation. The scholars and researchers may use the study to provide a framework for strengthening existing project implementation principles and also may use its' findings as a reference and to enrich project management literature.

## **1.7 Assumption of the study**

The study was conducted under assumptions that the respondents will be available and also that they would give honest responses. It was also assumed that respondents would have good understanding of the factors that influence the implementation of core banking systems of which they had since they gave the information.

### **1.8 Limitations of the Study**

The limitation of the study laid on the amount of time and financial costs required to enable comprehensive coverage to include more organizations. Personal resources were used to cater for all costs involved.

### **1.9 Delimitations of the Study**

The study was delimited to 40 NIC members of staff of departments of the bank that were charged with core banking system development and implementation.

### **1.10 Definition of Significant Terms**

The following are the significant terms of this study.

**Human Resource management:** Human Resource management is the process which ensures that the project has access to adequate number of resources with the correct skill sets, experience and access to the right assets at the appropriate times.

**Implementation of core banking system:** This is the use of data processing software application so as to support a bank's most common transactions for processing all transactions that have occurred.

**Project Risk Management:** Action taken to identify and analyze project risks in order to mitigate their negative effects on a project hence leading to project success.

**Project scope:** It is part of the project planning that involves determining and documenting a list of specific project goals, tasks, budget so as to provide the boundaries within the project. It pertains to the work necessary to deliver a product.

**Vendor selection:** This is the process of identification and on boarding a supplier of any good. It involves experience, financial position, system support, pricing and ease of integration.

### **1.11 Organization of the Study**

The study is organized into five chapters. Chapter One consisted of the background of the study, statement of the problem, purpose of the study, research objectives, research questions, significance of the study, limitations, delimitation, assumptions, conceptual framework, definition of terms used and organization of the study. Chapter Two looked at available literature done on factors influencing performance of monitoring and evaluation systems by scholars who have studied the subject in other monitoring and evaluation contexts. The chapter provided a conceptual framework which outlines the relationship between the dependent and independent variables identified in the subject of study. Chapter Three covered the research methodology of the study. The chapter describes the research design, target population, sampling procedure, tools and techniques of data collection, pre-testing, data analysis, ethical considerations and finally the operational definition of variables. Chapter Four covers data presentation, data analysis, data interpretation and discussion. Data from the field is presented in form of tables. Finally Chapter Five covers the study findings, conclusions recommendations and recommendations for further studies.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter reviews the literature related to the study from the global, African and local perspective.

#### **2.2 Implementation of Core Banking System**

Banking systems are software used in the banking sector to assist the end users carry out banking services to its clients. These software range from; core banking, mobile banking, collection systems also referred to debt recovery systems, dealing or treasury systems, contact center system, document imaging or workflow systems, management information systems (MIS) for reporting, enterprise resource programs (ERP) used within the supply chain units of the bank among others (Soin, 2009).

Different banks run different banking platforms as their functionalities differ. However, many banking software cut across different banks as their usage is also spread across the banks. This is attributed to the fact that the banking industry is small and the turnover is high. As employees of one bank move to another, they carry with them the best practices some of which relate to these banking systems.

##### **2.2.1 Core Banking Systems**

Banking systems are diverse and serve various purposes depending on the specific functions within the banks. In essence, it is possible to have each department of the bank having a specific system to serve their interest. That notwithstanding, core banking systems are those systems which cut across the banking fraternity in terms of usage. They are systems which enjoy utilization across board irrespective of the specific functions of the departments involved (Temenos, 2009). As a base, the accounting of the customers' as well as major assets of these customers' is tracked within the core banking system. Whenever a new client joins the bank, irrespective of the reason they have come aboard, their records are uniquely assigned in the core banking system. This way, a bank is

capable of at bare minimum, control the activities of each customer and be in a position to account for the services the customer is enjoying within the bank.

Studies have shown that changing banking systems is a big challenge to banks. Nairaland, (2008) in his study demonstrated how Zenith Bank was thrown into a mess after the bank upgraded its core banking system. Hexaware technologies, (2012) also acknowledge that there are several challenges of core banking systems implementation. In addition, CBK had delays in processing bonds due to its core banking system implementation challenges and due to incompatibility with the bond trading system (Anyanzwa, 2012). In addition to previous research, this study intends to investigate factors that influence the implementation of a core banking system. In the recent past, Kenya Commercial Bank (KCB), Barclays bank of Kenya (BBK), Commercial Bank of Africa (CBA), CFC Stanbic Bank, Family Bank, Equity bank, Central Bank of Kenya (CBK), Kenya Bankers Association (KBA) and NIC Bank just to mention but a few, have changed their core banking systems. The experience that these banks have gone through is worth documenting so that the banking fraternity can learn from the mistakes of their predecessors to avoid the pitfalls which befell their colleagues.

Peripheral systems are normally attached to the core banking system simply because the core system is not capable of offering all the flexibility required by the various departments of the bank. This calls for addition of systems to the core such as internet banking system, mobile banking system, image control system (workflow), treasury management system, management information system (MIS), and credit control systems among others (Mysis, 2013). Some examples leading of core banking systems include; Misys Equation, Misys Midas, Flexcube, Equinox, Termenos T24, SAP banking services, Bankways, CSB, Digibank, CoreSoft, SAB/SCB, Systematics, Hogan, InsiteBankin system, Signature among others (Mysis, 2013).

### **2.3 Human Resource Management and implementation of core banking system**

Hyland and Verreault (2003) indicated that human resource management is a long established task within an organizations management framework. Through this task the organization meets its obligation to be a good employer; seeks to secure staff commitment; and develops and manages staff to give of their best to help the organization achieve its vision and mission. The need to respond to changing environment means that the task of managing staff better is more important than ever and it is through a new emphasis on staff management that a customer service and performance oriented culture gradually evolves. They further indicate that human resource management is a planned approach to managing people effectively for performance. It aims to establish a more open, flexible and caring management style so that staff will be motivated, developed and managed in a way that they can and will give of their best to support departments' missions. Departments' mission in this case is implementation of core banking system.

Drucker, (1998) noted that projects fail because of the lack of champions for change. Lack of commitment of senior management is related to poor leadership of the top management of such organizations leading to frustration and superficial implementation of the project because people only go through the motions. Something which may hurt the organization as loss of funds is eminent whenever senior management does not take serious part in the project.

Faqih, (2010) contend that system failures can be attributed to poor project management especially where the level of expertise is lacking. It is necessary to build capacity of the team leaders and members who are motivated to lead a project of such magnitude. The team members need to understand the intricacies involved in system management as well as project management knowledge. Sparramore (2012) relate system failure to lack of power by the leadership to effect change. He confirms that change management is a crucial aspect necessary in system deployment and lack of it therefore is courting disaster. Sabotage through non conformity is a sure way to kill a system and managers must demand conformity from the project team to guarantee success. Leaders must understand the concept of sabotage and address it before it takes the better of the project.

According to Todd, (2005), organizational culture is a set of norms, beliefs, symbols, and traditions that can be used to describe the affinity of respective members of any organization. Organization culture plays a key role in system implementation. A supportive culture calls for staff in an organization easily embracing change hence making new changes easy to incorporate within the organization.

## **2.4 Project Scope and implementation of core banking system**

According to Eric Verzuh, (2005), success is in the eyes of the beholder. This is why, from the very start, the successful project manager will ensure that everyone involved understands exactly what can be accomplished within a given time frame and budget. This is called “managing stakeholder expectations,” and it is an important, ongoing task throughout the project, especially if changes are introduced. Stakeholders must not only agree to the original scope of the project, but also understand any changes in scope. There should be a systematic method for establishing realistic goals for cost, schedule, and quality, as well as techniques for keeping the goals consistent throughout the project.

Defining project scope using input from all stakeholders is a vital task that needs to be adequately carried out at the early stage. The purpose of project definition is to provide adequate information that is needed to identify the work to be performed in order to avoid major changes that may negatively affect project performance (Gibson et al., 2006). This information is needed before making the decision whether or not to proceed with the project execution (Kähkönen, 1999). While adequate front-end project planning with clear project scope definition can alleviate the potential for cost overrun, inadequate project planning and poor scope definition can lead to expensive changes, delays, rework, cost overruns, schedule overruns, and project failure.

Changes often reflect the uncertainties that occur during the early stages of the project (Assaf & Al-Hejji, 2006). Changes are requested as a result of the different perspectives that each stakeholder has on the project. Therefore, having a well-defined project during the pre-project planning stage is crucial for successful project execution and for achieving a satisfactory project outcome. In the public sector, project definition is very crucial as projects serve communities first, and their satisfaction and comfort are the main

concerns, while private sector projects often aim at benefiting investors or owners. Therefore, they should reflect their needs and requirements. And this cannot be done without involving all stakeholders in defining the project from early phases.

It is irrational to get stakeholders' opinions about the project outcome after the completion, when their involvement is limited. Incomplete project definition can occur when the input of one or more stakeholder is intentionally or unintentionally omitted (Sharma & Lutchman, 2006), while at the same time inputs from others dominate. Failure to consider and clarify stakeholders' expectations and concerns at early stage in the project can result in extraordinary risks being ignored and may lead to difficulties in running the project, and hence poor performance (Atkinson et al., 2006). Therefore, project scope definition is critical for enhancing satisfaction of stakeholders as well as successful implementation of construction project (Heywood & Smith, 2006).

According to Cho & Gibson, 2001 on approaches for defining project scope, it was noted that a high level of pre-project planning effort can save up to 20 from cost and 39 from schedule in facilities projects. In order to address the problem of poor project definition, tools have been developed by some project management and other institutions like Construction Industry Institute (CII) of America. The tool can be used to evaluate the definition completeness on projects. The philosophy of such tools is to allow a project planning team to determine the level of definition needed for each of the elements in the project definition list.

Project team, owner and/or contractor evaluate each of the list's elements. Overall score is then calculated for the whole project, the lower the score the better defined project (Cho & Gibson, 2001). Although such tools are useful, evaluation of the level of project definition is less reliable. The evaluation process does not consider external stakeholders' perspectives and input. External stakeholders refer to individuals or groups who are affected by a project but are not formal members of the project team or are directly involved in the project; rather they originate from the environment of the project. They may include the neighborhood, community, general public, and/or industry connection (Olander, 2007).



In addition, some of the tools such as the Project Definition Rating Index (PDRI) assume that the influence and input of the project team into different elements of project definition are the same. However, in practice, different levels of involvement and input are required from different stakeholders when defining each element on the project definition list. Thus a more reliable rating tool needs to consider stakeholders' importance to a project in order to identify their relative involvement as well as their contribution to the different project definition elements.

Olander and Landin (2005) stated that conflict and controversies about the implementation of a construction project can arise if stakeholders are inadequately engaged and their concerns and expectations are not managed well. To avoid this, project managers need to engage all stakeholders when making decisions on project definition. They need to acknowledge the concerns of all stakeholders and mitigate conflicting interests. Any negative perception by stakeholders on the project definition can have an impact on a project. The same argument applies for implementation of core banking systems.

## **2.5 Project Risk Management and implementation of core banking system**

Matta, and Ashkenas, (2003) relate project failures to unplanned implementation process. They advise that there is need to change focus and put emphasis in the implementation of projects. Some of the implementation challenges observed relate to integration risks where one part of the project is not compatible to the other part hence leading to malfunction and lack of interoperability of the parts. In essence, despite the individual team members completing their tasks in good time and within budget, the main project might still fail due to incompatibility of the parts brought together.

Implementing a complex banking system may mean that the banks have to learn from the rest by making frequent trips to other banks who have implemented the same system so as not to reinvent the wheel. More often than not, one finds staff going for trips to evaluate systems but instead of concentrating on the system itself, they engage in ventures like tourism thereby losing the value of the trip (Hyvari, 2006).

Mensah and Przasnyski (1991) found that more than 65 of IT projects are abandoned in the development and implementation stages. The ability of an organization to execute and

deliver on IT projects represents the implementation stage in the life cycle of IT projects, and success in this stage leads to the actualization of benefits from IT projects.

## **2.6 Vendor selection and implementation of core banking system**

Supplier selection is the process by which organizations identify, evaluate and contract with suppliers.(Weber & Current, 1991). The supplier selection process deploys a tremendous amount of an organization's financial resources (Shiati et al,2014).Supplier selection in particular is crucial in management of a supply chain. The decision is one of the most fundamental and important decisions made by buyers and organizations. This is because supplier selection and management can be applied to a variety of suppliers throughout a products' life cycle from initial raw materials acquisition to end-of-life service providers (Bai and Sarkis, 2009).

Globally, supplier selection decisions are intricate due to the fact that multiple criteria must be considered in the decision making process. Multi-criteria approach is used in selecting suppliers, (Weber & Current, 1991). Although there are numerous criteria used in selecting suppliers depending on organizations, literature suggests that the most important are price, delivery, and quality. Locally, the procurement procedures pretty much follow the international standards to a large extent. This means that even supplier selection determinants are more or less similar to those considered by purchasers everywhere else.

The main objective of supplier selection process is to reduce purchase risk, maximize overallvalue to the purchaser, and develop closeness and long-term relationships between buyers and suppliers (Li et al., 1997 as cited in Tahriri, Osman, Ali and Yusuff, 2008). Dickinson (1966) in his pioneering work on supplier selection identified and ranked 23 supplier selection criteria as collected from a questionnaire given to purchasing agents.

Quality, delivery, and performance history rank top with net price ranking a distant sixth. This seems to concur with previous studies, but one notable discrepancy is that price curiously ranks lower than quality. Again, net price is deceptive as other related costs such as packaging and freight cost could raise the total cost. Total cost covers everything hence should be the one listed and not net cost. Ellram (1990) proposed three criteria for

supplier selection. These are: the financial statement of the supplier, organizational culture and strategy of supplier, and the technological state of supplier (Shiati et al., 2014)

PWC (2011), vendor selection mainly consists of four steps ie. Requirement gathering, vendor profile creation, request for information/vendor review process and finally vendor selection and solution implementation. As business and IT requirements are gathered, they are incorporated into a scoring matrix you can use to rate vendors on factors critical to your sound selection decision. Factors can range from cost and quality to product support, how long the company has been in the business and how widely is the software used in the industry and level of customer satisfactory. There are numerous criteria used in selecting suppliers depending on organizations. Literature suggests that the most important are price, delivery and quality (Shiati et al., 2014). The main objective of supplier selection process is to reduce purchase risk, maximize overall value to the purchaser and develop closeness and long-term relationships between buyers and suppliers (Li et al, 1997) as cited in Tahriri, Osman, Ali and Yusuf, 2008).

## **2.7 Theoretical Framework**

Young (2006), considers projects management as a dynamic process which makes use of appropriate resources within an organization, in a controlled manner given that these resources are limited to achieve clearly defined objectives.

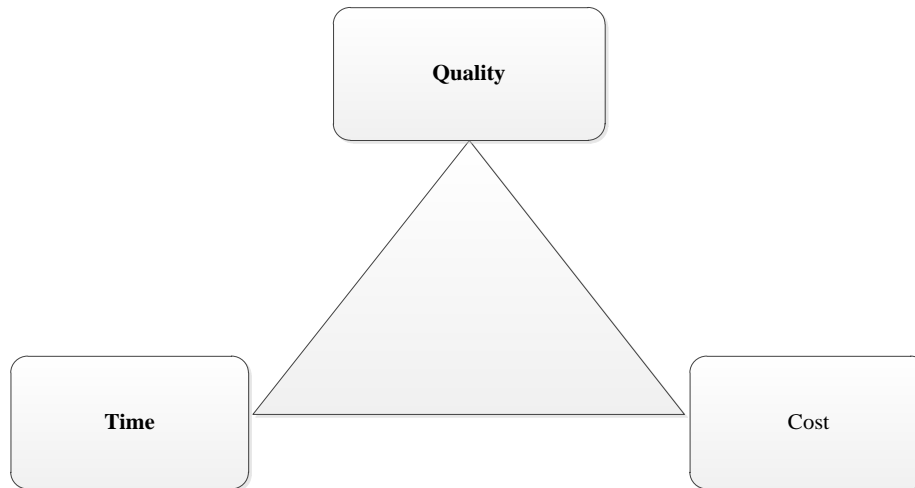
Koskela and Howell (2002), contend that there are no explicit theories of projects management. They found that project management as a discipline can best be explained using theories related to project and management separately.

Transformational theory of project management calls for the transformation of inputs into processes which result into outputs. This transformational role calls for more concerted efforts to manage projects to achieve the intended end product. The theory of projects which makes use of transformation or decomposition of tasks into parts which ultimately result into a complete whole calls for handling tasks independently, and managing uncertainties to ensure that the project success is achieved (Koskela and Howell, 2002).

Project management has recently assumed a leading role due to the complexities advanced by global trends related to recent changes in technology. These complex changes have called for a need to have in place a unified way of handling the complexities so as to arrive at an acceptable deliverable. The lack of theoretical manifestation of project management is equally witnessed by Kloppenborg and Opfer (2000) in their study which span over 40 years.

Harkonen (2007), acknowledge that projects management evolution is as a result of complexity in the new tasks in organizations which require, planning, coordination and control of complex and diverse activities which existing departmental structures are unable to handle. Risks and uncertainties calls for the need to manage and monitor the activities which will lead to successful completion of the events or task. Lock (1996) considered projects management to purely spring from the need of firms to foresee and predict challenges and dangers which might stand in the way of a successful implementation of a task. The role of projects management is therefore to plan, manage, control and navigate these obstacles so as to guarantee success of the project without compromising the quality, cost and timelines set by the organization.

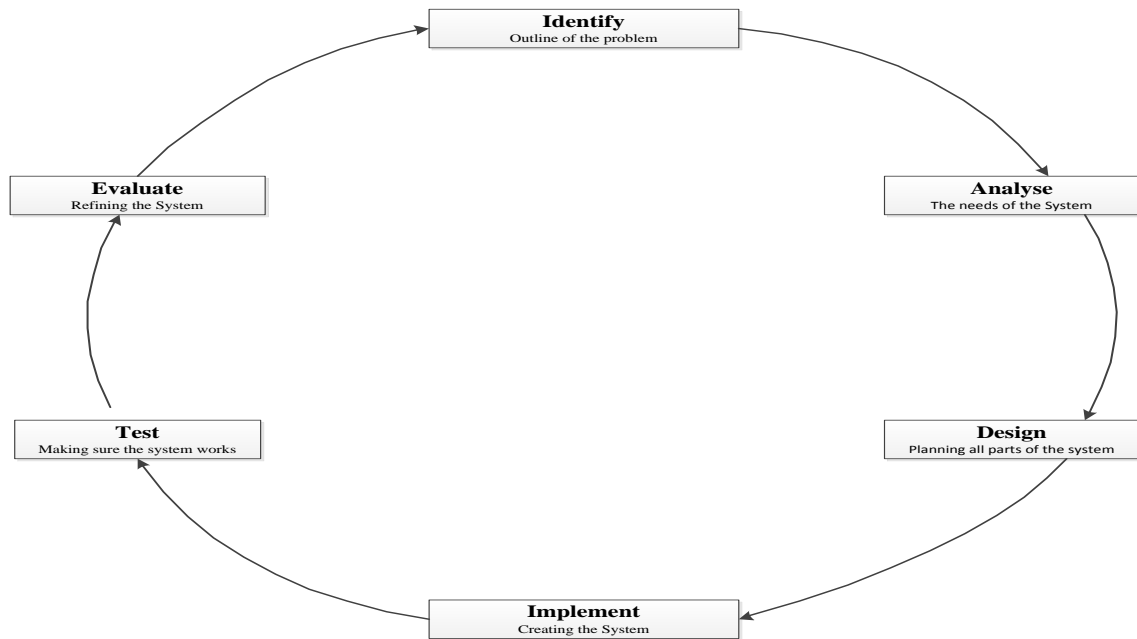
The theory of project triangle advances the need of project to have clear objectives which relate to time, cost, and standards. This is the theory which tracks performance by ensuring the project meets the set standards by emphasizing the utilization of existing scarce resources within the firm. Projects must address the need to work within the budget so that cost overruns are avoided at all costs. In addition, projects must emphasize the need to adhere to time as set forth by the organization. Project triangle emphasizes the need to balance between these three primary objectives as any laxity or non-adherence will result into project delivery schedule being interfered with (Lock, 1996).



**Figure 1: Project Triangle**

**Source: Lock (1996)**

The diagram above shows how a project should be balanced to meet three primary objectives of a project related to budget (cost), Quality (standards) and time. These three principle objectives are interrelated and need to be balanced in order to guarantee a project success. Projects follow a preconceived cycle to guarantee their success. The cycle relates to the following phases; initiation where a project idea is preconceived, specification phase where detailed requirements of the project are laid down by analyzing the requirements of the project at hand, the design phase where the requirements are converted into solution using the help of experts and system analysts, integration and testing phase where the designed system and its prototypes are brought together for testing and getting the buy in if the sponsor, project implementation phase where the project is brought into live usage and lastly project maintenance and review where the outstanding issues and gaps in the project are taken and incorporated into the main project and project is handed over to the owners (ISMF, 2012; Lanning et al, 1999; & Shinobi, 2011 ).

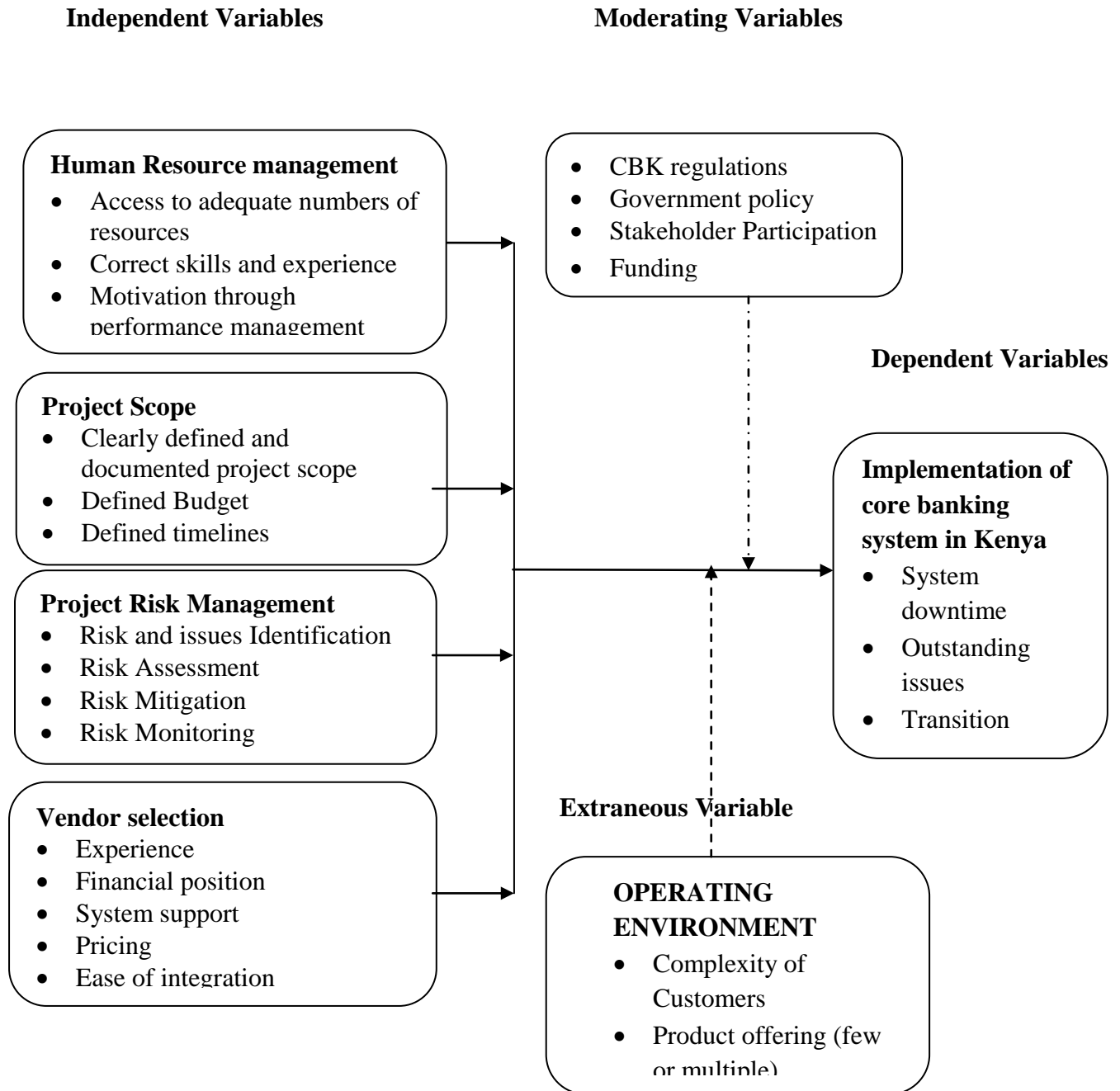


**Figure 2: System Life Cycle**

**Source: Adopted from Shinobi (2011)**

## **2.8 Conceptual Framework**

Figure 4 shows the identified independent variables and the existing relationship between them and the dependent variable.



**Figure 3: Conceptual Framework**

## 2.9 Research Gap

The diagrammatic presentation in Fig.4 explained the relationship between the independent, moderating, extraneous and dependent variables. In this study an attempt was made to establish how the independent variables, that is human resource management, project scope, risk management and vendor selection influence

implementation of core banking systems. Stakeholder participation, Central Bank regulations, government policy and funding are presented as a moderating variable. Complexity of customers, product offering and technology advancements are also presented as an extraneous variable. In this study an attempt was made to determine how these independent variables influence implementation of core banking system projects in Kenya.

This chapter had reviewed existing literature on factors influencing implementation of core banking system projects globally, regionally and locally. The concept of project and management is looked at. These concepts form the basis of the theoretical framework. The chapter had also presented the conceptual framework to facilitate the study of the factors influencing (independent variable) implementation of core banking system (dependent variable) in commercial banks. The study was guided by determination of the influence of human resource management on the implementation of core banking systems by NIC Bank Kenya limited, establishment of the influence of project scope on implementation of the core banking system by NIC Bank Kenya limited, establishment of how project risks management influence the implementation of core banking system by NIC Bank Kenya limited and determination of the influence of vendor selection on the implementation of core banking system by NIC Bank Kenya limited.



## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter provides various sections of research methodology. It provides the research design, population of study, data collection method, data analysis, research quality and ethical issues of the study.

#### **3.2 Research Design**

To develop an understanding of implementation of core banking systems in Commercial banks in Kenya, this study used descriptive survey research design approach to address the questions raised in the document. The study was quantitative and qualitative in nature with the main aim being to qualitatively analyze the association between identified independent variables and the dependent variable. According to Nachmias & Nachmias (1996) a personal interview is a face to face, interpersonal role situation in which an interviewer asks respondents questions designed to elicit answers pertinent to the research hypothesis. In this study, personal interviews were conducted to ensure instant responses were obtained.

#### **3.3 Target Population**

The study targeted 50 NIC Bank members of staff of various departments of the bank; 40 of who were charged with core banking system development and implementation located in Nairobi, Kenya and 10 additional staff members who assisted in user acceptance testing of final product. This agrees with Mugenda and Mugenda (1998), who recommends that where the target population is small, a selected sample would be meaningless; the whole population should be studied. These are as on Table 3.1.

### 3.4 Sample size

**Table 3.2: Target Population**

<b>Sections</b>	<b>Population (Frequency)</b>	<b>Percentage</b>
Information Technology Department	11	22
Cash Management Department	6	12
Online Banking Department	3	6
Alternate Channels Department	9	18
e-Banking Department	6	12
Operations department	15	30
<b>Total</b>	<b>50</b>	<b>100</b>

### 3.5 Sampling Procedure

Olive and Abel Mugenda (2003), note that purposive sampling allows a researcher to use cases that have the required information with respect to the objectives of his or her study. The sample technique used to identify respondents was purposive sampling technique. A total of 40 members of staff and 10 others from various departments from NIC were taken as sample size for the study; of which 45 members of staff were interviewed.

### 3.6 Research Instruments

This study used a questionnaire and an interview guide to collect primary data. Various data collection instruments were used that ensured validity, reliability and objectivity of data collected in the survey. The data collection instruments in this were: questionnaire and interview guide. The use of more than one method for gathering data ensured methodological triangulation as distinguished by Denzin as cited in Alan (2003).

#### 3.6.1 Pilot testing

A pilot, or feasibility study, is a small experiment designed to test logistics and gather information prior to a larger study, in order to improve the latter's quality and efficiency. A pilot study helps reveal deficiencies in the design of a proposed experiment or procedure and research tools to be used, (Lancaster, Dodd & Williamson, 2004).

Bordens, (2008) defines a pilot study as a small-scale version of the study used to establish procedures, materials and parameters to be used in the full study. To ensure high validity and reliability of the data the researcher considered 10% (6 respondents)) of the sampled population for the pilot study. The respondents were selected using simple random sampling and were all from NIC Bank Kenya. The intention was to validate the questionnaires as a measurement tool in order for them to be an accurate indicator of what the study intends to measure (Mugenda & Mugenda, 2003). Pilot study was carried out to clarify instructions, determine appropriate levels of independent variables, and determine the reliability and validity the research tool.

**Table 3.2: Pilot test**

<b>Sections</b>	<b>Target Population</b>	<b>Percentage</b>	<b>Sample</b>
Information Technology Department	11	10%	1
Cash Management Department	6	10%	1
Online Banking Department	3	10%	0
Alternate Channels Department	9	10%	1
e-Banking Department	6	10%	1
Operations department	15	10%	1
<b>Total</b>	<b>50</b>	<b>10%</b>	<b>5</b>

### **3.6.2 Validity of the Instrument**

Validity is a measure of relevance and correctness according to Mugenda and Mugenda (2003). It is the accuracy and meaningfulness of inferences which are based on the research results. Data collection techniques must yield information that is not only relevant to the research questions but also correct. For the purpose of this study, the researcher consulted monitoring and evaluation experts and the university supervisor.

### **3.6.3 Reliability of the Instrument**

To ensure high validity and reliability of the data the researcher considered 10% (5 respondents) of the sampled population for the pilot study. The respondents were selected using simple random sampling. The intention was to validate the questionnaires as a measurement tool in order for it to be an accurate indicator of what the study intends to measure (Mugenda & Mugenda, 2003). Pilot study was carried out to clarify instructions, determine appropriate levels of independent variables, and determine the reliability and validity the research tool.

### **3.7 Data Collection Procedures**

According to Nachmias and Nachmias (1996) a personal interview is a face to face, interpersonal role situation in which an interviewer asks respondents questions designed to elicit answers pertinent to the research hypotheses. The steps that were used in data collection procedures started with the printing of the semi- structured questionnaires copies enough for the respondents. The semi-structured questionnaires were delivered to the respondents. The researcher however sought the relevant authority in order to access the respondents' areas of work. In this case the researcher used the drop and pick method whereby the questionnaires were dropped and picked at a later date in order to give the respondents ample time to give their views on the factors influencing implementation of a core banking system.

### **3.8 Methods of Data Analysis**

Descriptive data collected was analyzed, interpreted and inferred through triangulation of information. The identified independent variables were analyzed through review of project reports and feedback from the target population being interviewed. Before processing the responses, the completed questionnaires were checked for completeness and comprehensibility to ensure consistency. The data was then be summarized, coded and entered into the Statistical Package for Social Sciences (SPSS) version 21 for analysis to enable the responses to be grouped into various categories. Descriptive statistics such as means, standard deviations and frequency distribution will be used to

analyze the data. Data presentation was done by the use of percentages and frequency tables. This ensured that the gathered information is clearly understood.

### **3.9 Ethical consideration**

Saunders, Lewis, and Thornhill (2009) noted that ethical issues in research refers to the appropriateness of one's behavior in relation to the rights of those who become the subject of one's work, or are affected by it. The researcher ensured that guarantees to the participants concerning confidentiality are given and strictly observed. The researcher strived to maintain truthfulness in reporting data results by ensuring that there is no fabrication, falsehood, or any misrepresentation of data. Since the data collection is sensitive as it relates to people's confidential details such as bank sensitivity to their secrets, the study ensured that respondents in this study remain anonymous and that data gathered was not to be shared to the competition.

### 3.11. Operationalization of Variables

**Table 3.3 : Operationalization of the Variables**

Objective	Variable	Indicators	Measurement	Measurement scale	Tools of analysis	Type of data analysis
To establish how Human Resource management influence successful implementation of the core banking System in Kenya	<b>Independent</b> Human Resource management	Adequate resources Skills and experience Motivation	Number of project team members	Ordinal	Mean	Descriptive
			Correct skills and experience	Nominal	Percentage	Regression
			Adequate project budget	Ordinal	Mean	Descriptive
			Performance management processes	Nominal	Percentage	Regression
To determine the influence of project scope on the success of core banking implementation in Kenya	Project scope	Functionality	The number of business processes supported	Ordinal	Mean	Descriptive
		Scope	Supports / automates all the business process required	Ordinal	Percentage	Regression
		Ease of use	Scope creep	Ordinal	Percentage	Regression
		Ease of use	Budget overrun	Nominal	Mean	Descriptive
		Ease of use	How easy the System is to learn when getting started	Ordinal	Percentage	Regression
		Appropriateness of the user interface	Number of Functions and features	Nominal		

		<p>The online speed</p> <p>Able to offer new services</p>	<p>Access to information</p> <p>Number of browsers and menus</p> <p>Whether speed meets expectations.</p> <p>Number of new services which could not be offered with the old system</p>	<p>Ordinal</p> <p>Nominal</p> <p>Ordinal</p>		
To investigate the influence of risk and issue management on core banking system implementation in Kenya	Risk and issues management	Risk and issue Identification	Number of risks and issues identified	Ordinal	Mean	Descriptive
		Risk Assessment	Risk assessment procedure	Ordinal	Percentage	Regression
		Risk Mitigation	Risk control measures	Ordinal		Regression
To establish how vendor selection influence implementation of the core banking System in Kenya	Vendor selection	Experience	How many years in service	Ordinal	Mean	Descriptive
		Financial position	How much worth	Ordinal	Mean	Descriptive
		System support	System support mechanism	Nominal	Mean	Descriptive
		Pricing Ease of integration	Cost of project as compared to other vendors	Ordinal	percentage	Descriptive
			Flexibility on integration with other systems	Nominal		

## CHAPTER FOUR

### DATA ANALYSIS, PRESENTATION, INTERPRETATION AND DISCUSSION

#### 4.1 Introduction

This chapter analysed the findings, interprets and presents data in line with the objectives of the study. The data obtained is presented in tables. The chapter is further subdivided into several sections that are pertinent to the subjects under study and also discussed against what appears in relevant literature.

#### 4.2 Questionnaire Return Rate

Table 4.1 presents the questionnaire return rate.

**Table 4.1 Return rate**

<b>Return Rate</b>	<b>Frequency</b>	<b>Percentage</b>
Response	45	90
Non response	5	10
<b>Total</b>	<b>50</b>	<b>100</b>

As Table 4.1 indicates, the response rate was excellent at 90 that is far above the 40 that Mugenda and Mugenda (2003) say is acceptable for this kind of research

#### 4.3 Demographic Information

This section sought to identify the respondents' age, gender, duration in the banking industry, the application system they are most familiar with and their role as the system users.

##### 4.3.1 Distribution of respondent by Age

The study requested the respondents to indicate their age. Their responses appear on Table 4.2.



**Table 4.2 Age of respondents**

	<b>Frequency</b>	<b>Percentage</b>
Below 25 years	3	6.7
26-30 years	13	28.9
31-35 years	15	33.3
36-40 years	9	9
Over 40 years	5	5
Total	45	100.0

From the findings, as shown in Table 4.2, the staff performing core banking business were young with almost 70 of them being under 35 years of age. Though the perception that advance age goes with experience, project team members involved in implementation of core banking system in NIC bank were under 35 years.

#### **4.3.2 Distribution of respondent by Gender**

The study required the respondents to indicate their gender. Their responses appear on Table 4.3.

**Table 4. 3: Gender of respondents**

<b>Gender</b>	<b>Frequency</b>	<b>Percentage</b>
Male	21	46.7
Female	24	53.3
Total	45	100.0

Table 4.3 shows that the gender balance among staff in the implementation of the core banking system is quite even with 46.7 being male while 53.3 is female.

#### **4.3.3 Period of service of respondents in banking industry**

The study sought to know for how long the respondents had worked in the banking industry. Their responses appear in Table 4.4.

**Table 4.4: Period of service**

	<b>Frequency</b>	<b>Percentage</b>
0-2 years	0	0
3-6 years	23	51.1
7-10 years	0	0
11-14 years	15	33.3
Over 14 years	7	15.16
Total	45	100.0

As Table 4.5 shows, all the workers were quite experienced with at least 3 years while a whole 50 had worked for more than 10 years. This points out that it is recommended to have experienced project team members to form a strong project implementation team.

#### 4.3.4 Distribution of respondent by Department

The study sought to know which the respondents were engaged in at the bank. Their responses appear in Table 4.5.

**Table 4.5 Department**

<b>Department</b>	<b>Frequency</b>	<b>Percentage</b>
Information Technology	13	28.9
Online Banking	5	11.1
Cash Management	4	8.9
Alternate Channels	13	28.9
Operations	10	22.2
<b>Total</b>	<b>45</b>	<b>100.0</b>

From the study findings most of the respondents were from the Information Technology, Alternate Channels and Operations department forming 79.8 of the total respondents. This shows that the more technical departments and the major system users were involved in the implementation of the core banking system which made it easy for them to understand and conceptualize the new concepts brought about by the core banking system.

#### 4.3.5 Distribution of respondents by familiarity of Application system

The study sought to identify the application system the respondents were most familiar with. Their responses appear in Table 4.6.

**Table 4.6 Application System**

<b>Application System</b>	<b>Frequency</b>	<b>Percentage</b>
T24	23	51.1
Equinox	22	48.9
Pibas	0	0
Hogan	0	0
Bankways	0	0
<b>Total</b>	<b>45</b>	<b>100.0</b>

From the study findings most respondents as shown, 51.1 indicated the T24 application system while 48.9 were most familiar with Equinox application system. This implies that most respondents were familiar and used the T24 application and that most of the users were able to quickly familiarize themselves with the new system.

#### **4.3.6 Distribution of respondents by Primary Role they play in the organization**

The study identified the primary role of the respondents as the users of the application systems chosen.

**Table 4.7 Primary roles**

<b>Primary roles</b>	<b>Frequency</b>	<b>Percentage</b>
Transaction processing	8	17.8
Technical management	12	26.7
Security Management/Audit	3	6.7
User Support	7	15.6
Transaction view and use of reports	4	8.9
Supervisor/Approval of transactions	11	24.41
<b>Total</b>	<b>45</b>	<b>100.0</b>

This implies that most respondents were system users who constituted individuals who performed transaction processing, technical management supervision and approval of transfers with at total percentage of 70.

#### 4.4 Resource and Human Resource Management

The study pointed the extent to which Human resource management influences core banking system implementation. It also sought to identify to what extent various human resource and performance factors influence the success of core banking implementation. This information is given in Table 4.8 and 4.9.

**Table 4.8 Human resource management influence on core banking system implementation**

	Frequency	Percent
Very great extent	26	57.8
Great extent	11	24.4
Moderate extent	8	17.8
Total	45	100.0

From Table 4.8, majority of the respondents at 82.2 agreed that human resource management influenced core banking system implementation.

**Table 4.9 Human Resource Management Factors Influence on Core Banking Implementation**

	Least important (%)	Not Important (%)	Not sure (%)	Important (%)	Very important (%)
Adequate resources	0	0	2	98	100
Skills and experience	0	1	3	96	100
Tools support project	0	2	5	93	100
Number of project team members	1	1	10	88	100
Performance management processes	0	2	17	81	100
Team building and skill development activities	0	1	14	85	100
Project team members are recognized and rewarded for their contribution to the project	0	3	12	85	100

The study has established that human resources management has a high influence on core banking system implementation. For this to be effective, adequacy of resources and tools to keep the team supported and motivated was crucial. This finding is in agreement with Faqih, (2010) who contends that system failures can be attributed to poor project management especially where the level of expertise is lacking. It is therefore necessary to build the capacity of the team leaders and members who are motivated to lead a project of such magnitude. The team members need to understand the intricacies involved in system management as well as project management knowledge.

#### **4.5 Project Scope**

The study sought to know the extent to which Project Scope influences core banking system implementation. It also sought to identify to what extent certain project scope factors influence core banking system implementation. These relevant information on these two factors is found in Table 4.10 and Table 4.11

**Table 4.10 Project Scope Management influence implementation of the core banking system**

	Frequency	Percent
Very great extent	20	44.4
Great extent	17	37.7
Moderate extent	8	17.7
Total	45	100

From the findings in Table 4.10, most of the respondents at almost 83 agreed that project scope management influenced the implementation of the core banking system. This implies that Project Scope Management is important to the implementation of a core banking System.

The study also sought the respondents' opinion of the extent to which a number of project scope factors influence core banking system implementation. Their opinions appear in Table 4.11.

**Table 4.11 Factors on Project Scope and their influence on the Implementation of Core Banking System**

	Least important (%)	Not Important (%)	Not sure (%)	Important (%)	Very important (%)	Total (%)
The project initiation documents clearly states the project scope and objectives	0	0	0	22	78	100
Scope exclusions and project boundaries have been clearly defined and documented	0	0	0	25	75	100
Project scope assumptions and constraints have been defined agreed and documented	0	0	0	21	79	100
Ease of integration of system being implemented	0	0	0	17	83	100
Problem definition/ user requirement	0	0	0	20	80	100
Vendor understanding of defined problem/ user requirement	0	0	0	16	84	100
Level of knowledge and skills of resources involved in project scope	0	0	2	24	74	100
Involvement of core banking system experts	0	0	1	21	77	100
Involvement of business experts	0	0	0	13	87	100
Involvement of Technical experts	0	0	2	12	86	100
Organization maintains records of all scope changes during the project and reconciles changes to those authorized by management.	0	0	0	12	88	100

As seen in Table 4.11, virtually all the respondents rated the identified factors as important. The respondents' views count because they felt that it was very important for the organization to have a clear scope and objectives for the system implementation to guide the process, to have scope and exclusions clearly defined and documented and all assumptions and constraints agreed on before the initiation of the system implementation.

They also indicated that it was important that the user requirements be properly defined and understood by the vendor and that business experts should be involved to ensure successful implementation. All scope changes during the project should be maintained in

records and authorized by management for clarity. This will avoid any major changes that may negatively impact the implementation of the system.

The study established that definition of project scope is very important in core banking system implementation as seen in the responses received. The organization needs to have a clear scope and objectives for the system implementation and clearly defined exclusions, assumptions and constraints. It is therefore as stated by Gibson and others, (2006) very importance to have a clear scope definition to provide adequate information that is needed to identify the work to be performed in order to avoid major changes that may negatively affect project performance.

#### **4.6 Risk Management**

The study sought to know the extent to which Risk Management influences core banking system implementation. It also sought to identify to what extent certain risk management factors influence the success of core banking implementation.

**Table 4.12: Extent to which risk Management influences core banking system implementation**

	Frequency	Percent
Very great extent	24	53.3
Great extent	17	37.8
Moderate extent	4	8.9
Total	45	100

From the study findings in table 4.12, majority of the respondents agreed that risk Management influence core banking system implementation to a very great extent.



**Table 4.13 Factors on risk management influence core banking system implementation**

	Least important (%)	Not Important (%)	Not sure (%)	Important (%)	Very important (%)	Total (%)
Risk and Issue Identification	0	0	2	31	67	100
Risk assessment procedure	0	0	3	44	56	100
Risk Control measures.	0	0	0	31	69	100
Risk mitigation	0	0	3	27	70	100
Business Risk analysis	0	0	1	34	65	100
Operational Risk analysis	0	0	0	41	59	100
Strategic Risk analysis	0	0	2	23	75	100
Product Delivery Risk Analysis		0	1	21	77	100
Liquidity/ Market Risk/ Profitability Risk Analysis	0	0	0	59	41	100
Accounting Risk analysis	0	0	2	44	54	100
Legal, Regulatory and Taxation compliance risk analysis	0	0	8	54	38	100
Process and Controls Risk Analysis	0	0	1	43	56	100
ICT Risk Analysis	0	0	9	37	54	100
Resources risk analysis	0	0	1	32	67	100
Process and Controls Risk Analysis	1	2	2	37	58	100

From the study findings the respondents indicated that risk was an important area to consider while implementing a core banking system. The important and most important risks were however operational and profitability risk and an analysis of these two areas needed to be keenly considered. This is because these two risks lead to direct financial loss to the bank and its stake holders. The respondents indicated that it is very important to have risk control measures put in place to minimize all forms of risk involved in project implementation.

The study respondents identified profitability risk analysis and operational risk analysis as very important tasks before implementation and that it was very important to have risk control measures in place to minimize the possibility of these risks occurring and therefore shielding the organization from financial loss. According to Matta, and Ashkenas, (2003) system implementation failures arose due to unplanned implementation

process. They advise that there is need to change focus and put emphasis in the implementation of projects. Some of the implementation challenges observed relate to integration risks where one part of the project is not compatible to the other part hence leading to malfunction and lack of interoperability of the parts. In essence, despite the individual team members completing their tasks in good time and within budget, the main project might still fail due to incompatibility of the parts brought together.

#### **4.7 Vendor Selection**

The study sought to know the extent to which Vendor Selection influences core banking system implementation. It also sought to identify to what extent certain vendor selection factors influence the success of core banking implementation.

**Table 4.14 Extent to which vendor selection influences core banking system implementation in Kenya**

	Frequency	Percent
Very great extent	16	35.6
Great extent	25	55.6
Moderate extent	4	8.9
Total	45	100

From the study findings majority of the respondents agreed that vendor selection greatly influenced core banking implementation though not to a very great extent. This implies that vendor selection positively influence core banking implementation but not as much as the other factors such as human resource, project scope and risk management.

**Table 4.15: Factors on Vendor Selection Influence Core Banking Implementation**

	Least important (%)	Not Important (%)	Not sure (%)	Important (%)	Very important (%)	Total (%)	(%)
Experience, number of years the vendor has been in the business	0	0	2	61	37	100	98
Number of customers the vendor is supporting in the region	0	0	3	43	54	100	97
Financial position of the vendor	0	0	1	49	50	100	99
Global rating of the vendor	0	0	3	48	49	100	97
Project implementation methodology	0	0	2	34	64	100	98
Project Management staff skills	0	0	5	34	61	100	95
Number of implementation staff	0	0	2	43	55	100	98
System support mechanisms	0	0	1	37	61	100	98
Cost of projects as compared to other vendors	0	1	2	40	57	100	97
Site visit experience	1	2	2	43	52	100	95
Physical address of the vendor	0	0	8	44	48	100	92
Quality of on-line support	0	0	4	42	52	100	94
Escalation matrix	0	0	9	43	48	100	91
Cost of post implementation support	0	1	4	47	48	100	95
Onsite post implementation period	1	2	2	37	58	100	95

From the findings of the study, the respondents identified main areas as very important in vendor selection. These included the vendor's project implementation methodology, project management staff skills and system support mechanisms.

This indicates that it is important to the bank banking implementation staff that the vendor and attached staff should be well experienced in this area or core banking implementation in order to have the relevant management skills and system support mechanisms.

Though vendor selection was rated as important, it was not as important as the other three factors which were rated as very important; the organization needs to strongly consider the vendor's project implementation methodology, project management staff skills and system support mechanisms for successful implementation of a core banking system.

This is in line with Weber & Current, 1991 who states that there are multi criteria used in selecting suppliers depending on the organizations, the most important being price, delivery, and quality.

## **CHAPTER FIVE**

### **SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS**

#### **5.1 Introduction**

This chapter presents findings of the study, conclusion and recommendations.

#### **5.2 Summary of Findings**

The following is the summary of the key findings of the study

##### **5.2.1 Human Resource Management**

Access to adequate resources is critical in the implementation of a core banking system. These resources include the necessary hardware, time, finances and adequate allocation of staff to the project. The team implementing the system should also have the necessary skill to perform tasks of such magnitude and the knowledge in the various operational areas where the system will be used. The team needs to be given the necessary resources needed to implement the system, this would include needed to successfully implement the system. This will ensure that the users and the organization as a whole acquire and implement a system that will be of use to them. The project team needs to be motivate through clear performance management processes and supported by top management.

##### **5.2.2 Project Scope**

It is important for a vendor to have a clear understanding of the user requirements and have these requirements and scope defined and documented. The project budget and timelines should be realistic and signed off before the project kick-off. All assumptions and constraints should also be agreed on before the initiation of the system implementation. This ensures that the users and the vendors have clearly agreed on the deliverables in order to avoid any major changes that might arise during the system implementation and hinder its successful implementation.

##### **5.2.3 Risk Management**

An organization needs to critically analyze the operational risk involved in the implementation of the system as well as the profitability risk. This is to ensure that the

organization does not incur any losses due to the process of system implementation. The institution however needs to have concrete risk control measures to safe guard the bank against any form of loss. Monitoring of project risks should be done throughout the life of the project.

### **5.2.3 Vendor Selection**

A bank seeking to implement a core banking system needs to critically consider the vendors implementation methodology. This involves a combination of logically related practices, methods and processes that determine how best to plan, and deliver a project throughout the continuous implementation process until successful completion. The vendor staff also needs to have the necessary skills and experience needed to implement the system. Prior engagement would be necessary to prove this. The cost of implementation should be within the bank's approved budget and the vendor's financial position should be solid. The organization also needs to be certain that the vendor would be available to provide system support after the system has been deployed either on-site or off-site. Since the core banking system will be working with other systems, ease of integration is critical.

### **5.3 Conclusion**

Managing and coordinating a massive system like a core banking system for a bank is not an easy task. This is because effective and specific communication is required when leading and guiding all the stakeholders in a project. Banks have been known to hold very sensitive yet important information. This makes core banking system development become a very sensitive (so as not to lose important information) yet large projects which depend on various determinants including complexity, duration of development, available budget and the desired quality of the project.

For a bank to successfully implement a core banking system, the implementation staff needs to have the necessary support in terms of resource and skill required, have a clear plan based on the project scope, while ensuring that the inherent risks are mitigated to protect the institution from potential loss. The vendors' engagement should also have a definite implementation plan, skill and support plan once the system has been adopted.

## **5.4 Recommendations**

Based on the study findings the following recommendations are made:

- a) The top management should provide the necessary support to by ensuring that the necessary resources are availed for successful implementation
- b) The human resources department should ensure that necessary training is carried out prior to project implementation and that the core implementation team should comprise of individuals with great expertise and experience in the various operations of the bank.
- c) The risk and compliance department of the organization needs to be involved in order to ensure that there are proper risk control measures in place
- d) The banks should be certain that the vendor would be available to provide system support after the system has been deployed either on-site or off-site.

## **5.5 Suggestions for Further Research**

The following are the suggested areas for further research:

- a) Effects of core banking system change on profitability of financial institutions in Kenya
- b) Risk factors affecting the implementation core banking systems in Kenya.

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## **APPENDICES**

### **Appendix 1: Research Questionnaire Consent form.**

University of Nairobi  
School of Extra Mural Studies  
**Nairobi**

Dear Respondent

#### **REF: INTRODUCTION LETTER**

My name is Harris Ngui Musau; I am a student at the University of Nairobi, undertaking a Master Degree in Project Planning and Management.

Attached is a questionnaire that is a requirement for my completion of the program.

Kindly give the required information which will be used for academic purposes only.

Strict confidentiality will be observed.

Your cooperation is highly appreciated.

Thank you

Harris Musau

## **Appendix II: Questionnaire**

### **FACTORS INFLUENCING IMPLEMENTATION OF CORE BANKING SYSTEM PROJECTS BY COMMERCIAL BANKS IN KENYA: THE CASE OF NIC BANK KENYA LIMITED.**

My name is Harris Ngui Musau and I am undertaking research on Factors Influencing the Implementation of Core Banking System Projects by Commercial Banks in Kenya for my Master Degree in Project Planning and Management. Kindly fill in the questionnaire. Please don't write your name on the questionnaire. Your assistance will be highly appreciated.

#### **SECTION A: DEMOGRAPHIC INFORMATION (Tick the appropriate answer)**

1. What is your age?
  - ☐ Below 25years
  - ☐ 26-30years
  - ☐ 31-35years
  - ☐ 36-40years
  - ☐ Above 40years
2. What is your gender?
  - ☐ Male
  - ☐ Female
3. How long have you worked in the Banking Industry?
  - ☐ Less than 2years
  - ☐ 3-6years
  - ☐ 7-10years
  - ☐ 11-14years
  - ☐ Above 14years
4. Which Department within NIC Bank do you report to?
  - ☐ Information Technology
  - ☐ Online Banking
  - ☐ Cash Management

- ☐ Alternate Channels
- ☐ e-Banking
- ☐ Operations

5. Application System you are most familiar with and which you use:

- ☐ T24
- ☐ Equinox
- ☐ Pibas
- ☐ Hogan
- ☐ Bankways
- ☐ Any other\_\_\_\_\_

6. What is your primary role as the user of the system you have chosen above?

- ☐ Transaction processing
- ☐ Technical Management
- ☐ Security Management/Audit
- ☐ User Support
- ☐ Transaction view and use of reports
- ☐ Supervisor/Approval of transactions

## **SECTION B: NIC CORE BANKING SYSTEM USER STATISFACTORY SURVEY**

### **RESOURCE AND PERFORMANCE MANAGEMENT**

7. In your view does Human resource management influence core banking system implementation?

Very great extent	[ ]	Great extent	[ ]
Moderate extent	[ ]	Little extent	[ ]
Not at all	[ ]		

8. To what extent do the following factors on human resource management influence success of core banking implementation?

9.

Please mark with an "X"						
<b>SATISFACTION WITH CURRENT PERFORMANCE</b>	<b>CHARACTERISTICS</b>	<b>IMPORTANCE OF THE CHARACTERISTIC</b>				
		Least important	Not Important	Not sure	Important	Very important
	<b>Human Resource management</b>					
To what extent do the following factors on human resource management influence success of core banking implementation.	Adequate resources					
	Skills and experience					
	Tools support project					
	Number of project team members					
	Performance management processes					
	Team building and skill development activities					
	Project team members are recognized and rewarded for their contribution to the project					

## PROJECT SCOPE

10. To what extent does Project Scope Management influence successful implementation of the core banking System?

Very great extent     [   ]                      Great extent                      [   ]  
 Moderate extent       [   ]                      Little extent                      [   ]  
 Not at all                      [   ]

11. To what extent do the following factors on project scope influence the successful implementation of core banking system in your company?

CHARACTERISTICS	IMPORTANCE OF THE CHARACTERISTIC				
<b>Project scope</b>					
	Least important	Not important	Not sure	Important	Very important
The project initiation documents clearly states the project scope and objectives					
Scope exclusions and project boundaries have been clearly defined and documented					
Project scope assumptions and constraints have been defined agreed and documented					
Ease of integration of system being implemented					
Problem definition/ user requirement					
Vendor understanding of defined problem/ user requirement					
Level of knowledge and skills of resources involved in project scope					
Involvement of core banking system experts					
Involvement of business experts					
Involvement of Technical experts					
Organization maintains records of all scope changes during the project and reconciles changes to those authorized by management.					



## RISK MANAGEMENT

12. To what extent does risk Management influence core banking system implementation?

Very great extent     ☐     Great extent                     ☐

Moderate extent     ☐     Little extent                     ☐

Not at all                     ☐

13. To what extent do the following factors on risk management influence core banking system implementation

Please mark with an "X"						
SATISFACTION WITH CURRENT PERFORMANCE	CHARACTERISTICS	IMPORTANCE OF THE CHARACTERISTIC				
		Least important	Not Important	Not sure	Important	Very important
	<b>Risk Management</b>					
To what extent do the following factors on risk management influence core banking system implementation	Risk and Issue Identification					
	Risk assessment procedure					
	Risk Control measures.					
	Risk mitigation					
	Business Risk analysis					
	Operational Risk analysis					
	Strategic Risk analysis					
	Product Delivery Risk Analysis					
	Liquidity/ Market Risk/ Profitability Risk Analysis					

	Accounting Risk analysis					
	Legal, Regulatory and Taxation compliance risk analysis					
	3rd Party Risks					
	Process and Controls Risk Analysis					
	ICT Risk Analysis					
	Resources risk analysis					

### **VENDOR SELECTION**

14. To what extent do vendor selection positively influence core banking system implementation in Kenya

Very great extent    ☐    Great extent                    ☐  
Moderate extent       ☐    Little extent                    ☐  
Not at all                    ☐

15. To what extent do the following factors on vendor selection influence core banking implementation?

Please mark with an "X"						
<b>SATISFACTION WITH CURRENT PERFORMANCE</b>	<b>CHARACTERISTICS</b>	<b>IMPORTANCE OF THE CHARACTERISTIC</b>				
		Least important	Not Important	Not Sure	Important	Very important
	<b>Vendor selection</b>					
To what extent do the following factors on system	Experience, number of years					

support influence core banking implementation?	the vendor has been in the business					
	Number of customers the vendor is supporting in the region					
	Financial position of the vendor					
	Global rating of the vendor					
	Project implementation methodology					
	Project Management staff skills					
	Number of implementation staff					
	System support mechanisms					
	Cost of projects as compared to other vendors					
	Site visit experience					
	Physical address of the vendor					
	Quality of on-line support					

	Escalation matrix					
	Cost of post implementation support					
	Onsite post implementation period					

**THANK YOU**

### **Appendix III: Interview Guide: Interview Guide**

1. In your view does Human resource management influence core banking system implementation?
2. To what extent does Project Scope Management influence successful implementation of the core banking System?
3. What challenges are faced in identifying the correct level of knowledge and skills of resources involved in project scope
4. To what extent does risk Management influence core banking system implementation?
5. Does your organization carry out risk assessments before implementation of projects?
6. To what extent does risk Vendor Selection influence core banking system implementation?
7. What method does your organization use in Vendor Selection?
8. In your view, does the cost of the system influence the Vendor Selection process?
9. What recommendation would you give to improve on the implementation of core banking systems in commercial banks in Kenya?

#### **Appendix IV: Commercial Banks in Kenya**

Find below the list of registered Commercial Banks in Kenya:

African Banking Corporation Ltd, Bank of Africa Kenya Ltd, Bank of Baroda Kenya Ltd, Bank of India, Barclays Bank of Kenya Ltd, CFC Stanbic Bank Ltd., Charterhouse Bank Ltd, Chase Bank (K) Ltd., Citibank N.A Kenya, Commercial Bank of Africa Ltd., Consolidated Bank of Kenya Ltd., Co-operative Bank of Kenya Ltd., Credit Bank Ltd., Development Bank of Kenya Ltd., Diamond Trust Bank Kenya Ltd., Dubai Bank Kenya Ltd., Ecobank Kenya Ltd, Equatorial Commercial Bank Ltd., Equity Bank Ltd., Family Bank Limited, Fidelity Commercial Bank Ltd, Fina Bank Ltd, First community Bank Limited, Giro Commercial Bank Ltd., Guardian Bank Ltd, Gulf African Bank Limited, Habib Bank A.G Zurich, Habib Bank Ltd., Imperial Bank Ltd, I & M Bank Ltd, Jamii Bora Bank Limited, Kenya Commercial Bank Ltd, K-Rep Bank Ltd, Middle East Bank (K) Ltd, National Bank of Kenya Ltd, NIC Bank Ltd, Oriental Commercial Bank Ltd, Paramount Universal Bank Ltd, Prime Bank Ltd, Standard Chartered Bank Kenya Ltd, Trans-National Bank Ltd, UBA Kenya Bank Limited, Victoria Commercial Bank Ltd and Housing Finance Ltd.