RISK MANAGEMENT PRACTICES IN CASH OPERATIONS AMONG COMMERCIAL BANKS IN KENYA

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DECLARATION BY STUDENT

I the undersigned declare that this research project is my original work and that it has not been presented in any other university or institution for academic credit.

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I wish to thank the Almighty God for having protected me and guided me throughout the period that I have undertaken my programme.

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DEDI CATION

I wish to dedicate this project to my Son Austin and my Niece Angel and all those who have supported me throughout my studies.
The main purpose of this study was to investigate the risk management practices in cash operations among the commercial banks in Kenya. The specific objectives of the study was to investigate the forms of risks in cash operations and the risk management practices used in cash operations among commercial banks in Kenya. Respondents were asked to indicate the extent to which their organizations experience certain forms of risks in cash operations and the extent of use of risk management practices in used by their organization in cash operations. A Survey research design sought information from 44 commercial banks operating in Kenya where respondents were risk managers or senior operations managers in these organizations. Following data collection, data was analyzed using descriptive statistics with SPSS statistical package. The study showed that although there are a number of cash operation risks facing commercial banks, lack of integrity among the staff members and the nature of businesses that the banking organizations deal with are the major cash operation risks that face the commercial banks. The study further established that cash operation risk management practices are very critical business process, due to the nature of business that banks engage in. That explains why there has been a huge investment to put in place adequate risk management practices across the industry in an effort to secure the banks business activities. To a very great extent each bank has engaged the use of the regulators guidelines which provides the minimum threshold of practices that must be used by all banks in managing the cash operations risks. Various levels of exposures to risks, coupled with the need to increase operational efficiency through better risk management have compelled the banks to engage in more practices that serve to tighten their control of risks that face them. Hence to a very great extent also banks have engaged practices such as the, use of use of cash limit positions where there is a set maximum cash holding limit within which each till or branch must not exceed, observing dual control to process cash instructions and access to strong rooms, carrying out end of day reconciliation of all entries in the system and use of separate drawer by each teller, use of cash registers to record movement of cash. To a great extent there is use of information systems and of fake currency detecting machines to manage
risks use of professionally qualified risk managers and use. To a moderate extent banks have appropriate disaster recovery planning, identification of stress situations and online processing of cash transactions to manage risks in cash operations.

Cash operations risk management is part of wider operations risks management that the banks face and must deal with in order to achieve operational excellence.

The complex processes employed to improve operational efficiency has increased the probability of failure or mistakes from the operations point of view that necessitates increased focus on managing operational risks to avoid losses and eventual downfall of the financial institutions.
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1.1.1 Risks in Cash Operations

Cash operations risks are the risks that are associated with management and handling of cash, where the cash items include, currency notes, coins, cheques and other high security instruments (Hulon, 2003). Cash provides liquidity and flexibility but holds a lot of risk, which is usually dependent on the amount of cash, the nature, the number of transactions and the practices used when handling it (Adera, 2004).

There exist risks in the day to day banking operations, starting right from the beginning of the day procedures when the strong rooms are opened and working float is distributed.
CHAPTER ONE: INTRODUCTION

1.1 Background

Risk management has developed in recent years into an accepted discipline, with its own language, techniques and tools. The risk management process is logical, explicit and systematic and makes use of sophisticated mathematics and methodologies to determine the likelihood, impact and exposure to risks (Kristin, 2005). There is a lot of literature and awareness on risk management due to the ongoing research in risk management by various scholars which serves to add to the growing body of knowledge from where references are made by the risk managers (Hilson, 2003). But although it appears that risk management is a mature discipline, more developments and research needs to be done and there is some long way to go before its full potential is realized. Risk management has been embraced and is used widely in business organizations, the military, government institutions and other organizations where management science is widely applied.

1.1.1 Risks in Cash Operations

Cash operations risks are the risks that are associated with management and handling of cash, where the cash items include, currency notes, coins, cheques and other and high security instruments (Blond, 2002). Cash provides liquidity and flexibility but holds a lot of risk which is usually dependent on the amount of cash, the nature, the number of transactions and the practices used when handling it (Aviva, 2004).

There exists risks in the day to day banking operations, starting right from the beginning of the day procedures when the strong rooms are opened and working float is distributed
to the tellers or the armored security personnel for transport to other locations. The standard procedures that should be followed to minimize such risks may be inadequate or compromised either intentionally or due to sheer negligence leaving the banks exposed and creating opportunities for criminals to have their way. Besides this, banks also have not been able to maintain the integrity of cash handling to satisfactory levels either due to lack of adequate equipment or training for their staff who handle cash (CBK, 2008). In addition clerical errors and faults with the cash handling equipments also increase the risk exposure in the banks. Lack of streamlined processes in such critical areas brings uncertainties that adversely affect operations causing banks to incur losses arising from flawed processes, theft of cash, substandard services and even reputation damages.

1.1.2 Risk Management Practices in Cash Operations

Risk management practices in cash operations are the integrated routine set of activities and processes undertaken by the operation managers to caution the organizations against various operational risks that the organizations may be exposed to (CBK, 2008). According to Financial Services Authority (2005) operation risk management practices are a fundamental part of doing business that must be addressed appropriately to proactively identify, assess and monitor operational exposures throughout the organization in the day to day running of the core process. Operations risk management practices includes the actions taken to control and prevent the vulnerability of the institutions from loss of money through risk factors such as fraud, theft, or bad debts (Gorrod, 2004).
Operations risk is the possibility of a loss that arises from inadequate or failed internal processes, staff, and systems in an organization which may have been triggered by internal or external factors (Basel II, 2004). It also refers to any combination of one or more threats that exploits the vulnerabilities that will cause organizations to incur losses (Fallon, 2010). Operations risk can also be summarized as the risk that a company or a firm faces when it operates in a certain industry which is the risk of business operations failing mostly due to human error.

Good risk management practices require involvement of all teams and committees drawn from across all departments to help bring together various risk attitudes and fresh thinking to issues and solutions while helping to focus on diverse disciplines to achieve common objectives (Brian, 2008). Other practices include setting up dedicated risk management and compliance units to set up and enforce standardized operational policies and procedures, encouraging open and direct communication channels for information sharing, use of common business risk language for easy understanding and training all the employees on various aspects of operational risks (CBK, 2008).

### 1.1.3 Commercial Banks in Kenya

Commercial banks are financial institutions that offer a wide range of services to their clients and the economy in general which include; being the custodians of valuable assets for their clients, lending to the economy, making and receiving payments on behalf of their clients, being guarantors to their customers and providing financial advice among other services (CBK, 2010). Others are extended services like banc assurance (sale of insurance products in a bank) and share brokerage. In effect, they facilitate trade and commerce both internationally and locally. Kenya’s banking industry operates under the
regulation of central bank of Kenya and Kenya Bankers Association. Whereas the Central Bank of Kenya is a government institution and overall industry regulator, the Kenya Bankers Association is a constituent of commercial banks in Kenya.

According to CBK banking report for the period ended 30th June 2012, Kenya had a total of 43 commercial banks and one licensed mortgage institution. 31 of these are locally owned while 13 of them are foreign owned. The sector also has 6 deposit taking microfinance institutions, 2 credit reference bureaus, 5 representative offices and 115 foreign exchange bureaus. The report further reveals that the number of bank customer deposit accounts stood at 14.8 million with a branch network of 1,102, while the bank loan accounts were 2.05 million. The main source of funding for the banking sector is deposits from the customers which account for 75.0 percent of total capital and funding liabilities. The deposit base stands at Ksh 1.7 trillion which is recently has been driven by branch expansion, and adoption of the agency banking model, remittances and receipts from exports. Total assets amounted to kes 2.2 trillion. While total liabilities stood at kes 1.3 trillion with the overall profitability being kes 53.2 B (CBK, June 2012).

The sector is experiencing some major policy developments with credit referencing bureaus and agency banking models having been launched in 2010 and Deposit Taking Microfinance institutions having been launched earlier in 2008. Credit reference bureaus provide banks with historic credit information about loan borrowers, while agency banking enables banks to increase their presence country wide at reduced costs, by partnering with established businesses. The licensing of deposit taking microfinance
institutions is a move that is aimed at enabling these institutions grow their deposit base and to provide banking services to majority of the low income earners most of who are still unbanked. A new Deposit Taking Microfinance, Rafiki DTM was licensed in June 2011 that brought the number of deposit taking microfinance institutions in Kenya to six (CBK, 2011).

1.2 Statement of the Problem

Operation risk management has acquired new credibility as a roadmap to add value to the business and is garnering increased attention from the corporate world. Organizations both profitable and non-profitable are actively engaging in streamlining their business processes through application of technology and use of other best practices to improve productivity at reduced costs. The complex processes employed to improve operational efficiency has increased the probability of failure or mistakes from the operations point of view that necessitates increased focus on managing operational risks to avoid losses and eventual downfall of the financial institutions (Haynes, 2007). The focus on operational risks has led to the enactment of appropriate rules that compel financial organizations to identify measure, evaluate, control and manage this risk has led to an increased emphasis on the importance of having sound operational risk management (ORM), practices in place making it one of the most complex and fastest growing risk disciplines in financial institutions (Khan, 2006).

Commercial banks in Kenya have continued to engage a huge portion of their operations expense towards management of operational risks. In an effort to achieve operational excellence banks have invested heavily to enhancing their capacity to detect and control
operational risks (Kimeu, 2009). Some of the undertakings include training of staff about risk management, setting up risk management units, creating awareness about risk to all staff and provision of adequate resources to meet the above objectives. However, little is known about the operational level risk management practices within the context of the commercial institutions particularly in cash management.

A number of studies on operations risk management have widely been done by various researchers and institutions. Kemoni and Ambira (2010) carried out a study to establish the nature and types of risks KCB is exposed to by conducting business process analyses and establishing the nature of records generated and the extent which records management is emphasized as a risk management tool. Another study by Angelina (2010) on credit risk analysis and profitability among commercial banks in Kenya established that credit risk management is important because it directly impacts on the profitability of the financial institutions. The more risky the credit facilities are the more the allocations for the provision expenses and vice versa and besides there is a higher chance of default in their repayments.

Although a number of these studies have been done on risk management, none of them has narrowed down its conceptual scope to focus on operation risk management practices in cash operations in the contextual background of all commercial banks in Kenya. In view of this gap, there was need to conduct a research study to investigate the practices used by banks to manage risks in cash during their day to day operations.
This study therefore sought to establish risk management practices in cash operations among commercial banks in Kenya by investigating factors that expose banks to cash management risks, and the extent at which they affect banking operations as well as the policies and procedures applied to mitigate them.

1.3 Objectives of the Study

This research focused on the operations risk management practices in cash operations among commercial banks in Kenya. Specifically, the research sought to:

(i) Determine the forms of risks in cash operations among commercial banks in Kenya.

(ii) Establish the extent of use of risk management practices used in cash operations among commercial banks in Kenya.

1.4 Value of the Study

The study will provide important information to the industry players on the various risk management practices in cash operations that are in use across the industry. The industry regulators will also find it useful in determining the extent to which various players have embraced operation risk management practices in the management of cash. The study will also be useful to the students and other interested scholars seeking to carry out research in the field of banking especially in the management risks.

It will assist in the appreciation of the significance of risk management as a tool to improve organization performance even in the wake of the changes and advancements in the business operating environment in the banking sector in Kenya.
CHAPTER TWO: LITERATURE REVIEW

2.1 Operations Risk

The Integrated Risk Management Model (2000) by the Government of Canada defines risk as the uncertainty that surrounds future events and outcomes. It is the expression of the likelihood and impact of an event which has the potential to influence the results or the success of an organization's objectives. FAA System Safety Handbook (2000) defines Risk as the probability and severity of accident or loss from exposure to various hazards, including injury to people and loss of resources. Risk generally is a function of severity and probability. According to (Basel II, 2004) published by Basel Committee, operations risk is defined as the risk of loss resulting from inadequate or failed internal processes, people and systems or to some extent, external events.

Operations risk will change from industry to industry due to the change in the core functions of the organizations and the extent of use of technology and human input with industries with lower human interaction likely to have lower operational risks. Risks can be grouped into operational, strategic, compliant or reputational risk (Mwisho, 2001; Central Bank of Kenya, 2005). In the banking industry risks have been categorized into market risk, operational risk, credit risk and capital risks. For the banking industry, operations risk is any probability of a loss either to the customer or the bank in the course of its provisions of services to the customers (Khan, 2010). Ambira (2010) also defines operational risk in banks as transaction risk which arises from an error, fraud or inability to deliver products or services or maintain a competitive position or management of information.
During the early part of the decade, much of the focus in risk management was on techniques for measuring and managing market risk. As the decade progressed, this shifted to techniques of measuring and managing credit risk. By the end of the decade, firms and regulators were increasingly focusing on risks other than market and credit risk. These came to be collectively called operations risks because they permeate all other business aspects in the banking industry (Khan, 2010).

Presently, banks are exposed to various types of operational risks, that include the potential of losses arising from internal activities or external events caused by breakdowns in information communication, physical safeguards, business continuity, supervision, transaction processing, settlement systems and procedures and the execution of agency responsibilities (Kithinji, 2010).

2.2 Cash Operations Risks

Bruce (2002) argues that cash operations risks are the potential dangers that are associated with cash handling practices/procedures. Cash handling risks range from errors in withdrawal/deposits, counterfeit currencies, fraud or theft by cash handling staff, burglary from ATMs or vaults and transportation of currency. According to Blond (2002), cash operations risks are the risks that organizations are exposed to in the process of managing or handling cash. Where cash is defined as the money inform of banknotes and coins especially that is issued by the government as legal tender as medium of exchange for goods and services. Unlike other assets, cash is very risky, highly sensitive and requires special care and caution when dealing with it. Exposures during cash
operations comes about when standard procedures and guidelines that should be followed to when handling cash are inadequate or compromised either intentionally or due to sheer negligence by the cash handlers. Besides this, banks also have not been able to maintain the integrity of cash handling to satisfactory levels either due to lack of adequate equipment or training for their staff who handle cash (CBK, 2008).

Among the most common cash handling risks are clerical errors and faults with the cash handling equipment. This happens when the clerks do omissions or misposting of figures during transactions. At the end day the physical cash and the ledger balance fail to reconcile leading to cash shortage or overage. The cash counters too may be faulty failing to give an accurate count of the notes or coins being counted during a cash deposit or withdrawal transaction. The machines used to scan notes may also fail to accurately scan the currency notes leading to receipt in counterfeit notes from customers. In all these scenarios the banks stand to incur huge losses especially if this happens frequently and is replicated across several branches (Bruce, 2009).

Banks too experience fraud or theft by cash handlers or armed robbers and fraudsters. Internal staff entrusted with the custody of cash may collude with outsiders to steal from their employers or from unsuspecting customers. Incidences of burglary and armed robberies in the banking halls have greatly reduced although the threat is still high. Criminals have now changed tactic and are instead using pen and paper to perpetrate their acts. This usually takes place as an ‘inside job’ and losses involved are usually very high putting the reputations of the institutions is put on the line. According to (Mburu, 2010)
Kenya’s banking sector is a soft target by fraudsters who usually get away with hefty sums of money whenever they strike.

Cash in transit (CIT) has become another soft target by organized criminals who usually collude with the security agents escorting the cash to distant locations. The banks may strictly adhere to the guidelines used for cash movement but will not have much control once the cash has been dispatched from the source location until the time it arrives to its destination (Blond, 2002). Banks have usually taken up an insurance cover for the cash in transit in an effort to minimize the risk by passing it to a second party.

2.3 Cash Operations Risk Management

Cash operations risk management is the careful planning, controlling and coordinating of all the activities and processes that aim to reduce the risk exposure of an organization in its cash operations activities and processes (F.A.A systems, 2000). It entails the entire process of identifying, evaluating, controlling and reviewing risks, to ensure that the organization is exposed to only those risks that it needs to take to achieve its primary objectives. Cash operations is one of the critical functions for banking organizations and is key to achieving their primary objectives. Risk management in cash operations will aim at reducing the vulnerabilities of these organizations to any inherent risks for all the cash activities by increasing the controls and monitoring for the cash based processes (Fallon, 2010).

It is through detection and identification of cash risks that risk managers are able to develop risk control options that once implemented will reduce uncertainties and costs
associated with operating flaws while increasing efficiency and the chances of success for the cash handling processes. In commercial banks cash operations risk management provides an assurance for business activities and administrative functions, the customers and other stakeholders besides the senior management team. Given the risk exposure faced by the banks due to the nature of their business, management of operation risks in banks helps raise awareness of the significant risks that they constantly face and the biggest danger is when they fail to identify such risks until it’s too late (Basel I, 2001). Operations risk management is a critical success factor that determines the success or failure for these institutions.

It is not possible to completely eliminate risks but they can be either transferred to another party willing to take risks i.e when taking an insurance policy or entering into a forward contract. Risks can also be reduced by having good internal controls, or retained to avoid cost of reducing risks in anticipation of higher profits. Risks can also be shared by partially retaining and partially transferring them (Nupur, 2005).

2.4 Risk Management Framework

According to McGraw (2005) a risk management framework encompasses the scope of risks to be managed, the process/systems and procedures to manage risk and the roles and responsibilities of individuals involved in risk management. The framework should be comprehensive enough to capture all risks a bank is exposed to and have flexibility to accommodate any changes in business activities. An effective risk management framework includes the following.
First, there should be clearly defined risk management policies and procedures covering risk identification, acceptance, measurement, monitoring, reporting and control. This is important to create awareness of the risks present, the extent of the exposure and its impact to the organization. According to Alberts (2010), there needs to be an assessment of the bank’s attitude to each exposure which varies across the business functions and is dependent upon the critical nature of a function. This ensures that that the bank’s strategic goals have been complied with in the management of operational risks.

Secondly there needs to be a well constituted organizational structure defining clearly roles and responsibilities of individuals involved in risk taking as well as managing it. Banks, in addition to risk management functions for various risk categories may institute a setup that supervises overall risk management at the bank (Kemoni, 2009). This could be in the form of a separate department or bank’s Risk Management Committee that could perform such functions. The structure should be such that it ensures effective monitoring and control over the risks being taken. The individuals responsible for review function (Risk review, internal audit, compliance etc) should be independent from risk taking units and report directly to the board or senior management who are also not involved in risk taking.

Thirdly, there should be an effective management information system that ensures flow of information from operational level to top management and a system to address any exceptions observed. Open communication and information sharing throughout the organization is key for effective risk management.
Lastly, the framework should have a mechanism to ensure an ongoing review of policies and procedures for risk management and procedure to adapt to changes either in the business strategies or the operating environment. There should also be an explicit procedure regarding measures to be taken to address such exceptions or deviations (Hansruedi, 2006).

2.5 Operations Risk Management Practices

The primary risk management response in all sectors has been to seek to improve the quality of procedures and controls while increasing accountability and awareness. Firms have put in place risk management strategies and have invested their resources into this by setting up dedicated risk units and qualified staff in addition to the traditional internal control and audit procedures. Banks in particular have undertaken comprehensive research on measurements and methodologies for operational risk, reflecting various degrees of sophistication in operational risk management (Basel I, 2001). A bank's ability to measure, monitor, and steer risks comprehensively is becoming a decisive parameter for its strategic positioning. The risk management framework and sophistication of the process, and internal controls, used to manage risks, depends on the nature, size and complexity of institutions activities. Nevertheless, there are some basic principles that apply to all financial institutions irrespective of their size and complexity of business and are reflective of the strength of an individual bank's risk management practices (Basel I, 2001).
Risk Management is a discipline at the core of every financial institution and encompasses all the activities that affect its risk profile. It involves identification, measurement, monitoring and controlling risks to ensure that the individuals who take or manage risks clearly understand it, the organizations risk exposure is within the acceptable limits and in line with the business strategy and objectives. Also critically there is need to ensure that the expected payoffs are adequate to compensate for the risk (Bruce, 2002).

2.5.1 Risk Management Policies and Procedures

Development and implementation of appropriate risk management policies and procedures is the most basic approach towards the management of risks in the banks. Besides the central bank’s risk management guidelines that help to control risks across the industry, banks too have further developed and implemented their own risk management policies and procedures (CBK, 2010). Policies and procedures provide a reference point and guidelines to help standardize the day to day operational practices throughout the organization. Having standard procedures throughout the organization greatly reduces operational risks and provides confidence and assurance to all stakeholders (Ambira, 2010).

According to (Basel I, 2001) organizations do have risk policies whose aim is to set the firm’s appetite for taking on various risks and to establish approaches for their measurement and management. The risk policy specifically helps in identifying acceptable risks and desirable risk management techniques that eventually forms an integral part of their ongoing risk management process. It is usually the risk management
units that translates the risk policies into tangible and verifiable processes and controls which include, an approach to risk identification and measurement; limits and guidelines governing risk taking; internal controls for controlling, monitoring and reporting risks. The policies and framework help institutions to identify stress situations ahead of time and plans to deal with such unusual situations in a timely and effective manner. Stress situations to which this principle applies include all risks of all types. For instance contingency planning activities include disaster recovery planning, public relations damage control, litigation strategy, responding to regulatory criticism etc. Contingency plans should be reviewed regularly to ensure they encompass reasonably probable events that could impact the organization. Plans should be tested as to the appropriateness of responses, escalation and communication channels and the impact on other parts of the institution.

2.5.2 Dedicated Risk Management Units

Teschner (2008) in his perspective of bringing back best practices in risk management argues that alongside a farsighted and responsible front office, banks need to have an effective, risk management function headed by highly skilled managers who need to go beyond the ordinary role of limit checking to manage risks. Rather they also need to develop a deep understanding of the functions of other departments so that they are able to have concentrations, correlations, and early warnings. However, highly skilled risk managers are not enough on their own. The risk management unit also requires a supporting organizational structure, infrastructure, and internal processes besides timely and accurate data as well as the authority to enforce actions and impose rapid sanctioning mechanisms when appropriate (Gorrod, 2004).
Organizations may want to manage their risks only in the areas where they perceive to be most vulnerable. But according to UK’S Financial Services Authority (2005) operation risk management is a fundamental part of doing business that must be addressed appropriately to proactively identify, assess and monitor operational exposures throughout the organization for success to be achieved.

2.5.3 Teamwork and Open Communication

Good risk management practices require involvement of formal and informal teams and committees drawn from across all departments. This helps to bring together various risk attitudes and fresh thinking to issues and solutions while utilizing diverse disciplines to achieve common objectives (Basel I, 2001). While the overall responsibility of risk management rests with the board of directors, it is the duty of senior management to transform strategic direction set by board in the shape of policies and procedures and to institute an effective hierarchy to execute and implement those policies. To ensure that the policies are consistent with the risk tolerances of shareholders the same should be approved from board.

Open communication is also necessary for risk management because without open communication it will not be possible to involve everybody from all levels and departments. Managers require direct communication channels up, down and across their business units to help identify risks and take appropriate actions. For this to happen, information must be shared accurately and in a timely manner through use of a simple and common business risk language that enables managers to talk with individuals from
the terms that everybody understands. This is important also because everybody is expected to be aware of and manage risks in their day to day assignments. To be effective, the concern and tone for risk management must start at the top.

2.5.4 Organization Wide Training on Risk Management

Risk management training has been incorporated as part of a corporate training curriculum, and helps create awareness and understanding about various risks facing the organization among employees in the organizations (FSA, 2005). Some of the topic areas include: risk assessments, best practices, legislative requirements; safety; objectives for managing risk and risk-awareness training to ensure that all staff considers risk in their decisions. Human capital is the most important asset to an organization. All organization policies are implemented through and by the staff and hence investing in their empowerment in terms of skills is the only sure way to achieve the best results. Training on risk awareness is the first step in risk management that ensures that all staff are aware of the risks around them and the potential losses and consequences that face them (Gartner, 2011).

Risks must not be viewed and assessed in isolation, not only because a single transaction might have a number of risks but also one type of risk can trigger other risks. Since interaction of various risks could result in diminution or increase in risk, the risk management process should recognize and reflect risk interactions in all business activities as appropriate (Kemoni, 2009). While assessing and managing risk the management should have an overall view of risks the institution is exposed to. This
requires having a structure in place to look at risk interrelationships across the organization.

3.1 Research Design

Various studies have been carried out about risk management practices but none of them has focused on the operation risk management practices in the management and handling of cash by commercial banks in Kenya. Ambira and Kemoni (2009) carried out a research on records management and risk management in the banking industry in Kenya. The aim of the study was to investigate records management and risk management at Kenya Commercial Bank (KCB) Ltd in Nairobi and propose recommendations to enhance the functions of records and risk management in KCB. Githinji (2010) also carried out a study on credit risk analysis and profitability among commercial banks in Kenya and but did not seek to establish the risk management practices applied to manage cash.
CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Research Design

A survey method was used to gather information from the various banks in Kenya to investigate the operations risks and the operations risks management practices in cash management used by the commercial banks in Kenya. See a list of banks in Appendix II.

3.2 Population.

The population of study was all the 44 commercial banks operating in Kenya. (See the list attached). Deposit taking microfinance institutions were also included in the study since they deal with and handle cash in the course of their operations. In Kenya there are 6 licensed deposit taking microfinance institutions. A census study was done for all these institutions.

3.3 Data Collection

The primary data was collected through the use of questionnaires. The questionnaires had both closed questions for fixed response and open end questions to be able to capture any divergent responses from the participants. The questionnaire prepared tested the extent of use of these practices by commercial banks together with their effectiveness in the management of the risks faced by banks in cash management.

The respondents were operations managers and risk managers in the target institutions. Where it was difficult to obtain responses from the senior managers at the banks' head offices, responses were obtained from the operations managers at the branches.
Convenience was used in sampling to determine the branches from where the responses were to be obtained.

The questionnaire had open and fixed response questions which had a five point rating scale where (1) represented the least significance and (5) representing the most significant. The questionnaires will be administered through drop and pick method where and follow up will be done via e-mail or telephone.

3.4 Data Analysis

The data collected was analyzed using quantitative analysis so as to be able to draw summaries. Data presentation was done by the use frequency tables. This is was to ensure that the gathered information was clearly presented, interpreted and understood. Descriptive statistics such means and standard deviations were used in drawing conclusions.
CHAPTER FOUR: DATA ANALYSIS, FINDINGS AND CONCLUSIONS

4.1 Data Analysis and Findings

Out of 44 commercial banks that were sampled, only 27 responded, giving a response rate of 61%. This is a good representation of the commercial banks in Kenya.

4.2 Risks in Cash Operations

There are a number of cash operation risks experienced by commercial banks in Kenya. The respondents were asked to indicate the extent to which their commercial banks have experienced certain types of risks in cash operations on a five Likert scale whereby, 1 represented a very small Extent, 2 represented a small Extent, 3 represented a Moderate Extent, 4 represented a Great Extent and 5 represented a Very Great Extent. The results are in Table 4.1 below.

From the results in Table 4.1 below to a great extent (3.5 ≥ mean) it is evident that lack of integrity among the staff members and the nature of businesses that the banking organizations deal with are the major cash operation risks that face the commercial banks in Kenya. This is quite in line with (Kemoni, 2010). Presence of all other risk control measures cannot sufficiently deter people with ill motives from carrying out their fraudulent activities. Besides, implementation and adherence to the risk management guidelines is entrusted to the staff who must be highly disciplined and motivated in order to comply with the set policies. Banks need to ensure that they hire only people with high moral standings in order to guard the organizational integrity and uphold professionalism.
### Table 4.1: Risks in cash operations

<table>
<thead>
<tr>
<th>Risks in cash operations</th>
<th>Mean</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of integrity among staff members</td>
<td>3.9259</td>
<td>0.82862</td>
</tr>
<tr>
<td>The nature of business processes</td>
<td>3.5741</td>
<td>0.78082</td>
</tr>
<tr>
<td>The volume of transactions</td>
<td>2.8889</td>
<td>1.05003</td>
</tr>
<tr>
<td>Lack of appropriate Banks policies and procedures</td>
<td>2.6667</td>
<td>1</td>
</tr>
<tr>
<td>The business environment</td>
<td>2.5074</td>
<td>0.84395</td>
</tr>
<tr>
<td>Breakdown of communication</td>
<td>2.3333</td>
<td>0.83205</td>
</tr>
<tr>
<td>Errors due to failure of technology in use (e.g. scanners, note counters or access controls)</td>
<td>2.2963</td>
<td>0.91209</td>
</tr>
<tr>
<td>Errors due to information systems failure</td>
<td>2</td>
<td>0.78446</td>
</tr>
<tr>
<td>Breakdown of information systems</td>
<td>1.963</td>
<td>0.75862</td>
</tr>
<tr>
<td>External staff from contracted agencies</td>
<td>1.8519</td>
<td>0.60152</td>
</tr>
<tr>
<td>The nature of customer needs</td>
<td>1.7778</td>
<td>0.75107</td>
</tr>
<tr>
<td>Failure in transaction processing</td>
<td>1.6667</td>
<td>0.67937</td>
</tr>
<tr>
<td>During execution of agency responsibilities (e.g. suppliers who provide outsourced services such as CIT or printing security documents)</td>
<td>1.4926</td>
<td>0.50071</td>
</tr>
<tr>
<td>Breakdown in physical safeguards</td>
<td>1.3185</td>
<td>0.50918</td>
</tr>
</tbody>
</table>

To a moderate extent (2.5 ≥ mean < 3.5) lack of appropriate policies and procedures, the business environment, and breakdown of communication and volume of transactions will expose the banks to cash operations risks. This is because a compromise in any of these factors alone will only create an opportunity for fraudsters or criminals to plan for their motives. It requires a combination of these factors and others for the criminals to be
successful. Operational policies and procedure will require the input of the human resources who must observe the laid down procedures for the success of these practices. This is inline with findings of (CBK 2008) in the annual report of banking survey. The other risk comes from the type of business that the banks deal with. The bulk of business activities in the bank deals with liquid cash which by default is very risky. Money is always tempting because it is perceived by many to be a means to great achievements and satisfaction. Carrying out large volumes of cash based transactions where bulk cash is involved needs a very secure environment to operate in, hence the involvement of agencies that provide security to guard the banks and the cash in transit.

To a small extent (1.5 ≥ mean < 2.5) banks will have the risk exposure by the technology in use both by machines and information systems. This is because the note counting machines and scanners that are used are quite effective and errors experienced when counting or scanning cash are quite minimal if undetected by the cash handlers. Errors from the information systems in use are usually traced through reconciliation of daily transactions because they arise during posting of entries in the system. The information systems in place do not fail or breakdown quite often and when they do backup systems that are in place are used to process transaction. Customer needs are usually managed and situations that involve extraneous demands from customers such as getting service outside the bank premises or outside working hours are usually done very cautiously and strongly discouraged by banks. There are only very few extremely needy cases that are attended to and their service is done with a lot of caution to ensure that all the rules are followed as per the operation policy guidelines.
To a very small extent (mean < 1.5) breakdown of physical safeguards and staff from contracted agencies offering outsourced services will be a source of cash operation risks to the banks. This is because the external staff are hired only to provide services that do not involve direct contact with cash. Besides they work under supervision of bank staff who must always be watchful ensuring that the terms of engagement are followed. The physical safe guards in vaults and strong rooms will rarely breakdown on their own. It will only take human effort to compromise the authentication procedures or the access codes that are used to lock them to make them unsecure. Hence once again this underscores the fact that the staff have a very crucial role to play in risk management.

The above findings are in line with findings of (Bruce, 2009) in his review of cash handling practices in Aruba.

### 4.2 Risk management practices in cash operations

Given that there are a number of risks that face the commercial banks in Kenya there is need for short term and long term plans to mitigate them and ensure that losses are avoided at all times. This therefore means that risk management is an absolutely very critical business function within the banking industry because most of the activities in the bank are sensitive activities that relate to the economy and the money-society. The respondents were asked to indicate the extent to which their commercial banks have engaged certain types of risk management practices in cash operations on a five likert scale whereby, 1 represented a very small Extent, 2 represented a small Extent, 3 represented a Moderate Extent, 4 represented a Great Extent and 5 represented a Very Great Extent. The responses are in table 4.2 below.
Table 4.2: Risk management practices in cash operations

<table>
<thead>
<tr>
<th>Practices</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of regulators guidelines in cash management.</td>
<td>4.7407</td>
<td>0.44658</td>
</tr>
<tr>
<td>Use of armed guards in the banking halls</td>
<td>4.7037</td>
<td>0.46532</td>
</tr>
<tr>
<td>Training of cash handlers on safety practices</td>
<td>4.6556</td>
<td>0.49063</td>
</tr>
<tr>
<td>Use of cash limits positions</td>
<td>4.5556</td>
<td>0.57735</td>
</tr>
<tr>
<td>Use of dual control to access cash areas and strong rooms</td>
<td>4.5556</td>
<td>0.50637</td>
</tr>
<tr>
<td>Conducting end of day reconciliations for all cash transactions</td>
<td>4.5333</td>
<td>0.67417</td>
</tr>
<tr>
<td>Provision of separate drawers for each cashier</td>
<td>4.5231</td>
<td>0.85402</td>
</tr>
<tr>
<td>Use of cash registers to record movement of cash internally</td>
<td>4.5172</td>
<td>0.57239</td>
</tr>
<tr>
<td>Standardized the day to day operational procedures across the bank</td>
<td>4.501</td>
<td>0.57981</td>
</tr>
<tr>
<td>Use of Fake currency detecting machines</td>
<td>4.4074</td>
<td>0.50071</td>
</tr>
<tr>
<td>Empowerment and Engagement of qualified risk managers</td>
<td>4.2963</td>
<td>0.8689</td>
</tr>
<tr>
<td>Information management systems</td>
<td>4.2222</td>
<td>0.69798</td>
</tr>
<tr>
<td>Use of appropriate disaster recovery planning</td>
<td>3.4556</td>
<td>0.89156</td>
</tr>
<tr>
<td>Identification of stress situations</td>
<td>3.4074</td>
<td>0.93064</td>
</tr>
<tr>
<td>Online processing of cash transactions</td>
<td>2.5926</td>
<td>1.24836</td>
</tr>
</tbody>
</table>

From the findings in table 4.2 above to a very great extent (4.5 ≥ mean) there is a common practice across the industry where each bank has engaged the use of the regulators...
guidelines which provides the minimum threshold practices that must be used by all banks in managing the cash operations risks.

These include use of cash limit positions where there is a set maximum cash holding limit within which each till or branch must not exceed. If this position is exceeded, all excess cash must be repatriated to the next level holding till/position. This effectively ensures that the tellers or the branches only have the cash they need for their operations and that the bank does not run the risk of losing more than the amount of limit in that position which is also usually insured. Further access to vault must be (dual control) done by two authorized officials of the bank. This ensures that they check on each other and provide a witness account of movement of cash which must also be recorded in the cash movement registers and signed by the two officials. This is in line with findings of (Bruce, 2009) in his study of cash management practices in Aruba.

Further each teller/cashier is provided with a separate drawer and movable cash box which are always kept under key and lock whenever not in use with the cashier being the sole custodian of the key. This ensures all cash and security items like stamps allocated to him are always safe and that only him/her has access to them. At the end of day, each teller is expected to reconcile all his/her work for the day to ensure that all entries are correctly posted into the information management system. The physical cash in the till must tally with the balance as indicated in the teller general ledger from the system.
But various levels of exposures to risks, coupled with the need to increase operational efficiency through better risk management have compelled the banks to engage in more practices that serve to tighten their control of risks that face them.

Hence to great extent \( 3.5 \geq \text{mean} < 4.5 \) there is use of practices such as the use of fake currency detecting machines, regular training of cash handlers/tellers to improve their skills in cash handling and engagement of professional risk managers who come up with risk management policies and oversee their implementation throughout the bank. Use of professional risk managers and dedicated risk management units is key step towards achieving successful risk management practices which is in line with recommendations and findings by (Basel II, 2004). Further the use of information systems to enhance operational efficiency is key to providing and sharing information throughout the organization. This greatly enhances communication throughout the organization which is in line with the findings of (Basel II, 2004) where communication and information sharing was found to be an important practice in risk management.

To a moderate extent \( 2.5 \geq \text{mean} < 3.5 \) the banks have adopted the use of disaster recovery planning, identification of stress situations and online processing of transactions in the management of cash operations risks. Disaster recovery planning is done to ensure business continuity and smooth flow of operations in case of a disaster that may critically disrupt the operations of the organization. Here one organization enters into agreement with another organization to provide the basic resources needed by the affected organization to be able to continue providing minimum services to its client before the normal operations are restored. Appropriate disaster recovery planning ensures that the
bank is adequately protected from any inherent risks in cash operations during the recovery period.

Sometimes during the course of operations banks do experience stress situations where their resources get stretched beyond limit due to the overwhelming nature and amounts of work load. When this happens procedures and due processes may be compromised which leaves the banks exposed. Hence to a moderate extent banks must identify and deal with stress situations early enough in order to avoid such exposures. Banks do this by allocation of additional resources to cope with the increased demand from the heavy workload.

Online processing of cash transactions has only been used to manage cash operation risks to a small extent. This is because although cash transactions need to be posted promptly into the system, this does not significantly affect or expose the cash to any risks. It is only important that the transactions be posted because it is part of the processing procedures for record keeping. This is inline with findings of Ambira and Kemoni (2010) in their research study into records management in KCB. Failure to post transactions into the system may lead to losses and accountability will be difficult.

Although the use of these practices is routine, their use will not critically caution the banks against cash operations risk. Rather they serve to enhance the critical practices that must be engaged in the management of cash operations risks. Hence their use is only to a moderate extent in the management of these particular types of risks. They however are
critical in the management of other types of risks by the banks such as compliance risks where they are engaged to a very great extent.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

The study was to investigate the risk management practices in cash operations and the cash operations risks that face the commercial banks in Kenya. From the study it is evident that lack of integrity among bank employees and the nature of business processes that banks involve in are the major sources of risks for the banks in cash operations. The bank employees such as the tellers, cash officers and others who act as cash custodians have a very critical role to play in ensuring that the laid down procedures are followed at all times and that the cash handling practices as dictated by the policies are observed. If any one or more of the required practices are compromised due to negligence or sheer malice it creates an opportunity for thieves or fraudsters to advance their motives usually causing the bank to incur huge losses. An intention to compromise any of these processes is usually triggered by issues within individual members of staff which are usually not addressed by the organization appropriately and timely. Lack of work satisfaction, lack of motivation or greed among employees could be the likely causes of this.

The other likely exposure is from the kind of business that the banks engage in. Banks deal with money as part of their core business where they facilitate payments and as act as the cash collecting, distribution and circulation agents in the economy. The public's
interest and desire to have cash which is perceived as a means to achievements is very high. Cash is risky and expensive and the publics’ propensity to hold cash is high as evidenced by a high percentage of cash holdings as a proportion of the money supply. The continued use of cash as a medium of exchange for goods and services in Kenya makes its demand even higher. The majority of the respondents have cited this as a major reason why banks remain exposed to risks such as armed robberies and fraud both from the outsiders and insiders. This has remained a major cause of concern from the industry and the security agents who have to deal with incidences of crime involving huge losses of cash every now and then. Besides this, the banks usually face uphill task of having to restore confidence to their clients whenever such incidences occur in their organizations. Although there exists other factors that expose the banks to cash operations risks. Lack of integrity among the staff members and the nature of business processes were given a lot of weight by the respondents and therefore they pass to be greatest sources of risks faced by the banks in cash operations.

From the study it is evident that banks have engaged a number of risk management practices in their operations in an effort to completely mitigate the risks that they are exposed. Cash operations is one of the main areas through which banks are likely to suffer huge losses and hence the need to allocate substantial resources towards prevention of these losses. Nothing is left to chance and no effort is spared when it comes to risk management. This explains why any practice that is deemed necessary in the prevention of losses is strongly embraced and applied in the day to day operations. Top among these practices is the use of the regulators guidelines which outlines the policies and procedures
that every institution must use in its operations. The operational guidelines that are provided by the CBK forms the bare minimum of the risk management practices that are in use across the industry. In addition to these each bank has further engaged more practices that serve to strengthen its control of risks in its operations.

5.2 Conclusion

From the study, it is evident that to a very great extent lack of integrity among bank employees and the nature of business processes that banks involve in are the major sources of risks for the banks in cash operations. Also lack of appropriate policies and procedures, the business environment, breakdown of communication and the volume of transactions will expose the banks to cash operations risks to a great extent.

The cash operations risk management practices that are used to a very great extent by commercial banks are; use of regulator guidelines, regular training of cash handlers, use of cash limit positions and use of dual control to access cash vaults, use of separate drawer by each teller, use of cash registers to record movement of cash. To a great extent there is use of technology and fake currency detecting machines, use of professionally qualified risk managers to manage risks. Although the extent of use of these varies slightly from one bank to another, the importance of identification and management of these risks is highly upheld across the industry by all players and other stakeholders.

5.3 Implications on theory and practice.

Banks can achieve more in cash operations risk control by ensuring that they hire only individuals who have demonstrated good moral standards and integrity. If possible a
certificate of good conduct from the police and strict vetting by referees should be mandatory requirements when hiring of employees is done. This will ensure that the bank maintains a workforce that is free of any criminal minds.

The regulator may use the study to establish the extent of use of risk management prudential guidelines across the industry. The industry players can also use it to compare their practice with the rest of the industry.

**5.4 Recommendations for further research.**

The objective of study was to establish risk management practices in cash operations as well the cash operations risks that face the commercial banks in Kenya. A further study can be conducted to establish the impact these risk management practices on business processes. This is because of the time and massive resources dedicated the management of cash operation risks in the banks. Some organizations also have greatly empowered the risk managers so much that their decisions can adversely affect the operations of the entire organization all in the name of risk management.

Another study can be conducted to establish whether risk management can be used as achieve competitive advantage by commercial banks in Kenya.

**5.5 Limitations of the study**

The major limitations experienced by the researcher were lack of time and resources to enable data collection and follow up from all the target institutions and respondents. The intention was to reach out to all commercial banks in Kenya including the deposit taking micro finance institutions. The response rate would have been higher had there been more time and resources for the field work. Another limitation was from the fact that the
respondents may not have allocated enough time to carefully go through the questionnaire in order to give appropriate answers for the questions. This in effect may have compromised the quality of responses given in the questionnaires.

Some institutions did not have dedicated risk departments and hence did not have risk managers who were the preferred target respondents. In such cases, response was sought from managers in the operations departments who may not be well versed with risk management issues much as their counterparts from the risk department and hence may not have given responses from a risk point of view.
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*Internationally.* A report for the treasury board of Canada


The federal aviation Authority-US


APPENDICES

Appendix I

QUESTIONNAIRE.

SECTION A: BACKGROUND INFORMATION
1. Please indicate the name of your organization

.................................................................

2. What is your position in the organization?

.................................................................

3. How long have you worked with the organization? ................................

.................................................................

SECTION B: RISKS IN CASH OPERATIONS
4. To what extent has your bank experienced the following forms of operational risks
The rating is a scale ranging from 1 to 5 where 1 represents the lowest and 5 represents the greatest
(Kindly tick as appropriate)

<table>
<thead>
<tr>
<th>Risk</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breakdown of information systems</td>
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<tr>
<td>Breakdown of communication</td>
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<tr>
<td>Breakdown in physical safe guards</td>
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<tr>
<td>Lack of appropriate Banks policies and procedures</td>
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<tr>
<td>Failure in transaction processing</td>
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<tr>
<td>Lack of proper supervision of transactions.</td>
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<tr>
<td>During execution of agency responsibilities (e.g suppliers who provide outsourced services such as CIT or printing of security documents)</td>
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</tbody>
</table>
5. To what extent do the following factors expose your bank to the risks associated with cash operations?

(Kindly tick as appropriate)

<table>
<thead>
<tr>
<th>Factor</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>The nature of business processes</td>
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<td>The volume of transactions</td>
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<td>The business environment</td>
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<tr>
<td>The nature of customer needs</td>
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<tr>
<td>Errors due to failure of technology in use (e.g. scanners, note counters or access controls)</td>
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<tr>
<td>Errors due to information systems failure</td>
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<tr>
<td>Lack of integrity among staff members</td>
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<td>External staff from contracted agencies</td>
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<tr>
<td>Lack of appropriate Banks policies and procedures</td>
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</tbody>
</table>

Thank you for your cooperation.
### SECTION C: RISK MANAGEMENT PRACTICES

6. To what extent has your bank used the following in its risk management practices in cash operations?  
(Kindly tick as appropriate)

<table>
<thead>
<tr>
<th>Practice</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of cash registers to record movement of cash internally</td>
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<td></td>
</tr>
<tr>
<td>Provision of separate drawers for each cashier</td>
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<td></td>
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<tr>
<td>Online processing of cash transactions</td>
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<tr>
<td>Verification of cash to ensure its within limit positions</td>
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<tr>
<td>Use of dual control to access cash areas and strong rooms</td>
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<tr>
<td>Use of dual control in transaction processing</td>
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<tr>
<td>Conducting end of day reconciliations for all cash transactions</td>
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<tr>
<td>Use of Fake currency detecting machines</td>
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<tr>
<td>Regular training of cashiers to handle cash</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Training of cash handlers on safety practices</td>
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<tr>
<td>Use of armed guards in the banking halls</td>
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<tr>
<td>Identification of stress situations</td>
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<tr>
<td>Timely and effective information sharing</td>
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<tr>
<td>Use of appropriate disaster recovery planning</td>
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</tr>
<tr>
<td>Empowerment and Engagement of qualified risk managers</td>
<td></td>
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</tr>
</tbody>
</table>

Thank you for your cooperation.
Appendix II

LICENCED COMMERCIAL BANKS IN KENYA

1. ABC Bank (Kenya)
2. Bank of Africa
3. Bank of Baroda
4. Bank of India
5. Barclays Bank
6. CFC Stanbic Bank
7. Charterhouse Bank
8. Chase Bank (Kenya)
9. Citibank
10. Commercial Bank of Africa
11. Consolidated Bank of Kenya
12. Cooperative Bank of Kenya
13. Credit Bank
15. Diamond Trust Bank
16. Dubai Bank Kenya
17. Ecobank
18. Equatorial Commercial Bank
19. Equity Bank
20. Family Bank
21. Fidelity Commercial Bank Limited
22. Fina Bank
23. First Community Bank
24. Giro Commercial Bank
25. Guardian Bank
26. Gulf African Bank
27. Habib Bank
28. Habib Bank AG Zurich
29. I&M Bank
30. Imperial Bank Kenya
31. Jamii Bora Bank
32. Kenya Commercial Bank
33. K-Rep Bank
34. Middle East Bank Kenya
35. National Bank of Kenya
36. NIC Bank
37. Oriental Commercial Bank
38. Paramount Universal Bank
39. Prime Bank (Kenya)
40. Standard Chartered Kenya
41. Trans National Bank Kenya
42. United Bank for Africa[2]
43. Victoria Commercial Bank
44. Housing finance ltd