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## EFFECT OF CASH RECONCILIATION ON THE FINANCIAL PERFORMANCE OF COMMERCIAL BANKS IN KENYA

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### Abstract

**Purpose:** The main aim of the study was to examine the effect of cash reconciliation on the financial performance of commercial banks in Kenya.

**Methodology:** The research was carried out through a descriptive survey research design. The study population was all the 43 commercial banks registered and licensed to operate in Kenya. A multi stage sampling approach was used. In the first stage, a census of all the 43 commercial banks was conducted, that is, the units of analysis were the commercial bank. In the second stage, purposive sampling was used where two respondents from every organization were taken. The study used both primary and secondary data for analysis. Primary data was collected using questionnaires while secondary data was obtained using secondary data collection template. A multiple linear regression model was used to link variables.

**Findings:** The study findings indicated a positive correlation between cash reconciliation and financial performance of commercial banks. Cash reconciliation was positively and significantly related to both ROE and ROA. The study concluded that cash reconciliation is positively and significantly related to financial performance of commercial banks in Kenya.

**Unique contribution to theory, practice and policy:** The study recommends that commercial banks and other financial institutions involved in handling of cash should put in place proper reconciliation practices. The commercial banks should focus on increasing the number of times books are reconciled, increase the regularity of auditing the cash books, put in place and implement a policy on cash reconciliation, training its staff on conducting cash reconciliation and segregating the duties of cash reconciliation other duties so as to evolve specialization. The study recommended further studies to establish the effect of cash handling practices on financial performance of other financial institutions other than commercial banks. This will be crucial in comparison of the results and identification of more research gaps for future studies.

**Key words:** *cash reconciliation, financial performance, commercial banks, cash handling, fraud*

## 1.0 INTRODUCTION

Bank failures are as old as banking industry itself. Despite the significant roles it plays in economic development, its failures are becoming well pronounced. The Dictionary of Economics and Commerce confirmed that 200 banks failed in England between 1815 and 1850 just a period of 35 years, one of the reasons attributed to this failure is fraud.

The problem of fraud in banking industry is not limited to any economy, nation, continent or an environment; it is a general phenomenon. The origin of bank failure in Nigeria can be traced to the 1930s bank failure and crises. Nwankwo (1994) wrote that “the crises of confidence in Nigerian banking industry is not a new one, it has been with us for quite a long time. It occurred in the 1930s when all indigenous banks, except one (National Bank), collapsed. It occurred again during the banking ‘boom and crash’ of the late 1940s when all but four indigenous banks escaped the liquidators hammer”. Also between 1952 and 1954, 16 out of 21 indigenous banks failed. In the late 1990s, 26 failed banks were liquidated at once while others went through various surgical operations ranging from, restructuring, renaming, acquiring and complete sales to new investors. One thing that is constant in all the reforms was that fraud was a prominent factor in major failures.

Fraud as a result of cash mishandling has become a major source of concern for Banks in Kenya. The media is awash with news of how banks are losing billions of shillings every year to fraudsters. While not all fraud losses are reported, figures from the Banking Fraud and Investigations Department (BFID) of the Central Bank of Kenya indicate that significant amounts are actually lost by banks each year in this country. Money is lost due to loopholes caused by poor cash handling practices by banks which leads to exploitation by the fraudsters. Cash is lost while under storage, when in transit or through theft by bank employees who take advantage of the poor cash reconciliation practices put in place. The recouping of the lost amounts is improved when the losers have better cash insurance measures in place. According to Mbuguah (2013), the net outcome of these huge losses is poor performance. For listed banks this could lead to a drop in the value of their shares or more stringent oversight /control by their multiple regulators. For both listed and non-listed banks, this leads to lack of trust from their customers hence they seek alternative banking institutions.

Poor cash reconciliation led to the Enron scandal (Chernobai et al., 2007). This was the largest bankruptcy case in US history (excluding the credit crisis), with a loss of US\$600 million. Fictitious income was used to create fictitious capital in order to fund high-risk – and ultimately unprofitable – deals. This is sometimes referred to as a Ponzi scheme (Berkowitz, 2012). In this way risk was concealed from bondholders and investors. Investigators blamed this failure on a combination of poor accounting failures and management information: the company’s assets were fraudulently overstated by US\$24 billion. Tanzania lost \$87 million. This is a great loss to a country which heavily relies on foreign funding. The fraud was masterminded by employees of the bank who took advantage of the weak cash reconciliation loopholes at the bank to defraud the bank that amount of money (Emmanuel, 2010).

### 1.1 Problem Statement

Poor cash handling practices by commercial banks leads to massive losses ultimately leads to a negative performance and in extreme circumstances, closure of the commercial banks. The

collapse of Royal British bank and City of Glasgow bank in the 18<sup>th</sup> century, Barings bank in the 19<sup>th</sup> century to the most recent collapse of Euro bank in Kenya in 2003 as a result of poor cash management attests to this apprehension (Grossman, 2010; Taylor, 2007). The rising cases of fraud as a result of poor cash handling practices in the Kenyan commercial banks since 2011 have been overwhelming. The cases of cash thefts as a result of poor cash handling practice are rampant and if not stopped, this is likely going to adversely affect the performance of not only the affected commercial banks, but also the Kenyan financial system as a whole. The amount of money lost as a result of poor cash reconciliation has been increasing ever since 2011. Deloitte report (2013) states that companies, especially those dealing with huge sums of money like banks and supermarkets are ill-prepared to fight this onslaught, which is costing them millions of dollars annually arising from information security breaches and corporate theft. This generally translates to poor cash handling practices among the commercial banks.

## **1.2 Research Objective**

To examine the effect of cash reconciliation on the financial performance of commercial banks in Kenya

## **2.0 LITERATURE REVIEW**

### **2.1 Theoretical Review**

#### **2.1.1 The Rational Choice Theory**

It is a common fallacy that criminals are irrational beings that act solely on impulse and immediate gratification; although some offenders do act opportunistic it does not mean that they had no rational consciousness when making the decision to commit the crime. The rational choice theory views the offender as reasoning actor (De Haan & Vos, 2003). According to Myers (2010), rational choice focuses on the opportunity to commit crime and on how criminal choices are structured by the social environment and situational variables. The rational choice theory is built on three main premises. The first premises involves that crime is seen as purposeful behaviour. The crime fits the desired needs of the offenders, this includes make of decisions and choices (these may be limited to time, ability and availability of that which is needed). Clarke and Felson (2008) explained the second premise in that the crime should be explained in the context that it occurs, because the decision making process is regarded as situational. They also explained that each crime will serve a different purpose to the next. The final premise of rational choice is that there should be a distinction between criminality and crime. Criminality refers to the process in which a person chooses to become involved in a form of crime, to continue and to stop their involvement. Thus an offender has a form of rational process when getting involved into crime and criminality. Even though in some cases offenders maybe coerced or blackmailed into being part of a specific 'job' due to their criminal skill set. Tremblay (2008) builds on the rational choice theory and explains that offenders even have a decision making process when selecting co-offenders; Tremblay (2008) explains that searching for co-offenders are not just a simple matter of finding warm bodies, but involves a comprehensive discussion on cash-in-transit robbery, cash in storage theft or cash fraud due to reconciliation failures.

A contemporary crime phenomenon in the Kenyan context is an intricate 'mating' process in which offenders select themselves as mutually compatible or incompatible for crime purpose. The decision process will include constraints and transactional cost associated with finding suitable co-offenders (Tremblay, 2008). Bearing in mind both the theoretical premises and the selection process of suitable co-offenders, one can determine that thefts of cash and the process behind them can be fully explained by the theory. These thefts are on average planned and executed with high accuracy to improve reward and minimize risks and threats. The following assumptions can be made that the perpetrators undergo a strenuous planning and decision making process before the heist is executed. We can deduce that the said leader of the group have selected each co-offender on note of skill, experience and reliability. The extreme accuracy and efficiency that are involved into cash thefts suggest that a high level of planning is put in place which indicates the relevance of the theory to the study. When a bank has poor cash reconciliation practices, then there will be increased cash losses done by organized perpetrators.

### **2.1.2 Cash Management Theory**

Cash management theory provides the process of planning and controlling cash flows into and out of the business, cash flows within the business, and cash balances held by a business at a point in time (Pandey & Jaiswal, 2011). According to the theory, efficient cash management involves the determination of the optimal cash to hold by considering the trade-off between the opportunity cost of holding too much cash and the trading cost of holding too little. The theory provides the process of planning and controlling cash flows in and out of the business. The theory informs the study as it will help to bring more understanding to the process of cash handling and test whether the firms subscribe to the guidelines provided by the theory. It will then be easy to link subscriptions to this guidelines and performance of the firm. The handling of cash is in itself a risk and the more inflows there is, the more risky it becomes hence proper measures should be put in place to curb the frauds.

The purpose of cash management is to determine and achieve the appropriate level and structure of cash, and marketable securities, consistent with the nature of the business's operations and objectives (Brigham, 1999). As Erkki (2004) asserts, models on cash balance management have been proposed by (as cited in Baumol, 1952), Archer (1966), Beranek (1963), Miller and Orr (1966), Pigou (1970), Lockyer (1973), and Gibbs (1976) among others. William Baumol (1952) was the first person to provide a formal model of cash management. As noted by Erkki (2004), this model applied the economic order quantity (EOQ) to cash. Brokerage fees and clerical work form order costs while foregone interest and cash out costs forms the costs of holding cash. Baumol's model is however probably the simplest, most striped down and sensible model for determining the optimal cash position (Ross, 1990; Lockyer, 1973) on the other hand modified Baumol's model to incorporate overdraft facilities. According to Lockyer's approach the total annual cash policy cost attributable to the use of overdraft facilities is given by the sum of total annual cash transfer cost, total annual overdraft cost and the total annual holding cost. Erkki (2004) further asserts that Lockyer's model is critiqued for assuming overdraft facilities, which are not automatic especially for firms with poor credit rating. The model also assumes disbursements are even over the planning period.

According to Erkki (2004), the cyclical nature of cash is recognized for reasons that apart from providing cash balance for transactional purposes, a cash balance should be provided for precautionary purposes, especially for seasonal activities that are unpredictable. In Archer's approach, costs related to overdraft facilities and capital costs of precautionary balances are compared to determine the optimum. Archer's approach is advantageous for it recognizes the cyclical nature of net cash flows of many firms. According to Gibbs, the determination of optimal cash balance involves a combination of investment and financial decisions. In Gibbs approach, cases where demand for money is of a cyclical nature a combination of short and long term borrowing should be used to avoid the use of long term funds to cover peaks arising from idle cash balance, during periods of low cash demand. Gibbs (1976) contends that, the determination of the amount of buffer money to hold is seen as an investment decision. Gibbs approach emphasizes holding costs, costs of short and costs of long-term borrowing and the costs of investment in marketable securities (Erkki, 2004).

In order to do this a variety of activities need to be undertaken, because of the integrative nature of cash to the operation of the bank. Since most of the bank operations revolve around advancement of cash then it is imperative for a considerable minimum level of cash to be maintained. How a bank manages cash will definitely have implications on the liquidity of the bank. The theory therefore is of essence on the bases of the policy the banks may have in place with regard to cash retention so as to avoid illiquidity.

### **2.1.3 Fraud Management Lifecycle Theory**

The fraud management lifecycle effective management of the fraud management lifecycle starts with a common understanding or definition of the stages in the lifecycle. Without this awareness and understanding, fraud management professionals are unlikely to communicate effectively with each other, with their peers in other industries, and within their respective businesses. The terms "lifecycle stage" and "stage" throughout this document are used as a reference to a set of activities. The use of the term stage does, however, bring with it references to a series of sequential independent actions that is not representative of the concepts being advanced by this document. Webster's dictionary refers to a lifecycle as a series of stages in form and functional activity through which an organism passes between successive recurrences of a specified primary stage (Webster, 1997, 1976, & 1941).

Webster also refers to a network as "an interconnected or interrelated chain, group or system" (Webster, 1997, 1976, & 1941). The Fraud Management Lifecycle can be best described as a combination of these two definitions, a network lifecycle. Unlike a traditional linear lifecycle, a network lifecycle's stages are not necessarily linked sequentially, where activities in one stage are completed and then the functioning is passed on to the next stage in the chain. To the contrary, a network lifecycle facilitates simultaneous and sequential actions within each of the lifecycle stages or network nodes. The convenient term "stage" in a network lifecycle is more specifically a reference to the activities, operations, and functions performed. One can reasonably think of the various lifecycle stages as various disciplines within fraud management. The linking of the lifecycle stages as network nodes allows the representation of non-linear, non-sequential, even recursive activity. The interrelationships and interdependence of the stages or nodes can be explained without the restriction of the traditional sequential lifecycle stage progression. The Fraud

Management Lifecycle is, therefore, a network lifecycle where each node in the network, each stage in the lifecycle, is an aggregated entity that is made up of interrelated, interdependent, and independent actions, functions, and operations. These activities can, but do not necessarily, occur in a sequential or linear flow.

The Fraud Management Lifecycle is made up of eight stages. Deterrence, the first stage, is characterized by actions and activities intended to stop or prevent fraud before it is attempted; that is, to turn aside or discourage even the attempt at fraud through, for example, card activation programs. The second stage of the Fraud Management Lifecycle, prevention, involves actions and activities to prevent fraud from occurring. In detection, the third stage, actions and activities, such as statistical monitoring programs are used to identify and locate fraud prior to, during, and subsequent to the completion of the fraudulent activity. The intent of detection is to uncover or reveal the presence of fraud or a fraud attempt. The goal of mitigation, stage four, is to stop losses from occurring or continuing to occur and/or to hinder a fraudster from continuing or completing the fraudulent activity, by blocking an account, for example. In the next stage, analysis, losses that occurred despite deterrence, detection, and prevention activities are identified and studied to determine the factors of the loss situation, using methods such as root cause analysis. The sixth stage of the Fraud Management Lifecycle, policy, is characterized by activities to create, evaluate, communicate, and assist in the deployment of policies to reduce the incidence of fraud. Balancing prudent fraud reduction policies with resource constraints and effective management of legitimate customer activity is also part of this stage. An example is the requirement that any cash transaction over \$10,000 be reported (Webster, 1997, 1976, & 1941).

Investigation, the seventh stage, involves obtaining enough evidence and information to stop fraudulent activity, recover assets or obtain restitution, and to provide evidence and support for the successful prosecution and conviction of the fraudster(s). Covert electronic surveillance is a method used in this stage. The final stage, prosecution, is the culmination of all the successes and failures in the Fraud Management Lifecycle. There are failures because the fraud was successful and successes because the fraud was detected, a suspect was identified, apprehended, and charges filed. The prosecution stage includes asset recovery, criminal restitution, and conviction with its attendant deterrent value (Webster, 1997, 1976, & 1941).

### **Stage One: Deterrence**

Successful deterrence is the stopping of fraud before it happens. Deterrence or “to deter,” is defined as, “to inhibit or discourage through fear; hence to prevent from action by fear of consequences” (Webster, 1997, 1976, & 1941). In the fraud arena we need to expand this definition to include the aspect of difficulty. Fraudsters tend to migrate toward the path of most anonymity and least resistance. Therefore, increasing the difficulty of committing the fraud effectively functions as an incremental increase in deterrence. For example, when conducting an online transaction, requiring address verification provides an incremental increase in deterrent value, because the perpetrator must know how to circumvent and defeat the verification process. Adding a component to the online transaction becomes a deterrent, as it makes the fraudster work harder. For the purposes of this study deterrence will be defined as: activities designed, through fear of consequences or difficulty of perpetration, to turn aside, discourage, or prevent fraudulent activity from being attempted. The aggregate nature of deterrence is implied; deterrence is not

viewed as a monolithic whole, but rather an aggregation of activities with varying degrees of deterrent value.

Deterrent value is a summation of the deterrent contributions and detractions provided by each stage in the Fraud Management Lifecycle. Thus, successful deterrence is contingent upon the performance of the other stages of the Fraud Management Lifecycle.

### **Stage Two: Prevention**

In the fraud arena, prevention, detection, and deterrence are sometimes used synonymously. This contributes to confusion within the organization, as well as in external entities, about the focus of prevention activities. The activities in the prevention stage, though closely associated with deterrence and detection, occur after deterrence has failed and before the suspicion or detection of fraud has been accomplished.

Prevention is defined as, “to prevent, to stop or keep from doing or happening, to hinder a person from acting” (Webster, 1997, 1976, & 1941). Prevent is a general term meaning hindering, checking, or stopping. In the fraud arena the use of the term prevention emphasizes both common forms of the definition, to keep from doing and to hinder the fraudster from performing fraudulent activity. For the purposes of this study the definition of prevention is to hinder, check, or stop a fraudster from performing or perpetrating a fraudulent activity.

Prevention stage activities are intended to prevent the fraud from occurring or to secure the enterprise and its processes against fraud. The ability of prevention to stop losses from occurring versus stopping fraudulent activity from continuing is an important distinction. The latter activities are more appropriately mitigation stage activities. Prevention, when perceived from a security perspective, can be thought of as hardening the target. Prevention actions are frequently similar to security activities in the information technology area. Deploying protective procedures, processes, systems, and verifications, etc. that make fraud harder to commit prevents fraud. Prevention activities are designed to make fraud more difficult to commit. For example, the purpose of the many security features on credit and debit cards is to make card based fraud more difficult. Telecommunications subscription fraud is made more difficult by interactive verification and authentication procedures. Know your customer (KYC) processes for opening accounts in the financial industry make it more difficult for fraudsters to open fraudulent accounts. Querying historical fraud claim files in the insurance hinders fraudsters (Webster, 1997, 1976, & 1941).

### **Stage Three: Detection**

The third stage of the Fraud Management Lifecycle, detection, is characterized by actions and activities intended to identify and locate fraud prior to, during, and subsequent to the completion of the fraudulent activity. While “prior to” may sound like deterrence, it refers to the detection of testing or probing activity used by criminals to facilitate a fraud attempt. To detect is to uncover or reveal, to discover the existence or presence of the fact of something hidden or obscure (Webster, 1997, 1976, & 1941). Detection encompasses three closely related activities in the fraud arena: fraud testing, fraud attempts, and fraud successes.

The separation is derived from the facts that not all fraud attempts are successful and that not all perceived fraud attempts are intended to be successful. These “tests” are attempts to reverse



engineer the current fraud policies and detection activities in order to locate vulnerability. Thus, detection in the fraud arena must include revealing the existence of fraud testing and fraud attempts, as well as successful frauds. The identification of testing, attempts, and successes are typically clustered in the detection, prevention, and mitigation stages, but are also relevant in each of the other stages of the Fraud Management Lifecycle. Detection includes identification of a testing component, an attempt component, and a success component. Only detection in all three of these areas provides the required support for the rest of the stages in the lifecycle. To miss any of these is to run the risk of creating a vulnerability that the fraudster will turn to his advantage.

#### **Stage Four: Mitigation**

Mitigation is begun once the presence or a reasonable suspicion of fraudulent activity has been detected. In short, mitigation stops fraud. Other common and relevant terms for the activities in this stage are interdiction and intervention. Sometimes mitigation activities are called prevention and aftercare, where the prevention is focused on stopping the ongoing fraud from continuing. Mitigation is defined as, “to cause to become less harsh or hostile” and “to make less severe or painful” (Webster, 1997, 1976, & 1941). Mitigation focuses upon fast actions that are intended to reduce the extent of the fraud, the amount of the associated fraud losses, and the effort and expense required to recover or correct the impact of the fraudulent activity. This last goal is especially important when identity theft and the resulting identity fraud are involved. The faster the fraud activity is detected and mitigation activities initiated, the less time, effort, and expense will have to be invested in correcting the consumer’s credit record. The definition of mitigation in the fraud arena is to stop a fraudster from continuing or completing the fraudulent activity, to reduce their success. Mitigation activities can range from real time to delay. Clearly the faster mitigation activities can be undertaken, the better for all involved, except, of course, the fraudster. The environment in which the business enterprise operates defines the meaning of real time. For example, real time can range from a ten second authorization in the payment card industry to a one minute phone call in the telecommunications industry, to a ten minute instant credit application in the retail industry, to a weeklong mortgage application process, to a month long insurance claim process, to an extended internal employee fraud investigation. Clearly the environment defines the mitigation activities that can be taken in real time.

The fundamental premise is to begin mitigation activities as quickly as possible. The speed with which mitigation can be initiated is constrained by the timeliness and capabilities of the detection systems and processes utilized. If the fraud involves an employee and detection is accomplished through receiving calls from a customer or tips from an external agency, the opportunity to mitigate losses, expenses, and impact will be significantly constrained. If, on the other hand, detection systems can alert special investigations investigators to the strong likelihood of internal fraud before customers and outside agencies become aware of the fraud, the opportunity to mitigate losses, expenses, impact, and exposure will be significantly enhanced. Mitigation performance, then, is constrained by both the business environment and the detection tools being used. Fast mitigation actions provide the promise of speedy termination of the fraud event, reduced losses, and reduced expenses and impact. Much of the resource balancing in the Fraud Management Lifecycle revolves around the appropriate allocation of sufficient, efficient, and early mitigation efforts (Webster, 1997, 1976, & 1941).

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### **Stage Five: Analysis**

Analysis is characterized by activities to identify and understand losses that occurred despite the deterrence, detection, prevention, and mitigation stage activities. Analysis must evaluate the impact of fraud management activities upon legitimate customers. The product or service cost structures must be evaluated and understood to ensure the appropriate prioritization of casework. Analysis is defined as, “the separation of anything into its constituent parts or elements, to analyze, to make an analysis of, to study in detail the factors of a situation, problem or the like, in order to determine the solution or outcome” (Webster, 1997, 1976, & 1941).

The analysis stage receives data regarding performance from each of the other stages in the Fraud Management Lifecycle and provides them with feedback regarding performance. Analysis provides the performance reporting metrics that allow fraud management to make informed, calculated, and relevant decisions. Analysis processes include the evaluation of the volume and causes of losses, the evaluation and reporting of analyst and investigator performance, the evaluation and reporting of individual and aggregate rule (detection) performance, the evaluation and reporting on predictive score performance, the individual and aggregate customer service impact for each of the various stages, the analysis of staffing productivity in each of the disciplines, the appropriate mix of resources in each discipline, the performance of new and existing strategies, the comparison of the performance of competing (champion-challenger) strategies, and supporting policy’s request for retroactive and prospective hypothetical analysis.

### **Stage Six: Policy**

Policy activities create, evaluate, communicate, and assist in the deployment of fraud policies to reduce the incidence of fraud and the inconvenience to legitimate customers, and to allocate the resources required to successfully combat fraud. Policy is defined as, “wise management, prudence or wisdom in the management of affairs, management based primarily on material interest” (Webster, 1997, 1976, & 1941). Policy must seek to balance deterrent value, loss reduction, sales volume, operational scalability, and cost effectiveness. The ability to balance all of these demands surely requires the wisdom referenced in the definition of policy. In many ways policy development is the process of constantly reassembling the situations just disassembled in the analysis stage. The reassembly needs to take advantage of the knowledge gained by analysis and combine it with internal, external, and interactive environmental factors in order to craft policies that address the whole, while leveraging the knowledge of the parts. Policy development staff is most frequently the leaders within the fraud management organization, as they must be able to consider all the disciplines within the fraud management department, as well as the needs of the rest of the business enterprise.

### **Stage Seven: Investigation**

Investigation activities obtain enough evidence and information to stop fraudulent activity, to obtain recovery of assets or restitution, and to provide information and support for the successful prosecution and conviction of the fraudster(s). Investigation is defined as, “to investigate; a careful search or systematic inquiry; to follow up or make research by patient inquiry, observation, and examination of facts” (Webster, 1997, 1976, 1941). In the fraud arena the definition of

investigation needs to be expanded to include the important coordination activities with law enforcement entities.

Fraud investigations are focused upon three primary areas of activity: internal investigations, external investigations, and law enforcement coordination. The first area, internal investigations, includes investigations of employees, contractors, consultants, or vendors. External investigations are conducted on “customers” (fraudulent claims), “fraudsters” (individual crooks), and “organized groups” (an association of criminals). Frequently fraud cases are neither exclusively internal nor external. In these situations, internal fraudsters and external fraudsters work in concert to commit fraud. One of the more common examples of this situation is when a fraudster or organized group targets an employee to assist them with the commission of the fraud. Law enforcement coordination is the provision of information and resources to, and the maintenance of, a partnership with federal, state, regional, and local law enforcement authorities. Rigorous and routine investigations provide for both an incremental lift in deterrence and the maintenance of an effective relationship with law enforcement. A rigorous investigation includes comprehensive and detailed case documentation, complete detailed descriptions of the activity, accurate and complete interview notes, extensive contact information, and high quality physical and digital evidence documentation and storage. Each case is investigated with the idea that it will be prosecuted. Case files are prepared assuming an appeals court level of review. The investigations stage benefits greatly from the planned, systematic search for facts and other supporting information, as well as the ingenuity, initiative, thoroughness, and responsiveness of the investigator. The law enforcement relationship is not a one-way street. An important part of the relationship is providing substantive responses, professional assistance, and detailed documentation when calls and other inquiries are received. Depending on the business environment these requests for information can and are received twenty-four hours a day, 365 days a year. One of the most critical support components in the investigative function is the development of training on, and maintenance of, detailed investigative procedures (Webster, 1997, 1976, & 1941).

### **Stage Eight: Prosecution**

The communications in this stage are focused upon prosecutorial and judicial authorities as well as with law enforcement. Prosecution is defined as, “the act or process of prosecuting; to conduct legal action against, to pursue by legal proceedings for redress or punishment, especially because of some crime or breach of law” (Webster, 1997, 1976, & 1941). There are three aims of prosecution in the fraud arena. The first is to punish the fraudster in an attempt to prevent further theft. Secondly, prosecution seeks to establish, maintain, and enhance the business enterprise’s reputation of deterring fraud, so that the fraud community becomes aware of it. This is accomplished by the aggressive and successful catching and punishing of fraudsters who target the company. The third goal is to obtain recovery or restitution wherever possible. Some would argue that there is a fourth aim, that of satisfaction for punishing the fraudster.

The emotional feelings of satisfaction, though positive, are fleeting and tend to obscure the realistic evaluation of prosecution activities. The importance of prosecution should be limited to deterrence, recovery, and restitution. After a case has been forwarded to law enforcement for the apprehension of a suspect, the philosophical point of no return has been crossed. From this point on, the case should be prosecuted to its natural conclusion. The charges filed should be maintained

and the case prosecuted even in the face of offers of restitution and mounting witness expenses. It is always advisable to request appropriate restitution as part of the sentencing recommendations.

An additional activity important to the prosecution stage is the consistent and visible coordination of supportive legislative and regulatory activities to stop fraudulent activity. This activity frequently falls to senior managers and legal counsel due to their experience, industry contacts, and broad perspective. These efforts often require, and should receive, the support of line managers and supervisors in assessing the impact of recommendations, the creation of alternatives, and the creation of committee recommendations and presentations.

## **2.2 Empirical Literature**

According to Otley (2002), cash/bank reconciliation is a methodological procedure of comparing two sets of related cash/bank accounts or records from different systems and many other sources, categorizing and analyzing differences, and making needed amendments. Bank reconciliation was a powerful accounting and control process by which an entity's cashbook balances was compared with the bank's cash balance as of a given period to note any differences. Bank reconciliation a business was like a compass, map, and sextant to a traveller to navigate. It was the heart of every organization's book keeping system. Bank reconciliation unveiled reconciling items, which resulted from timing difference, and adjusting matters for necessary corrections. Bank reconciliation exposed errors that were inadvertent and the deliberate ones, timing differences and bank charges/interests to light. Effective and timely management of bank reconciliation activities significantly increased management ability to proactively identify and resolve issues that can result in misstatements in financial reporting records.

In his study, Muhota (2005) asserted that commercial banks have millions of transactions on daily basis. Reconciliations come in to confirm that all deposits recorded were made, all bank fees charged were recorded and that, no funds were disbursed from the accounts without being recorded. According to the author, in an ordinary business, a classical example is bank reconciliation, which reconcile the difference between what the bank reports and what the financial statements show. At many times the bank reconciliation proves that the financial statement amount is not exactly correct (Wells, 2002). Hence, a method of timely monitoring reconciliations ensures, true liquidity levels is maintained.

Muthama (2016) sought to establish the effects of book keeping as cash management practice on operational performance of public hospitals. The descriptive survey research design was adopted in the study. The study was undertaken in Kisii County. The study found that that the public hospitals are very much concerned about making cash payments on daily basis and also reconciled cash and bank accounts and this promoted accountability.

Soaga (2012) examined the basics of cash management for financial management and financial reporting purposes. The study made use of descriptive research method to examine the importance, essence, influence, relationship, and impact of cash management on financial management and financial reporting. It established the strong impact of cash management on corporate survival, linkage to practically every account on financial report, maximization of shareholders' wealth, fraud prevention and detection, and liquidity enrichment. It also ascertained the need for the use of net cash flows as a measure of performance. The study established that cash/bank reconciliation

was used as part of good cash management.

Cheptumo (2010) studied response strategies to fraud related challenges by Barclays Bank of Kenya. Among other findings, the study reported that proactive fraud detection procedures such as data analysis, continuous auditing techniques, and other technology tools can be used effectively to detect fraudulent activity involving cash reconciliation failures by identifying anomalies, trends, and risk indicators within large populations of transactions.

In their study on the importance of bank reconciliation as a mandatory activity for ensuring effective financial management, Onuoha and Amponsah (2012) further asserted that every financial manager wants to keep close tab on the bank balances as his job involves real time decisions that have cost implications in his favour or against. A little delay in the clearing of an effect could result in huge financial losses to the organization in terms of interest charges or other opportunity costs. A delay could also be the source of loss of goodwill which can spell huge consequences for the entity's business relationships. The study affirmed that there were several ways of carrying out bank reconciliation. However, it further concluded that the bank reconciliation process ensured that undue losses are not sustained through inadvertence of the staff of either the focal organization or the bank.

The Global Finance School (2010) pointed out that errors may exist in the cash and bank balances even though the company's books might show agreement. Bank and cash balances reconciliations are priceless management tools; they are the highest quality assurance for proof of liquidity of the business. How regularly and accurately the bank reconciliation is carried out can help an organization determine if its employees are doing their jobs right; whether or not payoffs are being made timely; if preventable losses are being incurred, and if the policy unit is up to date on reporting accounting information. Also, further asserts that the most important reason for reconciling bank statements is to avoid accounting errors which can be committed both by the firm and the bank.

Wanjala, Bwisa, Wandera, Wanyama, and Wanjala (2014) assessed the effect of book keeping management practice on business performance of micro and small butchery enterprises in Kimilili sub county, Kenya. The study found out that majority of micro and small butchery enterprises were not good in practicing bookkeeping management due to the low level of education attained and lack of accounting knowledge. On the relationship between business performance and book keeping management practices of MSBEs, the study found out that there was a strong positive relationship between business performance and bookkeeping management practices. The study concluded that bookkeeping management practices makes significant contribution to the performance of the business.

### **3.0 RESEARCH METHODOLOGY**

The study adopted a descriptive survey design. The target population for the study was 43 licensed and operational commercial banks in Kenya. The sampling frame of the survey of the banks was one head of operations and head of finance from each of the 43 commercial banks located in Nairobi County. A multi stage sampling approach was used. In the first stage, a census of all the 43 commercial banks was conducted, that is, the units of analysis were the commercial bank. In

the second stage, purposive sampling was used where two respondents from every organization were taken. In particular the head of operations and the head of finance were sampled for the study. Primary data on cash reconciliation was collected using questionnaires. Secondary data on cash reconciliation (Frequency of reconciling various accounts), Return on equity and return on assets were obtained using attached secondary data sheet. SPSS was used to produce frequencies, descriptive and inferential statistics were used to derive conclusions and generalizations regarding the population. The particular descriptive statistics were frequencies, mean scores and standard deviation. The particular inferential statistic was regression and correlation analysis. The analysis of variance (ANOVA) was checked to reveal the overall model significance. A critical p value of 0.05 was used to determine whether the overall model was significant or not. The individual regression coefficient was checked to see whether the independent variable cash reconciliation significantly affected the financial performance. A critical p value of 0.05 was used to determine whether the individual variable was significant or not.

A regression model was used to link the independent variable to the dependent variable as follows;

$$Y = \beta_0 + \beta_1 X + \mu$$

Where;

Y = Financial Performance

X<sub>1</sub> = Cash Reconciliation

μ = Error Term

The specific models were as follows;

$$ROA = \beta_0 + \beta_1 \text{Cash Reconciliation} + \mu$$

$$ROE = \beta_0 + \beta_1 \text{Cash Reconciliation} + \mu$$

In the model,  $\beta_0$  = the constant term while the coefficient  $\beta_i = 1$  were used to measure the sensitivity of the dependent variable (Y) to unit change in the predictor variables X.  $\mu$  is the error term which captures the unexplained variations in the model (Olusola et. al, 2013).

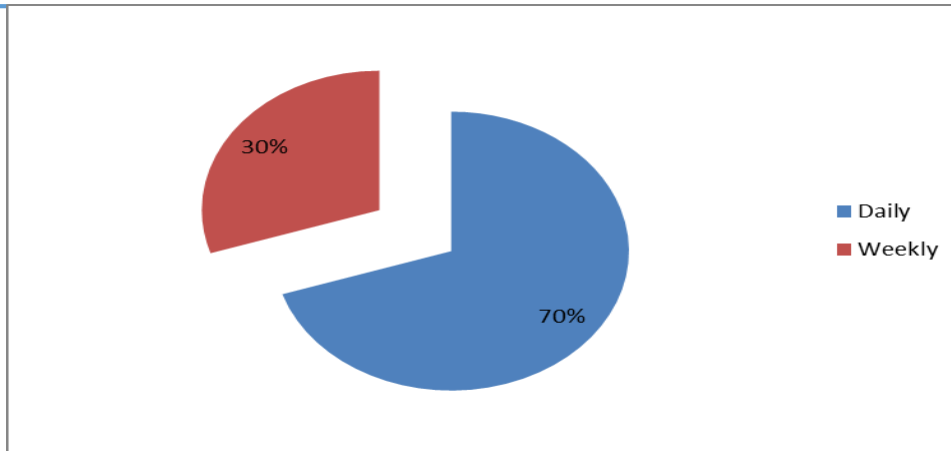
## 4.0 RESEARCH FINDINGS AND DISCUSSIONS

### 4.1 Response Rate

A total of 86 questionnaires were administered out of which 60 of them were properly filled and returned representing an overall successful response rate of 69.8%

### 4.2 Cash Reconciliation

The objective of the study was to establish the effect of cash reconciliation on the financial performance of commercial banks in Kenya. The study sought to establish how often commercial banks in Kenya reconcile their accounts. The results are as shown in Figure 1. The study findings revealed that 70% of the respondents indicated that books were reconciled on a daily basis while only 30% indicated that reconciliation was conducted on a weekly basis.



**Figure 1: Frequency of Cash Reconciliation**

The respondents were also asked to rate various statements on cash reconciliation on a scale of 1 to 5 where 1 represented strongly disagree and 5 represented strongly agree. The results are presented in Table 1.

**Table 1: Attributes of Cash Reconciliation**

	1	2	3	4	5	Mean	Std Dev
The bank has a policy on cash reconciliation	0.00%	10.0%	30.0%	20.0%	40.0%	3.90	1.05
The bank has trained its staff on conducting cash reconciliation	0.00%	0.0%	20.0%	50.0%	30.0%	4.10	0.71
The bank reviews cash reconciliation regularly	0.00%	0.0%	0.0%	60.0%	40.0%	4.40	0.49
Duties of cash reconciliation are segregated from other Duties	0.00%	0.0%	0.0%	50.0%	50.0%	4.50	0.50
The bank conducts regular audit of cash reconciliation	0.00%	0.00%	10.00%	20.00%	70.00%	4.60	0.67
<b>Average</b>						<b>4.30</b>	<b>0.69</b>

The study found that 60.0% of the respondents agreed that their bank had a policy on cash reconciliation while 80% agreed that their bank had trained its staff on conducting cash reconciliation. All the respondents agreed that the bank reviewed cash reconciliation regularly and

that duties of cash reconciliation were segregated from other duties while 90% agreed that the bank conducted regular audits of cash reconciliation. On a five point scale, the average mean of the responses was 4.30 implying that the respondents were agreeing on most of the statements concerning cash reconciliation. A standard deviation of 0.69 indicated that the variation in the responses was very minimal.

### 4.3 Correlation Analysis

The study sought to establish the association between the study variables. A correlation analysis was used. The Pearson correlation coefficient was used to establish the association between the variables used in the study. The study findings showed that the association between cash reconciliation and return on asset was positive and significant. This was supported by a Pearson coefficient of 0.346 and level of significance of 0.007. This implies that an improvement in cash reconciliation is positively associated with an improvement in ROA. The findings further revealed that cash reconciliation was positively and significantly associated with ROE as shown by a Pearson coefficient of 0.306. This implied that an improvement in cash reconciliation was positively associated with an improvement in ROE.

**Table 2: Correlation Analysis**

		Cash reconciliation	ROE	ROA
Cash Reconciliation	Pearson Correlation			
	Sig. (2-tailed)			
ROE	Pearson Correlation	0.306*		
	Sig. (2-tailed)	0.018		
ROA	Pearson Correlation	0.346**	0.561**	
	Sig. (2-tailed)	0.007	0.000	

\*\* Correlation is significant at the 0.01 level (2-tailed).  
 \* Correlation is significant at the 0.05 level (2-tailed).

### 4.4 Relationship between Cash Reconciliation and Return on Assets

The study sought to establish the relationship between cash reconciliation and Return on Assets. An ordinary least square regression model was used. The results of the model summary are given in Table 2. The study found a positive association between cash reconciliation and ROA as shown by a Pearson coefficient of 0.338. Furthermore, the results pointed out that cash reconciliation explained up to 11.4% of the changes in ROA of commercial banks in Kenya. This implied that 88.6% of the changes in ROA of the commercial banks were explained by other factors other than cash reconciliation.

**Table 3: Cash Reconciliation and ROA (Model summary)**

R	R Square	Adjusted R Square	Std. Error of the Estimate
.338	0.114	0.099	0.012641

The study further established the fitness of the model. The results are presented in Table 3. The results show that the model linking cash reconciliation to ROA fit well. This was supported by an F statistic of 7.462 and the reported p value (0.008) which was less than the critical value also



known as the probability value (p) which was statistically set at 0.05.

**Table 4: Cash Reconciliation and ROA (Model Fitness)**

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	0.001	1	0.001	7.462	0.008
Residual	0.009	58	0		
Total	0.01	59			

The coefficient of the relationship between the variables is as indicated in Table 4.

**Table 5: Cash Reconciliation and ROA (Model Coefficients)**

	B	Std. Error	t	Sig.
(Constant)	0.012	0.004	2.765	0.008
Cash reconciliation	0.006	0.002	2.732	0.008

### Model

$$ROA = 0.012 + 0.006 \text{ Cash Reconciliation}$$

The results revealed a positive relationship between cash reconciliation and ROA ( $B=0.006$ ). The relationship was also significant at 5% level of significance ( $P\text{-value}=0.008$ ). This finding implied that an increase in cash reconciliation practices by one unit led to a 0.006 unit improvement in ROA of commercial banks in Kenya. The study sought to test the null hypothesis below.

$H_0$ : Cash reconciliation does not affect the financial performance of commercial banks in Kenya.

The results of the regression model between cash reconciliation and ROA was used to test the null hypothesis. The rejection criterion was based on the P-value of the regression model. A p-value less than 5% level of significance leads to rejection of the null hypothesis while a p-value greater than 5% level of significance leads to failure in rejection of the null hypothesis. The findings of the regression model between ROA and cash reconciliation showed a p-value of 0.008 which was less than 5%. This led to the rejection of the null hypothesis hence the study concluded that cash reconciliation affected financial performance of commercial banks in Kenya.

### 4.5 Relationship between Cash Reconciliation and Return on Equity

The study sought to establish the relationship between cash reconciliation and Return on Equity. An ordinary least square regression model was used. The results of the model summary are given in Table 5. The study found a positive association between cash reconciliation and ROE as supported by a Pearson coefficient of 0.306 and that cash reconciliation explained up to only 9.30% of the changes in ROE of commercial banks in Kenya. This meant that 90.7% of the changes in the ROE of the commercial banks were linked to other factors not included in this model.

**Table 6: Relationship between Cash Reconciliation and ROE (Model Summary)**

R	R Square	Adjusted R Square	Std. Error of the Estimate
.306	0.093	0.078	100.6442

The study further assessed the fitness of the model. The results are as shown in Table 6. The study

findings confirmed that the model linking cash reconciliation to ROE was satisfactory given an F statistic of 7.462 and the reported p value (0.008) which was less than the critical value also known as the probability value (p) which was statistically set at 0.05.

**Table 7: Relationship between Cash Reconciliation and ROE (ANOVA)**

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	60584.49	1	60584.49	5.981	0.018
Residual	587496.5	58	10129.25		
Total	648081	59			

The coefficient of the relationship between the variables is as presented in Table 7.

**Table 8: Relationship between Cash Reconciliation and ROE (Model Coefficients)**

	B	Std. Error	t	Sig.
(Constant)	3.97	34.753	0.114	0.909
Cash reconciliation	44.917	18.366	2.446	0.018

### Model

$$\text{ROE} = 3.97 + 44.917 \text{ Cash reconciliation}$$

The study findings showed that there was a positive relationship between cash reconciliation and ROE (B=0.44.917). The relationship was also significant at 5% level of significance (P-value=0.018). Hence, it could be inferred that an increase in cash reconciliation practices by one unit led to a 44.917 unit improvement in ROE of commercial banks in Kenya. The findings of the study concurred with that of Abdul (2014) who asserted that there was need for the owners and managers of the small scale enterprises to embrace proper accounting records keeping for them to be successful in their financial performance.

## 5.0 SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

### 5.1 Summary of Findings

The objective of the study was to establish the effect of cash reconciliation on the financial performance of commercial banks in Kenya. The study findings indicated that 70%, of the respondents noted that books are reconciled on a daily basis while only 30% stated that reconciliation was conducted on a weekly basis. The findings of the study further showed that 60.0% of the respondents agreed that their bank had a policy on cash reconciliation, 80% agreed that the bank had trained its staff on conducting cash reconciliation, all respondents agreed that the bank reviewed cash reconciliation regularly and that duties of cash reconciliation were segregated from other duties while 90% agreed that the bank conducts regular audit of cash reconciliation.

The results on the correlation between cash reconciliation and financial performance of commercial banks revealed that cash reconciliation was positively associated with ROA. Further results showed that cash reconciliation explained up to 11.4% of the changes in ROA of commercial banks in Kenya and only explained up to only 9.30% of the changes in ROE of

commercial banks in Kenya. The regression results further depicted a positive and significant relationship between cash reconciliation and both ROE and ROA implying that an improvement in cash reconciliation led to an improvement in financial performance.

The findings of the study confirmed the findings of a study by Bell and Carcello (2000) which found that such items as rapid growth, weak or ineffective internal controls, managerial preoccupation with meeting earnings projections, and aggressive managerial attitudes coupled with weak control environments increased cash mismanagement in financial institutions and this had an effect on overall performance of the company.

## 5.2 Conclusion

Based on the study findings, the study concluded that cash reconciliation was positively associated with ROA. Furthermore, the study concluded that cash reconciliation explained up a larger percentage in the changes in ROA than in ROE. The study also concluded that there was a positive and significant relationship between cash reconciliation and both ROE and ROA.

## 5.3 Recommendations

The study recommends that commercial banks and other financial institutions involved in handling of cash should put in place proper reconciliation practices. The commercial banks should focus on increasing the number of times books are reconciled, increase the regularity of auditing the cash books, put in place and implement a policy on cash reconciliation, training its staff on conducting cash reconciliation and segregating the duties of cash reconciliation other duties so as to evolve specialization.

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