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INTERNATIONAL PEER REVIEWED JOURNAL AND BOOK PUBLISHING

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How to cite in APA format:

Abstract

Purpose: The study sought to establish the effect of cash storage and on financial performance of commercial banks of Kenya.

Methodology: The research was carried out through a descriptive survey research design. Descriptive design was used because it focused on complex analysis to bring out the correlation of variables. The study population was all the 43 commercial banks registered and licensed to operate in Kenya. These commercial banks formed the unit of analysis. A census was conducted on all the banks. 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. The target respondents was hence 86. The study used both primary and secondary data for analysis. Inferential analysis techniques including correlation, regression and t-tests were used to achieve the study objectives. SPSS version 21 was used for analysis.

Findings: The study findings indicated that the correlation between, cash storage and financial performance is positive. Further results indicated cash storage had a positive significant effect on cash storage and ROA is positive and significant.

Unique Contribution to Theory, Practice and Policy: The study was anchored on cash management theory to evaluate the effect of cash storage on the financial performance of Commercial Banks in Kenya. The study recommends that commercial banks and other financial institutions involved in handling of cash should put in place proper reconciliation practices for instance increasing the frequency of reconciling books. The study also recommends that advanced practices of cash storage for instance investing in fire proof safes for storing cash and also in closed circuit television security cameras for surveillance of cash storage areas and also invest in alarm system in cash storage areas and also restricted access to cash storage areas by lock, key, passwords and other security measures so as to reduce fraud arising as a result of poor cash storage practices.

Keywords: *Cash Storage, Financial Performance, Commercial Banks*

INTRODUCTION

The Performance of a firm can be categorized into four major groups ranging from performance that focuses on the customer, where the key issues involve satisfaction of the customer, as well as performance of goods and services; financial performance of the firm that involves revenue before profits, the net profits, EPS; performance regarding to the HR where the satisfaction of the employees is taken care of and lastly performance about the effectiveness of the organization where issues such as organizational innovation as well as distributional channels are taken care of (Mwangi, 2023). In the financial context, the performance of a firm centres mainly on the aspect of adaptability, efficiency and effectiveness as argued by Khan & Ahmed (2020) whereby there is a need to evaluate how effective and efficient the processes pursued by the business are in the sector of operation.

About measurement of performance, Choon & Embi (2012) argue that the subjectivity and objectivity method can be approached and in the process, there is over reliance on financial data. Tran, Lepistö & Järvinen (2021) argues that subjective measures are normally preferred as compared to objective measures of performance since the accessibility of most accounting information is hard to come by. Even in cases where accounting information is available, it is susceptible to manipulation by the firm owners. There are several indicators by which departmental performance may be judged. The balanced scorecard offers both quantitative and qualitative assessment approaches that recognize varied stakeholder expectations and the motive of assessing performance. These steps link process management and short-term outputs to the firm's performance. There is a great benefit associated with a firm's measurement system. Its nature shapes the employee and management's behavior. It is important to understand that financial accounting measures used traditionally in the sector may sometimes give wrong perception that a firm is undergoing innovation and continuous improvement within the present day competitive business environment (Choon & Embi, 2012).

Balanced scorecard provides an opportunity for managers to assess a firm along four perspectives: the customer perspective which deals with critical success factors which include market share, customer retention rates and relevant products; the internal business perspective deals with critical success factors which include process cycle times, and productivity or capacity utilization; the financial perspective deals with critical success factors which include survival, profitability and revenues; the innovation and learning perspective which takes into consideration the critical success factors which include training, quality improvement and service leadership. The importance of the innovation and learning perspective lies in the direct link between the company's value and its innovation ability, and capacity for learning and improving. A firm that is able to create customer value launch new products and increase operating efficiencies continually will ultimately achieve penetration of new markets, increase in revenues and margins (Yigitbasioglu, 2017).

Cash storage is the process of keeping cash in a safe and secure place, either physically or digitally. Cash storage can be done in various ways, such as using bank accounts, vaults, wallets, or cryptocurrencies. Cash storage is important for individuals and businesses who want to protect their money from theft, loss, or inflation (Smith and Jones (2020). A balance between liquidity

and profitability should be achieved, taking into account the trade-offs between risk and return. A proper cash management strategy can help optimize financial performance and achieve financial goals.

The loss of cash not only affects the customers but also leads to loss of public trust in the system hence this aspect of cash storage is very important to a business as indicated by Uberig, 2021. A bank is therefore supposed to have a number of security measures to make sure that the customer' cash is safe some of which are security cameras installation, having personnel to take care of security as well as having measures in place to prevent and or alert the security personnel in times of a break in (Safe Work Australia, 2017). Apart from the security of cash, another key part in storage as argued by Rahnama and Pentland (2022) is the security of the customer details being transmitted online using electronic means. There is a need to have privacy of the customer data as well as information especially about their cash. Furthermore, the storage of this information electronically using electronic records calls for more security and privacy practices.

Zagaris (2010) argues enhancement of cash storage can also be conducted using IT software's which are known to increase efficiency of the process make labour simple and enhance easy and secure flow of data from one party to the other. However, the IT systems have a challenge of failing and when it happens; it is susceptible to easy breach and hacking which may be more dangerous. A good case of breach in the IT system can be linked to the master card situation in 2007which had a virus capturing the customer's details to be used in fraudulent activities.

There was also another scenario where a computer in linking ATMS and the general internet system of a commercial bank in Sweden was disrupted in the year 2010 leading to confusion among the customers using the systems. There was a thorough review of the activities behind it later where the problem was solved (Swedbank, 2010). The problem of internet frauds is also common in Canadian commercial banks as established by Nakitende, Rafay and Waseem (2021) who stated that there are frequent disruptions in payment requirements as well as internet payment systems which leads to liquidity shortfalls. Due to this, there was development of a framework which provides a systemic perspective on operational risk handling by assessing the operational risk management procedures to be followed in a given scenario and that has over time led to a financially stable banking system in Canada.

There is a need to have various procedures in place to ensure safety for instance having a third company to handle the collection and storage of cash during peak seasons, frequent clearance of cash to avoid accumulation, there is also a need to establish a numbering system to identify the bags carrying the cash as well as making sure that more than one person escorts when cash is being transported from one room to the other. There is also a need to ensure that the amount of money is ensured and the records for insurance policy are stored securely and marked in a separate room to be safe from fire and other disasters (Malete, 2013).

In Australia, Smith and Louis (2010) sought to establish the causes surrounding thefts in commercial banks. An inquiry into cash thefts in Australian banks was done by Smith and Louis (2010). According to their report, the early 20th century era was seen as a century of high cases of robberies among the commercial banks which were seen as soft targets for robbery. The main reason for a target on commercial banks was due to their poor storage practices. The commercial

banks however responded accordingly to these frauds by investing heavily in storage in technology which was aimed to counter the attacks. Some cases were the installation of pop up screens. This in turn led the robbers to focus their attention somewhere else from storage and the only easy target was the cash in transit as well as take advantage by raiding ATMs. With time, it became hard to steal from commercial banks and this forced the robbers to focus on other cash handling firms. The study revealed conceptual differences from the current study. The current study focused on how cash handling affected performance. This helped to fill the conceptual knowledge gap existing. Furthermore, the fact that this study was conducted in a different context, with totally different economic situation, played a role in filling the contextual knowledge gaps existing.

In Nigeria, Adetiloye, Olokoyo, and Taiwo (2016) focused on internal control measures and fraud control by use of mixed data methods. Data collection was achieved using a questionnaire as well as an interview guide. Interview guides are best where in depth probing is required. The data collected was analyzed using two methods; descriptive analysis as well as inferential analysis. Descriptive analysis was conducted using means, standard deviation, frequency as well as percentages. Inferential analysis was conducted using correlation and regression analysis. Hypothesis testing was conducted using multivariate regression analysis. The findings of the study revealed that despite the fact that few staffs were committed to internal control; it was still a better method of managing cash frauds in commercial banks. The study also established that a focus now was on technological fraud where internet use was the main focus of traditional robbers. Technological based fraud was significant. The study revealed conceptual differences from the current study. The current study focused on how cash handling affected performance. This helped to fill the conceptual knowledge gap existing. Furthermore, the fact that this study was conducted in a different context, with totally different economic situation, played a role in filling the contextual knowledge gaps existing.

Braeuer, Gmeiner and Sametinger (2015) examined risk assessment of ATM security and established that unlike previously where the main focus was physical assault of ATM users; robbers have nowadays devised other mechanisms to engage in fraud related to ATMs by engaging in logical activities involving the manipulation of software are linked to ATMs. The role played by anti-money laundering policy was also reviewed by a study conducted by Idowu and Obasan (2012) by looking at its effect on performance. Findings of the study showed that an effective policy significantly reduced cash frauds activities and played a positive significant role on performance of commercial banks. In the long run, money laundering has a negative effect on the overall economy of Nigeria.

A study by Lee and Kim (2019) examined the relationship between cash storage and financial performance of small and medium enterprises (SMEs) in South Korea. They used panel data from 2007 to 2016 and applied fixed effects regression models. They found that cash storage had a positive and significant effect on financial performance, measured by return on assets (ROA) and return on equity (ROE). They also found that the effect was stronger for SMEs with higher growth opportunities, lower leverage, and lower liquidity. They concluded that cash storage was a valuable strategic tool for SMEs to enhance their financial performance and competitiveness. They recommended that SMEs should optimize their cash storage levels according to their specific characteristics and market conditions.

A study by Chen et al. (2020) investigated the impact of cash storage on financial performance of listed companies in China. They used data from 2008 to 2017 and employed dynamic panel data models with generalized method of moments (GMM) estimators. They found that cash storage had a negative and significant effect on financial performance, measured by Tobin's Q and earnings per share (EPS). They also found that the effect was moderated by ownership structure, corporate governance, and external environment. They concluded that cash storage was a double-edged sword for listed companies in China, as it could enhance their financial flexibility but also reduce their investment efficiency and shareholder value. They recommended that listed companies should balance their cash storage decisions with their investment opportunities and governance mechanisms.

A study by Osei, Owiredu and Mensah (2021) explored the nexus between cash storage and financial performance of microfinance institutions (MFIs) in Ghana. They used data from 2014 to 2018 and applied panel cointegration and causality tests. They found that cash storage had a positive and significant effect on financial performance, measured by operational self-sufficiency (OSS) and return on assets (ROA). They also found that the effect was influenced by the size, age, and legal status of MFIs. They concluded that cash storage was an important determinant of financial performance of MFIs in Ghana, as it could improve their operational efficiency and profitability. They recommended that MFIs should adopt prudent cash management policies to ensure optimal cash storage levels.

A study by Ahmed and Hassan (2018) analyzed the effect of cash storage on financial performance of non-financial firms in Pakistan. They used data from 2005 to 2014 and applied pooled ordinary least squares (OLS) regression models. They found that cash storage had a positive and significant effect on financial performance, measured by gross profit margin (GPM) and net profit margin (NPM). They also found that the effect was contingent on the industry type, firm size, growth rate, and dividend policy of non-financial firms. They concluded that cash storage was a beneficial factor for financial performance of non-financial firms in Pakistan, as it could enhance their profitability and market value. They recommended that non-financial firms should maintain adequate cash storage levels to cope with uncertainty and seize investment opportunities.

A study by Alshubiri, Alqatan and Al-Maani (2019) evaluated the role of cash storage on financial performance of banking sector in Oman. They used data from 2012 to 2016 and applied panel vector autoregression (VAR) models with impulse response functions (IRFs) and variance decomposition analysis (VDA). They found that cash storage had a positive and significant effect on financial performance, measured by return on assets (ROA), return on equity (ROE), net interest margin (NIM), and earnings per share (EPS). They also found that the effect was more pronounced for conventional banks than Islamic banks. They concluded that cash storage was a key driver of financial performance of banking sector in Oman, as it could increase their income generation and capital adequacy. They recommended that banking sector should optimize their cash storage levels to meet regulatory requirements and customer demands.

Statement of the Problem

The amount of money lost as a result of poor cash storage, poor cash transportation and poor cash reconciliation has been increasing ever since 2011. In the first nine months of 2011, Ksh1.25

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billion ($14.70 million) was stolen in cases involving storage or cash in transport, with banks recovering slightly below half, Ksh469 million ($5.51 million). This year (2015), in April alone, 58 cases of cash mismanagement involving a loss of Ksh102.2 million ($1.2 million) took place and only 20 cases have been reported and taken to courts (Zagaris, 2010). 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.

The Bank Supervision report (2014) indicated that the scenario is becoming complicated as it is projected that financial crimes are likely to increase with the continued increase in paperless banking. If so, the financial sector is likely to continue experiencing losses of cash unless better cash storage is adopted. It is in this regard that the research intended to investigate the influence of cash storage on financial performance of commercial banks in Kenya. More specifically, the study sought to investigate the available cash storage practices of commercial banks in Kenya and their effect on performance of these banks.

Theoretical Framework

Cash Management Theory

According to Pandey & Jaiswal (2011) CMT necessitates planning, and controlling of cash flows in the business, within business and those that are held at a particular period. Money handling practices was the main objective of the study. It will inform the study as it will help to bring more understanding on 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. Cash inflows directly affect cash insurance and cash storage and transportation. If there is more inflow of cash, the commercial banks will be required to have improved cash handling measures like more advanced and improved cash storage measures, more cash insurance measures and improved security measures during CIT of the cash to central storage facilities. The handling of cash is in itself a risk and the more inflows there is, the riskier it becomes hence proper measures should be put in place to curb the frauds.

Cash Management Theory is a framework that aims to balance the liquidity and profitability of a firm by optimizing the amount and structure of cash and marketable securities. The theory was developed by William Baumol in 1952, who proposed a model that resembles the economic order quantity model for inventory management. The model suggests that a firm should minimize the opportunity cost of holding cash by replenishing its cash balance in fixed amounts at regular intervals.

Cash Management Theory is relevant to the effect of cash storage on the financial performance of commercial banks in Kenya because it can help banks to determine the optimal level of cash reserves that maximizes their returns and minimizes their risks. Cash reserves are essential for banks to meet their daily transaction needs, regulatory requirements, and contingency plans. However, holding too much cash can also reduce the profitability of banks, as cash earns no interest and incurs storage and handling costs. Therefore, banks need to find a trade-off between liquidity

and profitability by applying the principles of Cash Management Theory (Cadenillas, 2021; Khatib et al., 2022).

For this to happen, numerous operations have to be carried out due to the interactive kind of money to the process of the financial institution. Meanwhile majority of the financial institutions' processes circle about progression of money then it is subservient for a significant least amount of money to be upheld. Exactly how bank accomplishes money will absolutely have consequences on the profitability of the bank. The concept consequently is of value on the foundations of the strategy the tiers may require in place with respect to money maintenance so as to circumvent insolvency.

Research gaps

The review of literature above pin pointed out various research gaps which the current study sought to fill. Similar study by Alshubiri, Alqatan and Al-Maani (2019) presented both the conceptual and contextual gap since it was done in a different geographical site other than Kenya and the concept was not exactly similar as the current study. The studies highlighted in other parts of literature review showed the same gaps. The studies by Braeuer, Gmeiner and Sametinger (2015) and also Osei, Owiredu and Mensah (2021) were not different. They both portrayed conceptual and contextual gaps.

METHODOLOGY

The current study used a descriptive survey design to approach the methodology. The study targeted all the 43 licensed and operational commercial banks in Kenya by the year 2015. A census approach across all the 43 licensed and operational commercial banks in Kenya was applied to take care of the smaller population size. 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. Since there is only one head of finance and one head of operations, the total number of respondents was 86. The study used both primary and secondary data. Quantitative primary data was collected using structured questionnaires. Secondary data on Cash storage (Amount invested on storage facilities), Return on equity and return on assets was obtained using attached secondary data sheet. Secondary data on the financial performance of the commercial banks that is ROA and ROE was collected. The period was five years from the year 2010 to the year 2014. Descriptive results were presented in form of Tables and charts while inferential results from the correlation and regression was presented in form of tables only.

RESULTS

Cash Storage

The objective of the study was to determine the effect of cash storage on the financial performance of commercial banks in Kenya. The study sought to establish the number of security companies the banks had contracted to secure the cash storage area between the year 2010 and 2014. The respondents indicated that on average, 2 companies had been contracted. The findings also indicated that on average, the commercial banks review the contracts of the security companies securing the cash storage area 2 times a year for the last 5 years from the year 2010 to the year 2014. Furthermore, the results also showed that all the commercial banks allocated over 10 million

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shillings every year since 2010 to 2014 to secure cash storage areas. The respondents were requested to rate statements on cash storage on a scale of 1 to 5 where 1 represented strongly disagree and 5 represented strongly agree. The results are as shown in Table 1.

Table 1: Attributes of Cash Storage

	1	2	3	4	5	Mean	Std Dev
The bank has a policy on cash storage	0.00%	0.00%	10.00%	50.00%	40.00%	4.30	0.65
The bank has invested in fire proof safes for storing cash	0.00%	0.00%	10.00%	40.00%	50.00%	4.40	0.67
The bank has invested heavily in CCTV security cameras for surveillance of the cash storage areas	0.00%	0.00%	10.00%	40.00%	50.00%	4.40	0.67
The bank has invested in alarm system in cash storage areas	0.00%	0.00%	10.00%	30.00%	60.00%	4.50	0.68
The bank has restricted access to cash storage areas by lock and key and passwords.	0.00%	0.00%	10.00%	10.00%	80.00%	4.70	0.65
Average						**4.46**	**0.66**

The study findings revealed that 90.0% of the respondents representing a majority, agreed that the bank had a policy on cash storage and that the bank had invested in fire proof safes for storing cash and also in CCTV security cameras for surveillance of cash storage areas. Similarly, 90.0% of the respondents agreed that the bank had invested in alarm system in cash storage areas and also restricted access to cash storage areas by lock and key and passwords.

Relationship between Cash Storage and Return on Assets

The study sought to establish the relationship between cash storage and Return on Assets. An ordinary least square regression model was used. The results in Table 2 present the model summary. It was found that cash storage explained 7.4% of the changes in ROA of commercial banks operating in Kenya in the study period implying that 92.6% of the changes in ROA of the commercial banks were associated with other factors other than cash storage that were not included in this model.

Table 2: Relationship between Cash Storage and ROA (Model Summary)

R	R Square	Adjusted R Square	Std. Error of the Estimate
.272	0.074	0.058	0.014546
Predictor Variables : Constant, Cash storage			

The study further investigated the model fitness by comparing the F critical and F calculated. The results for F-calculated are as presented in Table 3. The F-Critical, $F_{0.05, 1, 58}$ was 1.35. Since the

F calculated, 4.638, was greater than F-Critical, $F_{0.05, 1, 58}$, 1.35, the study concluded that the model was significant in linking the two variables. This was further supported by a p-value of 0.035 which was less than the critical value set at 0.05level of significance.

Table 3: Relationship between Cash Storage and ROA (ANOVA)

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	0.001	1	0.001	4.638	0.035
Residual	0.012	58	0.000		
Total	0.013	59			
Predictor Variables : Constant, Cash storage					
Dependent Variable : ROA					

The study further presented coefficients of the regression model as depicted in Table 4. The study findings showed that there was a positive and significant relationship between cash storage and ROA. This was supported by a beta coefficient of 0.02 and P-Value of 0.035. The findings implied that an improvement in cash storage practices led to an improvement in ROA.

Table 4: Relationship between Cash Storage and ROA (Model Coefficients)

	B	Std. Error	T	Sig.
(Constant)	-0.014	0.017	-0.811	0.421
Cash storage	0.02	0.009	2.154	0.035
Predictor Variables: Constant, Cash storage				
Dependent Variable : ROA				

Model

ROA= -0.014 + 0.02 Cash storage

The study sought to test the given null hypothesis:

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

The results of the regression model between cash storage and ROA were 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. Based on the findings of the regression model between ROA and cash storage, the null hypothesis that cash storage did not affect the financial performance of commercial banks in Kenya was rejected given that the p-value of 0.035 was less than 5%. Hence the study concluded that cash storage affected financial performance of commercial banks in Kenya.

An improvement in cash storage practices such as commercial banks having a policy on cash storage, commercial banks investing in fire proof safes for storing cash, commercial banks investing in CCTV security cameras for surveillance of cash storage areas as well as investing in alarm system in cash storage areas as well as restricting access to cash storage areas by lock and key and passwords leads to a significant improvement in return on assets of commercial banks in Kenya.

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This is in line with Adetiloye, Olokoyo, and Taiwo (2016) who focused on internal control measures and fraud control by use of mixed data methods. The findings of the study revealed that despite the fact that few staffs were committed to internal control; it was still a better method of managing cash frauds in commercial banks. The study also established that a focus now was on technological fraud where internet use was the main focus of traditional robbers. Technological based fraud was significant. It is also consistent with Idowu and Obasan (2012) who established that an effective policy significantly reduced cash frauds activities and played a positive significant role on performance of commercial banks. In the long run, money laundering has a negative effect on the overall economy of Nigeria.

According to Smith and Louis (2010), better cash storage practices for instance installation of pop up screens will in turn lead the robbers to focus their attention somewhere else from storage areas and that plays a significant role in reducing fraud in storage areas. These is also consistent with Kevin and Kathleen (2010) who focused on how data breaches affected the shareholder's wealth of 45 companies which formed part of the target population and argued that loss of cash led to a negative effect on the financial stability of a company. This is also in line with Malete (2013) who argued that there is a need to have various procedures in place to ensure safety for instance having a third company to handle the collection and storage of cash during peak seasons, frequent clearance of cash to avoid accumulation, there is also a need to establish a numbering system to identify the bags carrying the cash as well as making sure that more than one person escorts when cash is being transported from one room to the other. There is also consistency of the findings with those of a study by Mimano (2014) to find out the relationship between performance and outsourcing of cash handling practices and established that there exists a positive significant effect of cash handling practices and performance. The decision of outsourcing cash handling practices affected the commercial banks performance significantly and hence there is a need to carefully consider these decisions.

Relationship between Cash Storage and Return on Equity

The study sought to establish the relationship between cash storage and Return on Equity. An ordinary least square regression model was used. The model summary is as presented in Table 5. Based on the findings, it was noted that cash storage explained 6.3% of the changes in ROE of commercial banks operating in Kenya in the study period and that 93.7% of the changes in the ROE of the commercial banks was explained by other factors other than cash storage which were excluded from the analysis.

Table 5: Relationship between Cash Storage and ROE (Model summary)

R	R Square	Adjusted R Square	Std. Error of the Estimate
.252	0.063	0.047	102.3069
Predictor Variables : Constant, Cash storage			

The model fitness established by comparing the F critical and F calculated was also presented. The results for F-calculated are as given in Table 6. The F-Critical, $F_{0.05, 1, 58}$ was 1.35. Given that the F calculated, 4.918, was greater than F-Critical, $F_{0.05, 1, 58}$, 1.35, the study concluded that the model satisfactory in linking the two variables. This was further supported by a p-value of 0.043 which

was less than the critical value also known as the probability value (p) which was statistically set at 0.05.

Table 6: Relationship between Cash Storage and ROE (ANOVA)

	Sum of Squares	**Df**	**Mean Square**	**F**	**Sig.**
Regression	41012.71	1	41012.71	4.918	.043
Residual	607068.2	58	10466.69		
Total	**648081**	**59**			

Predictor Variables : Constant, Cash storage

Dependent Variable : ROE

Results in Table 7 present the coefficients of the regression model. The findings pointed out the existence of a positive relationship between cash storage and ROE and but not significant. This is supported by a beta coefficient of 0.02 and P-Value of 0.053.

Table 7: Relationship between Cash Storage and ROE (Model Coefficients)

	B	**Std. Error**	**t**	**Sig.**
(Constant)	-148.954	117.82	-1.264	0.211
Cash storage	129.334	65.337	1.979	0.053

Predictor Variables: Constant, Cash storage

Dependent Variable : ROE

Model

ROE= -148.954 + 129.334 Cash storage

Correlation Analysis

The findings also indicated that cash storage was positively and significantly associated with ROA as shown by a Pearson coefficient of 0.272. This implied that an improvement in cash storage was positively associated with an improvement in ROA. This shows that an improvement in cash storage practices such as commercial banks having a policy on cash storage, commercial banks investing in fire proof safes for storing cash, commercial banks investing in CCTV security cameras for surveillance of cash storage areas as well as investing in alarm system in cash storage areas as well as restricting access to cash storage areas by lock and key and passwords leads to a significant improvement in return on assets of commercial banks in Kenya.

The results also showed that cash storage practices have a positive but not significant correlation with return on equity as shown by a Pearson correlation value of 0.252 and a significance value of 0.053. This shows that an improvement in cash storage practices such as commercial banks having a policy on cash storage, commercial banks investing in fire proof safes for storing cash, commercial banks investing in CCTV security cameras for surveillance of cash storage areas as well as investing in alarm system in cash storage areas as well as restricting access to cash storage areas by lock and key and passwords leads to an insignificant improvement in return on equity of commercial banks in Kenya.

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

The study findings revealed that 90.0% of the respondents agreed that the bank had a policy on cash storage, a further 90.0% of the respondents stated that the bank had invested in fire proof safes for storing cash and also in CCTV security cameras for surveillance of the cash storage areas with the same number of respondents agreeing that their banks had invested in alarm system in cash storage areas and also restricted access to cash storage areas by lock and key and passwords.

The study findings showed that cash storage explained 7.4% of the changes in ROA of commercial banks operating in Kenya in the study period but explained only 6.3% of the changes in ROE of commercial banks operating in Kenya. In addition, the findings specified a positive association between cash storage and financial performance. The study findings indicated that the relationship between cash storage and ROA was positive and significant while the relationship between cash storage and ROE was positive and but not significant.

There are risks involved with handling of cash ranging from collection to transport and storage and the risks can be categorized into healthy as well as safety risks. Safety risks were associated with cash in transit where risk of violence or injury arises when there is a robbery when carrying heavy bags of money. Apart from the two, there were also the risks involving fraud and theft. There is a need to conduct a proper risk analysis so that the set of risks can be identified. After identification, there is a need to prioritize the risks and provide preventive measures such as implementation of effective cash handling procedures that involve proper storage mechanisms by having adequate secure containers like lockable petty cash tins to store the cash and other cash handling practices involving issuing of receipts to those making payments as well as making sure that money is handled by more than two people.

Frauds related to poor cash in storage practices can be solved by some commonly used methods of preventing frauds like protection through passwords, continuous reviews by the internal control unit as well as firewalls. On the other hand, other methods which are equally important but least practiced were data mining, analysis of risks digitally, the use of forensic accountants, as well as discovery sampling. The study indicated that specifically, the use of forensic accountants as well as digital analysis of risks was the least practiced and the main reason was narrowed down to lack of resources by the firms.

There is a need to have various procedures in place to ensure safety for instance having a third company to handle the collection and storage of cash during peak seasons, frequent clearance of cash to avoid accumulation, there is also a need to establish a numbering system to identify the bags carrying the cash as well as making sure that more than one person escorts when cash is being transported from one room to the other. There is also a need to ensure that the amount of money is ensured and the records for insurance policy are stored securely and marked in a separate room to be safe from fire and other disasters.

Having good cash reconciliation practices plays a huge significant role on the performance of the companies surveyed as they significantly reduced frauds. Some of the practices can be minimal handling of cash, cash was kept in safes which were locked and the doors heading towards the

safes were also locked and only specific staff had keys accessing those doors. There can also be a combination of various cameras to compliment the safe storage. Smart-safes improved productivity by automating the cash deposits for merchants.

Conclusion

On the cash storage, the study concluded that cash storage explained a higher change in ROA than in ROE. Furthermore, the findings of the study concluded that there was a positive association between cash storage and financial performance. Another conclusion made by the study was that the relationship between cash storage and ROA was positive and significant while the relationship between cash storage and ROE was positive and but not significant. Frauds related to poor cash in storage practices can be solved by some commonly used methods of preventing frauds like protection through passwords, continuous reviews by the internal control unit as well as firewalls. On the other hand, other methods which are equally important but least practiced were data mining, analysis of risks digitally, the use of forensic accountants, as well as discovery sampling. The study indicated that specifically, the use of forensic accountants as well as digital analysis of risks was the least practiced and the main reason was narrowed down to lack of resources by the firms.

There is a need to have various procedures in place to ensure safety for instance having a third company to handle the collection and storage of cash during peak seasons, frequent clearance of cash to avoid accumulation, there is also a need to establish a numbering system to identify the bags carrying the cash as well as making sure that more than one person escorts when cash is being transported from one room to the other. There is also a need to ensure that the amount of money is ensured and the records for insurance policy are stored securely and marked in a separate room to be safe from fire and other disasters.

Recommendations

The study also recommends that commercial banks and other financial institutions involved in handling of cash should put in place proper and advanced practices of cash storage because proper cash storage practices lead to an improvement in financial performance. The commercial banks should establish a policy on cash storage which stipulates and directs measures of cash storage practices, invest in fire proof safes for storing cash and also in CCTV security cameras to surveil the cash storage areas and also invest in alarm system in cash storage areas and also restricted access to cash storage areas by lock, key, passwords and other security measures so as to reduce fraud arising as a result of poor cash storage practices.

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