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EFFECTS OF BASEL II FRAUD RISK MANAGEMENT ON FINANCIAL PERFORMANCE OF COMMERCIAL BANKS IN KENYA

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Abstract

This study aims to establish the effects of Basel II financial fraud risk management on financial performance of commercial banks in Kenya. All the 42 commercial banks in Kenya as at 31st June 2017 comprised the population of the study. A sample of 38 commercial banks was drawn using stratified random sampling technique. The study utilized both primary and secondary data. Primary data was obtained through self-administered questionnaires completed by either banks' security officers, internal auditors or operations managers depending on the tier of the bank. Secondary data was obtained from Central Bank of Kenya annual reports. The study adopted descriptive research design. Data was analyzed using SPSS software in order to obtain percentages, correlation coefficients and significance among others statistics. The study adopted profits before tax to measure financial performance. The findings were presented using frequency distribution tables. The results indicated that financial fraud cost has significant negative effect on financial performance of commercial banks in Kenya. The study recommends *that commercial banks' management invests in enhanced ICT related fraud controls which should be entrenched in the commercial banks' ICT processes relating to mobile banking, computer banking and internet banking in order to reduce system hacking by external fraudsters.*

Keywords: Financial Fraud, Basel II, Operational Risk Management, Profits before Tax, Kenya

INTRODUCTION

This study concentrated on types of financial frauds experienced by commercial banks in Kenya, their causes, their effects and effects of Basel II operational risk management on financial performance of commercial banks in Kenya. Financial fraud refers to acts intended to defraud, misappropriate property or circumvent regulations, the law or company policy (Basel Committee on Banking Supervision, 2001). Financial fraud is one of the major Basel II operational risks facing commercial banks today thus compelling their regulators to take operational risk management in commercial banks a notch higher by adopting global standards for risk management known as Basel II Accord.

The objective of this study was to determine the effects of financial fraud on financial performance of commercial banks in Kenya. Uchenna and Agbo (2013) study on the impact of fraud and fraudulent practices on the performance of banks in Nigeria found that fraudulent transfers, forged cheques, granting of unauthorized loans, suppression of cheques/cash, armed robbery and outright theft were the major types of risks in Nigeria. The study found that the amount lost to fraud was negatively correlated to financial performance. Nwankwo (2013) study on effects of fraud on commercial banks performance in Nigeria found out that there is significant negative effect of fraud on the financial performance of commercial banks, with ATM fraud, forged cheques fraud and clearing fraud having significant negative effect on banks' financial performance. Chelangat (2014) study on influence of fraud on the financial performance of deposit taking SACCOs in Kenya, found out that fraud negatively influences the financial performance of deposit taking SACCOs. Kaunyu (2017) study on impact of financial fraud on financial performance of State Corporations in Kenya revealed that financial fraud significantly negatively affects the financial performance of state corporations which results to rendering of poor services to the public. Kiragu *et al.* (2015) study on effects of Bank size on occupational fraud risk in commercial banks in Kenya indicated that there was a significant negative relationship between bank size and occupational fraud risk in commercial banks in Kenya. Njenga and Osiemo (2013) study on effects of fraud risk management on organization performance of deposit taking microfinance institutions in Kenya found that fraud risk management significantly affected financial performance. Gitau and Njenga (2016) study on implications of financial fraud on the financial performance of commercial banks in Kenya found that there was significant negative effect of fraud on financial performance of banks.

Objective of the study

The objective of this study was to determine the effect of financial fraud risk management on financial performance of commercial banks in Kenya.

RESEARCH METHODOLOGY

This study adopted descriptive research design which is a method of collecting information by administering a questionnaire to a sample of individuals. The study preferred this research design because it can be used to collect information about the risk managers' attitudes, opinions, habits or any other social issues (Namusonge, 2010). To eliminate selection bias stratified random sampling was used to determine the sample size of 38 commercial banks out of 42. One respondent from each bank's head office who was either a security officer, the internal auditor or the operations manager was chosen to fill the questionnaire hence a total sample of 38 respondents were sampled. This informed by the fact that the bank policies are disseminated to all its branches for compliance and all reports from all branches are sent to the head office for consolidation. The study entailed both primary data gathered by the use of structured likert scaled questionnaires that were self-designed and secondary data gathered from the Central Bank Kenya annual supervisory publications by use of a secondary data collection schedule.

ANALYSIS AND FINDINGS

Descriptive Statistics on Effects of Fraud

Causes of Fraud in Banks

The respondents were asked to rate some statements describing the causes of fraud in their banks. Likert scale was used to measure the respondents' level of agreement with the statement. The findings were as shown in table 1.

Table 1. Causes of Fraud in Banks

Fraud in my bank is caused by:	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
Poor staff remuneration	11.5%	38.5%	23.1%	23.1%	3.8%
Poor record keeping	11.5%	38.5%	34.6%	7.7%	7.7%
Weak internal controls	57.7%	15.4%	15.4%	11.5%	0.0%
Greed by staff	46.2%	30.8%	23.1%	0.0%	0.0%
Work place frustrations	11.5%	42.3%	30.8%	11.5%	3.8%
Urgent financial need (debt, medical, gambling, alcohol)	38.5%	34.6%	23.1%	3.8%	0.0%
Need to cover someone's poor performance	3.8%	38.5%	15.4%	26.9%	15.4%
Access to information and money	7.7%	61.5%	11.5%	0.0%	19.2%
Lack of punishment	11.5%	23.1%	30.8%	26.9%	7.7%

From the results in Table 1.0, majority (50% i.e. 11.5% +38.5%) of the respondents agreed with the statement that poor staff remuneration is a cause for fraud in the banks while only 26.9% of the respondents disagreed with this statement while 23.1% were undecided about this statement. The finding on poor record keeping causing fraud showed that majority (50%) of the respondents agreed that poor record keeping is a cause for fraud in banks, while 34.6% were undecided and only 15.5% disagreed that poor record keeping causes fraud in banks. Findings on weak internal controls as a cause of fraud revealed that majority (73.1%) of the respondents agreed that weak internal control causes frauds in the banks, 15.4%were undecided while 11.5% disagreed. The findings on greed by staff causing fraud was expressed as a major cause for frauds in banks with majority (77%) of the respondents agreeing while the remaining 23.1% were undecided. Further the respondents were asked to express their perception on work place frustration as cause of fraud in banks; majority (53.8%) agreed that work place frustration causes fraud, 30.8% were undecided while 15.3% disagreed. Likewise respondents were required to rate whether urgent financial need such as medical, debt, alcohol and gambling causes fraud. Majority (73.1%) of the respondents agreed that urgent financial need causes fraud in banks, 23.1% were undecided while only 3.8% disagreed. Asked whether fraud is caused by the need to cover someone's poor performance, an equal percentage (42.3%) of the respondents agreed and disagreed that need to cover someone's poor performance is a cause for fraud in banks while the remaining percentage (15.4%) were undecided. Similarly majority of the respondents (69.2%) of the respondents agreed that access to information and money causes fraud in the banks, 19.2% disagreed while 11.5% were undecided in their opinion. Lastly the respondents rating on whether lack of punishment causes fraud in banks showed that, equal number (34.6%) of the respondents agreed but disagreed that lack of punishment was a cause for frauds in the banks while 30.8% were undecided.

In general it can thus be concluded that among the major causes of fraud in banks are greed by staff (77%), weak internal controls and urgent financial need each with 73.1% and access to information & money (69.2%). However the least cause of fraud in banks is lack of punishment (34.6%) followed by need to cover someone's poor performance (42.3%). These findings support the fraud triangle theory assumptions that perceived pressure such as urgent financial needs causes fraud. The findings also concur with fraud triangle theory that the opportunity to commit fraud such as weak internal control and access to information & money causes fraud.

Types of Fraud Risks Experienced by the Bank in Kenya

The respondents were also required to indicate the types of risk that they experienced in their banks by rating them on a five point likert scale ranging from never occurred to very frequently occurring risks. The findings were as indicated in table 2.

Table 2. Types of Fraud Risks Experienced by the Bank in Kenya

Type of Fraud Risk	Fraud Event	Never	Rarely	Sometime	Frequently	Very Frequently
Unauthorized Activity	Transactions not reported (intentional)	3.8%	38.5%	57.7%	0.0%	0.0%
	Mismarking of position (intentional)	5 19.2%	42.3%	38.5%	0.0%	0.0%
Theft and fraud (internal)	Fraud/credit fraud/ worthless deposits	0.0%	38.5%	30.8%	26.9%	3.8%
	Theft /embezzlement /robbery	19.2%	26.9%	53.8%	0.0%	0.0%
	Misappropriation of assets	26.9%	34.6%	34.6%	3.8%	0.0%
	Malicious destruction of assets	26.9%	42.3%	30.8%	0.0%	0.0%
	Forgery	15.4%	15.4%	50.0%	19.2%	0.0%
	Cheque kiting	15.4%	30.8%	34.6%	19.2%	0.0%
	Account take-over/ impersonation /etc.	11.5%	19.2%	46.2%	23.1%	0.0%
	Tax non-compliance	38.5%	38.5%	15.4%	3.8%	0.0%

Table 2...

	/evasion (wilful)					
	Bribes/kickbacks	38.5%	34.6%	19.2%	7.7%	0.0%
	Insider trading (not on firm's account)	53.8%	26.9%	19.2%	0.0%	0.0%
External Fraud	Theft/Robbery	30.8%	30.8%	30.8%	7.7%	0.0%
	Forgery	23.1%	15.4%	50.0%	11.5%	0.0%
	Cheque kiting	19.2%	26.9%	34.6%	15.4%	0.0%
	System hacking/ money /info loss	0.0%	11.5%	15.4%	34.6%	38.5%

From table 2, the findings revealed that under unauthorized activities, transactions intentionally not reported were sometimes experienced as expressed by 57.7% of the respondents, while mismarking of positions was rarely experienced as expressed by 42.3% of the respondents. Under internal theft and fraud types of risks, fraud/credit fraud/worthless deposits was rarely experienced as expressed by 38.5% of the respondents, theft/embezzlement /robbery was sometimes experienced as indicated by 53.8% of the respondents, misappropriation of assets was sometimes and rarely experienced as explained by 34.6% of the respondents. Malicious destruction of assets was rarely experienced as expressed by 42.3% of the respondents. Forgery, cheque kitting and account take-over/impersonation were sometimes as expressed by 50%, 34.6% and 46.2% of the respondents respectively. 38.5% of the respondents reported that tax non-compliance had never been experienced at their banks while an equal percentage indicated that this fraud was rarely experienced. While most (38.5%) respondents reported that bribes/kickbacks was never experienced in their banks with 34.6% of the respondents rarely experiencing this risk. Most (53.8%) respondents had never experienced insider trading risk while it was rarely experienced in 26.9% of the respondents' banks. Under external fraud, theft/robbery had never occurred in 30.8% of the respondents, sometimes occurred in 30.8% of the respondents while similar percentages rarely experienced this risk. However 7.7% of the banks frequently experienced theft/robbery. On the other hand 50% of the respondents sometimes experienced forgery as an external fraud, while cheque kiting was sometimes experienced by 34.6% of the respondents. Lastly 73.1% of the respondents reported that they frequently experienced system hacking/money/ information loss while 15.4% reported experiencing it sometimes.

From the general findings on the types of fraud risks facing commercial banks in Kenya, it can be concluded that system hacking by external fraudsters which results to information and money loss is the most frequent type of fraud facing most (73.1%) commercial banks, however some (57.7%) commercial banks sometimes experience internal fraud in the form of unauthorized activities in transactions intentionally not reported, theft/embezzlement/robbery (53.8%), forgery 50%, external theft/robbery 50%, account take-over/impersonation 46.2% followed by cheque kiting 34.6%. On the contrary some fraud risks never or rarely occurred in the commercial banks in Kenya; insider trading not on firm's account, tax non-compliance/evasion and bribes/kickbacks. These finding are in agreement with (Central Bank of Kenya, 2016) that increased use of ICT has increased cases of ICT related frauds in the recent years with data on fraud reported to Banking Fraud and Investigation Department showing that cases relating to computer, mobile and internet banking are on the rise. CBK also points out that cyber-crime where criminals gain unauthorized access to institutions' computer programs and data together with card fraud have also become emerging frauds among commercial banks in Kenya.

Fraud Related Losses Experienced by Commercial Banks

The respondents were required to state the average fraud related loses that their banks experienced in a period of six years. The results were as shown in table 3.

Table 3. Fraud Related Losses Experienced by Commercial Banks

Cost of fraud (KSH)	2011	2012	2013	2014	2015	2016
Less than 10 M	20%	24.0%	16.0%	19.2%	3.8%	11.5%
11-20	0.0%	3.8%	24.0%	7.7%	23.1%	11.5%
21-30	28%	16.0%	20.0%	26.9%	7.7%	15.4%
31-40	16%	32.0%	3.8%	3.8%	11.5%	26.9%
41-50	16%	3.8%	12.0%	23.1%	7.7%	3.8%
51-60	0.0%	12.0%	8.0%	3.8%	19.2%	3.8%
More than 60M	16%	4.0%	16.0%	11.5%	23.1%	19.2%
NIL	4.0%	4.0%	0.0%	3.8%	3.8%	7.7%

From table 3, the results indicated that in the year 2011, some (28%) respondents incurred the cost of fraud ranging between 21-30 million Kenya shillings, few (16%) experienced over 60 million whereas 20% of the respondents reported less than Ksh10M. In 2012, the cost of fraud for most (32%) respondents ranged between Ksh31-40M with a few (4%) incurring more than 60 million and 24% incurring less than Ksh10M. In 2013, most (24.0%) of the respondents experienced fraud related losses amounting to between Ksh11-30M, with 16% experiencing more than 60 million and similar percentage experiencing less than 10million fraud related losses. In 2014, most (26.9%) banks experienced losses ranging from Ksh21-30M of the valid respondents while 11.5% experienced more than Ksh60M with 19.2% experiencing less than 10M loss. In 2015, 23.1% of the respondents experienced fraud related losses ranging between Ksh11-20M with similar proportion experiencing above Ksh60M fraud losses. However a few (3.8%) of the respondents experienced less than Ksh10M fraud losses. In 2016, Most (26.9%) of the respondents experienced fraud related costs ranging between Ksh31-40M with 19.2% experiencing above Ksh60M and 11.5% experiencing below Ksh10M fraud related losses. It can thus be concluded that the fraud related losses experienced by commercial banks mainly ranged between Ksh21-30 M.

Change in Fraud after Basel II Implementation

The respondents were further probed to indicate the change in fraud after Basel II implementation. The findings were as indicated in table 4.

Table 4. Change in Fraud after Basel II Implementation

After my bank adopted Basel II regulations	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagreed
Fraud has decreased with more than 10%	23.1%	7.7%	0.0%	0.0%	0.0%
Fraud has decreased with 5%- 10%	0.0%	15.4%	0.0%	0.0%	0.0%
Fraud has decreased with 1%-5%	0.0%	7.7%	0.0%	0.0%	0.0%
Fraud has remained at the same level	3.8%	19.2%	0.0%	0.0%	0.0%
Fraud has increased with more than 10%	0.0%	0.0%	0.0%	0.0%	0.0%
Fraud has increased with 5%- 10%	0.0%	7.7%	0.0%	0.0%	0.0%
Fraud has increased with 1%-5%	0.0%	15.4%	0.0%	0.0%	0.0%

From table 4 the findings shows that after Basel II implementation in 2015, 30.8% of the respondents agreed that fraud decreased by more than 10%, 15.4% agreed that fraud decreased by 5%-10%, 7.7% agreed that fraud decreased by 1%-5%, 23% reporting that fraud remained at the same level while 7.7% agreed that fraud increased by 5%-10% as 15.4% agreed that fraud marginally increased by 1%-5%.

It can thus be concluded that implementation of Basel II in commercial banks in Kenya has born fruits as 30.8% of the respondents had fraud decreased by more than 10%, 15.4% of the respondents' fraud decreased by 5%-10% and while 7.7%of the respondents had fraud decreasing by 1%-5%. It was however notable that the decrease was too small that for some respondents it still lied in the same measuring scale. In the same vein, a total of 53.9% (30.8+15.4+7.7) respondents reported a reduction in fraud risk after Basel II implementation. On the contrary 23% experienced no effect as fraud remained at the same level whereas similar number of respondents, 23.1% (7.7+15.4) reported increased fraud though at very low level (1%-10%) The general implication is that fraud in majority (53.9%) of the banks decreased by more than 10%. The marginal increase could be attributed to greed by staff as was found out to be the major cause of fraud which is not factored in by Basel II requirements.

Causes of Decrease in Frauds

The respondents who reported that fraud had decreased were further asked to indicate what they thought contributed to decrease in fraud in their banks. The results were as shown in table 5.

Table 5. Causes of Decrease in Frauds

Fraud in my bank has decreased as a result of:	**Strongly agree**	**Agree**	**Neither agree nor disagree**	**Disagree**	**Strongly disagreed**
Staff training and education	50.0%	43.8%	6.2%	0.0%	0.0%
Enhanced methods to authenticate customer and/or validate customer account	56.2%	43.8%	0.0%	0.0%	0.0%
Basel II implementation	37.5%	56.3%	0.0%	6.2%	0.0%
Enhanced internal controls and procedures	68.8%	31.3%	0.0%	0.0%	0.0%
Adopted or increased use of risk management tools offered by Basel II	43.8%	50.0%	0.0%	6.2%	0.0%
Institution or financial service provider e.g. account alerts, positive pay	31.3%	56.3%	12.5%	0.0%	0.0%
Enhanced fraud monitoring system	56.3%	43.8%	0.0%	0.0%	0.0%

N=16 (Valid)

Table 5 shows that most (93.8%) of the respondents agreed that staff training and education was one of the cause of decrease in fraud while 6.2% were not sure. All (100%) of the respondents agreed that enhanced methods to authenticate customer and/or validate customer account caused decrease in fraud. Furthermore majority (93.8%) agreed that Basel II implementation caused decrease in fraud while only 6.2% disagreed that Basel II implementation caused fraud decrease in the banks. Moreover 100% of the respondents agreed that enhanced internal controls and procedures caused a decrease in the fraud. Likewise majority (93.8%) agreed that increased use of risk management tools offered by Basel II caused decrease in fraud in the banks. On the other hand 87.6% agreed that decrease in fraud was due to financial institutions account alerts and positive pay while enhanced fraud monitoring was 100% agreed to be the reason behind fraud decline.

It can thus be concluded that of the respondents who experienced decrease in fraud; they 100% attribute it to enhanced methods to authenticate customer and/or validate customer account, enhanced internal controls & procedures and enhanced fraud monitoring, 93.8% due to Basel II implementation, use of risk management tools offered by Basel II and staff training and education. Whereas 87.6% decrease in fraud due to financial institutions account alerts and positive pay. These findings supports Shank (2014) findings that you cannot change employee's rationalization and potential pressure that pushes them to committing fraud but you can prevent the opportunity to commit fraud by incorporating good internal controls in the systems and procedures to limit potential cases of fraud and protect the organization from people affected by the fraud triangle's temptations.

Cause of Increase in Frauds

All the respondents who reported that fraud had increased were further required to show what caused the increase in fraud in their banks. The results were as indicated in table 6.

Table 6. Causes of Increase in Frauds

Fraud in my bank has increased as a result of:	**Strongly agree**	**Agree**	**Neither agree nor disagree**	**Disagree**	**Strongly disagreed**
Basel II implementation	0.0%	0.0%	33.3%	66.7%	0.0%
Employee job dissatisfaction	33.3%	16.7%	0.0%	50%	0.0%
Lack of operational guidelines	16.7%	66.7%	0.00%	16.7%	0.0%
Poor internal control	16.7%	83.3%	0.00%	0.00%	0.0%

N=6 (Valid)

From the results in table 6, majority (66.7%) disagreed that the implementation of Basel II was a cause for increase in fraud while none agreed that Basel II implementation resulted to increase in fraud, 42.9% were however undecided. Further 50% of these respondents agreed that employee job dissatisfaction is a cause of increase in fraud in banks however a similar proportion disagreed. Majority (83.3%) of the respondents agreed that lack of operational guidelines is a cause of increase in frauds in banks though 16.7% differed. Surprisingly 100% of the respondents reported that poor internal control was the main cause of increase in fraud. The general implication of the results is that Basel II implementation and employee dissatisfaction are not the major causes of increase in fraud in banks while poor internal control (100%) and lack of operational guidelines (83.3%) are some of the major causes of increase in fraud in commercial banks in Kenya.

Correlation Analysis Results of the Variables

Pearson's correlation coefficient was used to measure the degree of relationship between the financial performance and financial fraud cost. As a measure of magnitude of the relationship between the variables, correlation coefficient of -1 indicates a strong negative correlation while +1 indicates a strong positive correlation. The p-value was used to indicate whether the relationship established was significance or not. Using the criterion that a p-value less than the 0.05 level of significance shows presence of a significance relation, the correlation results were as shown in table 7 as follows.

Table 7. Correlation Results between Variables

Research Variable	Test Type	Test Results
Financial Performance	Pearson Correlation	1
Financial Fraud cost	Pearson Correlation	-.168*
	Sig. (2-tailed)	.041
	N	26

From table 7 results, it was established that there is a significant negative relationship between financial performance and fraud cost as indicated by the correlation coefficient of -0.168 and a p value 0.041<0.05. This implies that an increase in fraud related costs results to a decrease in financial performance of commercial banks and vice versa. Consequently, the researcher rejected the null hypothesis;

$H0_1$: Financial fraud does not have significant effect on the financial performance of commercial banks in Kenya, and therefore concludes that financial fraud has a significant effect on the financial performance of commercial banks in Kenya.

Type III Tests of Fraud Effects on Profit Before Tax

From table 8 and 9, it is evident that time, fraud related cost and the interaction between time and fraud related cost had a significant negative effect on profit before tax in the linear mixed effect model as indicated by a p value of 0.001<0.05 and an estimate of -551.069 respectively.

Table 8. Type III Tests of Fraud Effects on Profit Before Tax

Source	Numerator df	Denominator df	F	Sig.
Intercept	1	46.870	18.281	.000
TIME	1	26.229	10.117	.004
Fraud Related Cost	1	28.653	12.900	.001

Table 9. Estimates of Fraud Effects in Profit Before Tax Modelling

Parameter	Estimate	Std. Error	T	Sig.
Intercept	6107.437	1381.641	4.420	.000
[TIME=1(Before implementation of Basel II]	-2100.508	660.382	-3.181	.004
Fraud Related Cost	-551.069	124.622	-4.422	.000
[TIME=1] * Fraud Related Cost	330.455	100.710	3.281	.003

From the results in the table 9, the average profit before tax after implementation of Basel II operational risk management was 6107 million Kenya shillings. The profit before tax was 2100 million Kenya shillings lower before than after the implementation of Basel II operational risk management an implication that the profit before tax is expected to increase by 2100 million shillings per year for the periods after the implementation of Basel II risk management operations.

A unit increase in fraud related cost would decrease the profit before tax (after the implementation of Basel II risk management operations) by about 551 million shillings. There was a significant interaction effect (p value=0.003<0.05) between fraud and time before the implementation of Basel II risk operation. Profit before tax decreased by 1770 (-2100+330) million shillings per year per unit increase in fraud related costs for the periods before the implementation of Basel II risk management operations.

With respect to the significance values given in table 9, the optimal mixed fraud effects model for profit before tax can be expressed mathematically as:

$$Profit\ before\ tax = 6107.4 - 2100.5 * [TIME = 1] - 551.0 * Fraud\ related\ cost$$
$$+330.4 * ([TIME = 1] * Fraud\ related\ cost) \ldots\ldots\ldots\ldots\ldots \quad (1)$$

CONCLUSIONS

The study observed that the major types of financial frauds among commercial banks in Kenya are; system hacking by external fraudsters that results to information and money loss (73.1%), unauthorized activities in transactions intentionally not reported (57.7%), theft/ embezzlement/ robbery (53.8%), forgery 50%, external theft/robbery 50%, account take-over/impersonation

(46.2%) as well as cheque kiting (34.6%). Further the study established that the major causes of fraud in commercial banks were greed by staff is (77%), weak internal controls 73.1%, urgent financial need each with 73.1% and access to information and money with 69.2%. The effect of these financial frauds on financial performance of commercial banks was tested using Pearson correlation coefficient at 5% level of significance. The correlation results indicated that there is a significant (p value=0.041) negative relationship (r = -0.168) between financial fraud and financial performance hence resulting to rejection of the null hypothesis that financial fraud does not have significant effect on the financial performance of commercial banks in Kenya. In particular, the study established that financial fraud has a significant negative effect on the financial performance of commercial banks in Kenya. This means that an increase in financial fraud will result to a decrease in financial performance and vice versa. CBK (2016) annual report reported that increased use of ICT among commercial banks in Kenya has resulted to increased cases of ICT related frauds in the recent past .These findings are consistent with Uchenna and Agbo (2013) findings on their study on impact of fraud and fraudulent practices on performance of banks in Nigeria which found that the amount of money lost due to fraud had a negative correlation with banks efficiency.

RECOMMENDATIONS

From the study findings, financial fraud costs have significant negative effect on financial performance of commercial banks in Kenya. The study findings further revealed that the dominant types of fraud risks facing commercial banks in Kenya are external fraud committed through banks' system hacking by external fraudsters leading to information and money loss commercial banks. Thus the study makes two forms of recommendations; managerial and regulatory recommendations as follows:

Managerial Recommendations

From the findings of this study that financial fraud costs have significant negative effect on financial performance of commercial and that external frauds committed through banks' system hacking by external fraudsters are the leading types of fraud risks facing these commercial banks, the researcher recommends that commercial banks' management invests in enhanced ICT related fraud controls which should be entrenched in the commercial banks' ICT processes relating to mobile banking, computer banking and internet banking as this will reduce system hacking by external fraudsters hence reducing information and money loss. In addition the commercial banks' management should invests in regular security information trainings for both old and new human resources to prevent fraud risks with great emphasis on ICT associated risks. Further, the study also revealed that internal fraud was the second major fraud risk committed in the form of unauthorized activities in transactions intentionally not reported (57.7%), theft/embezzlement/robbery (53.8%), forgery and external theft/robbery 50% each. Therefore to manage internal fraud risk the study recommends that the commercial banks management should improve their internal controls by adopting fraud monitoring tools (FDR footprints, Fiserv fraud risk manager, Memento, Actimize, Intellinx among others (McKenna, 2016)) in their operations to help capture transaction level information from the host system and track keystroke level activities from each employee that accesses the system. This will generate risk reports that can flag staffs that seem to be pilfering account details. In addition the banks should strengthen the adopted fraud monitoring tool through increased limitations over transactions, more than one signature for high value transactions increased authorization procedures, and increased reconciliation of activities and accounts among other internal controls.

Policy Recommendations

The study further recommends that the commercial banks' regulator (CBK), compels the commercial banks to implement ICT related fraud controls and to further carry out regular ICT related fraud risks audits to measure banks' level of compliance and the effectiveness of the adopted ICT fraud control technique in managing the external fraud risk. Further, the study found out that four of the Basel II operational risks measured (regulatory non-compliance cost, business disruption & utility outage cost, operational risk lawsuit cost and employment practices & workplace safety non-compliance costs) have insignificant effect on financial performance of commercial banks in Kenya, which implies that Basel II implementation has managed to tame these operational risks. In addition, the findings from paired T-test also reported improved PBT for commercial banks after Basel II implementation. From these findings, this study therefore recommends that the commercial banks regulator (CBK) should not relent on full compliance with Basel II requirements and that the regulator should even upgrade to Basel III regulation to ensure that commercial banks in Kenya remains prudent in their operations.

LIMITATIONS OF THE STUDY AND AREAS FOR FURTHER STUDY

Some of the challenges experienced during the study were that few respondents were unwilling to fill the questionnaires on the grounds that it was a tall order as their bank policies prohibits such activities while others purported to be too busy to have time to attend to unofficial assignments. These challenges were however overcome by replacing the un-cooperating respondent bank with another bank to ensure that the response rate remained high.

The study only concentrated on effects of on financial fraud risks as stipulated by Basel II. Future studies should be conducted to incorporate other types of operational risks as stipulated by Basel II as operational risks such as client's products & business practices, damage to physical assets, execution, delivery & process management and relationship risk management so as to assess how they affect financial performance of commercial banks.

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