The Influence of Fraud Risk Management on Fraud Occurrence in Kenyan listed Companies

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Abstract

This study sought to establish the influence of fraud risk management practices in regard to preventive, detective and corrective controls on the level of fraud occurrence on listed firms in Kenya. This is because limited research had been conducted in the context of listed firms in Kenya and limited attention paid on how corrective controls influences fraud occurrence. A causal research design was applied. Data was obtained from a sample of 275 senior managers by using structured questionnaires. The findings revealed that only preventive and corrective controls had a profound negative effect on the degree of fraud occurrence on listed companies in Kenya. Conversely, detective controls did not considerably reduce fraud occurrence on listed companies in Kenya. The key implication of the findings noted by this study is that the proper implication of the most effectual anti-fraud measures can only be realized when the management are committed to do so. Additionally, corrective controls must be seriously looked into as an effective strategy of curbing fraud since they indeed are instrumental in curbing fraud. Future studies should be extended to the public sector in regard to the government ministries and the distinctive partitions of the private sector such as the insurance, real estate, manufacturing, automobile sectors among others respectively. Moreover, future studies can explore how firm size in terms of asset size or employee size moderates the relationship between fraud risk management practices and the level of fraud occurrence.

Keywords: Preventive; Detective; Corrective; Fraud

JEL Classifications: M41; M42

Introduction

Fraud has turned out to be a serious threat to the sustainability of organizations globally (ACFE, 2016). This is because fraud negatively affects the profitability, economic growth and social welfare of the firms (Simbolon, Ahmed & Elviani, 2018). For instance the 2007 to 2009 global financial crisis was caused by a wide range of fraud activities in the mortgage industry through conspiracy between mortgage originators, the securities issuers and underwriters (Fligstein & Roehrkasse, 2016). The conspirators were identified, prosecuted and ended up paying multibillion-dollar penalties (Fligstein & Roehrkasse, 2016). Fraud refers to the deliberate misrepresentation of the truth with an aim of deceiving a particular entity or person for unfair wrongful gain at their own expense (Kingsley, 2015). According to ACFE (2018) based on 2690 fraud cases that have been experienced by numerous organizations in 125 countries, a total sum of \$7 billion has been lost. It was revealed that asset misappropriation was actually a conventional type of fraud scheme that is perpetuated all over the world (ACFE, 2018).

This type of fraud constitutes 89% of the fraud cases, though it was established that it is not very costly when compared to other forms of fraud since every fraud case accounts for \$114,000 (ACFE, 2018). On the other hand, the most costly type of fraud scheme was established to be the financial statement fraud accounting for \$800,000 per fraud case, though rarely perpetuated (10% of the fraud cases) when compared to other forms of fraud (ACFE, 2018). On the other hand, based on survey conducted by PwC (2020) it was noted that the most common fraud scheme perpetrated were bribery & corruption, procurement fraud, asset misappropriation and customer fraud. In Kenya, the fraud menace has led to the collapse of big firms listed at the NSE such as Imperial Bank, Uchumi supermarket, National Bank, Kenya Airways and Mumias Sugar (Mpiana, 2017). One of the key factors leading to fraud to thrive is lack of sufficient or weak anti-fraud control systems (ACFE, 2018; Deloitte, 2018). This is besides other factors such as perceived pressure, rationalization and capacity to commit fraud (Cressy, 1953; Wolfe & Hermanson, 2004). Girenti and Hedley (2011) contended that fraud could only be effectively managed by preventive, detective and corrective measures. When fraud is effectively controlled by the preventive and detective measures, it can consequently boost the firm's financial performance especially in the context of Kenyan commercial banks. When fraud is effectively controlled by the preventive and detective controls then the financial performance of a particular organization will be boosted especially in the context of Kenyan commercial banks (Ohando, 2015).

In online business firms, the preventive measures are put in place through the implementation of strong authentication systems together with information and communication security frameworks designed to make it very difficult for fraud to be carried out (Soomro et al, 2019). Additionally, corrective actions involving the punishment of fraudsters not only discourage future fraud activities but it boosts the organization's reputation and the possibility to recover the lost assets (Soomro et al, 2019). In Iraq the use of forensic accounting services plays an important role in detecting and preventing fraud since they have sufficient technical knowledge in identifying the weakness in the internal control systems that are vulnerable to fraud risk (Saleh, et al., 2020). Moreover, corrective actions such as dismissal of senior managers like the CMC case (Otieno, 2016), prosecution and payment of hefty fines like in the case of Kenya Re (Onyango, 2019) have been used as a way to deter future fraud actions. Currently, nearly all the Kenyan listed firms lack a clear policy guideline of the fraud risk management that are effective in deterring fraud. Moreover, based on the reviewed studies (Kamau, 2015; Bierstaker et al., 2006; Kultanen, 2017; Waigumo, 2012; Lee, 2017; Holtfreter, 2008; ACFE, 2018; Othman et al., 2015; ACFE, 2018). There was limited research conducted to assess the effect of preventive, detective and corrective controls on the level of fraud occurrence on listed companies in Kenya. Consequently, this study sought to address the existing research gap. Therefore, the objectives of the study were to establish the influence of preventive, detective and corrective controls on the level of fraud occurrence on listed companies in Kenya.

A causal research design involving the employment of questionnaires was employed to collect quantitative data from 275 sampled senior managers and multiple linear regression model employed for analysis with an aim of addressing the objectives of the study. This study contributes contextually by studying the research problem in the context of the NSE, Kenya considering that most studies focused on other sectors such as the insurance, banking, public, NGO and the education sectors. Moreover, it contributes to the fraud research knowledge by establishing the influence of corrective controls on the level of fraud occurrence since limited research has been done in this area. The main limitation of this research study was that it was solely based on perceptions of the respondents. The limitation being that though the thoughts and opinions of the management are based on expert knowledge it could be subject to bias. Therefore, the study cannot completely ratify that it retrieved credible information on the effect of fraud risk management and firm size on the level of fraud occurrence on listed firms in Kenya. The study was arranged by starting with the

introduction, followed the literature review, methodology and analysis results, discussions and conclusions, conclusions and it closed with references.

Literature Review

This section reviewed the theories and an empirical review on the relationship between fraud risk management and fraud occurrence. In connection with the theories that were relevant to this research investigation, 2 fraud theories were identified, namely the fraud triangle theory and the fraud management lifecycle theory. The fraud management lifecycle was initially emanated by Wilhelm (2004) which illustrates eight stages one can undertake to manage fraud risk (Ocansey, 2017). The eight phases of the cycle comprises of deterrence, prevention, detection, mitigation, analysis, policy, investigation and prosecution (Ocansey, 2017). The stages are autonomous actions but can be carried out simultaneously (Ocansey, 2017).

Rahman and Anwar (2014) recommended that all the components of fraud management lifecycle theory must be concurrently employed in order to effectively manage fraud in the banking sector. On the other hand, Gathu (2018) argued that when an organization is able to reach the last stage of the cycle, then it denotes a culmination of a failed and a successful fraud risk management. The fraud risk management is deemed to have failed since fraud was carried out successfully and fraud losses were incurred. On the other hand, successes would have been achieved since fraud was discovered, the perpetrator identified and the perpetrator arrested and prosecuted. The theoretical model was relevant to this study in regards to the four phases of fraud management lifecycle comprising of deterrence, preventive, detective and corrective stages. On the other hand, the fraud triangle theory which was developed by Cressy (1953) contends that the primary drivers of fraud are pressure, opportunity and rationalization. According to the model, two elements of the fraud triangle or more have to exist in order for fraud to be successfully perpetuated (Sprague, 2018). This means that a motive has to be present in order for an individual to commit fraud and the reason for committing fraud has to be justified as something that is fair or right. Most importantly an opportunity to perpetuate fraud must be available for a person to commit fraud (Sprague, 2018). Besides that, when one aspect is missing from the fraud triangle then one would be unable to perpetuate fraud successfully (Sprague, 2018).

There have been a lot of perception studies (ACFE, 2018; Othman et al., 2015; Bierstaker et al., 2006; Otieno, 2018; Mangala & Kumari, 2017; Zamzami, Nusa & Timur, 2016; Omar & Abu Bakar, 2012; Efiong, Inyang & Joshua, 2016; Micheni, 2016; Rahman & Anwar, 2014) conducted to establish the perceived effectiveness of preventive controls. The aforementioned studies observed that preventive controls comprising of enhanced audit committees, internal audit department, staff rotation, fraud reporting policy, proper due diligence on customers, reference check on employees, code of conduct are very effective in deterring fraud. A code of conduct is one of the most essential measures of communicating to the employees about key standards of acceptable behaviour and regulations that discourages fraud and other misconducts (United Nations, 2016). Besides that, staff rotation policy it helps in preventing fraudulent cash disbursements (ACFE, 2016). An internal audit department plays an important role in deterring fraud by assessing the effectiveness and efficiency of the effectiveness and efficiency on the internal control systems (Global Ports, 2018). Moreover, an independent audit committee identifies and controls fraud risk areas by constantly reviewing and refining the fraud policy procedures (Global Ports, 2018).

Besides that, number of studies (Lee, 2017; ACFE, 2018; King'ori, Kiragu, & Kamau, 2019, Kamaliah et al., 2018; Waigumo, 2012; Kamau, 2015; Holtfreter, 2008) actually went a step further to establish how the preventive controls influenced the reduction of fraud occurrence. King'ori, Kiragu and Kamau, (2019) that fraud preventive measures consisting of referencing of documents of value, staff training on hiring, segregation of duties, verification of signatures, job rotation, integrity check on hiring and control over dormant accounts considerably lowers down the level of fraud occurrence cases experienced in large and medium-sized commercial banks in Kenya. Conversely, Waigumo (2012) observed that fraud preventive measures had an insignificant impact on fraud occurrence in commercial banks in Kenya. Waigumo (2012) argued that the preventive measures could be ineffective in reducing fraud occurrences in commercial banks in Kenya since the anti-fraud techniques are old to curb bank fraud that changes as a consequence of technological advancement. Complementary to that Kamaliah et al. (2018) based on a study carried out in the Malaysian public sector noted that organizational integrity plan and internal control systems momentarily reduced fraud incidents. Proper implementation of an internal control system curbs the risk of conspiracy among employees thus hindering fraudulent actions from taking place (Peltier-Rivest & Lanoue, 2012). Similarly, Holtfreter (2008) also observed that internal control system as a fraud preventive measure

significantly reduces fraud losses. On the other hand, Holtfreter (2008) revealed that background checks had no significant influence on fraud losses.

With reference to studies (Othman et al., 2015; Bierstaker et al., 2006; Otieno, 2018; Mangala & Kumari, 2017; Hakami & Rahmat, 2019; Zamzami, Nusa & Timur, 2016; Omar & Abu Bakar, 2012; Efiang, Inyang & Joshua, 2016; Micheni, 2016; Rahman & Anwar, 2014) conducted to establish the perceived effectiveness of detective controls. It was established that operational audits, fraud hotlines, forensic accountants, continuous auditing, reference check on employees, data mining, fraud hotlines, virus protection, firewalls and filtering software were perceived to be effective in detecting and deterring fraud in Haron et al., (2014) contended that forensic accountants have the advantage of investigating beyond the accounting figures over the traditional auditors or the accountants. Continuous auditing was perceived to be effective in deterring fraud since it utilizes information technology to retrieve audit evidence on a continuous basis that helps to seal any fraud risk areas or detect any arising fraud incidence (Mangala & Kumari, 2017).

Furthermore, establishing a fraud hotline system that guarantees anonymity to people who volunteer to report a certain fraud case will encourage many people to report fraud incidents being experienced in the organization without fear of reprisal (Mangala & Kumari, 2017). Besides that, A number of studies (Ogola, K'Aol, & Linge, 2016; Waigumo, 2012; Kamau, 2015; Holtfreter, 2008) actually went a step further to establish how the detective influenced the reduction of fraud occurrence. Ogola, K'Aol and Linge (2016) who conducted a study in the context of Kenyan commercial banks noted that fraud response strategies comprising of internal fraud investigation team, inclusion of top leadership in fraud response team, installation of fraud-guard systems and fraud incidences reporting procedures significantly reduces the amount of fraud losses experienced by commercial banks of Kenya. On the other hand, Kamau (2015) revealed that investigative and litigation support services provided by forensic accountants significantly decreases the level of fraud occurrence in insurance firms. Besides that, Holtfreter (2008) observed that fraud detective controls comprising of internal audits, anonymous hotlines and external audits had a negative significant influence on the amount of money lost through fraud losses. This similarly meant that the aforementioned detective measures leads to the decrease of fraud losses.

Conversely, Waigumo (2012) interestingly observed that fraud detection controls comprising of financial ratios, manually administered techniques, tips from staff, fraud vulnerability reviews and document examinations weakly diminishes the level of fraud occurrences in commercial banks operating in Kenya. The reason for the findings is that commercial banks still relies on old fraud detection measures to combat sophisticated bank fraud such as money transfer fraud, cheque kitting and credit and debit fraud that calls for advanced anti-fraud IT technology. Besides that, ACFE (2018) revealed that surprise audits and proactive data monitoring are key detective measures that are effective in abating fraud cases globally.

With reference to the perceived effectiveness of corrective corrective on fraud occurrence, there have been limited studies (ACFE, 2018; Deloitte, 2018; Kultanen, 2017; United Nations, 2016) conducted to rate their perceived effectiveness. ACFE (2018) in its global survey revealed that firms fear to refer fraud cases to law enforcement institutions because they fear bad publicity, or it could be too costly. On the other hand, the study revealed that the firms prefers internal discipline such as suspending or firing a fraudster as a mechanism of discouraging future fraudulent acts. On the other hand, Deloitte (2018), based on the survey it conducted in India, revealed that the development and implementation of severe penalties for unethical behaviours would discourage and make the potential fraudsters to fear committing any fraudulent act in the firm. Kultanen (2017) who conducted a study in the Ugandan university institution revealed that even though penalties have been prescribed to deter fraud occurrence or to discipline the fraudsters identified, the implementation of punishments are rare since bribes are offered to avoid them. Thus, this could mean that internal discipline is not always an effective measure of correcting fraudsters or mitigating fraud occurrence. According to the United Nations (2016), the management must have that strong will and determination to follow up on the fraud investigation process and ensure that the appropriate action is taken to discipline the fraudsters either internally through suspension or termination or externally through prosecution.

Research Methodology and Results

This section discusses the methodological approaches it employed to collect and analyze data. It also presents the findings of the analysis. The study employed a positivist research philosophy. This is because it sought to establish the causal association between fraud risk management practices and fraud occurrence by collecting quantitative data for statistical analysis (Park, Konge & Artino, 2020). The researcher also employed this research philosophy since the reality was treated as independent and objective from the

researched elements and the researcher (Bleiker, Morgan-Trimmer & Knapp, 2019). The research design employed by this study was the causal research design. This is because causal research design involves studies that seek to determine how one or more variables affect the outcome variable (Apuke, 2017). The total population of the firms listed in NSE Kenya was 64 operating in 13 sectors (NSE, 2020). The unit of analysis for this research investigation was the top management who were the respondents of the study. Thus, the target population comprised of the CEO, the finance manager, the supply chain (logistics & inventory) manager, the internal audit and risk manager and one non-executive director (who is the firm's audit committee). Consequently, this represented a total of 5 employees in senior management in each firm, therefore the total target population for this study was 320 senior managers of listed NSE, companies.

Stratified sampling technique was applied to divide the target population of the management into strata. Each stratum comprised of the total firms and the aggregate number of target managers working in those firms based on a certain sector. The total sample size of the respondents that represented the target population of the study was calculated by using Yamane (1967) sample size formula. The Yamane (1967) sample size calculator is a simplified formula for estimating samples sizes and it is good for both small and large populations (Israel, 1992). It estimates sample size of a given population based on the parameter of 95% confidence level and allows +5% (0.05) margin of error. The formula and how the sample size was estimated was presented below;

$$n = \frac{N}{1 + N(e)^2}$$

Whereby; n denotes the sample size.

N was the target population, which in this case was the 64 listed firms.

e was the margin of error at ±5% (0.05) precision level.

$$\begin{aligned} n &= \frac{64}{1 + 64(0.05)^2} \\ &= 55 \end{aligned}$$

Thus, the sample size of our study representing the target population was 55 listed firms

Since the target population was not proportionate owing to the fact that each sector had a different number of firms, then the target sample size of the respondents for each stratum was not equal. Consequently, disproportionate stratified sampling was used to sample the respondents based on the personal judgment of the researcher that was aimed at producing a fair and unbiased sample size for each stratum (Pandey & Pandey, 2015). Structured questionnaires were used to collect primary data from the targeted senior managers in order to assess their perceptions on the variables of interest. It contained questions measured on 5-point Likert scales that helped in obtaining quantitative data from the targeted senior managers for statistical analysis and interpretation (Zikmund et al., 2010). Structured questionnaires are deemed to be an appropriate data collection tool for this study since they are less costly and easier to administer (Kothari, 2004). The pilot test was carried out on a sample of 28 senior managers who represented 10% of the aggregate sample size to assess the reliability and validity of the survey instrument. The content validity of the questionnaires was ensured by modifying the questionnaire in line with the expert recommendations of the studied managers. This was done with the aim of ensuring that the question items were sufficient and that they appropriately represented the constructs intended to be measured before administering the final questionnaire. The study employed the Cronbach's alpha test to evaluate the reliability of the questionnaire based on the items measured on a Likert scale. It was used to determine the internal consistency of the questionnaire items. A Cronbach's alpha figure 0.7 and above denotes that the questionnaire items are internally consistent (Bonett & Wright, 2015).

After the pilot study was conducted, the primary data was analyzed in SPSS by the Cronbach's Alpha model. The findings observed that all the items posted a Cronbach's alpha figures that were above 0.7. Preventive controls posted a figure of 0.835, detective controls generated a value of 0.975, corrective controls recorded a value of 0.784, asset misappropriation posted a value of 0.827, while corruption recorded a figure of 0.800 and finally financial statement fraud posted a figure of 0.909. To establish the perceived effectiveness of preventive, detective and corrective controls on fraud occurrence, descriptive analysis comprising of mean, median, standard deviation and ranking were used. Besides that, descriptive analysis involving mean scores was used to summarize the data set of each statement linked to fraud occurrence and establish the degree of severity of each type of fraud occurrence. Multiple Linear regression analysis was employed to establish the effect of preventive, detective and corrective controls on the level of fraud occurrence and if the influence explained was statistically significant. The SPSS software was used to perform the descriptive analysis and the results were presented in tables. The study developed and presented the regression equation below that was used to illustrate the relationship between the dependent variable (fraud occurrence) and the independent variables (preventive, detective and corrective controls).

$$FO = \alpha + \beta_1 FP + \beta_2 FD + \beta_3 FC + \varepsilon$$

Whereby;

FO = the dependent variable representing fraud occurrence.

α = denoted the constant term representing the percentage of fraud occurrence when preventive, detective and corrective controls are absent.

FP, FD, FC = are independent variable representing preventive, detective and corrective controls respectively.

$\beta_1, \beta_2, \beta_3$ = the regression coefficients depicting the degree of fraud occurrence explained by a unit rise of fraud preventive, detective and controls respectively.

ε = the error term that depicted the goodness of fit of the regression model.

The study was able to retrieve 212 questionnaires from the targeted senior managers, which were considered worthwhile for analysis. This represented a response rate of 77.1% that was appropriate and sufficient for analysis and interpretation. Since Fincham (2008) posited that, a response rate of 60% and above is adequate for a researcher to make inferences. Only 63 respondents accounting for 22.9% of the target sample failed to respond thus the non-response bias was extremely low. These 63 respondents comprised of 25 who participated in the pilot study and were not included in the main data collection exercise in order to avoid biasness. Question items on a 5-point Likert scale (assessing the level of agreement was used to collect numerical data. The descriptive findings with reference to establishing the perceived effectiveness of preventive controls on listed companies in Kenya observed that all the 13 controls were perceived to be effectual in mitigating fraud as presented in Table 1.

Table 1: Descriptive Findings of the Perceptions of Effectiveness of Preventive Controls on Fraud Occurrence on listed Companies in Kenya

No.	Preventive Control	Mean	Median	Standard Deviation
1.	Segregation of duties.	3.929	4.000	1.284
2.	Corporate code of conduct.	3.920	4.000	1.450
3.	Fraud risk assessments.	3.915	4.000	1.367
4.	Fraud reporting policy.	3.854	4.000	1.428
5.	Enhanced audit committees.	3.830	4.000	1.352
6.	Reference checks on employees.	3.826	4.000	1.381
7.	Code of sanction against supplies/contractors.	3.821	4.000	1.459
8.	Positive employee recognition.	3.807	4.000	1.386
9.	Proper due diligence on customers.	3.807	4.000	1.399
10.	Internal control system.	3.802	4.000	1.393
11.	Internal audit department.	3.736	4.000	1.358
12.	Staff rotation policy.	3.684	4.000	1.424
13.	Anti-fraud training program.	3.679	4.000	1.374
Aggregate Score		3.816	4.000	1.389

With reference to establishing the perceived effectiveness of detective controls on fraud occurrence on listed companies in Kenya the descriptive results as presented in Table 2 observed that all the detective controls were perceived to be effective in curbing fraud occurrence on listed firms in Kenya.

Table 2: Descriptive Findings of the Perceptions of Effectiveness of Detective Controls on Fraud Occurrence on listed Companies in Kenya

No.	Detective Control	Mean	Median	Standard Deviation
1.	Fraud hotlines.	4.019	4.000	1.363
2.	Ethics officer.	3.948	4.000	1.314
3.	Operational audits.	3.943	4.000	1.327
4.	Financial ratios.	3.934	4.000	1.183
5.	Inventory observation.	3.830	4.000	1.273
6.	Proactive data monitoring/analysis.	3.778	4.000	1.170
7.	Bank reconciliation.	3.759	4.000	1.225
8.	Internal audit review.	3.736	4.000	1.316
9.	Data mining.	3.693	4.000	1.253
10.	Surprise audits.	3.689	4.000	1.359
11.	Cash reviews.	3.637	4.000	1.179
12.	Continuous auditing.	3.627	4.000	1.302
13.	Forensic accountants.	3.609	4.000	1.388
Aggregate Score		3.785	4.000	1.281

Similarly, as presented in Table 3, the descriptive findings not that all the 5 assessed corrective controls were perceived to be effective deterring fraud occurrence on listed firms in Kenya.

Table 3: Descriptive Findings of the Perceptions of Effectiveness of Corrective Controls on Fraud Occurrence on listed Companies in Kenya

No.	Corrective Control	Mean	Median	Standard Deviation
1.	Referral of fraud cases to law enforcement institutions.	3.906	4.000	1.281
2.	Suspension from work duty.	3.774	4.000	1.301
3.	Job termination.	3.736	4.000	1.365
4.	Prosecution and imprisonment.	3.675	4.000	1.236
5.	Prosecution and payment of hefty fines.	3.476	4.000	1.282
Aggregate Score		3.713	4.000	1.293

Source: Author, 2020

Table 4: Descriptive Findings of the Perceptions of the level of Fraud Occurrence on listed Companies in Kenya

<i>Types of level of Fraud Occurrences</i>	<i>Mean</i>	<i>Median</i>	<i>Standard Deviation</i>
<i>Asset Misappropriation</i>			
Stealing the firm's cash.	2.561	2.000	1.394
A person uses his/her profession to create expenses for personal or inappropriate use.	2.396	2.000	1.256
Increasing costs in order to pocket some money.	2.255	2.000	1.364
Use of company's assets for personal gain.	2.123	2.000	1.222
Theft of cash receipts.	2.099	2.000	1.190
Aggregate Score	2.287	2.000	1.285
<i>Corruption</i>			
Purchasing scheme involving favouring a supplier related to an employee who had a financial interest in the purchasing transactions.	2.495	2.000	1.312
Employee assisting to secure a payment involving an inflated invoice.	2.486	2.000	1.358
Conflict of interest involving selling of goods to a close relation at a cheaper price than the actual price.	2.410	2.000	1.305
Firms make the winning party to get contracts at competitive prices.	2.406	2.000	1.312
Making false or illegal gratuity payment for personal gain.	2.349	2.000	1.310
Bribery.	1.750	1.000	1.212
Aggregate Score	2.316	2.000	1.302
<i>Financial Statement Fraud</i>			
Misleading financial disclosures are made to paint a financially ailing firm to look good.	2.868	2.000	1.612
Assets are improperly valued in order to make the balance sheet look good.	2.679	3.000	1.524
Companies overstate their liabilities and expenses.	2.609	3.000	1.388
Companies present false revenues in financial statements.	2.495	3.000	1.423
Aggregate Score	2.663	3.000	1.487
Overall Score	2.422	2.000	1.358

In general as presented in Table 4, it can be established that the level of fraud occurrence was moderately low on the listed companies in Kenya ($M = 2.422$; $SD = 1.358$). The relatively low occurrence of these three types of fraud could denote the fact that the listed companies in Kenya utilizes the most effective fraud preventive, detective and corrective controls to combat fraud. Besides that, the findings could mean that not all the listed firms experience serious fraud scandals as those brought to the public limelight. In addition, those firms that had been brought to the limelight owing to the corporate scandals experienced could be because they failed to utilize the perceived effective fraud risk management controls. Nevertheless, the findings revealed that financial statement fraud was relatively high on the listed companies in Kenya ($M = 2.663$; $SD = 1.487$). The findings are consistent with the theoretical proposition of the fraud diamond theory, that fraud especially financial statement fraud is perpetuated by the professionals who have the knowledge and capacity that enables them to commit fraud without being easily detected. Interestingly, corruption and asset misappropriation in general had a relatively low level of occurrence on listed companies in Kenya justified by mean scores of 2.316 and 2.287 respectively and standard deviations of 1.302 and 1.285 correspondingly. Table 5 below presented the regression analysis results.

Table 5: Multiple Linear Regression Analysis Results depicting the Effects of Preventive, Detective and Corrective Controls on the level of Fraud Occurrence on listed Companies in Kenya

Model Summary ^b						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	
1	0.801 ^a	0.641	0.636	0.577	1.863	
a. Predictors: (Constant), Corrective, Preventive, Detective Controls						
b. Dependent Variable: Fraud Occurrence						
ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	123.516	3	41.172	123.731	0.000 ^b
	Residual	69.213	208	0.333		
	Total	192.729	211			
a. Dependent Variable: Fraud Occurrence						
b. Predictors: (Constant), Corrective, Preventive, Detective Controls						
Coefficients ^a						
Model		Unstandardized Coefficients B	Standard. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	4.977	0.144		34.476	0.000
	Preventive Controls	-0.337	0.072	-0.425	-4.712	0.000
	Detective Controls	-0.093	0.097	-0.105	-0.956	0.340
	Corrective Controls	-0.253	0.086	-0.303	-2.958	0.003
a. Dependent Variable: Fraud Occurrence						

The first section of Table 5 which displayed the model summary results revealed that 80.1% (R-value = 0.801) of the dataset was described by the regression model thus meaning that the model had an extraordinary predictive strength. Besides that, 64.1% (R-Square = 0.641) of the variability accounted on the level of fraud occurrence was explained by all the 3 fraud risk management controls. Finally, the value of the standard error of estimate, which was 0.577 turned out to be a relatively low figure, meaning that the assessed data fitted closely to the regression line making the model to have a high predictive power. The ANOVA results presented at the second section of Table 5 actually established that the preventive, detective and corrective controls significantly accounted for the variance explained on the level of fraud occurrence on listed firms in Kenya. This was justified by a p-value of 0.000b, which was less than 0.05, and an F-statistic figure of 123.731.

The third section of Table 5 displaying the regression co-efficient results led to the study to conceive and propose the ensuing regression equation;

$$FO = 4.977 - 0.337FP - 0.093FD - 0.253FC$$

Whereby;

FO is fraud occurrence

FP is preventive control

FD is detective control

FC is corrective control

The constant term displaying a figure of 4.977 signified that in the absence of preventive, detective and corrective controls then the degree of fraud occurrence on listed companies in Kenya would significantly be at 497.7% (p-value = 0.000<0.05). The results denoted that the lack of fraud risk management practices would encourage fraudsters to perpetuate fraudulent activities on the listed companies in Kenya at an unimaginable level. The unstandardized beta co-efficient of the preventive controls clearly illustrated that a unit rise of the preventive controls would significantly reduce the degree of fraud occurrence on listed companies in Kenya by 33.7% ($\beta = -0.337$; p-value = 0.000<0.05). The research outcomes meant that the perceived effective preventive controls momentarily curbs the level of fraud occurrence on the listed companies in Kenya. Besides that, The unstandardized beta co-efficient of the detective controls clearly illustrated that a unit rise of the detective controls would reduce the degree of fraud occurrence on listed

companies in Kenya by 9.3% ($\beta = -0.093$) though it would be inconsequential ($p\text{-value} = 0.340 > 0.05$). The research outcomes meant that the perceived effective detective controls does not meaningfully lessen the level of fraud occurrence on the listed companies in Kenya. Finally, The unstandardized beta co-efficient of the corrective controls clearly illustrated that a unit rise of the corrective controls would significantly reduce the degree of fraud occurrence on listed companies in Kenya by 25.3% ($\beta = -0.253$; $p\text{-value} = 0.003 < 0.05$). The research outcomes meant that the perceived effective corrective controls profoundly decreases the level of fraud occurrence on the listed companies in Kenya.

Discussions and Conclusions

This section discusses the research findings established by this study in line with each specific objective and the conclusions. With reference to assessing the effect of preventive controls on the level of fraud occurrence on listed companies in Kenya, which was the first objective of the study, the regression analysis findings established that preventive controls significantly reduces the level of fraud occurrence on listed firms in Kenya. The research outcomes meant that the perceived effective preventive controls momentarily curbs asset misappropriation, corruption and financial statement fraud schemes on the listed companies in Kenya. Thus, the study upheld the theoretical proposition of the fraud triangle theory that preventive controls are effective in mitigating pressure (greed, debt, addiction etc.) and rationalization (justification of immoral deed) that consequently leads to fraud. The research findings concurred with the research outcomes of Kamaliah et al. (2018) who conducted a study in the Malaysian public sector that preventive controls significantly curbs fraud occurrence. The research findings also concurred with the observations made by ACFE (2018) in an international context that preventive controls momentarily reduces the level of fraud occurrence. Conversely, the findings disagreed with the research outcomes of Waigumo (2012) who revealed that preventive controls does not significantly curb fraud occurrence on commercial banks in Kenya. Thus, the employment of staff rotation policy, enhanced audit committees, code of conduct, reference checks on employees, antifraud training programs and fraud reporting policies among other preventive controls on listed companies in Kenya would considerably lessen the level of fraud occurrence cases.

With reference to assessing the effect of detective controls on the level of fraud occurrence on listed companies in Kenya, which was the second objective of the study, the regression analysis findings established that detective controls does not significantly reduce the level of fraud occurrence on listed firms in Kenya. The research outcomes meant that the perceived effective detective controls does not meaningfully lessen the level of fraud occurrence on the listed companies in Kenya. The research findings were inconsistent with the research outcomes of Ogola, K'Aol and Linge (2016), Lee (2017), ACFE (2018), Holtfreter (2008) and Kamau (2015) which had actually revealed that detective controls significantly reduces fraud occurrence.

Interestingly, the findings were consistent with the research outcomes of Waigumo (2012) which had established that detective controls does not significantly curb fraud occurrence on commercial banks in Kenya. The findings of the study failed to uphold the theoretical proposition of the fraud triangle theory since it revealed that detective controls would not be able to momentarily deny the fraudsters the opportunity to perpetuate fraud. Since it would have already have been committed when it is detected. This is because fraud detection is always employed after fraud has been committed when the preventive controls have failed to seal the loopholes that would encourage fraud. Therefore, a fraud action has to be detected, acted upon through corrective action in order to prevent future fraud occurrence. Consequently, based on the fraud management lifecycle theory, the preventive and detective controls must go hand in hand in order to effectively deter fraud risks. With reference to assessing the effect of corrective controls on the level of fraud occurrence on listed companies in Kenya, which was the third objective of the study, the regression analysis findings established that corrective controls significantly reduces the level of fraud occurrence on listed firms in Kenya. The research outcomes meant that the perceived effective corrective controls profoundly decreases asset misappropriation, corruption and financial statement fraud schemes on the listed companies in Kenya. Therefore, the research outcomes of this study upheld the theoretical proposition of the fraud triangle theory by establishing that corrective controls are effective in deterring rationalization that consequently leads to fraud. Meaning that the punishment of fraudsters would make potential fraudsters to realize that fraud action is immoral and unlawful which can attract a serious penalty, thus this would suppress them from committing fraud in the future.

The findings of this study agreed with ACFE (2018) that corrective action involving internal discipline such as suspending or firing a fraudster subsequently instills fear and discourages potential fraudsters from

perpetuating fraudulent acts in the future. The findings also concurred with Deloitte (2018) based on the study carried out in India that the employment of corrective actions involving serious penalties would discourage and limit future fraudulent acts. From the discussed findings it can be concluded that, preventive controls profoundly curbs the level of fraud occurrence on listed companies in Kenya. Since it provides employees the knowledge of fraud, how it is immoral and offers mechanisms that would motivate the employees to stop fraud from occurring. Moreover, we can conclude that detective controls decrease the level of fraud occurrence on listed companies in Kenya but not significantly. Since fraud detection is always effective only in unravelling fraud that has already happened. Thus, for the detective controls to deter future fraud actions, then the controls have to unravel the fraud actions in a specific area in order for appropriate mechanisms to be conceived to seal those loopholes encouraging fraud perpetration. Moreover, it can also be concluded that corrective actions considerably decreases the level of fraud occurrence on listed companies in Kenya. This is because punishing fraudsters would discourage future fraudulent actions. The management should be motivated in formulating appropriate mechanisms that would lead to the development and application of the identified effective preventive and corrective controls to precisely mitigate fraud occurrence on listed firms in Kenya. Since it does not involve a high degree of investment in terms of finances and labour.

The management should not hesitate in firing, suspending or penalizing an employee found guilty to have committed fraud, since these corrective actions discourages future fraudulent actions by instilling fear. The study recommends to the government and policy formulators to conceive enactments or policies for the Kenyan private sector that would subject the listed companies in employing the most effective fraud risk management controls pointed out by this study. Additionally, the government should add stiffer penalties against people involved in unethical conducts in order to discourage future fraud actions. The study contributes to fraud research knowledge by establishing that corrective controls significantly influences fraud occurrence is a negative way. Since this kind of information was not known. Besides that, this study contributes contextually by studying the research problem in the context of the NSE, Kenya considering that most studies focused on other sectors such as the insurance, banking, public, NGO and the education sectors. The main limitation of this research study was that it was solely based on perceptions of the respondents. The limitation being that though the thoughts and opinions of the management are based on expert knowledge it could be subject to bias. Therefore, the study cannot completely ratify that it retrieved credible information on the effect of fraud risk management and firm size on the level of fraud occurrence on listed firms in Kenya. Consequently, future studies should incorporate both qualitative and empirical methodologies to produce objective outcomes that would clearly depict the effect of firm size on the relationship between fraud risk management and fraud occurrence in Kenyan listed companies. Future studies should be extended to the public sector in regard to the government ministries and the distinctive partitions of the private sector such as the insurance, real estate, manufacturing, automobile sectors among others respectively.

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