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Effect of Risk Monitoring on Fraud Prevention among Insurance Companies in Nakuru County, Kenya

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Abstract: *Insurance firms are supposed to post good performance irrespective of the pay-outs relative to claims for compensation made by the insured. However, the many cases of fraud reported have negated the benefits which would otherwise accrue from operations of insurance firms in Kenya. These cases have been on the rise. Coupled by scarcity of empirical literature on the foregoing, this study sought to examine the effect of risk monitoring on fraud prevention among insurance firms in Nakuru County, Kenya. The risk management theory guided the study. A survey research design and quantitative approach were employed. A sample of 64 risk assessment officers working with the aforesaid insurance firms were sampled using stratified random sampling technique. The collected data were analyzed using both descriptive and inferential statistics. The results of the study indicated that there was a strong and significant correlation between risk monitoring and fraud prevention (r = 0.980; p = 0.000) at p-value = 0.05. The risk monitoring was also found to explain 96.0% variability in fraud prevention among insurance firms (r^2 = 0.960). The effect of risk monitoring on fraud prevention was further found to be statistically significant (β_1= 1.064; t = 36.044; p = 0.000). It was inferred that risk monitoring playing a significant role in mitigating occurrence of fraud in insurance companies operating in Nakuru County. It was recommended that the insurance firms should come up with effective mechanisms of ascertaining the most critical risks and how to address them.*

Key words: *fraud, fraud prevention, insurance companies, risk, risk monitoring*

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I. Background of the study

Risk monitoring refers to a continuous process of tracking uncertainties in order to avoid the negative impact they might have on firm performance. This includes monitoring high growth areas in order to asses emerging risks arising from expansion in unfamiliar markets and venturing in to new initiatives which tend to posed higher risks. There are two types of risks faced by insurance companies, that is, financial and non-financial risks. However, foreign exchange risk has emerged due to the changing business environment(Dowd, Bartlett, Chaplin, Kelliher, & O'Brien, 2007).

Insurance fraud is also known as claims extortion. It is defined as an illegal act that involves acquiring financial advantage through falsification of an actual position (Derrig, 2002).Insurance fraud undermines the relationship between guarantors and decision makers since it exhausts the trust established from the guaranteed.Insurance firms should establish fraud risk management practices to combat the vice which has negative consequences on firm performance (Doig & Levi, 2013). There are various types of insurance fraud which are internal fraud which encompass fraud committed by employees and insurers and external fraud which is committed from the policy holder or a stakeholder who is directly related to the insurer(Yusuf, 2010).

The financial risk monitoring process is a critical component of the overall regulatory framework for insurance companies in the US. The elements of financial risk monitoring are financial reporting, analysis and early warning examinations as well as intervention.The economic environment creates risks which must be addressed by financial monitoring systems(Klein, 2009).Fraud costs insurance industry an estimated $80 billionannually despite the practices which have been put in place to detect and limit the impact of fraud. The health insurance fraud forms a greater part of the menace in the US. Insurance companies have taken advantage of fraud prevention tools and technological advances(Callaway, et al., 2016).

In Ghana, it is estimated that the cost of consumer fraud ranges between 15 to 60 percent of the annual revenues earned by insurance firms.Against this backdrop, insurance companies through Ghana's insurance association have come together with the National Insurance Commission and the German donor agency to establish the insurance industry data base in an effort to reduce fraud in the industry. However, the database has covered only a class of non-life insurance(Abbey, 2014).In addition, it is reported that the National Insurance Commission uses key financial ratios to analyze and monitor the financial health of the industry and the risk management practices among insurers. The various risk management process involves identifying, assessing and monitoring the nature and degree of risk taken by a firm (National Insurance Commision, 2015)

There are many challenges facing the insurance industry in the country including, fraud by both clients and employees, delays in claim settlement, high claims, structural weaknesses, delayed premium collection, poor governance, low economic growth, industry saturation, low penetration of insurance services and lack of liquidity leading to collapse of some firms.The aforementioned risks and challenges have led 9 companies to collapse which prompted the insurance regulatory authority to establish comprehensive risk management guidelines for the insurance sector which was effected in June 2013(Omasete, 2014).

It is further reported that motor underwriting companies fraud has evolved from fake windscreen and radio or music systems to total loss of vehicles and even death claims. It is reported that the companies experienced the highest level of fraud. In the initial three months of 2016 saw fraud cases hike to a total of 43 cases from the 26 cases in the first quarter of 2015(Insurance Regulatory Authority, 2016).The insurance industry has been making tremendous advancement since the establishment of the Insurance Regulatory Authority in the year 2011. In addition, it is indicated that the Insurance Fraud Investigation Unit has been able to detect and investigate more than 1000 fraud cases among insurance companies. Moreover, continuous in-house training of the unit and advancement in technology is likely to bring fraud cases to a manageable level (KMPG, 2015).

Statement of the Problem

Ideally, insurance firms are supposed to receive premiums from the insured to cover them against unforeseen risks commensurate to the stipulations of the policy they have taken. In return, these firms should enjoy profits arising from the surplus obtained after paying out claims by the insured. However, insurance firms have severally reported cases of fraud involving their staff, insured and/or collusion between the staff and the insured. Indeed, the insurance sector in Kenya lost a total of Ksh 367 million in 2015 up from Ksh 103 million reported in 2014 by the Insurance Regulatory Authority (IRA). The foregoing compromises their profitability and overall performance. In mitigation, it was found to be important to investigate how risk monitoring influences prevention of fraud amongst insurance firms. This study was conducted on this premise.

Objective of the Study

The objective of the study was to examine the effect of risk monitoring on fraud prevention among insurance companies operating in Nakuru County, Kenya.

Research Hypothesis

Ho: There is no significant effect of risk monitoring on fraud prevention among insurance operating in Nakuru County, Kenya.

II. Empirical Review

In Malaysia, an empirical investigation conducted by Mudzamir (2013) centred on countering fraud in the insurance industry.The objective of the study was to explore fraud issues in the country's insurance sector.The study employed multiple data collection methods, such as, semi-structured interviews, observationsand document analysis of the selected companies.The study population comprised of three insurance companies in the country. It was indicated that among the studies companies, two had integrated initiatives which enabled them to avoid insurance fraud cases to a great extent.

Another global study carried out by Chudgar and Asthana (2013) examined risk management and fraud prevention in life insurance fraud in India. The specific objective was to frame an ideal risk management strategy to minimize or prevent the fraud associated with life insurance. The study used existing literature on life insurance fraud. It was observed that fraud could be prevented by creating risk benchmarks, identifying vulnerable areas, compliance with applicable laws and regulations, formulating a risk policy and ensuring efficiency and effectiveness of the existing procedures and their continual improvement.

Regionally, Akomea-Frimpong, Andoh and Ofusu-Hene (2016) analyzed the causes, effects and deterrence of insurance fraud in Ghana. The study specifically aimed at examining the cases and the stringent measures that one can use to fight against insurance fraud. Descriptive and exploratory research designs were utilized.Primary and secondary data were obtained from 39 insurers in the country.Questionnaires were further used to collect primary data while secondary data were obtained from the annual financial statements of insurance companies. Data analysis was done using multiple regression analysis. The findings noted that to deter fraud the companies had effective internal fraud policy, adequate training for independent insurance brokers on insurance fraud, rigorous assessment of insurance policies and claims and utilized modern information technology tools.

Moreover, Ajemunigbohun, Isimoya and Ipigansi (2019) assessed insurance claims fraud in homeowners insurance in Nigeria. The study employed descriptive research design. Purposive sampling was used to draw a sample of 221 participants from 31 insurance companies. Structured questionnaires were used in data collection. In addition, T-test statistics were used in data analysis. The surveyed employees indicated that the adoption of insurance claims fraud prevention might have significantly improved homeowner insurance in the country. The study further noted that fraud detection significantly reduced homeowners insurance cost. Furthermore, it was recommended that insurance companies should strictly tackle major sources of insurance fraud not only in homeowner insurance, but also in other types of insurance.

A local study carried out by Mwashi (2017) evaluated implication of fraud on the competitiveness of insurance companies. The study objective was to identify the implication of fraud on the competitiveness of insurance companies in the country. A census approach was adopted for the study. The study targeted supervisory, middle level and top management staff from 55 insurance companies with headquarters in Nairobi. It was revealed there were three stages in the prevention of fraud, that is, summary dismissal and criminal investigations ofpersons who were believed beyond reasonable doubt to have engaged in fraud activities, dishouring client's claims which were found to be fraudulent and removal of service providers found guilty of fraud.The study concluded that regular employee training and fraud detection, prevention and reporting will help reduce the number of fraud related claims and maintain a competitive edge of insurance companies.

An empirical examination conducted by Nyaga (2018) investigated insurance fraud risk management practices and performance of motor vehicle underwriting companies in the country. The study sought to determine the effect of insurance fraud risk management on the performance of motor underwriting firms. The study utilized descriptive research design. The study population comprised of 35 motor vehicle insurance underwriting companies. The analysis used both closed and open ended questionnaires to collect data. Secondary data was also used for the study. Data were further analyzed using descriptive, inferential statistics and multiple regression analysis. The results acknowledged that fraud risk management practices have been effective with preventative measures being the most effective then responsive measures and lastly detective measures. The study further observed that fraud prevention measures adopted by insurance companies included the establishment of a fraud department, adoption of information technology, ensuring strong internal controls as well as the establishment of an effective code of conduct.

Theoretical Review

This study was guided by the risk management theory. According to Smith and Stulz (1985) hedging can lead to firm value maximization by limiting deadweight losses of bankruptcy. The hedging models justify only ex-ante risk management behaviour on the part of the firm.The theory of corporate risk management generates prediction by relating firm characteristics, such as, project maturity, leverage and dead weight losses to risk management incentives. The theory holds that shareholders make risk management decisions and have the opportunity to change an assets risk without the bondholder's approval. The theory posits that ex-post, shareholders of levered firms may not find it optimal to engage in hedging activities due to their risk shifting incentives (Jensen & Meckling, 1976).

In addition, risk management of a firm is undertaken so long as it increases the present value of the firm's expected cash flow. The key assumption underlying the theory is the distinction between financial distress and insolvency. The theory further assumes full knowledge about all relevant decision parameters.However, given the complexity of firms and the dynamic nature of the world's economy it is evident that managers struggle to understand their own exposures. The portfolio theory further indicates that since investors can inexpensively manage non-systematic risk through diversification, a corporation's rate of return does not depend on total risk rather on systematic risk of its cash flow(Markowitz, 1952).

Insurance companies unlike other companies have a comparative advantage over most individuals in bearing risks. It is, therefore, imperative for the firms to establish strong risk management mechanisms to identify, assess and monitor risk in order to improve company value. The companies should also ensure strong internal controls and good governance in order to ensure that risks are properly monitored and the claims are given to deserving clients for the exact purpose they insured for.

Conceptual Framework

Aconceptual framework which describes a diagrammatic representation of study variables and their perceived relationship as shown in Figure 1.

Figure 1: Conceptual Framework

As shown in Figure 1, there are two variables, that is, independent and dependent variables which are represented by risk monitoring and fraud prevention respectively. It was presumed that there existed a relationship between risk monitoring and fraud prevention among insurance firms operating in Nakuru County, Kenya.

III. Methodology

A survey research design was adopted since the study was observational and conducted over a specified period of time where inclusion and exclusion criteria were used(Setia, 2016). In addition, quantitative research approach which is associated with numerical data was employed. Risk assessment officers working with insurance firms in Nakuru County constituted the accessible population. A sample of 64 respondents was derived from the accessible population using stratified random sampling technique. This method ensured fair and equitable distribution of risk assessment officers from the insurance companies operating in Nakuru County.

A structured questionnaire was used in data collection in conformity to the quantitative research approach which the study adopted. The validity and reliability of the questionnaire were determined prior to its use in data collection. The foregoing was effected through pilot testing(In, 2017) which involved 7 respondents drawn from randomly selected risk assessment officers working with insurance firms in Kiambu County.

The collected data were analyzed with the aid of the Statistical Package for Social Sciences (SPSS). In particular, descriptive and inferential statistics were used in the analysis. Descriptive statistics employed included measures of distribution (percentages), measures of central tendencies (means) and measures of dispersion (standard deviation). Pearson's Product Moment Correlation Coefficient (PPMCC) and simple linear regression analysis constituted inferential statistics. The results of the analyses were presented in tabular format and were accompanied by pertinent interpretations and discussions.

IV. Results and Discussion

The descriptive and inferential results with regard to risk monitoring and fraud prevention are presented in this section. They are accompanied with pertinent interpretations and discussions.

Descriptive Analysis, Results and Discussions

The data collected on risk monitoring and fraud prevention in insurance firms were on a 5-point Likert scale ranging from strongly disagree to strongly agree. Percentages, means and standard deviations are the descriptive statistics which were used in the analysis as shown in Table 1 and Table 2.

Descriptive statistics on risk monitoring

The views of risk assessment officers working with insurance firms operating in Nakuru County were sought with regard to monitoring of risk in the aforesaid companies. The respondents' views are presented in Table 1.

Table 1: Descriptive Statistics for Risk Monitoring

	SA (%)	A (%)	N (%)	D (%)	SD (%)	Mean	Std. Dev.
Monitoring is designed to assess effectiveness of internal control system.	35.7	48.2	14.3	1.8	0.0	4.18	.741
We have qualified and competent staff for risk monitoring.	46.4	41.1	8.9	0.0	3.6	4.18	1.064
The auditors monitor every activity of our firm with the view of identifying and preventing risks.	17.9	64.3	7.1	10.7	0.0	3.89	.824
The risk monitoring strategies laid down by our firm are effective in detecting risk.	35.7	30.4	17.9	12.5	3.6	3.82	1.162
Internal audit in our company has a comprehensive internal monitoring plan to enable early detection of risks.	10.7	42.9	0.0	46.4	0.0	3.18	1.146

The results illustrated in Table 1 revealed that 83.9% of the participating risk assessment officers and managers concurred that monitoring was designed to assess effectiveness of internal control system. A total of 87.5% of the sampled respondents admitted that there were qualified and competent staff for risk monitoring in their respective companies. It was further noted that while majority (81.3%) of the sampled staff agreed that the auditors monitored every activity with the view of identifying and preventing risks, 10.7% of the staff refuted this claim. More so, 66.1% of the sampled risk assessment officers and managers registered their agreement that

the risk monitoring strategies laid down by their firms were effective in detecting risk. Moreover, the study noted that more than half (53.6%) of the respondents concurred that internal audit in insurance companies had a comprehensive internal monitoring plan to enable early detection of risks while 46.4% of the respondents disputed the argument.

The study also noted that, on average, the respondents concurred that that monitoring was designed to assess effectiveness of internal control system (mean= 4.18) and thatthe auditors monitored every activity with the view of identifying and preventing risks (mean = 3.89). The respondents' views regarding the assertion were closely related (stddev< 1.000). Additionally, the study observed that in general the respondents were in agreement with the views that there were qualified and competent staff for risk monitoring in their respective companies (mean = 4.18) and that the risk monitoring strategies laid down by their firms were effective in detecting risk (mean = 3.82). The respondents were generally uncertain regarding the view that internal audit in insurance companies had a comprehensive internal monitoring plan to enable early detection of risks (mean = 3.18). In relation to the foregoing views the respondent's opinions varied significantly (stddev> 1.000).

Descriptive statistics on fraud prevention

The study sought the opinions of risk assessment officers on fraud prevention in the insurance firms they worked with. Their opinions are illustrated in Table 2.

Table 2: Descriptive Statistics for Fraud Prevention

	SA (%)	A (%)	N (%)	D (%)	SD (%)	Mean	Std. Dev.
There is clear segregation of duties in our organization as a way of having clear follow-up on all transactions.	35.7	50.0	1.8	10.7	1.8	4.07	.988
Our company has put in place effective transaction controls with the view of preventing fraud.	19.6	53.6	7.1	17.9	1.8	3.71	1.039
Our company ensures that there is a fraud risk prevention policy which is effectively implemented.	0.0	55.4	0.0	35.7	8.9	3.02	1.136
There is adequate risk scoring in our firm as one way of assessing the occurrence of fraud.	10.7	39.3	3.6	33.9	12.5	3.02	1.300
We often (at most quarterly) participate in anti-fraud training.	0.0	12.5	0.0	35.7	51.8	1.73	.981

As indicated in Table 2, 85.7% of the respondents agreed that there was clear segregation of duties in their respective organization as a way of having clear follow-up on all transactions. A total of 73.2% of the respondents admitted that the firms had put in place effective transaction controls with the view of preventing fraud. The study also indicated that 55.4% of the respondents concurred that the companies ensured that there was a fraud risk prevention policy which was effectively implemented. This was in agreement with observation insurance companies in Ghana has an effective internal fraud policy to deter fraud from the firms (Akomea-Frimpong et al., 2016). Exactly half (50%) of the sampled risk assessment officers and managers agreed thatthere was adequate risk scoring in the firms as one way of assessing the occurrence of fraud. A total of 33.9% of the respondents disputed the assertion. It was also acknowledged that 51.5% of the respondents disagreed that they often (at most quarterly) participated in anti-fraud training.

The study observed that in general the respondents were in agreement that there was clear segregation of duties in their respective organization as a way of having clear follow-up on all transactions (mean = 4.07). The views of respondents in reference to the assertion were closely related (stddev< 1.000). The respondents on average agreed that firms had put in place effective transaction controls with the view of preventing fraud (mean = 3.71). It was further indicated that in general the respondents were neutral regarding the views that companies ensured that there was a fraud risk prevention policy which was effectively implemented (mean = 3.02) and that there was adequate risk scoring in the firms as one way of assessing the occurrence of fraud (mean = 3.02). The respondents held largely differing views pertaining the aforementioned assertions (stddev> 1.000). Furthermore, the respondents on average disputed the view that they often (at most quarterly) participated in anti-fraud training (mean = 1.73). The views of respondent's in light of the proposition differed insignificantly (stddev< 1.000). This was a departure from the findings of a previous study which indicated that adequate training for independent insurance brokers was carried out to deter risks from insurance firms (Akomea-Frimpong et al., 2016). The findings were also contrary to the conclusion drawn by a past local study that employee training would help reduce the number of fraud related claims in insurance companies(Mwashi, 2017).

Inferential Analysis, Results and Discussions

The inferential statistics presented in this section are in form of Pearson's Product Moment Correlation Coefficient (PPMCC) and simple linear regression analysis with regard to risk monitoring and fraud prevention among insurance firms operating in Nakuru County.

Correlation analysis between risk monitoring and fraud prevention

The study examined the relationship between risk monitoring and fraud prevention among insurance firms. The results to this effect are presented in Table 3.

Table 3: Correlation between Risk Monitoring andFraudPrevention

		FraudPrevention
Riskmonitoring	Pearson Correlation	.980**
	Sig. (2-tailed)	.000
	n	56

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

According to the results shown in Table 3, it was revealed that there existed a positive, strong and statistically significant relationship between risk monitoring and fraud prevention (r = 0.980; p = 0.000) at p-value = 0.05. The results were interpreted to mean that enhancing risk monitoring was likely to improve fraud prevention by almost a similar margin and that the aforesaid improvement was likely to be substantial. On the other hand, in the event that risk monitoring was reduced, there were high changes of substantially decreasing levels of fraud prevention in insurance companies. These results underpinned the important role played by risk monitoring in attempt to prevent occurrence of fraud in insurance firms operating in Nakuru County, Kenya.

Regression analysis of risk monitoring on fraud prevention

Additionally, the study examined the effect of risk monitoring on fraud prevention by linearly regressing the former variable against the latter variable. The pertinent results are presented in Table 4, Table 5 and Table 6 respectively.

Table 4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.980[a]	.960	.959	.19842

a. Predictors: (Constant), Risk Monitoring

The results of coefficient of determination shown in Table 4 (r2 = 0.960) indicate that risk monitoring could explain 96.0% variability in fraud prevention among insurance firms. The remaining proportion of variation (4%) could be attributed to other factors besides risk monitoring. The results underscored the critical role played by risk monitoring in preventing fraud in insurance firms.

Table 5: ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	51.148	1	51.148	1299.155	.000[a]
	Residual	2.126	54	.039		
	Total	53.274	55			

a. Predictors: (Constant), Risk Monitoring

b. Dependent Variable: Fraud Prevention(1)

According to the results of F-statistics shown in Table 5 ($F_{1, 54}$ = 1299.155; p = 0.000) depicted by the analysis of variance (ANOVA), the effect of risk monitoring on fraud prevention was found to be statistically significant at p-value = 0.05. The results were interpreted to mean that the sample data fitted the adopted simple linear regression model ($Y= \beta_0 + \beta_1 X_1 + \varepsilon$).

Table 6: Regression Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	-.987	.117		-8.458	.000
	Risk monitoring	1.064	.030	.980	36.044	.000

a. Dependent Variable: Fraud Prevention

The results shown in Table 6 ($Y= -0.987+ 1.064X_1$) indicated that for a unit change in fraud prevention, risk monitoring was supposed to change by 1.064 unit (β_1=1.064) while other factors were held constant (β_0 = -0.987). This meant that, by increasing risk monitoring by the indicated unit, insurance companies could potentially enhance prevention of fraud by 1 unit. The effect of risk monitoring on fraud prevention was

further established to be statistically significant at p-value = 0.05 (t = 36.044; p = 0.000). The results led to the rejection of null hypothesis (**Ho:** There is no significant effect of risk monitoring on fraud prevention among insurance operating in Nakuru County, Kenya). The alternate hypothesis was considered to be true thus resulting in the conclusion that risk monitoring played a pivotal role in fraud prevention among insurance companies operating in Nakuru County.

V. Conclusions and Recommendations

The study concluded that there was clear separation if duties which was aimed at having clear follow-up on all transactions within insurance firms. Similarly, it was concluded that these firms had put in place effective transaction controls. However, it was concluded that the risk assessment officers rarely participated in anti-fraud training. It was further inferred that both internal and external auditing of all transactions were conducted on a regular basis with the intent of identifying possible cases of fraud in insurance companies. As a way of dissuading employees from engaging in fraud, it was concluded that insurance firms ensured that performance evaluations were correct, fair and the evaluation results were communicated to the staff. As a way of ensuring that employees with the potential of being involved in fraudulent activities are excluded, the study concluded that new employees were subjected to background screening prior to their recruitment by the insurance firms. Lastly, it was inferred that risk monitoring playing a significant role in mitigating occurrence of fraud in insurance companies operating in Nakuru County.

According to the conclusions drawn from the study findings, it is recommended that all insurance firms ought to have sound internal control systems to monitor risks. The firms should also have competent staff to monitor and assess risks. It is also recommended that risk assessment officers be regularly trained on both risk monitoring and fraud prevention strategies. Importantly, the insurance firms should come up with effective mechanisms of ascertaining the most critical risks and how to address them. This is in conformity to previous recommendations on the need to formulating a risk policy(Chudgar & Asthana, 2013).

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