



EFFECT OF RISK MANAGEMENT PROCESS ON MOTOR INSURANCE FRAUD IN KENYA

^{1*} **Feliciah Chepkoech**

Jomo Kenyatta University of Agriculture and Technology
flique4120@gmail.com

^{2**} **Dr. Gladys Rotich**

Jomo Kenyatta University of Agriculture and Technology

Abstract

Despite several research and surveys conducted by various scholars, fraudulent claims have been cited as contributing factors to poor financial performance of insurance companies. The study applied fraud management lifecycle theory, collective risk theory and new institutional economic theory in describing the relationship between risk management process and motor insurance fraud. The general objective of the study was to establish the effect of risk management process on motor insurance fraud in Kenya. The specific objectives were to determine how risk identification, risk assessment, risk mitigation and risk monitoring may affect motor insurance fraud in Kenya respectively. Insurance company are faced with the challenge of managing fraud risk which has been a threat to their performance over decades. A descriptive research design was used for the study, with target population of thirty three insurance companies which adverse their services to motor vehicles. The study found that there was significant relationship between risk identification, risk assessment, risk mitigation, risk monitoring and Motor Insurance fraud in Kenya. The study concluded that all the dependent variables influence Motor Insurance fraud in accordance to regression results. From the finding and conclusions, the study recommends that organizations should carefully consider the extent to which they adopt the various risk management strategies, since it has been established from the study that they affect motor insurance fraud differently. The study therefore recommends that risk management strategies should be made a core business process by insurance companies and should be planned systematically and accordingly in the context of risk identification. Given that the R- squared calculated was 75 percent on the four variable, the study suggest for further research on the remaining 25 percent of factor that affect fraud management in the motor vehicle insurance company in Kenya.

Keywords: risk management practices, insurance fraud

INTRODUCTION

Risk is the dispersion of actual from expected results or chance of a loss and is an inherent component in any entrepreneurial endeavour (Wakwoba, 2015). Risk can also be referred to anything that can create hindrances in the way of achievement of certain objectives, creates financial loss and arises from uncertainties of given situations plus certainties of exposing oneself to such situations (Shafiq & Nasr, 2010). The level of risk that a firm faces has a direct relationship with the level of return that the firm earns. As a result, an organization is successful only when it is capable of well managing a portfolio of risks and their associated rewards (Ohando, 2015). It therefore becomes imperative that a firm should seek to manage its level of risk exposure since risk management is not only a formal process, but fundamental to business conduct.

According to Hauser (2010), risk management is essential to achieve a company's strategic, operational and financial objectives. Thus, all organizations need to prepare themselves to cope with crises from whatever source such as clients, government, competitors and natural calamities. Various studies have supported that when a firm manages the risk facing its operations it eventually improves performance. A study made in Brazil over a period of 10 years by Pignanelli and Csillag (2008) about the impact of risk management on profitability of institutions, sampled 31 firms and collected data from 5354 respondents where controversial relationships were found to exist between profitability and risk. The Kenya's Insurance market is no exception with a number of Companies such Invesco, Blue Shield Insurance Company and Standard Assurance having collapsed due to factors that are attributable to failed systems and inadequate controls. Besides, the Kenyan Industry is currently facing stiff competition with local and foreign owned firms competing for the slowly growing market (Kenya Insurance Report 2012). Therefore, to maximize the returns, the companies need not only to take considerable and controlled risks, but also minimize the losses that may arise

Risk Management has been defined as a group of actions that are integrated within the wider context of a company or organisation, which are directed toward assessing and measuring possible risk situations as well as elaborating the strategies necessary for managing them (Hopkin 2010). Risk management encompasses; identifying and assessing risks inherent to an organisation and then responding to them in a manner that will reduce their impact and maximise the shareholder value (Ouma, 2014). It comprises the activities and actions taken to ensure that an organisation is conscious of the risks it faces, makes informed decisions in managing these risks, and identifies and harnesses potential opportunities. According to KPMG, Malaysia Fraud Survey Report (2009), fraud risk management refers to the systems and processes used to identify an organization's exposure to fraud risk, and to implement controls, procedures and education to prevent, detect and respond to the key fraud risks. Fraud risk management practices can therefore be broadly categorized into preventive, detective and responsive fraud management practices.

Best practices in risk management process are intended to prevent weaknesses within organizations from causing damage or even pulling down the firm. However, effective strategic risk management tools and practices are harder to implement as business operations grow, become more complex, and operate in multiple locations and venture into different lines of business. Every enterprise is subject to several types of risks and the focus varies across organizations. Managing risk requires better understanding of the risks (Ohando, 2015), and at the heart of insurance industry is the activity of identifying the risk. Every human endeavour involves risk and the success or failure of any venture depends crucially on how we deal with it. The formal risk management process entails the following key steps namely; determination of risk management program objectives, risk identification, risk analysis, selection of practices to handle risks, implementation of the practices and control and review of the decisions made (Wakwoba, 2015).

Insurance is defined as a contract in which the insured transfers risk of potential loss to the insurer who promises to compensate the former upon suffering a loss (Mutua, 2014). The insured then pays premium as consideration for the promise. Insurance companies form a crucial part of the financial sector in a country and are significant players in the international capital markets. The contract of insurance is governed by principles of insurance, notably; Utmost Good Faith, Insurable Interest, Proximate Cause, Indemnity, Subrogation, and Contribution. The principles have evolved from practices adopted during the development of insurance over a period of several hundred years, and have been upheld by courts of law or codified by Acts of Parliament.

Automobile insurance is a contract between the insured and the insurance company that protects against financial loss (Taera, 2014). Auto policies contain a variety of coverage's that can be purchased depending on the needs and wants of the consumer.

Motor Insurance in Kenya

Insurance in Kenya is framed by the Insurance Act No. 487 of 1984, which was amended seven times between 2003 and 2014. It covers registration, assets, liabilities, solvency and investments, inspection, rates, claims, assignment, brokers, reinsurance and other aspects. It sets minimum capital requirements; it mandates that at least a third of the ownership must be East African and blocks any one person from owning more than 25% except in exceptional circumstances. The budget statement 2015 National Treasury of Kenya said the minimum capital requirement would be KShs 600m (\$6.6m) for general insurance, and KShs 400m (\$4.4m) for long-term insurance business by June 2018 and proposed to introduce "risk-based capital requirements", moving away from rules to a "principle-based investment framework".

The insurance industry in Kenya is regulated by Insurance Regulatory Authority (IRA). The Insurance Regulatory Authority is a statutory government agency established under the insurance act (amendment) 2006, CAP 487 of the laws of Kenya to regulate, supervise and develop the insurance industry. It is governed by a Board of Directors which is vested with the responsibility of overseeing operations of the authority and ensuring that they are consistent with the provisions

of the insurance Act. Previously then, this role fell under the office of the commissioner of insurance under the Ministry of Finance Department.

The regulators' priorities include improving risk management, along with widening access and reaching new audiences, including through careful use of technology and improved oversight (IRA, 2013). The Insurance Industry recorded gross written premium of Kshs 173.79 billion in 2015 compared to Kshs 157.21 billion in 2014, representing a 10.5% increase. Gross earned premium increased by 9.8% to stand at KES 146.16 billion in 2015 compared to Kshs 133.12 billion in 2014.

Statement of the Problem

Insurance fraud has been on the rise in the insurance industry. Motor Insurance fraud has become one of the factors contributing to the failure of insurance companies in Kenya. According to a survey by KPMG, 20 per cent of the annual claims paid for motor insurance are fraudulent thus inflating insurance premiums in Kenya by up to 25 per cent.

In addition the number of motor vehicle accidents in Kenya have been increasing over the years with the highest recorded in 2015. In the East Africa Region, the vice is said to push up premium costs by 17.7 per cent. Unfortunately, motor insurance fraud is dynamic and therefore presents a challenge in stopping it.

In December 2015 the Insurance Regulatory Authority of Kenya (IRA) annual report mentioned that lack of data sharing among insurance companies has enabled fraudsters to make similar claims from different insurers. They affirmed that motor accident damage and theft claims can be managed by being thorough during the underwriting stage. Association of Kenya Insurers (AKI) had started creating an insurance data center sharing in 2010 but was unable to complete the process after falling out with the software developer (Alet Systems). Over the years the general insurance companies have been undertaking extensive risk management activities to safe guard the investor as well as investment (Pandey, Kumar & Rao, 2013).

In the absence of a common Data base that would help to prevent motor insurance fraud, motor insurance fraudsters have thrived at the expense of insurers, shareholders, policy holders and the government. Insurance fraud is one of the most serious problems facing insurers, insurance consumers and regulators. Its existence not only increases the cost of insurance, but also threatens the financial strength of insurers and negatively affects the availability of insurance.

Despite the mixed and contradictory results on the relationship between risk management and motor insurance fraud made from previous studies especially those conducted in the developed nations, few studies have been conducted on the emerging and developing business environment. Additionally, despite the importance of insurance firms and, the copious studies on motor insurance fraud (Arosa et al., 2010) seem to have been kinked towards non-bank firms and select variables of risk management. Several scholars have carried out extensive studies on the Insurance Industry in Kenya. Wachira (2008) as cited by Auma (2014) undertook a study on assessment of attractiveness of the Insurance Industry.

To the best of the researcher's knowledge, existing empirical studies undertaken to ascertain the relationship between risk management process and motor insurance fraud in Kenya have not provided a solution. A knowledge gap therefore still exists and the study sought to bridge this inherent gap using panel data from motor insurance companies in Kenya.

General Objective

The general objective of the study was to establish the effect of risk management process on motor insurance fraud in Kenya.

Specific Objectives

- (i) To determine the effect of risk identification on Motor Insurance fraud in Kenya
- (ii) To establish the effect risk monitoring on Motor Insurance fraud in Kenya

Research Questions

- (i) How does risk identification affect Motor Insurance fraud in Kenya?
- (ii) What is the effect of risk monitoring on Motor Insurance fraud in Kenya?

Scope of the Study

This study was limited to motor insurance companies for the period 2012 to 2016 because much of the reported fraud claims are associated to this category. There are 33 registered motor insurance companies in Kenya (IRA 2016).

LITERATURE REVIEW

Theoretical Review

This study adopted three theories; Fraud Management Lifecycle Theory, Collective Risk Theory and New Institutional Economic Theory

Fraud Management Lifecycle Theory

Wesley (2004), describes fraud management lifecycle as a network life cycle. Webster's dictionary refers to a lifecycle as "a series of stages in form and functional activity through which an organism passes between successive recurrences of a specified primary stage." The Fraud Management Lifecycle is made up eight stages; deterrence, prevention, detection, mitigation, analysis, policy, investigation and prosecution. This theory suggests that the last stage, prosecution, is the culmination of all successes and failures in the Fraud Management Lifecycle. There are failures because the fraud was successful and successes because the fraud was detected, a suspect was identified, apprehended, and charges filed. The prosecution stage includes asset recovery, criminal restitution, and conviction with its attendant deterrent value (Wesley 2004). The interrelationships among each of the stages or nodes in the Fraud Management Network are the building blocks of the fraud management life cycle theory.

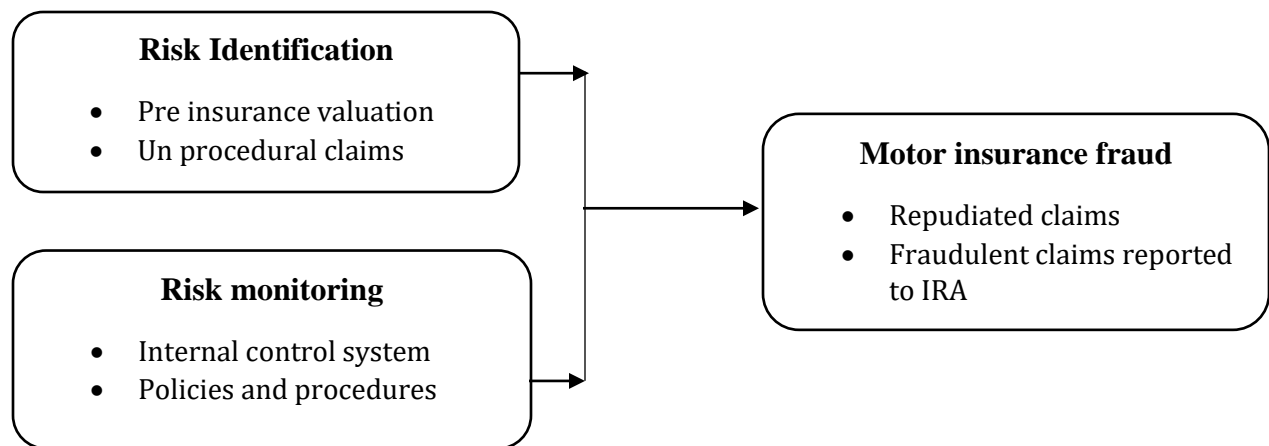
2.2.2 Collective Risk Theory

Also known as the Ruin Theory or Risk Theory was advanced by Filip Lundberg and uses mathematical models to describe an insurer's vulnerability to ruin or insolvency. Collective risk theory seeks to investigate directly the risk enterprise as a whole with the primary interest focused not upon the gains, losses or claims from individual policies but upon the amount of total claims or the total gain arising from all the policies in the portfolio considered.

2.2.3 New Institutional Economic Theory

Advanced by Williamson (1998), this theory predisposes that risk management practices may be determined by institutions or accepted practice within a market or industry. The theory links security with specific assets purchase, which implies that risk management can be important in contracts which bind two sides without allowing diversification, such as insurance contracts or close cooperation within a supply chain. Firms in regulated industries provide top management with few opportunities for discretion in corporate investment and financing decisions. Smith and Watts (1992) showed that regulation is a key determinant of a firm's insurance policy on claims. Therefore, if insurance firms tighten scrutiny and face lower claim costs, then they are less likely to use derivatives to hedge firm risk. According to Froot, Scharfstein, and Stein (2013), if external claims of an insurance firm are more costly to a firm than the premiums generated, then the firm could benefit from using derivatives.

Conceptual Framework



Independent variable

Dependent variable

RESEARCH METHODOLOGY

A descriptive research design was used for the study, with target population of thirty three insurance companies which adverse their services to motor vehicles. The study used both primary and secondary data. Primary data was collected by use of questionnaires whereas

secondary data was sourced from annual records of the insurance companies. Data was coded and analysed using statistical package for social sciences, analytical regression model was used to explain the relationship of the variables.

RESEARCH FINDING AND DISCUSSION

Risk identification

The respondents were requested to indicate the extent to which they agree with the various aspects of risk identification. According to the findings shown in the table below, the respondents strongly agreed that pre insurance valuation is always done before signing a cover customers are loyal to their brand. Further, the respondents agreed that risk inspection is conducted to detect un procedural claims. Global risks (2008) indicate that while each risk captured may be important to management at the function and business unit level, the list requires inspection and prioritization to focus senior management and board attention on key risks. Risk is inspected not just in terms of financial impact and probability, but also subjective criteria such as vulnerability. Additionally, the respondents agreed that roles and responsibilities of risk identification are clearly defined. Results findings conger with that of (Beasley et al., 2008) who argued that clear definition of roles and responsibilities are a powerful catalyst for organizational change, and could significantly speed up the process of responsibility for ensuring that risk identification is embedded into all processes and activities rests firmly with the Board of Directors. However, the respondents disagreed that their organizations have established standards that enhances risk identification. This implies that that effective established standard in relation to risk identification is essential for any enterprise since it positively affects performance. This is in agreement with arguments presented by Nocco, and Stulz (2006) who argued that effective established standard in relation to risk identification could be value increasing to the insurance companies in the context of risk management. Therefore, the proactive standard for management of risk is essential to creating and nurturing core business value. In addition, the respondents further disagreed that company has strategies implemented to ease risk identification. Numerous studies (see for example, McGhee, C. et al., Klein and Mooney (2008) and Cummins (2008)) indicate that even seemingly insignificant risks on their own have the potential, as they interact with other events and conditions, to cause great damage or create significant opportunity. Therefore, insurance companies are gravitating toward an integrated or holistic view of risks identification using strategies such as risk interaction matrices, bow-tie diagrams, and aggregated probability distributions. The results have been summarized in the table below.

Table 1: Statements in Relation to the risk identification

Aspects of risk identification	1	2	3	4	5
Pre insurance valuation is always done before signing a cover	3%	1%	2%	20%	60%

Risk inspection is conducted to detect un procedural claims	5%	10%	15%	60%	10%
Roles and responsibilities of risk identification are clearly defined	10%	15%	5%	50%	20%
My organization have established standards that enhances risk identification	30%	50%	5%	5%	10%
The company has strategies implemented to ease risk identification	30%	40%	5%	10%	15%

Risk monitoring

From the findings, the respondents agreed with a percentage of 50% that controls are put in place for risk monitoring. Hillison *et al.*, (1999) noted that strong internal control systems are an important means of limiting the opportunity for motor insurance fraud. While top management cannot readily regulate the pressure attribute, they can help mitigate opportunity to commit motor insurance fraud. In addition, the respondents agreed with a percentage of 70% that the company has policies and procedure to monitor and evaluate claims. According to Helmut, (2004), typical failures in control related issues that increase opportunity for motor insurance fraud include: lack of segregation of duties, failure to inform staff about company rules and the consequences of violating them, rapid turnover of employees, constantly operating under crisis conditions, lack of an audit trail, ineffective supervision, lack of transaction authorizations, poor accounting records, lack of physical controls, lack of access to information, breakdown of procedures. Also, the respondents strongly agreed with a percentage of 80% of the company have policies and procedure to monitor and evaluate claims. However, the respondents disagreed with a percentage of 75% that regular review of risk management is conducted in the company. Additionally, the respondents agreed with a percentage of 77% that risk monitoring is done by senior managers in the company. The finding agree with the finding of Hasanali, (2002) that found out that commitment and support from top management plays a key role in influencing the success of risk monitoring process within an organization. Top management formulated and decides objectives and strategies for organizational risk monitoring activities, mission and overall objectives (Henriksen and Uhlenfeldt, 2006). In one study, it is argued that an organization uses risk monitoring to anticipate the probability of a negative impact and that risk monitoring needs top-level management support. Risk monitoring requires the acknowledgement that risk is a reality and the commitment to identify and manage risk (Galorath, 2006). The essence of commitment and support from top management supports the effective decision-making process in order to manage risk. Commitment and support from top management is important in every kind of management and it is thus an important factor for risk monitoring.

Table 2: Statements on the Risk monitoring

Aspects of Risk monitoring	1	2	3	4	5
Controls are put in place for risk monitoring	30%	20%	0%	20%	30%
The company has policies and procedure to monitor and evaluate claims	10%	5%	15%	10%	60%
Regular review of risk management are conducted in the company	5%	70%	10%	5%	10%
Risk monitoring is done by senior managers in the company	4%	6%	13%	7%	70%

Motor insurance fraud

The respondents were requested to indicate the extent to which they agree with various aspects of motor insurance fraud. According to the findings shown in the table below, the respondents agreed with a percentage of 89% that a policyholder is unwillingly to cooperate in terms of revealing facts about their policies or themselves. The respondents disagreed with a percentage of 70% that the number of fraudulent claims reported to IRA has reduced. Additionally, the respondents disagreed with a percentage of 90% that the number of repudiated claims has decreased in the last five year. Finally, the respondents agreed with a percentage of 65% that a claimant wants instant cash payment instead of check or credit payment. The finding concurs with the Afam, (2009), who concluded that organizations are learning that the consolidated software platform approach to fraud detection is fundamentally flawed and falls short on detecting and preventing fraudulent transactions thus giving their rise. On his part, Mohammad, (2010), recommended that management should learn how they can integrate risk management into their most important operational decisions and business processes to reduce the number of the motor insurance fraud cases which are on high. The rest of the results have been summarized in the table below.

Table 3: Aspects of Motor insurance fraud

Aspects of motor insurance fraud	1	2	3	4	5
A policyholder is unwillingly to cooperate in terms of revealing facts about their policies or themselves	7%	3%	5%	23%	66%
The number of fraudulent claims reported to IRA has reduced	20%	50%	5%	10%	15%
The number of repudiated claims have decreased in the last five year	40%	50%	5%	2%	3%
A claimant wants instant cash payment instead of check or credit payment	10%	10%	15%	35%	30%

Correlation Matrix

The study used correlation matrix to establish if linear relationship exists between individual variable and motor insurance fraud. From Table 4 below, there was: negative linear association between risk identification and motor insurance fraud ($R = -0.173$); negative association between risk monitoring and motor insurance fraud ($R = 0.429$). The finding agrees with the finding of Hasanali, (2002) that found out that they is a negative linear relationship between risk management process and fraud. He argued that an effective fraud risk management framework will enable organizations to have controls that first prevent the fraud from occurring, detect as soon as a fraud happens and respond effectively to fraud incidents when they occur. He argued that is critical for an organization to develop fraud response strategies, which would help in minimizing the impact of frauds that occur, or are discovered, and come to the attention of the company, authorities and other interested parties. Hasanali, (2002) concluded by stating that organization should adopt a continuous improvement approach to the fraud risk management strategy that requires regular measurement of where the business is and where it wants to be in terms of effectively preventing, detecting, and deterring fraud. The results have been summarized in the table below.

Table 4: Correlation Matrix

Variables	RI	RMO	Motor insurance fraud
RI	-1.000		
RMO	0.482	-1.000	
motor insurance fraud	0.173	-0.429	1

Regression Analysis

In this study, a multiple regression analysis was conducted to test the influence among predictor variables and motor insurance fraud in Kenya. The research used statistical package for social sciences (SPSS V 21.0) to code, data entry and compute the measurements of the multiple regressions.

Table 5: Model Summary

Model	R	R Square	Adjusted R Square	STD error of the Estimate
1	0.89	0.75	0.68	0.71

R-Squared is a commonly used statistic to evaluate model fit. R-square is 1 minus the ratio of residual variability. The adjusted R2, also called the coefficient of multiple determinations, is the Percentage of the variance in the dependent explained uniquely or jointly by the independent variables. Table 4.6 above reveals an R2 of 0.75 which implies that the four independent variables studied explain only 75% of the variations in motor insurance fraud of insurance companies in Kenya. Consequently, this means that other factors not studied in this research explain 25% of the variations in motor insurance fraud of Kenyan insurance companies. 68% of the changes in the motor insurance fraud could be attributed to the combined effect of the predictor variables.

Table 6: Summary of One-Way ANOVA results

Model		Sum of Square	Df	Mean Square	F	Sig
1	Regression	2.535	9	2.31	9.30	0.0001
	Residual	9.305	123	0.25		
	Total	11.84	132			

The probability value of 0.0001 indicates that the regression relationship was highly significant in predicting how risk identification, and risk monitoring influenced motor insurance fraud. The F calculated at 5% level of significance was 9.30 since F calculated is greater than the F critical (value =2.5252), this shows that the overall model was significant.

Table 7: Regression coefficients

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	T	Sig
1	(Constant)	1.057	0.215		4.87	0.000279
	Risk Identification	-0.785	0.083	0.139	8.32	-0.000908
	Risk Monitoring	-0.675	0.144	0.615	4.55	-0.000908

As per Table 7, the equation ($Y = \beta_0 + 0.785X_1 + 0.675X_4 + \epsilon$)

Becomes = $1.057 + 0.785X_1 + 0.675X_4 + \epsilon$

Where Y is the dependent variable the Motor Insurance fraud

X1 – Risk Identification

X2- Risk Monitoring

The regression equation above has established that taking all factors into account (Risk Identification, and Risk Monitoring) constant at zero Motor Insurance fraud will be 1.057. The findings presented also show that taking all other independent variables at zero, a unit increase in the risk identification would lead to 0.785 reduction in the scores of motor Insurance fraud, the study found that a unit increase in the scores of risk monitoring would lead to a 0.675 reduction in the scores of motor Insurance fraud. All the variables were significant ($p < 0.05$). This finding is consistent with practice as all risk management efforts should ideally start with identifying the risks facing the firm, before exploring ways to manage these risks.

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

SUMMARY OF THE STUDY

Risk identification

The study has established that risk identification negatively influence Motor Insurance fraud in accordance to regression results. Furthermore the study also established that risk inspection is conducted to detect un procedural claims. Global risks (2008) indicate that while each risk captured may be important to management at the function and business unit level, the list requires inspection and prioritization to focus senior management and board attention on key risks. The study further established that roles and responsibilities of risk identification are clearly defined in the insurance companies. Results findings conger with that of (Beasley et al., 2008) who argued that clear definition of roles and responsibilities are a powerful catalyst for organizational change. However the study found out that insurance companies have no strategies implemented to ease risk identification.

Risk monitoring

In relation to risk monitoring, the study found that they exist negative relationship between risk monitoring and motor insurance fraud in accordance to regression results. The study established that the insurance companies have put in place controls for risk monitoring. Companies with weak controls are at higher risks of recording motor insurance fraud cases and opportunities for fraud (CIMA, 2009). Thus strong control systems are an important means of limiting the opportunity for motor insurance fraud. In addition, the study found out that company has policies and procedure to monitor and evaluate claims. According to Ewa and Udoayang, (2012), the purpose of the organization's Risk Policies and procedure is to develop a consistent approach towards risk across the organization and outline processes for recognizing, analysing and dealing with risks as well as assuring the effectiveness of the identified processes. This implies that risk policies and procedure is designed to enable insurance organizations to minimize the frequency and effect of adverse incidents arising from motor insurance fraud and to identify improvements in procedures of managing that risk. Furthermore the study also established that risks monitoring is done by senior managers in the company. Most of the organizations believe that it is the responsibility of the Board of Directors or Committee and Executive Management team to

establish risk management process, while other organizations believe it is the responsibility of the Chief Executive Officer. Top management decides the objectives and strategies for organizational risk monitoring activities, mission and overall objectives.

CONCLUSION

Risk identification

The study concluded that risk identification negatively influence Motor Insurance fraud in accordance to regression results and that it has had the greatest effect on the motor Insurance fraud. The study further established that roles and responsibilities of risk identification are clearly defined in the insurance companies. Finally the study concluded that insurance companies have no strategies implemented to ease risk identification

Risk monitoring

This study concluded that they exist negative relationship between risk monitoring and motor insurance fraud in accordance to regression the finding. The study concluded further that risk management and internal control systems exist in the company and that they are being complied with. Furthermore the study also concluded that risks monitoring is done by senior managers in the insurance companies.

RECOMMENDATIONS

Risk identification

From the finding and conclusions, the study recommends that organizations should carefully consider the extent to which they adopt the various risk management strategies, since it has been established from the study that they affect motor insurance fraud differently. The study therefore recommends that risk management strategies should be made a core business process by insurance companies and should be planned systematically and accordingly in the context of risk identification.

Risk monitoring

From the study findings and conclusions, the study recommends that the top management in the insurance companies should ensure that they fully support motor insurance fraud detection policies by allocating enough resources to the process to ensure that they is regular review of risk management in the insurance companies. In addition, this study recommends the strengthening of controls that will enhance risk monitoring

Suggestions for Further Research

The study has investigated the effect of risk management process on motor insurance fraud in Kenya. The researcher suggests that it would be worth a study to identify if findings from this

study are applicable to other Industries for instance; banking or manufacturing in Kenya to identify how they risk management process affect them. In addition, the study suggests that detailed research could be done to ascertain the effect of each component of the risk management process individually and not all of them in a package as were the case in this study. Given that the R- squared calculated was 75 percent on the four variable, the study suggest for further research on the remaining 25 percent of factor that affect fraud management in the motor vehicle insurance company in Kenya.

REFERENCES

- AKI (2009); *Insurance Industry Annual Report, Nairobi*
- Akomea-Frimpong, I. Andoh, C. and Dei Oforu-Hene, E. (2016). *Causes, effects and deterrence of insurance fraud: evidence from Ghana. Journal of Financial Crime, Vol. 23 Issue: 4, pp.678-699*
- Amaya, P. A. and Memba, F. (2015). *Influence of risk management practices on financial performance of life assurance firms in Kenya: A survey study of Kisii County, International journal of Economics, Commerce and Management, 3 (5),*
- Amoatey, C.T. Famiyeh, S. and Andoh, P. (2017). *Risk assessment of mining projects in Ghana. Journal of Quality in Maintenance Engineering, Vol. 23 Issue: 1, pp.22-38*
- Amollo, N. (2013) *The relationship between risk management and financial performance of insurance companies in Kenya. MBA project University of Nairobi.*
- Anonymous (2007). *Enterprise risk management for insurers, Insurance regulatory and development authority (irda) journal,*
- Arman, A., Bin, A.M.R. and Hassan, B.C.H.M. (2009). *Risk reporting: An exploratory study on risk management disclosure in Malaysian annual reports, Managerial auditing journal, 24 (1),*
- Auma, E. (2014). *Operational risk management practices at the Jubilee insurance Company of Kenya.*
- Ayimey, E. K. Awunyo-Vitor, D. and Abdulai, S. (2013). *Customer retention strategies of SIC life insurance company limited and Star life assurance company limited in Ghana: An exploratory assessment, current research journal of social sciences, 5(5),*
- Bandara, R. M. S. and Weerakoon, B. Y. K. (2012). *Impact of risk management practice on firm value, Retrieved from www.kln.ac.lk/uokl, 51, retrieved on 12th November 2016.*
- Barney, J. (1991). *Firm resources and sustained competitive advantage, journal of management, 17(1),*
- Bashir, M., Afzal, M. T. and Azeem, M. (2008). *Reliability and validity of qualitative and operational research paradigm, Pakistan journal of statistics and operational research 4 (1),*
- Bhattacharjee, A. (2012). *Social science research: principles, Methods, and practices. Textbooks collections. Books 3.*
- Boadi, E.K., Antwi, S. and Lartey, V.C. (2013). *Determinants of profitability of insurance firms in Ghana, International Journal of Business and Social Research (IJBSR), 3 (3),*

- Chiteli, N. (2013). *Agent banking operations as a competitive strategy of commercial banks in Kisumu city*, *International journal of business and social Science*, 4(13),
- Chude, N. P. N. and Chude, D. I. (2014). *Impact of agent banking on performance of deposit money banks in Nigeria*, *Research journal of finance and accounting*, 5(9),
- Cooper, D.R. and Schindler, P.S. (2008). *Business research methods*. 10th(edt.). McGraw-Hill publishers.Singapore
- Cooper, R ,D.&Schindler,P.S. (2006). *Business Research Methods.1th Edn.)*McGraw-Hill Publications. New York, United States.
- Cramer, J.S., Hartog, J., Jonker, N., Van Praag, C.M. (2000). *Low risk aversion encourages the choice for entrepreneurship: an empirical test of a truism*. *Journal of Economic Behaviour and Organisation* 48 (1), 29–36.
- Edition, 115-267. St. Martin's Press
- Eling, M. and Marek, S. (2009). *Corporate governance and risk taking: Evidence from the U.K. and German insurance markets* ,Retrieved from www.ivw.unisg.ch/..wp103.pdf,
- Eriki, P. O., Idolor, E. J. and Eghosa, I. L. (2012). *Financial management practices, wealth maximization criterion and firm value: An empirical analysis*, *Jorind journal*, 10 (2),
- Freeman, R. E. (2012). *Stakeholder theory of the modern corporation*, unpublished manuscript, University of Virginia, Darden School of business, Charlottesville, Virginia,
- Gardner, G., Gardner, A., MacLellan, L. and Orsbornea, S. (2003). *Reconceptualising the objectives of a pilot study for clinical research*, *International Journal of Nursing Studies*, 40 (7),
- Gokte, S. (2012). *A Systematic Approach to Risk Management in the Insurance Industry*. Mumbai. Unpublished research project.
- Hamadu, D., Obaji, R. and Oghojafor, B. (2011). *Intelligence information generation, dissemination, and responsiveness in the performance of insurance business in Nigeria*, *Journal of marketing development and competitiveness*, 5(7), 53
- Hameeds, A.m. (2012) *Risk management practices and conventional and Islamic Banks of Bahrain*. *Journal of risk finance*.
- Hidiroglou, M. A., Drew, J. D. and Gray, G. B. (1993). *A framework for measuring and reducing non response in surveys*, *Survey methodology*, 19(1),
- Hlaing,N.N., Singh,D. Tiong,R.L,K. Ehrlich, M.(2008).*Perceptions of Singapore construction contractors on construction risk identification*, *Journal of Financial Management of Property and Construction*, Vol. 13 Issue: 2, pp.85-95.
- Hopkin, P. (2010). *Fundamentals of Risk Management: Understanding, evaluating and implementing effective Risk Management*, London, Kogan Page Ltd.
- Insurance Regulatory Authority (2013). *Kenya Insurance Industry Outlook*
- Insurance Regulatory Authority. (2016). *Statistical bulletin*

- Kahane, Y. (1979). *The theory of Insurance Risk Premiums- A re- examination in the light of recent developments in capital market theory*, retrieved from www.casualtyactuarialsociety.com/153
- Kalluci I. (2011). *Analysis of the Albanian banking system in a risk performance frame work*, 5th Annual South-Eastern European Economic Research Workshop,
- Kendrick, A. (2015). *The changing role of the risk manager*, Ace European group,
- Kihara, J. (2015). *Strategies adopted by the insurance regulatory authority in enhancing compliance in the insurance industry in Kenya*.
- Kiragu, S. M. (2014). *Assessment of challenges facing insurance companies in building competitive advantage in Kenya: A survey of insurance firms*, *International journal of social sciences and entrepreneurship*, 1(11),
- Kothari C. R (2004), *Research Methodology: Methods and Techniques, Second Revised Edition*. New Age International (p) limited, Publishers. Mumbai, India.
- Kothari, R. (2011). *Research methodology: Methods & Techniques*. New Age
- Kumar, M. and Yadav, G.C. (2013). *Liquidity risk management in bank: A conceptual framework*, *AIMA journal of management & research*, 7 (2/4),
- Magali, J. J. (2014). *The Influence of Leadership, Corporate Governance and Regulations on Credit Risk Management: The study of rural financial institutions from Tanzania*, *Management and Administrative Sciences Review*, 3(2),
- Mahoney, J. T. (2014). *Towards a stakeholder theory of strategic management*, Unpublished manuscript, Illinois: University of Illinois, Champaign, 54
- Merna, T. & Al-Thani F.F. (2008). *Corporate Risk Management, 2nd Ed.*; West Sussex, Willey & Sons Inc.
- Mudaki, A. L., Wanjere, D., Ochieng, I. and Odera, O. (2012). *Effects of operational factors on organizational performance in Kenyan insurance industry*, *International journal of business and social science*, 3 (17),
- Mugenda, O. M., & Mugenda, A. G. (2003). *Research methods: Quantitative and qualitative approaches*. Nairobi: Acts Press.
- Muthoni, R. (2013). *The relationship between risk management practices and financial performance of insurance companies in Kenya*.
- Mutua, C., (2014): *The effect of fraudulent practices on the growth of Insurance Companies in Kenya*. *Journal of Management* 2(16) pg. 301-317.
- Mwangi, M. and Iraya, C. (2014). *Determinants of financial performance of general insurance underwriters in Kenya*, *International journal of business and social science*, 5(13),
- Ndungu, C. G. and Njeru, A. (2014). *Assessment of Factors Influencing Adoption of Agency Banking in Kenya: The Case of Kajiado North Sub County*, *International journal of business and commerce*, 3(8),

- Ndwiga, P. M., Waithaka, S.M., Gakure, R. W. and Ngugi, J. K. (2012). *Effect of credit risk management techniques on the performance of unsecured bank loans employed by commercial banks in Kenya*, *International journal of business and social research*.
- Njuguna and Arunga (2012). *Risk management practices: A survey of micro-insurance service providers in Kenya*, *international journal of financial research*, 4, (1),
- Ocholla, A. M., Muthama, N. J., and Owino, J. O. (2006). *The influence of weather on the insurance industry in Nairobi*, *African Journal of Science and Technology (AJST)*, 7(1),
- Ohando, R. (2015). *Relationship between fraud risk management and financial performance of commercial Banks in Kenya*.
- Olando, C. O, Jagango, A. J and Mbewa, M. O (2013). *The Contribution of Sacco Financial Stewardship to Growth of Saccos in Kenya*, *International journal of Humanities and Social Science*, 3 (17), 55
- Omondi, M. M. and Muturi, W. (2013). *Factors affecting financial performance of listed companies at Nairobi Securities Exchange in Kenya*, *Research journal of finance and accounting*, 4(15),
- Ouma A (2008); *The Relationship Between Value Chain and Competitive Advantage in the Insurance Industry in Kenya*; Unpublished MBA Research Project, University of Nairobi
- Padachi, K. and Howorth, C. (2013). *Focus on Working Capital Management Practices among Mauritian SMEs: Survey Evidence and Empirical Analysis*, *Cambridge Business and Economics Conference, Cambridge, UK*,
- Pignanelli, A. and Csillag, J. M. (2008). *The impact of Risk Management on Profitability: An empirical study*, *Journal of operations and supply chain management*, 1(1),
- Reynolds, S. J., Schultz, F. C. and Hekman, D. R. (2006). *Stakeholder theory and managerial decision-making: Constraints and implications of balancing stakeholder interests*, *Journal of business ethics*, 64,
- Sadgrove, W.K (2005). *The complete Guide to Business Risk Management*; Farnham, Ashgate Publishing Company
- Saleem, S. and Abideen, Z. U. (2011). *Do effective risk management affect organizational performance*, *European Journal of Business and Management*, 3 (3),
- Saunders, R.; Lewis, J. & Thornhill, T. (2009). *Research Methods in social Sciences*. 5th
- Sekaran, U. and Bougie, R. (2010). *Research methods for business: A skill building approach*. Fifth Edition. John Willy and sons Ltd, publishers
- Shafiq, A. and Nasr, M. (2010). *Risk management practices followed by the commercial banks in Pakistan*, Unpublished manuscript, Comsats institute of technology in, 56
- Shahroudi, K., Taleghani, M. and Mohammadi, G. (2012). *Application of two-stage DEA technique for efficiencies measuring of private insurance companies in Iran*, *International journal of applied operational research*, 1(3),
- Siba AM. *Relationship between financial risk management and financial performance of commercial banks in Kenya*. MBA project University of Nairobi

- Smith, C. & Watts, R. (1992). *Determinants of a firms Hedging Policies*, *Journal of Financial and Quantitative Analysis*, 20 (4), 391-405
- Soyemi, K. A., Ogunleye, J. O. and Ashogbon, F. O. (2014). *Risk management practices and financial performance: Evidence from the Nigerian deposit money banks*, *the business and management review*, 4 (4),
- Tchankova, L. (2002). *Risk identification – basic stage in risk management*. *Environmental Management and Health*, Vol. 13 Issue: 3, pp.290-297,
- Thayer-Hart, N., Dykema, J., Elver, K., Schaeffer, N. C. and Stevenson, J. (2010). *A guide to designing and implementing surveys*, Retrieved from <http://www.scribd.com/Survey> Fundamental,
- Upadhyay, P. (2013). *Satisfaction of the policy holders' protection in insurance sector: A case study*, *international journal of advanced research in computer science and software engineering*, 3(2),
- Vaughan E. J. & Vaughan T.M. (2008). *Fundamentals of Risk and Insurance*. 4th Ed. New York, John Wiley & Sons Inc.
- Waburi, N. (2010) *The contribution of mobile phones to the Kenyan Economy*. A research prepared for Market and Social Research Association.
- Wachira, E. (2012) *Factors influencing consumer choice of mobile telephone service providers: A case of households in Nairobi county*. An MBA research proposal Submitted to University of Nairobi.
- Wakwoba, A. (2015). *Risk management practices and marine premium growth of insurance firms in Kenya*.
- Wesley. K.W., & Fair. I.C., (2004): *The crime management life cycle: Holistic approach to fraud management*. *The Journal of Economic crime management*, 2(2)
- Williamson, M. (1998). *The invention of operational risk*", ESRC Centre for Analysis & Risk & Regulation LSE Discussion Paper No. 16, June.
- Wilson, D. (2008). —*Procurement Risk Management: cost cutting risk management*. *The business software*.
- Yegon, C. (2015). *Effect of enterprise risk management determinant on financial performance of listed firms in Kenya*.
- Young (2012). *Measuring up Effective Risk Management in Insurance Companies*. Downloaded from www.ey.com/Insurance.
- Yount, R. (2006). *Research design and statistical analysis for Christian ministry*, *Research fundamentals*.
- Okura, M. (2013). *The relationship between moral hazard and insurance fraud*. *The Journal of Risk Finance*, Vol. 14 Issue: 2, pp.120-128.