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Effect of Social Risk on the Financial Performance of Insurance Companies in Kenya

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Abstract

The threat posed by the prevalence of risks facing insurance firms has been a major challenge experienced in the insurance industry the world over. To a large extent, social risks have accounted for huge insurance claims facing insurance firms and have consequently affected their profitability. Social risks arise largely from changes in the social processes, inter-personal behaviors, environmental and political structures surrounding the insurance sector. The study aimed to establish the relationship between social risks and financial performance of insurance companies in Kenya. Descriptive research design was adopted, and all fifty-four (54) insurance firms as at the end of 2019 were targeted for study. Both primary and secondary were used with primary data being collected using a structured questionnaire that was completed by a senior management staff in each company while secondary data comprised of financial performance measured using ROA for each company for the period 2014-2019. Data was analyzed using descriptive statistics, correlation and linear regression. The study established a statistically significant relationship between social risks and financial performance of insurance firms in Kenya. Further, whereas terrorism and political unrest were found to have an insignificant effect, the influence of social risks arising from substance abuse, lifestyle changes and moral hazard were found to be moderately related. Regression results showed that there was a significant negative relationship between the social risks of fraud and intermediary pressure and financial performance and they adversely impact on profitability. The study recommends insurance firms to carefully consider, assess and evaluate their various social risk mitigation measures in order to lessen the adverse effects on financial performance.

Keywords: Social risks, Insurance Companies, Financial Performance

Introduction

The risky nature of the business world is unsustainable without insurance and businesses might be unable to cope with all risks within the dynamic and uncertainty of the world economy (Ahmed et al., 2010). Insurance is a risk transfer mechanism under which pooling gives it capacity and experience to handle risks. Risk transfer is done at a fee called premium (Marshall, 2001). According to Mehr and Cammack (1961) risk pooling involves grouping of homogeneous risks to produce a correct prediction of the rates and the pooled premiums are then used to settle claims of insureds who suffer losses. One of the biggest challenges in the insurance industry worldwide arises from social risks. Social risks are factors largely arising from

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changes in social processes, inter-personal exchanges and behavior, health, environment, as well as administrative and political structures (Holzmann & Jorgensen, 2000). If an appropriate risk management strategy is not in place, risks arising from these factors could affect the financial position of insurance firms.

This study is anchored the theories of Enterprise Risk Management (ERM), the Dynamic Theory of Profit (DTP) and the Contingency Planning Theory (CPT). The ERM theory as propounded by Gordon, Loeb and Teng (2009) provides a holistic approach to managing an organization's risks and links the firms' performance to five key factors, namely: environmental unpredictability, industry rivalry, firm footage, firm twist and Board of Directors' monitoring. According to the theory, adopting an all-round approach to managing firms' risks, is presumed to reduce the overall risk of bankruptcy, thus improving a firm's overall performance. Hoyt and Liebenberg (2011) empirically demonstrated that companies using the ERM concept improve their performance, thus supporting the theory.

The insurance industry will naturally have its fair share of challenges arising out of social risks, for example, the high rate of motor claims arising from drunk-driving and fraud caused by insureds and service providers have contributed to decline in profits (IRA, 2018). Congenital diseases like cancer, and those resulting from unhealthy lifestyles like high blood may make medical insurance less profitable. Insurance intermediaries also contribute to increased operation costs in the sector. Terrorism and political unrest have also indirectly affected profitability of most insurance companies (Larobina & Pate, 2009). Insurance companies therefore need to understand and have these risks in perspective as they may have an impact on their claims, profitability and overall company performance. In this context, this study analyzes the effect of social risks on the financial performance of insurance companies in Kenya.

Research Problem

The role of Insurance companies it to manage risks belonging to individuals, firms or the government. In their efforts to manage risks, insurance companies incur financial losses because of the nature of their business. Changes in the social environment will affect amounts that insurance companies pay in form of claims that could arise out of social risks (Boobier, 2016). Social risks may affect the insurance firms' overall performance by increasing possibilities of losses occurring through increased claims, hence compromising the financial stability of the insurance companies (Navicke, 2014). It is in line with this that

this study seeks to determine social risks faced by insurance companies in Kenya and how these affect their financial performance.

An aspect of the theory that is relevant to this study is environmental unpredictability, which is characteristic of the dynamic external environment in which insurance firms operate (Gordon et al., 2009). Such firms' response to various risks they face will depend on the uncertain environment they find themselves in. Insurance companies handle many inter-linked risks that range from financial to social risks, and that if not properly managed, overall performance will be greatly hampered and may lead to inability to pay claims. According to Babbel and Klock (1994, failure to honour claims may further lead to a decrease in financial performance.

Some related empirical work in the area of risk management and firm performance in different contexts and examining various concepts exists, for example - Maaka (2013); Njeru & Kamau (2016); Mwangi (2013); Mikes (2011); Jordan, Jorgensen, & Mitterhofer, 2013); Adams and Buckle (2000), Kathanga, Awino & Kabiru (2016) and Angima (2017). However, these studies have not been specific on social risks in their analysis thus necessitating a study of this nature. The study hypothesizes that social risks are significantly related to financial performance of insurance firms in Kenya.

Research Objective

The main objective of the study was to analyze the effect of social risks on financial performance of Insurance Companies in Kenya

Theoretical Review

The Dynamic Theory of Profit by Clark (1907) suggests that a firms' profit is dependent on the dynamic changes experienced in the economy and/or environment in which they operate. According to this theory, a firm's profit can be as a result of six (6) dynamic changes, namely: changes in population; changes in consumers' tastes and preferences; multiplication of consumer needs; increased capital formation; advancement in technology; and changes in the nature, structure and systems within business organizations. Pearce and Robinson (2005) also identify the dynamic social factors that will influence the demand for firm's product. These include beliefs, opinions and lifestyles of consumers which emanate from their cultural, ecological, educational and ethnic conditioning. Such changes lead to unpredictable changes in

demand for their product, affecting businesses differently. According to Rasmussen & Svedung (2000) it is important for firms to carefully consider and take cognizance of their dynamic environment and sources of risk. This calls for dynamism and proactivity in their responses to market disturbances. This theory is applicable to this study in that that social risks are highly dynamic and insurance companies need to respond appropriately to these risks that may affect their operations in terms of realization of profits and other organizational goals.

The Contingency Planning Theory by Scott (1981), provides that the environment in which an organization operates will determine how the company will be managed. Accordingly, different risk situations call for different approaches in handling, managing and solving the situation. In support, Hinson and Kowalski (2008) argue that business organizations need to plan ahead for those risks or losses that are likely to occur as all risks cannot be prevented from occurring despite any mechanisms that may be in place. The implication of the theory is that insurance companies need to be mindful of the risks that can potentially give rise to loss or significantly hinder the company's ability to achieve other goals. Firms should pursue contingency planning in order to lower the negative consequences of unpredictable events that may occur. The choice of risk mitigating instruments to use is therefore directly linked with the calculative culture of the company (Mikes & Kaplan, 2014).

Empirical Review

Social Risks

Social risks can be described as those risks that arise out of moral hazards, inherent in human behavior, culture, lifestyle, perception and belief towards insurance services. Moral hazard arises when the insured persons do not take into account the consequences of their behavior on the expenditures anticipated for the insurer (Spinnewijn, 2009). The insured will exercise less precautionary efforts the more they are insured. The literature in this field has focused more on standard quantifiable risks, such as market and liquidity risks with little attention paid to the role of non-quantifiable risks that may be associated with socio-political issues branding (HM Treasury, 2004). Social risks, according to Navicke (2014), are linked with rising cases of unemployment, health inequalities, financial instability, loneliness, breakdown of both formal and informal support networks as well as reduced educational attainment.

Social risks with a bearing on insurance include fraud which is a form of deception with an intention of personal or financial gain and is the leading social risk affecting profitability of most insurance companies worldwide. Mutua (2014) notes that there are several forms of insurance fraud including falsification of products, misuse of premiums; and double billing that insurance companies pay and which ultimately affect their profitability. According to IRA (2018) most insurance companies were affected and suffered from losses due to fraud. Other social risks include alcohol and substance abuse identified as among the leading road safety risks around the world, likely to impact on the financial cost of litigation and compensation and in turn affect premiums paid on car insurance and eventually, profitability of insurance companies (WHO, 2012).

Other social risks include pressure from insurance intermediaries like Agents and Brokers) who make false representation of the products and services (Churchill, 2006), while others collect and misappropriate premiums from clients (Njuguna & Arunga, 2013). This affects and increases the operating expenses and administrative costs of managing intermediaries and in the absence of economies of scale, it is unprofitable (Weiss, 2006). Another social risk is moral hazard which involves careless behaviour on the part of policyholders after they enter into an insurance contract, increasing the likelihood of occurrence of the insured event. This is especially so in the micro-insurance sector. This scenario goes against the ideal situation of risk sharing that requires that a smaller percentage of policyholders suffer losses in order for the insurance mechanism to work (Brown and Churchill, 2000).

Lifestyle diseases, lack of exercising and body fitness, chronic diseases and neoplastic disorders are more common social risks today especially due to changes in the lifestyle of policyholders, leading to enormous medical expenses for insurance companies (Singh & Singh, 2008) Ding et al. (2015) in their study, identify lifestyle changes as the main cause of mortality among the middle-aged and older adults. Terrorism and political unrest have continued to pose a threat to insurance companies across the world and have contributed immensely to insurance claims. Research has shown that terrorism has negatively impacted on the financial markets and business environment of the affected countries (Larobina & Pate, 2009). According to IRA (2013), following terrorist attacks in Kenya, insurance claims rose significantly with insurers and reinsurers incurring huge cash outflows and recording low profits.

Managing social risks is vital for the success of insurance companies and organizational efforts can prevent social risks from occurring, supplemented by mitigation efforts (Bandara & Weerakoon, 2012). Strategies include: training of stakeholders so that they have adequate knowledge of the products (Njuguna & Arunga, 2013), liaising with medical practitioners to train insureds on importance of healthy lifestyle and proper rating of policies that are affected by social risks by constantly utilizing the services of actuaries when making these price adjustments (Patel, 2002; Churchill, 2006). Re-insurance enables insurance companies to increase their capacity of underwriting risks such as terrorism (Prahalad, 2005). Screening applications is another method that reduces moral hazard and adverse selection. This technique ensures that high risk clients are not accepted on standard terms of insurance (Patel, 2002). On fraud, Radu (2003) argues that organizations need to formulate strategies that suppress all the motivations for committing fraud, focusing on those that will reduce opportunity, pressure and rationalization of the activities that are sought by an individual. On Misrepresentation on products, insurance intermediaries should focus on offering adequate training so that they have the full knowledge of the products (Njuguna & Arunga, 2013). With regard to misappropriation of premiums; insurance companies need to formulate policies that encourage premium payment directly to insurers (Radu, 2003).

Financial Performance

Performance is a general measure of a firm's actual output or results as assessed against its intended outputs and is thus related to its overall health over a given period of time. A firm's overall performance is the result of the various strategies it uses to achieve those objectives. Cameron, Whetton and Kim (2007) argue that every aspect of the firm's performance is unique, because performance is intrinsically situational. Wani and Dar (2015) describe financial performance as a subjective indicator that determines how companies utilize resources at their disposal to generate income. Performance varies across firms depending on internal variables as influenced by management decisions, and external factors as influenced by the market. For the typical insurance company, financial performance can be determined by assessing profitability, liquidity and solvency. According to Zenios et al. (1999) and Green and Inman (2007) the assessment of profitability focuses on the connection between the costs incurred and the income received. The authors propose the use of financial indicators such as the Return on Assets (ROA), Net profit/income, sales growth, Return on Equity (ROE), Return on Investment (ROI) and market share as measures of firm performance. ROA is a widely used measure because it considers the returns generated from the company's assets and it is the measure used in this study.

Research Methodology

A cross-sectional descriptive design was adopted in this study and was carried out targeting all 54 insurance firms operating as at December, 2019. Primary data on social risks was collected from the claims managers or their equivalents using a structured questionnaire while secondary data was collected using a data collection form.

In this study, the dependent variable was financial Firm Performance and was measured by the return on assets (ROA), computed as an average of the ratio of net income to total assets of the firms during a five year period years (2015-2019). Various elements constituted the independent variable, namely: - Insurance Fraud (IF), Substance Abuse (SA), Insurance Intermediaries (INI), Moral Hazard (MOR), Lifestyle Changes (LIF) and Terrorism and Political Unrest (TER).represented by the composite scores for the questions that were administered to the respondents. A 5-point Likert scale was used to measure the variables from 1 to 5 denoting "not significant"(1), "moderately significant"(2), significant"(3), "very significant" (4) or "highly significant"(5) in influencing financial performance

The linear regression model developed for this study was as follows:

$$FP = \alpha + \beta_1 IFR + \beta_2 INI + \beta_3 SA + \beta_4 TER + \beta_5 MOR + \beta_6 LIF + \varepsilon$$

Where:

Variable	**Represented by**
Firm Performance (FP)	Average Score - Return on assets (ROA)
Insurance Fraud (IFR)	Composite score for Insurance Fraud Risk
Insurance Intermediaries (INI)	Composite Score for risk caused by Insurance Intermediaries
Substance Abuse (SA)	Composite score for substance abuse risk
Terrorism and Political Unrest (TER)	Composite score for Terrorism risk
Moral Hazard (MOR)	Composite score for moral hazard risk
Lifestyle Changes (LIF)	Composite score for Lifestyle Changes risk
β_1 , β_2, β_3, β_4, β_5, β_6	Coefficient for the respective determinants
α	Regression constant or Intercept
ε	Error term

Mean and standard deviation were used to reflect the responses on the variables while the relationship between the variables was analyzed using regression analysis.

The study tested the following hypothesis:-

H_1. There is a significant relationship between social risks covered and firm financial performance

Results and Discussions

The response rate from the study was 96%. A summary of descriptive statistics is as given in the following tables. The respondents (40%) identified insurance fraud as the main risk, followed by pressure from intermediaries (20.3%) and disease and lifestyle changes (16.2%). The others social risks received responses of less than 10%. The overall mean score of 3.496 implies that all social risks have a moderate effect on financial performance of insurance firms in Kenya, while the overall standard deviation of 1.048 points to a relatively wide variation in the effect from one firm to another, implying that the effects do not uniformly affect all insurers.

Table 1: Effect of Social Risks on Financial Performance

Social risk	N	Mean	Std Deviation
Fraud	52	4.17	0.834
Pressure from intermediaries	52	4.00	0.95
Substance abuse	52	3.06	1.162
Terrorism and political unrest	52	2.77	1.148
Disease and lifestyle changes	52	3.76	1.014
Overall mean		**3.496**	**1.048**

Source: Research Data

On individual social risks and their effect on financial performance of the firms, the results are reflected in table 2

Table 2: Effect of Fraud on Financial Performance

Effect	N	Mean	Std Deviation
Increased Claims	52	3.81	1,14
Increased premium rates	52	3.40	1.16
Reduced profits	52	3.87	1.21
Increased operational costs	52	4.04	1.08
Overall mean	52	**3.78**	**1.147**

In summary, the overall mean score (3.78) and standard deviation (1.147) of the four factors associated with fraud imply a significant relationship. However, the degree of association varies for each firm. On the risk associated with intermediaries and its manifestation in the insurance business, the results are as reflected in table 3.

Table 3: Insurance Intermediaries and Financial Performance

Effect	N	Mean	Std Deviation
Taking business to rivals at lower rates	52	4.17	0.86
Sharing company's information with rivals	52	3.58	1.21
Misrepresentation of product information to client(s)	52	3.67	1.35
Failure to remit collected premiums promptly	52	4.13	0.91
Overall mean		**3.88**	**1.083**

The results also point out to the significant role of intermediaries in sharing company information with rivals (mean of 3.58) and in misrepresentation product information to clients (mean of 3.67), in influencing financial performance. The extent to which these have affected performance were found to differ from one firm to another, as indicated by standard deviations(1.083), probably attributable to the diverse nature and

range of product offered by these companies and handled by intermediaries. The overall mean score (3.88) implies a significant extent to which insurance intermediaries influencing financial performance.

Table 4.refelcts findings relating to substance abuse. The overall mean (3.26) of drunk-driving, road carnage and higher third-party claims suggests that substance abuse has an effect on financial performance and this effect is somewhat similar across firms as reflected in the overall standard deviation (0.935).

Table 4: Substance Abuse

Effect	N	Mean	Std Deviation
Drunk driving and road carnage have increased claims on motor insurance	52	3.35	.99
Road carnage has increased third-party claims	52	3.17	.88
Average	**52**	**3.26**	**.935**

The findings on terrorism and political unrest (Table 5) point to the moderate effect (overall mean of 3.20) in three areas, namely, increased insurance claims due to damage to property, loss of business from foreign clients who relocate and loss of business from local clients whose businesses may not be re-established.

Table 5: Terrorism and Political Unrest

Effect	N	Mean	Std Deviation
Huge claims as a result of damage to property	52	3.44	1.11
Loss of business from foreign clients who have relocated	52	3.13	0.99
Loss of business from local clients whose businesses may not be reestablished	52	3.04	1.20
Average	**52**	**3.20**	**1.10**

Analysis of the moral hazard risk (Table 6) reveals that increased policyholders' claims arising from carelessness was the most significant way (mean 3.94) through which moral hazard manifested itself in the insurance sector in Kenya. Overall, the results point to the moderate (mean= 3.633) extent to which moral hazard has on financial performance.

Table 6: Moral Hazard

Effect	N	Mean	Std Deviation
Increased policyholders' claims due to carelessness	52	3.94	0.99
loss of business due to declined claims and negative publicity from careless clients	52	3.52	1.20
increased the cost of provision of products to clients	52	3.44	1.04
Average	**52**	**3.63**	**1.076**

Table 7 reflects the findings on disease and lifestyle changes influence on financial performance of the firms. Three effects, namely, higher health insurance claims, higher premium rates and product re-negotiation/cancellation, which are related to disease and lifestyle changes were identified as mainly influencing financial performance of the firms (overall mean of 3.83).

Table 7: Disease and Lifestyle Changes

Effect	N	Mean	Std Deviation
Increased claims on health insurance	52	3.87	1.09
Increase in premiums on these products	52	3.71	1.13
Re-negotiated / cancelled products	52	3.90	1.06
Average	**52**	**3.83**	**1.093**

The results on financial firm performance based on return on assets (ROA) over the 5-year period are reflected in Table 8.

Table 8: Return on Assets (ROA: 2015-2019)

Statistic	Return on Investment (ROA) – (%)
Minimum	–5.832
Maximum	9.136
Mean	1.952
Standard Deviation	3.28

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The overall mean of 1.95% with a minimum of -5.8% and maximum of 9.1% reflects fair financial performance as this is a positive return (profit) for every shilling that was invested. However, this low average level of ROA may be indicative of non-efficient utilization of their assets to generate better returns over this period.

Regression Analysis

Regression analysis was performed to establish if there is any relationship between social risks associated with insurance practices and financial firm performance. Results are reflected in table 8

Table 8: Regression Model Results

a) Model Summary: Regression Results: Dependent Variable-ROA,

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.819[a]	.671	.628	2.0016914

a. Predictors: (Constant), Lifestyle, Intermediaries, Substance, Terrorism, Fraud, Moral_Hazard

b) Analysis of Variance (ANOVA)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	368.375	6	61.396	15.323	.000[b]
	Residual	180.305	45	4.007		
	Total	548.679	51			

a. Dependent Variable: ROA of Company

b. Predictors: (Constant), Lifestyle, Intermediaries, Substance, Terrorism, Fraud, Moral Hazard

c) Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	14.690	1.558		9.428	.000
	Fraud	-1.099	.376	-.342	-2.925	.005

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Intermediaries	-.912	.354	-.258	-2.580	.013
Substance	-.603	.530	-.123	-1.138	.261
Terrorism	-.243	.363	-.075	-.670	.506
Moral Hazard	-.226	.446	-.062	-.506	.615
Lifestyle	-.977	.523	-.242	-1.869	.068

a. Dependent Variable: ROA of Company

The models reveal a significant statistical relationship between these social risks and financial firm performance (P<.05) with R^2 =.671, F (6, 45) = 15.323 with a standard error of 2.0016914. Social risks explain 67% of variation in ROA, while the other 33% can be attributed to other factors not considered in the study. The findings showed that the coefficient of each social risk was negative, indicating that increased social risks caused ROA of insurance companies to decrease. The results as reflected in table 5(c) show that Fraud (β = -1.099), p<0.05), and intermediaries actions (β = -.912, p<0.05) are significant predictors of firms' ROA confirming the descriptive statistics as presented. The effect of the other social risks, namely substance abuse (SA), terrorism and political unrest (TER), moral hazard (MOR) and lifestyle changes (LIF), although negative, were statistically insignificant(P> 0.05).

The linear regression model developed for this study was as follows:

$$FP = \alpha + \beta_1 IFR + \beta_2 INI + \beta_3 SA + \beta_4 TER + \beta_5 MOR + \beta_6 LIF + \varepsilon$$

The resultant model therefore becomes: **FP= 14.690 - 1.099IFR- .912INI +** ε

The model shows that keeping all factors constant, performance will be held at 14.690. A unit increase in fraud holding all other factors constant would lead to -1.099 (negative) change in firm's performance in terms of ROA. Similarly, an increase in intermediaries' pressure will result to a decrease of -.912 in firm's ROA. Finally, the effect of the other social risks, that is, substance abuse (SA), terrorism and political unrest (TER), moral hazard (MOR) and lifestyle changes (LIF), although negative, were statistically insignificant, since their p-value was above 0.05.

Conclusions and Recommendations

The descriptive statistics findings revealed that social risks do affect financial performance as envisaged. Also, the influence of these risks on financial firm performance as hypothesized was significant. The regression results point to the significant contribution of insurance fraud and pressure from intermediaries in explaining financial losses experienced in Kenya's insurance sector. The insignificant effect of the other social risks may possibly be explained by the qualitative nature of the research methods used and inability to distinguish or alienate the portions that these social risks contribute to losses and / or claims. The results imply that social risks in the insurance business, to a large extent, emanate from the manner in which insurance claims and premiums are processed and how insurance products are packaged. It is concluded that insurance firms with weaker internal controls are at greater risk of recording big financial losses due to fraudulent practices. An examination of existing control systems, that would detect and respond promptly to fraudulent cases, should be re-evaluated or instituted in order to seal potential loopholes and opportunity for fraud. Furthermore, efficient information sharing mechanism, when in place, will help to minimize the impact that fraudulent practices would have on profitability in the industry.

Additionally, the conduct of insurance intermediaries while discharging their role of linking consumers with insurers in a competitive market, could be a source of risk to the insurance business, through mis-selling, price undercutting, financial leakages and exposure of the companies to lawsuits (Cummins and Doherty (2006). This could have the potential to adversely impacting on profitability and reputation of the industry. The alignment of intermediaries' interests with those of the insurance companies, would help mitigate social risks arising from their actions.

Study limitations include the following: The linear regression model presumed social risks as the only determinants of the financial performance of insurers in Kenya, and further, the study used ROA as the only measure of financial performance. Furthermore, overall firm performance was not considered, hence the inferences made hereof may not be conclusively applicable. However, there are many other factors such investment activities, and other variables such as premium growth, incurred claims, leverage, liquidity, and company management among others that significantly affect the performance of insurance firms but were not covered by the study. Future studies need to consider other variables for more conclusive findings.

References

Adams, M., & Buckle, M. (2000). The determinants of operational performance in Bermuda insurance market. *Applied Financial Economics, 13*(2), 133-143.

Ahmed, N. Ahmed, Z., & Ahmed, I. (2010). Determinants of capital structure: a case of life insurance sector of Pakistan. *European Journal of Economics, Finance and Administrative Sciences, 6*(24), 1450-1475.

Angima, C. B. (2017). Actuarial Risk Management Practices, Underwriting, Risk and Performance of P & C Insurance Firms in East Africa. *European Scientific Journal,* 13(22), 207-226

Babbel, D. F., & Klock, D. R. (1994). Measuring the interest rate risk of property/casualty insurer liabilities. In S. G. Gustavson & S. E. Harrington (Eds.), *Insurance, Risk Management, and Public Policy* (pp.49-73). Dordretch: Springer.

Bandara, R. M. S., & Weerakoon, B. Y. K. (2012). Impact of risk management practice on firm value. *International Journal of Economics and Financial Issues*, 6(3), 45-67

Boobier, T. (2016). *Analytics for insurance: the real business of big data*. Chichester: Wiley.

Brown, W., & Churchill, C. (2000). *Providing insurance to low-income households. Part II: Initial lessons from micro-insurance experiments for the poor*. (Bethesda, MD, USAID, Microenterprise Best Practices, Development Alternatives Inc.)

Cameron, D., Whetton, K., & Kim, M. (2007). Organizational dysfunctions of decline. *Academy of Management Journal , 30* (1), 126-138.

Churchill, C. (2006). *Protecting the Poor: A Microinsurance Compendium (Eds)*. Geneva: International Labor Organization.

Clark, J. B. (1907). *Essentials of Economic Theory, As Applied to Modern Problems of Industry and Public Policy*. London: The Macmillan Company.

Cummins, J. D., & Doherty, N. A. (2006). The Economics of Insurance Intermediaries. *The Journal of Risk and Insurance, 73*, 3, 359-396.

Gordon, L.A., Loeb, M.P., & Tseng, C. Y. (2009). Enterprise risk management and firm performance: A contingency perspective. *Journal of Accounting and Public Policy, 28*(4), 301-327.

Green, K.W., & Inman, R.A. (2007). The impact of JIT-II-selling on organizational performance. *Industrial Management & Data Systems, 107*(7), 1018–1035.

HM Treasury. (2004). *The Orange Book: management of risk – principles and concepts*. The Stationery Office, London

Holzmann, R., & Jorgensen, S. (2000). *Social risk management: A new conceptual framework for social protection, and beyond*. Washington, DC: World Bank.

Hoyt, R. E., & Liebenberg, A. P. (2011). The value of enterprise risk management. *Journal of Risk and Insurance, 78*(4), 795-822.

IRA. (2013). *Insurance Industry Annual Report, April-June 2017.* Insurance Regulatory Authority, Nairobi. Kenya

IRA. (2017). *Insurance Industry Annual Report, January-March 2017.* Insurance Regulatory Authority, Nairobi. Kenya.

IRA. (2018). *Insurance Industry Annual Report, October-December 2018.* Insurance Regulatory Authority, Nairobi. Kenya.

Jordan, S., Jørgensen, L., & Mitterhofer, H. (2013). Performing risk and the project: Risk maps as mediating instruments. *Management Accounting Research 24*(2): 156–174.

Kathanga, M. W., Awino, Z. B., & Kabiru, J. (2016). Challenges facing the growth of insurance sector: a survey of selected insurance companies in Kenya. *Journal of Business and Strategic Management, 1(1),* 1 – 15.

Larobina, M., & Pate, R. (2009). The Impact of Terrorism on Business. *Journal of Global Business Issues, 3:* 147-156.

Maaka, Z. A. (2013). The relationship between liquidity risk and financial Performance of commercial banks in Kenya. *Unpublished MBA Project, University of Nairobi*.

Marshall, C. (2001). Measuring and managing operational risks in financial institutions: Tools, techniques and other resources. John Wiley, New York.

Mehr, R. I., & Cammack, E. (1961). Principles of insurance. Richard D. Irwin Inc, Homewood Illinois.

Mikes, A. (2011). From counting risk to making risk count: boundary-work in risk management. *Accounting, Organizations and Society, 36*(4-5), 226-245.

Mikes, A., & Kaplan, R. S. (2014). *Towards a contingency theory of enterprise risk management.* Harvard Business School Working Paper.

Mutua, C. M. (2014). The effect of fraudulent practices on the growth of the insurance industry in Kenya: a case of selected insurance companies. *The Strategic Journal of Business and Change Management,* 2(16), 300-317.

Mwangi, C. M. (2013). An investigation into factors that determine financial performance of insurance companies in Kenya. *Unpublished MBA Project, University of Nairobi*.

Navicke, J. (2014). Between a risk society and a welfare state: social risk resilience and vulnerability to poverty in Lithuania. *EUROMOD Working Paper Series, EM 4/14,* Institute of Social and Economic Research, Colchester.

Njeru, A., & Kamau, F. (2016). Effect of liquidity risk on financial performance of insurance companies listed at the Nairobi Securities Exchange. *International Journal of Science and Research*, 5(10), 867-872.

Njuguna, G.A, & Arunga, A. (2013). Risk management practices: a survey of micro-insurance service providers in Kenya. *International Journal of Financial Research, 4 (1), 132-150.*

Patel, S. (2002). *Insurance and Poverty Alleviation: The Cooperative Advantage*. The International Cooperative and Mutual Insurance Federation (ICMIF), Altrincham.

Pearce, J.A., & Robinson, R. (2005). *Strategic Management: Strategic Formulation and Implementation*, 3rd Edition. Richard D. Irwin Inc., Boston.

Prahalad, C. K. (2005). *The fortune at the bottom of the pyramid: Eradicating poverty through profits*. Upper Saddle River, NJ: Wharton School Publishing.

Radu, C. (2003). *Implementing electronic card payment systems*. Boston: Artech House.

Rasmussen, J. & Svedung, I. (2000). Proactive Risk Management in A Dynamic Society. Karlstad, Sweden: Swedish Rescue Services Agency.

Scott, W.R. (1981). *Organizations: Rational, Natural, and Open Systems. Englewood Cliffs, NJ: Prentice Hall Inc.*

Spinnewijn, J. (2009). Essays on optimal insurance design. *Unpublished Dissertation Summary. Upjohn Institute, Massachusetts Institute of Technology*.

Wani, A. A., & Dar, S. A. (2015). Relationship between financial risk and financial performance: an insight of Indian insurance industry. *International Journal of Science and Research*, *4*(11), 1424-1433.

WHO. (2012). *Global status report on alcohol and health*. Geneva, Switzerland: World Health Organization.

Zenios, C.V., Zenios, S.A., Agathocleous, K., & Soteriou, A.C. (1999). Benchmarks of the efficiency of bank branches. *Interfaces*, *29*(3), 37–51.