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INTERNAL AUDIT INDEPENDENCE AND FINANCIAL RISK OF SUGAR MANUFACTURING FIRMS IN WESTERN KENYA

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ABSTRACT: *The study aimed to establish the influence of internal audit independence on the financial risk ofsugar manufacturing firms in western Kenya.Agency theory, fraud diamond theory, and role conflict theory wereadopted by the study.The study was anchored on interpretivism research philosophy and explanatory researchdesign. The study targeted 200 respondents, including internal auditors, finance officers, and accountants fromeight operating sugar manufacturing firms in western Kenya. The study employed proportionate sampling to get thesample size of 132 respondents from the sugar belt. The use of questionnaires collected primary data. Bothdescriptive and inferential statistics were obtained. Descriptive statistics consisted; of the use of mean, standarderror of the mean, and standard deviation. Inferential statistics included the use of a multinomial logistic regressionmodel. The results indicated that internal audit independence had a significant positive influence on financial riskthrough involvement with a p-value of 0.012<0.05 and a likelihood of 1.820 times and also through programminggiven the p-value of 0.046<0.05 and an increase in possibility of 1.653times. The study, therefore, recommendedstrengthening the internal audit section through internal audit independence, as this will significantly reducefinancial risk.*

KEYWORD*S*:*internal audit independence, financial risk, sugar manufacturing firms, western kenya*

I. Introduction

Financial risk refers to the potentiality of an organization's cash flow not meeting its obligations as they fall due. In addition, financial risk is the probability that an organization may incur financial losses when undertaking a particular investment or business venture. Risk can generally result in positive and negative business outcomes, with a common assumption that the total value of risk undertaken directly affects the possible return. However, it is usually essential for an organization to have a backup measure to curb financial risk, leading to adverse business outcomes(Onsongo & Mwangi, 2020).

In Kenya, the sugar industry faces several financial risks such as vast debts, inability to pay farmers and taxes on time and increased operation costs, which has led to production below capacity. In addition, financial risk is also evidenced in the event of allocation of sugar development funds. This is because of the conflict of interest between the bodies governing the sugar sector such as the Kenya Sugar Authority, the Kenya Sugar Board and theSugar Committee(Kenya Anti - Corruption Commission, 2010).

Alocal report on sugar industry in Kenya indicated that the Kenya Sugar Authority and the government have both contributed immensely to the inefficient management of financial risk in the sugar industy.The Kenya Sugar Board has contributed to the heavy financial risk in the sugar sector throughinappriorate appropriation of the fund denoted to boost the performance of the sugar firms.On the other hand, the government has contributed to the ineffective financial risk management in the sugar industry through appointing the management of the sugar firms on the essence of diplomatic deliberstions instead on the basis of qualification and standards. The report further indicated that the government could have also contributed to the unsuccessful management of financial risk through giving huge loans to the firms without looking forward to recover the loans and also through unpunishing individuals responsible for the evasion of tax in the sugar firms(SUCAM, 2008-2009).

Every organization considers making wise and effective decisions on how to mitigate financial risk. However, the inadequate financial risk management in the sugar industry has rendered sugar firms very incapable that their aim of achieving adequate production of sugar could be unachievable in a long period. Therefore, for effective management of the sugar firms' financial risk and stability, there is a need to establish an independent internal audit. An independent internal audit refers to a self-sufficient, goal-oriented assertion employed in a firm to add value. It is vital to an organization since it ensures that financial risk is assessed and mitigated. In addition, it establishes comprehensive financial risk management frameworks to curb potential financial risk(Ayagre, 2014).

1.2 Statement of the Problem

An independent internal audit identifies potential financial risks that may negatively affect an enterprise. In addition, manages those risks to provide reasonable assurance regarding achieving the enterprise objectives. An internal audit that is effectively implemented allows organizations to experience the benefits of having effective internal control procedures, which can examine, evaluate and report financial risks as soon as their potentiality is perceived, thus enhancing value addition to the organization (Alawaqle & Almasria, 2021). Despite implementing internal audit units in the sugar-manufacturing firms, major sugar firms have collapsed while others are under receiverships. An audit report on Muhoroni Sugar Company revealed several financial risks such as massive sugar theft worth shillings 68,326422 for the financial year 2017/2018, improper purchase worth shillings 29,973,893, and deception in staffing. In addition, it indicated that a loan of shillings 447.5 million received from the Sugar Directorate in the year 2015 for the upgrading of the factory was not accounted for(Office of the Auditor General, 2020). Another audit report on Mumias sugar indicated that sales worth 1.7 billion were not accounted for, and credit sales worth 33.5 million between 2013 and 2017 were not yet received (Okoth, 2020). The challenges facing these sugar firms have resulted in the residents losing employment and their source of livelihood. In spite of the significant contribution of internal audit on financial risk, it has gotten minimal concern for academic and empirical implications. Past studies targeting sugar industries, have rather concentrated on the influence of internal audit on financial performance than internal audit independence and financial risk. On the other hand, studies focusing on financial risk have concentrated on financial risks and profitability of sugar industries rather than financial risks and internal audit independence. In addition, past studies have not evaluated the individual contribution of internal audit independence on financial risk, thus establishing the need to do the current study.

II. LITERATURE REVIEW

2.1Theoretical Review

The study was anquored on agency theory, Fraud Diamond theory and Role Conflict theory

2.1.1Agency Theory

The agency theory was founded by(Jensen & Meckling, 1976). The theory expounds on the relationship between two parties; the first party is the principal, and the second party is the manager. The sole principal responsibility is to pool resources together, design the work, and allocate the work to the managers. The ultimate aim of this theory is to ensure that a common objective is achieved by the two parties to evade disagreements .

This theory is relevant to this study since the internal audit is an agent to the firm's general stakeholders to ensure good corporate governance exists, risks are appropriately managed, and effective internal control procedures are put in place. The internal audit should be self-reliant, to ensure that the stakeholders' desires and managements' desires are in harmony. The management may have a contrasting preference for risks; therefore, it is the duty of internal audit to ensure that the firm's accepted levels of risks are within the firm's risk tolerance levels.

2.1.2 Fraud Diamond Theory

Fraud Diamond theory was developed by (Hermanson & Wolfe, 2004) as an extension of the Fraud Triangle Theory. Fraud Diamond Theory was initially published in the magazine of Certified Public Accountant in December 2004. They thought it was wise to introduce a third element, "capability, "into the theory to heighten the process of fraud prevention and detection.The theory states that individuals are considered to violate their responsibilities when they find themselves as having obtained monetary liabilities which they perceive to be non-sharable and must be settled in a confidential and undisclosed manner(Cressey, 1953).

This theory assumes that elements such as perceived pressure, opportunity, rationalization, and capability must be present for fraud to occur. Perceived pressure is considered a factor that pushes an individual to participate in fraud; on the other hand, a perceived opportunity is given room for existence by ineffective internal control systems in a firm. Personnel who participate in fraudulent activities justify their actions by believing they are not committing a crime. Rationalization, therefore, is the proof to be right for one to safeguard his fraudulent actions(Pornell & Hooper, 2010).

This theory is relevant to the study because the management may have a conflict of interest with the shareholders most of the time. The management may exploit weaknesses in the internal control systems for their selfish gains. On the other hand, the internal audit may fail to report the breakdown of financial risks due to the perceived pressure from the management. The employees hired to work in the various sections of the organization may be so capable that if left to work in a section for a long time may begin to exploit the loopholes, thus committing fraud. Therefore, it requires the internal audit to be independent in order to report financial risks breakdown as they are perceived to occur.

2.1.3 Role Conflict Theory

Role conflict theory was founded by Linton and Mead(1972).The theory is founded on the opinion that individuals act in an anticipated manner and that a person's actions are surrounded by particular factors which are based on individual's social life and other factors. The role conflict theory assumes that individuals belong to a certain social position in life and are responsible for their actions and those of others.

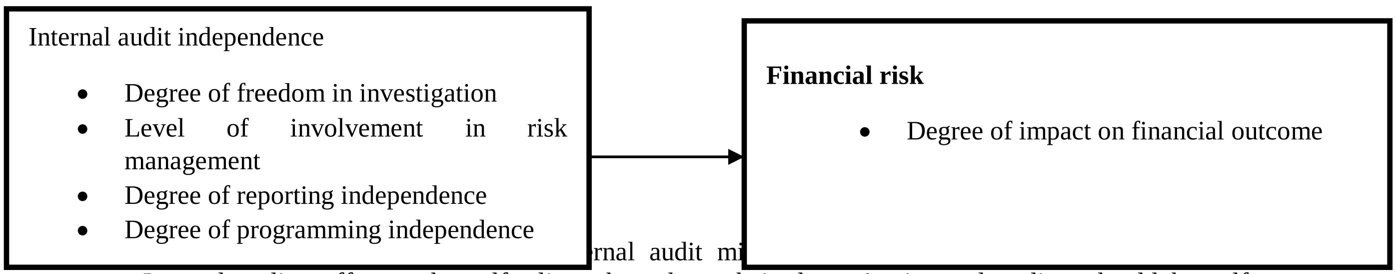
Koo and Sim (1999) states that a role is composed of the authority, responsibilities, anticipation, standards in place, and actions that an individual has to carry out and meet. The theory further states that role conflict manifests when an individual is anticipated to concurrently carry out several roles that convey conflicting anticipations. The internal audit for example is anticipated to oversee the organization operations and also to provide consulting services to the organization.

The theoryis relevant to this study since it explain the conflict of interests between management and internal audit.The theory states the reasons that might lead to conflict between management and internal audit and how the conflicts can be solved in order to ensure uniformity in achieving the organization's objectives.

2.2 Conceptual Framework

It refers to the layout which the researcher believes describes the regular progress of the phenomenon to be studied. It describes how the researcher would explore the research problem(Hussein, Agyem, & Adom, 2018).

Independent VariableDependent variable



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statements. Internal audit staff must be self-reliant throughout their duty. An internal auditor should be self-sufficient both in mind and in appearance. Self-reliance in mind requires an internal auditor to exercise integrity, objectivity, and professional skepticism to make sound opinions without compromise. In contrast, self-reliance in appearance requires an internal auditor to deter from circumstances that might lead others to believe that they are not acting in an unbiased way. Internal audits must be at liberty while doing their regular duties in their organizations(Ado, Rashid, & Mustapha, 2020).

According to the International Standard for the Professional Practice of Internal Auditing of 2006, internal audit independence concerns liberty to circumstances that could jeopardize objectivity and the aspect of neutrality. The ISPPIA of 2006 further states that neutrality refers to the internal audit not compromising their decisions and opinions on essential audit matters to the management opinions and judgments. Internal audit independence refers to the neutral, rational point of view that enables the internal audit to carry out their duties so that they feel their opinions on audit matters are not subject to management decisions (Okello, Oting, & Wanyama, 2019).

2.2.2 Financial Risk

Financial risk is the potential for financial loss and uncertainty about a financial outcome that either positively or negatively affects an organization, hindering it from achieving its objectives and goals. Inadequate management of financial risk could result in the dissolution of an organization. Financial risk has been considered a significant crisis in the sugar manufacturing firms in western Kenya. Despite effective internal audits, sugar manufacturing firms still face challenges arising from high levels of financial risk(Ondiek, 2014).

Most sugar manufacturing firms in western Kenya have been liquidated, while others are performing below capacity due to ineffective risk management processes. In addition, financial risk could also mean the likelihood that a firm could liquidate when it utilizes loans to satisfy its financial obligations when the available cash is inadequate. Financial risk tolerance levels accepted by management define how efficiently or deficiently an organization performs. The past financial scandal of 2008-2009 led to the destruction of the capitalists' confidence in the capability of the government-owned firms to successfully oversee risk management (Maigua & Mouni, 2016).

The study focused on the general impact of financial risks on the sugar industry. Individual aspects of financial risks like liquidity risks, credit risks and interest rate risks were all looked into and an overall measure of degree of impact on financial outcome was used to determine the degree of impact and likelihood of financial risks in the sugar industry. The sugar industry faces several financial risks and a general conclusion was needed. Enock and Ouma (2013) established the influence of financial risks on profitability of sugar manufacturing firms in Kenya.The study focussed on three aspects of financial risk that is credit risks, liquidity risks and interest rates risks.

2.4 Empirical Literature Review

Norman and Jacob (2010) and Eulerich, Kremin, and Wood (2019) established the impact of reporting lines of internal audit on the decomposition of fraud risk and analysis of fraud risks made by internal auditors when fraud risk levels vary. An experiment was conducted on 172 experienced internal auditors from the Institute of internal auditors' research and foundation in the USA. The study indicated that reporting directly to the audit committee by the internal auditors exacts additional threats to the internal auditors leading to reduced assessment levels of fraud risks. In addition, an internal auditor who reports unflattering risks to management perceives minor threats because the information is sieved through the administration if risks are reported directly to the audit committee. The reporting line of internal audit has a significant positive relationship with the decomposition of fraud risk while an insignificant association with the evaluation of fraud risk.

Similarly,(Zwaan, Stewart, & Subramaniam, 2011) studied the influence of internal auditor engagement in Enterprise Risk Management. The study adopted an experimental research design and targeted registered certified internal auditors from the Institute of Internal Auditors Australia and had a sample of 300 members. The study revealed that full engagement in enterprise risk management influences the feelings of internal auditors' openness to report a breakdown in risk procedures to the audit committee. However, a hefty relationship with the audit committee does not openly affect their feelings about reporting. The study also found that most organizations have recently adopted ERM. Internal auditor's engagement had a significant positive relationship with the management of enterprise risk.

Moreover, Ondieki (2013) established the effects of internal audits on the financial performance of commercial banks in Kenya. A sample population of 20 commercial banks was used. The study adopted a descriptive cross-sectional research design. The findings indicated that internal auditors must carry out their duties independently and objectively to successfully attain internal audit objectives and responsibilities. The internal auditors should carry out their function in a manner that is free from intervention and uncertainty. The internal auditors must not be biased in their operations. The independence of internal audit is usually through objectivity and organizational status. A strong positive relationship existed between internal audit independence, quality of internal audit, the capability of internal audit, and commercial banks' financial performance.

Mbalwa, Kombo, Chepkoech, Koech, and Shavulimo (2014) studied the effects of corporate governance practices on the performance of sugar manufacturing firms in western Kenya. The research design was correlational. The study targeted 11 sugar manufacturing firms, and a convenience sampling technique was used. The study's findings indicated that a self-reliant internal audit staff is responsible for making unbiased decisions that safeguard the company resources. The Independent internal team is also responsible for protecting the shareholders' interests. The internal audit's independence is adequate for managing and mitigating financial risk A weak positive and significant relationship was established.

Similarly, Suleiman, Ayoib, and Zalina (2018) focused on top management support on the relationship between internal audit quality dimensions and organizational performance in Nigerian federal universities. A sample population of 400 internal auditors from 40 national universities was used. The study revealed that the capability of internal auditors to carry out their duties self-reliantly is very important to the internal audit career. By this, the IIA requires internal auditors to report administratively to top management and functionally to the board or council. A significant positive relationship existed between the variables.

Makokha (2019) studied the effects of audit quality on financial scandals in Kenyan companies; a case study of Mumias sugar company. A quantitative research design was used. Structured questionnaires were used to collect data, and a total population of 30 respondents was targeted. The study’s findings indicated that interfering with the independence of internal audit by management of the sugar firms has been the major challenge leading to severe financial risks like embezzlement of funds in the sugar companies. If the control of the sugar firms provides all the necessary information required to carry out internal audits, then financial risk will be prevented by approximately 99%.

III. METHODOLOGY

3.1 Research Philosophy

The study used interpretivism research philosophy. This is because the study tends to provide in depth information on the aspects to be studied and also uses qualitative methods of data collection. Interpretivism research philosory was alsoemployed because it enabled the study to generate current,plentiful understanding and interpretations of the association between internal audit and financial risk. Research philosophy refers to the assumptions and beliefs invoving the generation of new knowledge(Saunders, 2016).

3.2 Research Design

The study adopted explanatory research design. This is because there was need for the study to provide in depth information on the influence of internal audit on financial risk.The design was also adopted because it established the cause and effect relationship of internal audit and financial risk through the testing of hypothesis.The explanatory research design also enabled the interrelation of ideas to comprehend the cause and influence relationship between internal audit and financial risk. Research design is the general plan of how the researcher goes about addressing the study's objectives(Mutibo & Mutinda, 2020).

3.3 Target population

The study targeteda total of 200 respondents including internal auditors, finance officers and accountants from eight operating sugar manufacturing firms in western Kenya.

3.4 Instruments

Questionnaires were used to collect primary data.Closed-ended questions were used because they were simple to understand and easy to analyze.Journal and articles were also used to corroborate or contradict the findings.

3.5 Reliability

In this study, Cronbach's alpha was used to test the internal consistency of the questionnaires

Table 3.1: Cronbach's Alpha Reliability

Variable	Number of Items	Cronbach alpha	Number of items retained	Cronbach alpha after deletion	Conclusion
Audit independence	15	0.691	10	0.717	Reliable
Financial Risk	15	0.697	10	0.712	Reliable

The dimensionality of the scale in this study was tested using the factor analysis to compute Cronbach's alpha. All the variables reliability was confirmed for all the variable since their cronbach alpha value were above 0.7.

3.6 Validity

To test for the validity of the obtained results, a dimensionality test was carried out to investigate the dimensionality of the scale used. This was achieved through the use of factor analysis on the four test items that were used. KMO and Bartlett's tests were used to determine sampling sufficiency of the data.The results are shown in Table 3.1

Table 3.2: KMO and Bartlett's Test

				Bartlett's test		
	AVE	Squared Correlations	KMO	χ^2	Df	P-value
Audit independence	0.621	0.421	0.713	170.945	115	0.000
Financial Risk	0.634	0.197	0.734	61.151	115	0.000

The KMO statistics for the variables were more than 0.7 indicating appropriateness of the data(Ayagre, 2014).Sampling sufficiency was established through Bartlett's tests.All Bartlett's statistics have p-values of $0.000 < 0.05$ indicating that the variablesassociationmodel is not a distinctive modeltherefore the pilot study data wassufficient and appropriate for the factor .

3.7Data Processing and Analysis

Descriptive statistics was used to summarize the data relating to internal audit and financial risk. Inferential statistics included multinomial logistic regression . Multinomial logistic regression was used because the dependent variable was not continuous. The significance value of model fitting information of each independent variable was compared against the standard significance value of 0.05 as a means of testing the hypothesis(Kothari, 2014).

The modelswas presented as:

$$(\mathbf{1}).\boldsymbol{Y = \beta_\theta + \beta_1 Freedom + \beta_2 Involvement + \beta_3 Reporting + \beta_4 Programming + \varepsilon}$$

IV. RESULTS AND DISCUSSIONS

4.1 Response Rate

One hundred and thirty two questionnaires were distributed. One hundred and twenty questionnaires out of one hundred and thirty twowere brought back representing90.91% of the sample respondents targeted . The feedback rate was considered sufficient based on suggestions by various scholars who propose that a feedback rate of more than 60% is sufficient. Ondieki, (2013) indicates that a feedback rate of more than 60% is sufficient.

Table 4.1 :Response Rate

	Targeted respondents	Returned questionnaires	Response rate
	132	120	90.91%

4. 2 Descriptive Statistics of Financial Risk

The study sought to establish the perception of the respondents on the level of contribution of internal audit independence to the management and mitigation of financial risk in the sugar manufacturing firms in western, Kenya. This is shown in table 4.2 below.

Table 4.2: Descriptive Statistics of Internal Audit Independence and Financial Risk

Statements	Minimum Statistic	Maximum Statistic	Mean Statistic	Std. Error	Std. Deviation Statistic
Internal audit staff are enabled to carry out investigation without interference from management	1	5	3.52	.113	1.237
Internal audit freedom of investigation enhances assessment of financial risk	1	5	3.49	.112	1.230
The internal audit staff are actively involved in risk management	1	5	3.04	.113	1.239
Involvement of internal audit staff in financial risk management enhances mitigation of financial risk	1	5	3.60	.124	1.362
The internal audit reports are objectively prepared	1	5	3.01	.137	1.503
Internal audit reporting independence supports monitoring of financial risk	1	5	3.23	.130	1.424
Internal audit independently designs the internal audit policies and procedures	1	5	3.28	.120	1.317
The objectivity of internal audit programming helps in the identification of financial risk	1	5	3.79	.107	1.173
Active participation of internal audit staff in risk management positively impacts on mitigation of financial risk	1	5	3.52	.127	1.390
Internal audit staff have no conflict of interest in the preparation of financial risk	1	5	3.20	.109	1.192

The study sought to establish if the internal audit staff are enabled to carry out investigation without interference from management. Majority with an average mean of 3.52 ≈4 agreed that internal audit staff in most of the sugar manaufacturing firms in western Kenya are enabled to carry out investigation without interference from management. However, in a few sugar manufacturing firms in western Kenya , internal audit staff are experiencing interference from management while carrying out their duty of investigation thus leading to the rising of financial risk levels that negatively impacts those sugar firms.The results support the agency theory which holds that once agents are assigned duties the principal need to allow them to work without interference.

The studyfurther sought to determine if internal audit freedom of investigation enhances assessment of financial risk. Majority with an average mean of 3.49were neutral that internal audit freedom of investigation enhances assessment of financial risk.Thisimplies that in most of the sugar firms in western Kenya, the degree of freedom in internal audit investigation does not necessarily reduce and prevent financial risk. These results may have confirmed the reason for the existence of high levels of financial risk in majority of the sugar firms in western Kenya.

The study also sought to determine the perception of the respondents that internal audit staff are actively involved in risk management. Majority had average mean of 3.04.This implies that in most of the sugar firms in western Kenya, internal audit staff are not actively involved in risk management thus financial risk are not detected and prevented at an early stage. However, in a few sugar firms, the internal audit staff are actively involved in risk management therefore enhancing the mitigation of financial risk.

The study sought to assess if involvement of internal audit staff in financial risk management enhances mitigation of financial risk. Majority of respondents with an average mean of 3.60≈ 4 agreed that involvement of internal audit staff in financial risk management enhances mitigation of financial risk. These results indicates that if the sugar firms involve internal audit in risk mitigation then financial risk would reduce to a great extent. These results were in line with the results of (Ayagre, 2014) who studied the effect of adoption of risk based internal auditing in Ghana. The study indicates that when internal audit staff are involved in financial risk management then the existing and potential financial risk could be easily assessed and mitigated.

The established the distribution of the indicator that the internal audit reports are objectively prepared. Majority with an average mean of 3.01 were neutral. These results suggested that objectivity in preparing internal audit reports is still lacking in majority of sugar firms in western Kenya, thus the internal audit reports could not be relied upon. These results contradicted the results of (Gamayuni, 2018) who studied the effect of internal auditor competence, objectivity, management support and financial reporting quality at local government. The study indicates that for internal audit reports to be relied on they need to be prepared objectively.

The study sought to determine if internal audit reporting independence supports the monitoring of financial risk. Majority of respondents with an average mean of 3.23 were neutral. This implies that internal audit reporting independence in majority of sugar manufacturing firms in western Kenya does not necessarily support the monitoring of financial risk. However, if internal audit reporting independence could be embraced in the sugar firms, then financial risk would be greatly reduced.These results contradicted the results of (Karage, Mustaafa, & Younes, 2020) that indicates that internal audit reporting independence supports the monitoring of financial risk.The findings tend to be in line with role conflict theory since in the process in which internal audit provides consulting services to the management conflicts may occur which may interfere with their reporting independence.

The study sought to establish the respondents perception on whether internal audit independently designs the internal audit policies and procedures. Majority of respondents with an average mean of 3.28 were neutral . These results suggested that internal audit in majority of the sugar firms in western Kenya do not design the internal audit policies and procedures according to the perceived needs of the organization thus encouraging copy pasting of the policies and procedures from other firms which may be inappropriate. The results corroborates the results of (Waswa, Mohamed, & Oima, 2018)who carried out a study on the effect of liquidity on the financial performance of sugar manufacturing firms in Kenya and revealed that internal audit policies and procedures are not independently designed.

The study sought to establish the distribution of the indicator that objectivity in internal audit programming helps in the identification of financial risk. Majority of respondents with an average mean of 3.79 ≈ 4 agreed that objectivity in internal audit programming helps in the identification of financial risk . These results indicates that if objectivity in internal audit programming is enhanced in the sugar firms then identification of financial risk would greatly improve. These results were in line with the results of (Njeri, 2014) who indicated that when there is objectivity in internal audit programming then the sugar firms will experience reduction in financial risk.This is because the internal audit will ensure there are effective internal controls that will assess and prevent financial risk.

The study sought to establish if active participation of internal audit staff in risk management positively impacts on mitigation of financial risk. Majority of respondents with an average mean of 3.52 ≈ 4 agreed that active participation of internal audit staff in risk management positively impacts on mitigation of financial risk. This impliesthat if the internal audit staff are engaged fully in the risk mitigation process then financial risk would reduce to a great extent.These results contradicted the results of (Zwaan, Stewart, & Subramaniam, 2011)that indicated that if internal audit are actively involved in the process of financial risk management then they may fail to report the adverse effects of financial risk .

The study further sought to determine whether internal audit staff have no conflict of interest in the preparation of financial risk reports. Majority of respondents with an average mean of 3.20 were neutral. This indicates that internal audit staff may have conflict of interest when preparing financial risk reports. These results therefore confirmed the need for the use of agency in the study since(Jensen & Meckling, 1976) advocated for the agency theory due to arising conflict of interest in the corporate world.

4.3 Descriptive Statistics of Financial Risk

The study established the level of financial risk in the sugar manufacturing firms in western Kenya. The descriptive results are shown in Table 4.3.

Table 4.3 :Descriptive Statistics of Financial Risk

	N Statistic	Minimum Statistic	Maximum Statistic	Mean Statistic	Std. Error	Std. Deviation Statistic
What is the level of financial risk	120	1	4	2.50	.102	1.123

The table 4.3 shows that majority with an average mean of 2.50 indicates that the level of financial risk in the sugar manufacturing firms is fair.This implies that in majority of the sugar firms, the level of financial risk is between good and fair and not excellent. The results are considered statistically significant since the mean standard error is less than half the mean . This is indicated by 0.102<1.25.

4.3 Inferential Statistics

To establish the influence of internal audit independence on financial risk , a multinomial logistic regression model was run. The results are presented in Table 4.4.

Table 4.4 :Model Fitting Information of Internal Audit Independence and Financial Risk

Model	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	315.840			
Final	288.108	27.732	12	.006

The Table 4.4 presents the model fitting information which shows a likelihood ratio chi-square test that compares the final model against the null model. The model fitting information was statistically significant revealing that the final model indicates a significant improvement in fit over the null model with a ($\chi2$ (12)=27.732, p<.006).This shows that internal audit independence significantly influences financial risk with p value of 0.006 compared to 0.05.

Table 4.5 Goodness of Fit of Internal Audit Independence and Financial Risk

	Chi-Square	Df	Sig.
Pearson	362.180	294	.004
Deviance	273.434	294	.800

The goodness of fit determines whether the model exhibit good fit to the data with a null hypothesis that the model exhibits good fit to the data. The deviance chi-square test indicates that the model exhibits good fit to the data since it had a p value 0.800> .005 indicated by a chi- square test results of ($\chi2$ (294)=273.434, p<.800).

Table 4.6: Pseudo R-Square

Cox and Snell	.206
Nagelkerke	.220
McFadden	.083

In Table 4.6 the Cox and Snell test results indicates that 20.6% variations in financial risk are caused by changes in internal audit independence, Nagelkerke test indicates that 22% variations in financial risk are caused by changes in internal audit independence and McFadden test results indicates that 8.3% variations in financial risk are caused by changes in internal audit independence.

Table4.7 :Likelihood Ration Test

Effect	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood of Reduced Model	Chi-Square	Df	Sig.
Intercept	311.416	23.308	3	.000
Freedom	294.201	6.093	3	.107
Involvement	297.719	9.611	3	.022
Reporting	290.275	2.167	3	.539
Programming	296.115	8.007	3	.046

The Table 4.7shows the likelihood ratio test of the overall contribution of each internal audit independence variable to the model. Comparing the significant values in the table with the standard value of 0.05, the likelihood ratio test results indicated that involvement with a p value 0 .022<0.05 and programming had a p value 0.046< 0.05 had significant likelihood contribution to reduction of financial risk in sugar manufacturing firms in werstern Kenya.

Table 4.8 :Parameter Estimates

What is the level of financial risk[a]		B	Std. Error	Wald	Df	Sig.	Exp(B)
	Intercept	.763	1.279	.355	1	.551	
	Freedom	-.069	.205	.115	1	.735	.933
Fair	Involvement	-.042	.185	.053	1	.819	.958
	Reporting	-.064	.179	.129	1	.719	.938
	Programming	-.059	.208	.079	1	.778	.943
	Intercept	-5.889	1.857	10.063	1	.002	
	Freedom	.421	.240	3.074	1	.080	1.523
Good	Involvement	.599	.239	6.300	1	.012	1.820
	Reporting	.124	.199	.390	1	.532	1.132
	Programming	.503	.252	3.984	1	.046	1.653
	Intercept	-4.390	1.673	6.885	1	.009	
	Freedom	.336	.227	2.185	1	.139	1.399
Exellent	Involvement	.175	.202	.754	1	.385	1.192
	Reporting	.200	.192	1.088	1	.297	1.222
	Programming	.444	.259	2.944	1	.086	1.559

The reference category is: Poor

Table 4.8shows the parameter estimates of the model in reference to level of financial risk being poor in the sugar manufacturing firms in western Kenya. The parameter estimates results indicates that involvement of internal audit in financial risk mitigation significantly increases the likelihood of financial risk being good by 1.820 times in relation to financial risk being poor. Given that the p value was 0.012<0.05. The parameter estimates results also indicates that the objectivity of internal audit programming in identification of financial risk significantly increasesthe likelihood of financial risk being good by 1.653 times in relation to it being poor. The p value was 0.046<0.05.

However, internal audit freedom of investigation and internal audit reporting independence had no significant effect on the likelihood of financial risk being good in the sugar manufacturing firms. Therefore, it is concluded that internal audit independence has a significant influence on the level of financial risk through involvement of internal audit staff in risk management and through objective internal audit programming in the identification of financial risk.

The Equation 4.1 is derived from the parameter estimates at the category of financial risk being good since the internal audit independence variables are significant at that level.

$$\boldsymbol{Y = -5.889 + .421 Freedom + .599 Involvement + .124 Reporting + .503\ Programming}$$

V. Conclusion

Internal audit independence is essential in the management and mitigation of financial risk.This is because internal audit independence enhances reduction of financial risk in the sugar manufacturing firms through involvement of internal audit staff in risk management with a likelihood 1.820times. In addition, the internal audit independence also mitigates financial risk through objectivity in internal audit programming with a likelihood reduction of 1.653times. Therefore, for the effective mitigation and reduction of financial risk there is need for the sugar firms to deploy internal audit which is free from management interference.

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