# INFLUENCE OF ENTERPRISE RISK MANAGEMENT PRACTICES ON FINANCIAL PERFORMANCE OF COMMERCIAL MAIZE FARMING VENTURES IN NAKURU COUNTY, KENYA

#### JOSEPH OLEKU NKIRIMPAI

A Research Project Submitted to the School of Business and economics in partial Fulfillment of the Requirement for the Award of Degree in Master of Business Administration (Finance Option) of Kabarak University

#### **DECLARATION AND APPROVAL**

# **Declaration by the Candidate**

This research project is my original work and it has not been submitted to any other institution for the award of a degree or diploma. Where other sources of information have been used, they have been acknowledged.

Signature:	Date
Name: Joseph Oleku Nkirimpai	
Reg No. GMB/NE/0815/05/16	
Approval by the Supervisor	
This research project has been submit	ted for examination with our approval as the University
Supervisors.	
Signature	Date
Mr. Stephen Oloo Magadi	
Lecturer, School of Business	
Kabarak University	
Signature	Date
Dr. Joel Koima	
Lecturer, School of Business	
Kabarak University	

#### **ACKNOWLEDGEMENT**

First and foremost I would like to thank God for the strength He gave me to carry out this research work. Secondly, I would like to thank my supervisor Stephen Oloo and Dr. Joel Koima for the guidance and cooperation they accorded me throughout this research project. This project could not have been completed on time without their help and support. Special gratitude also goes to my family for standing by my side in the quest for education. My wife Grace and my children, Mutunkei, Siama, Nkirimpai, Kamakia and Tarayia who provided exceptional support that gave the much-needed confidence and motivation to soldier on even when the going was tough.

.

#### **ABSTRACT**

The large scale maize farming is often faces diverse risks that undermine the financial viability of the farming venture. These risks include variability in prices occasioned by changes in market factors, risks of pests, climate change, theft, low yield and poor seed quality. These risks work to undermine the financial performance of the large scale maize farming. This study sought to examine the manner in which enterprise risk management practices impacts on the financial performance of commercial maize farming ventures in Nakuru County. Specifically, it examined the influence of enterprise risk identification practices, enterprise risk assessment practices, enterprise risk mitigation practice, and enterprise risk monitoring strategies aspects on the financial performance of commercial maize farming ventures in Nakuru County The theoretical review involved the Contingency Theory and Rational Choice Theory. This study utilized a descriptive research design. The population in this study was comprised of the farm accountants of the commercial maize farming ventures in Nakuru. This study adopted the census approach in which all the 95 members of the population were picked for participation in the study. The study made use of a questionnaire as the data collection instrument. The pilot study for this research was conducted in ten commercial maize farming ventures in Kitale to avoid contamination of data. The results of the pilot study showed that questions were clear and there were no formatting errors thus the questionnaire was adopted for the final study. The validity of the study was examined using the opinion of experts in enterprise risk management, as well as the opinion of the research supervisor. All the items scored an Item Level Content Validity Index (I-CVI) above 0.6 and Scale Level Content Validity Index (S-CVI) of more than 0.6 thus were considered valid at both item and scale level. The reliability of the questionnaire was tested during the pilot study and since all variables had a Cronbach alpha coefficient of above 0.7it was deemed reliable. Descriptive statistics including percentages, frequency distributions, means, and standard deviations were used. On the other hand, inferential statistics including simple and multiple linear regressions were used to draw conclusions and make predictions. The multiple linear regression model indicated that for every one point increase in enterprise risk identification practices and enterprise risk monitoring strategies the financial performance of commercial maize farming ventures will decrease by 0.161 and 0.188 respectively, when other factors are held constant. For every one point increase in the enterprise risk assessment practices, the financial performance of commercial maize farming ventures will increase by 0.247 when other factors are held constant, and for every point increase in enterprise risk mitigation practices, the financial performance of commercial maize farming ventures will increase by 0.931when other factors are held constant. Thus, the study concluded that enterprise risk identification practices and enterprise risk monitoring strategies individually have a negative influence on the financial performance of commercial maize farming ventures. Additionally, the study concluded that the enterprise risk assessment practices and enterprise risk mitigation practices individually have a positive influence on the financial performance of commercial maize farming ventures. The study recommends that commercial maize farming ventures should have regular updates of risk registers, use ICT in carrying out risk assessments and evaluate the effectiveness of risk plans in order to realize better financial performance. The study suggests that future studies be carried out in other counties in Kenya to determine the influence of enterprise risk management practices on financial performance of commercial maize farming ventures. Researchers should also investigate the influence of enterprise risk management practices on financial performance of commercial farming ventures that produce other crops different from maize.

**Key Words:** Enterprise Risk Management Practices, Financial Performance, Commercial Maize Farming Ventures

# TABLE OF CONTENTS

DECLARATION AND APPROVAL	ii
ACKNOWLEDGEMENT	iii
ABSTRACT	iv
TABLE OF CONTENTS	V
LIST OF TABLES	vii
LIST OF FIGURES	viii
LIST OF APPENDICES	ix
LIST OF ABBREVIATIONS	X
CHAPTER ONE:INTRODUCTION	1
1.1 Background of the Study	1
1.2 Statement of the Problem	4
1.3 Objectives of the Study	5
1.4 Research Hypotheses	6
1.5 Significance of the Study	6
1.6 Assumptions of the Study	7
1.7 Scope of the Study	7
1.8 Limitations and Delimitations of the Study	7
CHAPTER TWO:LITERATURE REVIEW	10
2.1 Introduction	10
2.2 Theoretical Literature Review	10
2.3 Empirical Literature Review	13
2.4 Research Gaps	21
2.5 Conceptual Framework	24
CHAPTER THREE:RESEARCH METHODOLOGY	25
3.1 Introduction	25
3.2 Research Design	25
3.3 Target Population	25
3.4 Sampling Procedure	25
3.5 Data Collection Instrument	26
3.6 Pilot Study	26
3.7 Data Collection Procedures	27
3.8 Data Analysis	28
3.9 Ethical Considerations	29

CHAPTER FOUR:DATA ANALYSIS AND DISCUSSIONS	30
4.1 Introduction	30
4.2 Response Rate	30
4.3 Background Characteristics of Respondents	30
4.4 Descriptive Statistics	35
4.5 Correlation Analysis	40
CHAPTER FIVE:SUMMARY, CONCLUSION, AND RECOMMENDATIONS	49
5.1 Introduction	49
5.2 Summary of Findings	49
5.3 Conclusion	51
REFERENCES	52
APPENDICES	57
Appendix 1: Introduction Letter	57
Appendix 2: Questionnaire	59
Appendix 3: List of Commercial Maize Farming Enterprises	61
Appendix 4: Permit Letter for Data Collection	64

# LIST OF TABLES

Table 2.1: Research Gaps.	.21
<b>Table 4. 1:</b> Gender and Education Level of Respondents Cross Tabulation	.31
<b>Table 4. 2:</b> Chi-Square Testsfor Gender and Education Level of Respondents	.31
Table 4. 3: Gender and Time Worked at Venture Cross Tabulation	.32
Table 4. 4: Chi-Square Testsfor Gender and Time Worked at Venture	.33
Table 4. 5: Education Level and Worked at Venture Cross Tabulation	.34
<b>Table 4. 6:</b> Chi-Square Tests for Education Level and Time Worked at Venture	.35
<b>Table 4. 7:</b> Descriptive Statistics on Enterprise Risk Identification Practices	.36
Table 4. 8: Descriptive Statistics on Enterprise Risk Assessment Practices	.37
<b>Table 4. 9:</b> Descriptive Statistics on Enterprise Risk Mitigation Practices	.38
Table 4. 10: Descriptive Statistics on Enterprise Risk Monitoring Strategies	.39
Table 4. 11: Descriptive Statistics on Financial Performance	.40
Table 4. 12: Correlation of Enterprise Risk Identification and Financial Performance	.41
Table 4.13:Correlation between Enterprise Risk Assessment and Financial Performance	.42
Table 4. 14: Correlations for Enterprise Risk Mitigation and Financial performance	.43
Table 4. 15: Correlations for Enterprise Risk Monitoring and Financial Performance	.44
Table 4. 16: Model Summary of the Multiple Linear Regression	.45
<b>Table 4. 17:</b> ANOVA <sup>a</sup> of the Multiple Linear Regression	.45
<b>Table 4. 18:</b> Coefficients <sup>a</sup> of the Multiple Linear Regression	.46

# LIST OF FIGURES

Figure 2.1: Conceptual Framework	. 2	24
----------------------------------	-----	----

# LIST OF APPENDICES

Appendix 1: Introduction Letter	57
Appendix 2: Questionnaire	59
Appendix 3: List of Commercial Maize Farming Enterprises	61
Appendix 4: Permit Letter for Data Collection	64

## LIST OF ABBREVIATIONS

**CMA** Capital Markets Authority

**ERM** Enterprise Risk Management

**GR** Gross Ratios

I-CVI Item Level Content Validity Index

NACOSTI National Commission for Science, Technology and Innovation

**NFI** Net Farm Income

NSE Nairobi Stock Exchange

**OR** Operating Ratios

**SACCOs** Saving and Credit Cooperative Societies

S-CVI Scale Level Content Validity Index

**TR** Total Revenue

**TVC** Total Variable Cost

#### CHAPTER ONE

#### INTRODUCTION

#### 1.1 Background of the Study

Maize is a critical cereal around the world. According to Hassan, Resmi, & Hossain, (2017) maize is one of the extensively grown cereal crop in the world which ranks second to wheat in terms of cereal production across the globe. In Africa and Latin America, maize is the most grown cereal in these continents. The maize is one of the most critical cereals around the world due to its diversified uses as human food, feed and fodder for animals, source of fuel for domestic use and raw materials for diversified industrial use (Pataky, 2013). Amongst the industrial uses of maize involves the making of diverse starch, breakfast cereal meals and corn oil (Girei & Galadima, 2016). Maize is also a staple food in some countries and a great source for food security in diverse countries.

The purpose of commercial maize farming is to make profit as the venture is to grown maize for sale as opposed for subsistence consumption. In Nakuru County, maize is grown in all the eleven sub counties of the county with the highest production capacities in Njoro, Molo, and Rongai sub counties with 14,500 hectares, 12,140 hectares, and 10,730 hectares under maize plantation in 2015 respectively. Others were Nakuru East (280 hectares), Nakuru West (659 hectares), Kuresoi North (800 hectares), Subukia (7,640 hectares), Gilgil (7,010 hectares), Bahati (7, 250 hectares), Kuresoi South (6,807 hectares), and Naivasha (3, 253 hectares) (Okeyo, 2017).

In Kenya, commercial maize farmers face diverse challenges. The Government of Kenya ordered an importation of maize in 2017 due to hunger challenges. This has led to a situation where the local maize was being sold for Ksh 3,000 while the subsidized imported maize was being sold to millers at Ksh 2,300 (Okeyo, 2017). The government had given a subsidy of Ksh 1,300 for each bag of maize. The poor rainfall is also impacting on the maize production. The maize production levels was at 37.1 million bags in 2016 compared to 42.5 million bags in 2015(Mwangi, 2017). The shortfall was due to poor rainfall levels (Okeyo, 2017). Further compounding the challenges for the local commercial maize farmers is the illegal importation of cheap maize from neighboring countries such as Uganda. The identification of the risks should be followed by appropriate enterprise risk assessment practices that assess the impact of the identified risks (Mwangi, 2017). The fall army worms also destroyed acres of maize production.

According to Otunaiya, Ologbon, & Oyebanjo (2013) financial performance of commercial maize farms is critical to ensure that there is improvement in the scale of operations and productivity. The financial performance of the commercial maize farms is also critical in the context that farms utilize huge resources in farm inputs and must therefore derive economic value and returns from resources that are deployed. Otunaiya et al., (2013) in their study in Nigeria noted that diverse aspects can be used to measure financial performance in commercial maize farming. These measures include Net Farm Income (NFI). The NFI has been defined as the return to farm operators for their labor, management and capital, after all production expenses have been paid (that is, gross farm income minus production expenses). Girei & Galadima (2016) in a study on the profitability maize production in Nigeria used Gross Margin as a measure of financial performance in maize production. The Gross Margin is defined as the gross income less total variable cost. The study utilized the gross margin per hectare in the calculation of the financial performance of the maize farms in Nigeria.

Similarly, Amaza, Kwacha, & Kamara (2016) in a study on the financial performance of improved maize varieties in Nigeria used gross margin for the calculation of financial performance. Goddy (2017) used diverse measures for financial performance in maize farms including Net Farm Income (NFI), Gross Ratios (GR) and Operating Ratios (OR). GR was calculated as total cost divided by total revenue while OR was calculated as Total Variable Cost (TVC) divided by Total Revenue (TR). Other measures that were used for measurement of financial performance included the total revenue that was realizable per hectare. Similar to Girei & Galadima (2016), Olubunmi (2016) indicates that financial performance of maize farms should be based on gross margins. This is due to the gross margin being used to evaluate the accurate collection of costs of variable inputs and the gross income obtained from a particular enterprise so as to obtain the net return. The gross margin is calculated as gross income per hectare less total variable costs per hectare of maize production. Odwori, Mapelu, Odhiambo, & Nyangweso (2010) in a study on Uasin Gishu examined the profitability per hectare for the maize sold to middle men, National Cereals and Produce Board, and to maize millers as metrics for financial performance.

# 1.1.2 Enterprise Risk Management and Financial Performance of Commercial Maize Farming

The understanding of Enterprise Risk Management is based on the understanding of the concept of risk. Risk refers to the effect of uncertainty on objectives. On the other hand,

Anguka (2012) indicated that risk implied a possibility of unexpected outcome. It creates the notion that future events may have some degree of uncertainty, thereby exposing an institution to adversity.

The enterprise risk management has been described as processes that are applied across the enterprise that are designed to identify potential events that may affect the entity, and to provide reasonable assurance regarding achievement of entity objectives (Quon, Zeghal, & Maingot, 2012). On the other hand, Teoh, Lee, & Muthuveloo (2017) examined ERM as a disciplined and cohesive approach towards risk that support the configuration of strategy, process, people, and technology, and allow firms to categorize, rank, and effectively accomplish their serious risks. Cheruiyot (2013) examines ERM as a top-down process that focuses to identify, evaluate and manage all major corporate risks in an integrated framework. The ERM therefore seeks to examine diverse factors both in the external and internal environment that have the potential to influence the operations, processes and performance of an organization. The external factors affecting the company refer to those factors that are outside the organization's jurisdiction but have the potential to influence the organization's performance. These external factors include changes in the political, legal, technological and demographic environment. On the other hand, internal factors refer to the changes in the internal environment that impact on the organizational performance. These aspects include fraud, systems failure, disrupted production and staff turnover amongst other aspects.

The enterprise risk management (ERM) has diverse impacts on financial performance. Nyaga (2014) examined ERM influence of financial performance in pension funds in Kenya. The study indicated that ERM impacted on financial performance through ensuring compliance with laws and regulations and avoiding reputational damage to an organization. Assemble (2014) indicates that ERM impacts on financial performance through enabling saving of costs as aspects that are likely to be financially challenging in future are identified and addressed in a timely manner. Christine (2016) noted that ERM is critical in mapping expected distributional and revenue disturbances in a firm and therefore making adequate and proactive provision for the same.

Ivanova, Alexandrov, & Doneva (2015) in examination of maize crop risk in Bulgaria noted that extreme weather events, as drought, lead to substantial increase in agricultural risk and

unstable farm incomes. Shoki, Zakuan, Tajudin, & Ahmad (2014) argues that risk identification involves identification of the sources of risk, areas of impacts, events and their causes and their potential consequences in order to generate a comprehensive list of risks based on those events that might create, enhance, prevent, degrade, accelerate or delay the achievement of objectives. Kinyua, Gakure, Gekara, & Orwa (2015) noted that risk identification is undertaken in form of availability of a well-documented policy on risk management, if the company regularly updates risk registers and whether the management encourage reporting of events in order to identify risks. Nair, Purohit, & Choudhary (2014)notes that risk assessment may include qualitative enterprise risk assessment practices that involved the use of management to evaluate the risks that organizations faced. Clemens & Thompson (2012) examined risk mitigation as a systematic reduction in the extent of exposure to a risk and/or the likelihood of its occurrence. Mwangi (2012) indicated that risk limitation involves finding a middle ground between risk avoidance and risk acceptance to allow operational performance of the business in a profitable manner. Finally, the risk transfer involves the handing off risks to a third party for prudent management. Abdul & Mahmood (2015)indicated that risk monitoring and financial performance. Mahmood (2015) indicates that risk monitoring is the process of keeping track of the identified risk, monitoring residual risks and identifying new risk, ensuring the execution of risk plans, and evaluating their effectiveness in reducing risk.

Risk management involves choosing among alternatives to reduce the impact of various types of risk. It typically requires the evaluation of tradeoffs between changes in variability and changes in expected income (Harwood et al., 1999). Risks in agriculture can be divided into two types: business and financial that is deviations in price and currency exchange rates, and market demands (Barry et al., 2000). Financial risk depends on the chosen method of farm financing for instance credit constraints, leverages, leasing, and interest rate variability, as well as from insufficient liquidity and loss of equity (Hardaker et al., 2004).

#### 1.2 Statement of the Problem

Large scale maize farming often faces diverse risks that undermine the financial viability of the farming venture. Some of the risks that large scale commercial maize farming faces include price variability, risks of pests, climate change, theft, low yield and poor seed quality, poor yield and poor sales of the maize output (Girei & Galadima, 2016). In Kenya, commercial maize farmers face diverse challenges including subsidies in importation of

maize by the government due to hunger challenges which makes the prices of local maize to be higher than the imported maize(Okeyo, 2017). Poor rainfall also impacts on the maize production leading to shortfalls in production as was experienced in 2016 where maize production levels was at 37.1 million bags compared to 42.5 million bags in 2015(Mwangi, 2017). Further compounding the challenges for the local commercial maize farmers is the illegal importation of cheap maize from neighboring countries such as Uganda. The ability of the farmers to practice sufficient enterprise risk identification practices is of importance to the financial performance of the firm. The identification of the risks should be followed by appropriate enterprise risk assessment practices that assess the impact of the identified risks(Mwangi, 2017). Having determined the impact of the identified risks, the farmers must be in a position to put enterprise risk mitigation practices to minimize the effect of diverse risks on the financial performance of the firm have enterprise risk monitoring strategies to ensure emerging issues are appropriately addressed on time (Durand, 2013). This study seeks to examine the manner in which enterprise risk management practices impacts on the financial performance of large scale maize farming in Nakuru.

#### 1.3 Objectives of the Study

The objectives of the study consisted of the general and specific objectives.

#### 1.3.1 General Objective

The general objective of this study was to determine the influence of enterprise risk management practices on financial performance of commercial maize farming ventures in Nakuru County.

#### 1.3.2 Specific Objectives

- (i) To determine the influence of enterprise risk identification practices on the financial performance of commercial maize farming ventures in Nakuru County, Kenya.
- (ii) To identify the influence of enterprise risk assessment practices on the financial performance of commercial maize farming ventures in Nakuru County, Kenya.
- (iii)To establish the influence of enterprise risk mitigation practices on the financial performance of commercial maize farming ventures in Nakuru County, Kenya.
- (iv)To determine the influence of enterprise risk monitoring strategies on the financial performance of commercial maize farming ventures in Nakuru County, Kenya.

#### 1.4 Research Hypotheses

The study was based on the following research hypotheses;

- (i)  $\mathbf{H_{01}}$ : Enterprise risk identification practices have no statistically significant influence on the financial performance of commercial maize farming ventures in Nakuru County, Kenya.
- (ii)  $H_{02}$ : Enterprise risk assessment practices have no statistically significant influence on the financial performance of commercial maize farming ventures in Nakuru County, Kenya.
- (iii) $\mathbf{H}_{03}$ : Enterprise risk mitigation practices have no statistically significant influence—on the financial performance of commercial maize farming ventures in Nakuru County, Kenya.
- (iv) $\mathbf{H}_{04}$ : Enterprise risk monitoring strategies have no statistically significant influence on the financial performance of commercial maize farming ventures in Nakuru County, Kenya.

#### 1.5 Significance of the Study

This study is of significance to diverse stakeholders including national government, county government, scholars, development partners, and other farmers and stakeholders in the commercial maize farming ventures. The study looks at the enterprise risk management effect on the financial performance of commercial maize farming ventures in Nakuru County. The national government, that is, the Government of Kenya benefits from this study, especially the State Department of Agriculture under the Ministry of Agriculture, Livestock and Fisheries. The State Department of Agriculture is tasked with the duty of identifying of agricultural policy research gaps in commodity production as well as development of guidelines and standards for policy research in the counties. This study therefore is a reference point for the State Department of Agriculture during review of sector policies and strategies so that the policies they formulate benefit the commercial maize ventures. The county government of Nakuru as well as other county governments benefit from this study by understanding which enterprise risk management practices influence the financial performance of commercial maize farming ventures. The county governments are therefore enabled to provide necessary support to the commercial maize ventures by this study. Other stakeholders that benefit from this study include the national farmer organizations, development partners, and farmers in the commercial maize farming ventures. These stakeholders are critical in the financial performance of commercial maize farming ventures.

From the study, best practices can be identified which enable creation of long term solutions to deal with the effects of enterprise risk management. The scholars gain more knowledge on the various influences of enterprise risk management and on financial performance of commercial maize farming ventures.

#### 1.6 Assumptions of the Study

The study made the assumption that the study respondents were statistically representative of the commercial maize farming ventures in Nakuru County. The researcher had also assumed that the validity and reliability of the study would be met, which was the case during the pilot study.

#### 1.7 Scope of the Study

The contextual scope of the study relates to the aspects that were covered in the study. The contextual scope of the study was the examination of enterprise risk management in respect to financial performance of the commercial maize farms. The study specifically dealt with financial performance as opposed to organizational performance in full. The geographical scope of the study was Nakuru County due to the limitations of financial resources as the researcher had to make visits to different commercial maize farming ventures to collect data. Additionally, the time to undertake the study as provided for by the university was six months which limited the study's ability to cover a wider geographical scope. In this context, the time scope of the study was six months from June to November of 2017 as the study is for academic purpose. The budget of the study was Ksh 49, 700 as the study was self-funded

#### 1.8 Limitations and Delimitations of the Study

The study faced challenges in obtaining information from the commercial maize farming ventures in Nakuru due to concerns of data privacy and the purpose of data collection. The management of the commercial maize farming ventures were however assured that there would be no exposure of the enterprise risk management practices adopted by their commercial maize farming ventures as the data collected was to only be used for an academic purpose as opposed to commercial interests. Additionally, the responses of the respondents were kept anonymous and confidential.

#### 1.9 Operational Definition of Terms

**Commercial Maize Venture:** 

This is an investment relating to production of maize in the hope of making profit which has acreage above 25 (Durand, 2013). In this study the term is used to refer to those who grow maize for profit making.

**Enterprise Risk Identification Practices:** 

These are measures that help an enterprise identify potential risks before they occur or become an issue (Ebenezer, Ahmad, & Omar, 2016). In the study ,risk identification was used to classify the risk that occur during maize farming

**Enterprise Risk Management:** 

These are the actions that the firms undertake in order for them respond to the identified risks (Nyaga, 2014). In the study risk management was used to show procedures and practices to be used to control the risk

**Enterprise Risk Mitigation Practices**:

These are the practices that help reduce the risk impact severity and/or probability of occurrence (Naktari, 2014). In the study risk mitigation was used to show measures to be used to reduce the risk

**Enterprise Risk Monitoring Strategies:** 

These are the strategies which help evaluate and keep track of the levels of the identified risks, residual risks, and new risks in an enterprise (Ogutu, 2016). In the study the term is used to evaluate the level of risk and evaluate the effectiveness of risk management strategies.

**External Factors:** 

These are factors outside the organization that have the potential to significantly impact the operations of a business or affect its Financial Performance:

**Internal Factors:** 

**Residual Risks:** 

performance (Christine, 2016). In the study the term external forces is used to identify the peripheral forces that positively or negatively influence the farming of maize.

This is the level of performance of a business over a specified period of time that is expressed in terms of overall profit. In the study the term is used to show how well the commercial maize farming can use its finances to generate more revenue

These are the issues that affect the business's performance either negatively or positively and originate from within the business (Abdul & Mahmood, 2015). In the study the term is used to show factors within the farming process that impact the success of farming

This is the threat that remains after all efforts to identify and eliminate risk have been made (Durand, 2013). The term is used in the study to show the risk that expected to remain after the planned response of risk has been taken

#### **CHAPTER TWO**

#### LITERATURE REVIEW

#### 2.1 Introduction

This chapter examined the theoretical review, empirical review, summary of reviewed literature and conceptual framework.

#### 2.2 Theoretical Literature Review

The theoretical review involved the contingency theory and rational choice theory.

#### **2.2.1** Contingency Theory

The contingency theory was conceptualized by Robert Tannenbaum and Richard Schmidt in 1957. Contingency theory argues that there is no single way of managing an organization or making decisions in relations to an organization. The organizations' optimum course of action is contingent or dependent on the factors that are internal or external to the organization (Chado, 2015). The internal and external forces in an organization present certain risks to the organization that need to be mitigated. These risks can arise from internal environment such as employees' challenges, operational costs, and management challenges amongst other aspects (Kinuthia, 2013). The risks emanating from the external environment include challenges in the market, regulatory challenges, and political challenges amongst other aspects.

This theory is applicable to this study in the context that large scale commercial maize farming often faces diverse challenges. These challenges include price challenges on maize products, importation of cheap maize, maize diseases, maize yield, costs, and maize theft amongst other risks. The commercial maize farming enterprise must therefore undertake enterprise risk management practices in order to enhance their financial performance.

#### 2.2.2 Rational Choice Theory

The rational choice theory is attributed to Gary S. Becker in 1976. The rational choice theory indicates that decision makers within the organization often consider diverse consequences of their actions and outcomes. They then compare then with the available resources in order to pursue a given course of action that seeks to maximize their gains and minimize their losses (Muguchu, 2013). The expected value of a given course of action is examined and the probability of each outcome is examined (Nigussie, 2016). A decision is then made in respect to what is the best course of action. These evaluations are then used to make decisions that

are consistent over a period of time. Since the objective of the rational choice is for the management to make decisions that are able to maximize on their benefits and minimize the risks, then the risk management strategies are critical in this context(Ebenezer, Ahmad, & Omar, 2016). There are challenges that may undermine the ability for the managers to make the decisions that are required in risk mitigation. These challenges include time and money constraints.

This theory is applicable to this study in the context that the study examines the role of risk management on the financial performance of commercial maize farming. In this context, the study examines the role of enterprise risk identification, risk assessment, enterprise risk mitigation practices, and risk monitoring.

#### 2.2.3 Enterprise Risk Management Process

Enterprise risk management is a continuous process in an organization with a systematic procedure applied in all risks in an organization.

#### 2.2.3.1 Objective Setting

This forms the first stage in risk management. According to the Asian Disaster Reduction Center, (2005) Risk management guidelines starts by reflecting and clarifying the objectives to be achieved through the implementation of a risk management system. This is echoed by Tatum (2003), who states that at the core of effective risk management strategies is the desire to find ways to manage the degree of uncertainty that exists within any business enterprise.

#### 2.2.3.2 Risk Identification

Once the organizational risk management goals and objectives are clearly articulated, the next step is to identify the risks underlying. Raghavan (2005) states that, "a company can protect itself against possible threats by being aware of its most vulnerable areas and the factors that affect its operations". According to the Institute of Occupation Safety and Health (2002), identifying hazards and assessing risks are the first stages of risk management. An examination of a company's vulnerability quickly provides a rough picture of difficult-to-manage threats related to the company's operations. Identifying hazards and assessing their severity makes it easier to plan risk management control measures.

According to the Asian Disaster Reduction Center, (2005), in the risk identification process, target risks are isolated based on past disaster experiences and the losses and severity observed in those events domestically as well as in other countries. Risk identification should be conducted using several different methods in cooperation with experts since the risks that need to be addressed involve a great deal of uncertainty and can tend to be overlooked.

#### 2.2.3.3 Risk Assessment (Risk Analysis)/ Risk Determination

Nicholas (2009) posits that all risks have two dimensions to them: likelihood of occurrence, and severity of the potential consequences. In addition, the Asian Disaster Reduction Center, (2005) argues that risk assessment is performed to estimate the quantitative damage that can be expected to result from hazards and their impacts. When it is impossible to conduct a quantitative estimation, risks are ranked by qualitative assessment. Risk assessments are generally carried out by technicians or engineers. Disaster scenarios are developed based on assessed damage.

Raghavan (2005) opines that, if risk is considered in terms of occurrence frequency, then it can be measured on a scale, with certainty of occurrence at one and certainty of non-occurrence at the other end. When the probability of occurrence or non-occurrence is equal, risk is the greatest. In Stoneburner, *et al.* (2002) model of risk determination, the purpose of this step is to assess the level of risk to a system. The determination of risk for a particular threat/vulnerability pair can be expressed as a function of: The likelihood of occurrence of a given threat and he magnitude of the impact or loss should a threat-source successfully exercise the vulnerability. The final determination of risk level is derived by multiplying the ratings assigned for threat likelihood (e.g., probability) and threat impact.

#### 2.2.3.4. Risk Mitigation Options / Countermeasures/Risk Treatment

In this process, countermeasures are executed in accordance with policies. Risk management countermeasures consist of four elements: risk avoidance, risk reduction, risk transfer and risk retention. If a significant degree of loss with high probability is expected, risk avoidance is the best countermeasure. When a significant degree of loss with low probability is expected, risk transfer would be an appropriate measure. In the case of a low degree of loss without reference to probability, risk retention is one of the options to be selected. In a several cases, risk treatment would not be possible through countermeasures alone. Risk

reduction would be the mainstay of these countermeasures (Asian Disaster Reduction Center, 2005).

#### 2.2.3.5 Evaluation/Re-Examination

Risk management performance, the implementation status of plans and countermeasures and efficacy, achievement of objectives, validity of the whole project and its components, need to be evaluated. The crucial point in this process is to constantly review the risk identification and assessment processes in order to take appropriate countermeasures against frequent changes in the economic environment, geographic features, social structures, localities, and other factors that may impact negatively on the enterprise (Nicholas, 2009).

### 2.3 Empirical Literature Review

Poor risk management practices are very common among many small scale firms. In an online MSEs survey a UK based firm Light speed Research (2009), revealed that more than a third of MSEs cut their level of insurance cover in order to cut down their costs during tough economic times. Further, 13 per cent lacked adequate insurance cover for their business while one quarter had minimum cover only for what was legally required. Mwaniki (2006) in a study on 18 African countries revealed firms had weak risk assessment and management strategies in place. Some of the institutions studied admitted cited inadequate staff training, lack of relevant skills to enable them make good decisions, lack of business records, entrepreneurial and management capacities by the firms relevant in managing risks.

Even established institutions who work with and support small scale firms admit the poor structures available for risk assessment and management among small scale firms. Wendel & Harvey (2006), found out that, Kenyan lenders including banks lacked cost-effective ways to quantify credit risk in small scale firms a factor that hinder full penetration into this market segment. Ingirige, (2008) observed that small scale firms specifically were faced with poor planning, vulnerability to cash flow interruptions, lack of capital for recovery, ineffectual interactions with national agencies, infra-structure problems, individual attitudes and organizational culture, access to expertise, business sector and perceived exposure to risk. Collectively these factors determine the adaptive capacities and the overall behavior of small scale firms.

According to Satchu (2009) to cultivate sound risk management, first small scale firms need a coherent view of the world and an awareness of the challenges other similar enterprises face in order to consider and forecast on how they might be affected. This forms a basis of consciously planned and systematic risk management practice beyond common sense. There is also need for carefully designed micro insurance and risk management practices tailor made for small scale firms. Finance Sector Deepening (FSD) (2009) identified some of the risk management products for small scale firms as bid and performance bonds, crop and weather insurance, and cover for supply chain risks. None of these products is fully developed or actively used in the Kenyan market although some companies offer bid and performance bond cover and others like CIC insurance Co have started offering the crop and weather policies.

Only 44% of small businesses in the world survive for four years or more, one big reason for their mortality rate being poor risk management (Nicholas, 2009). Cunningham (2008), in a discussion on MSE risk management series pointed out that small scale firms have more reason to manage risk compared to their Medium and Large Enterprise counterparts. Proper risk management creates a competitive advantage, especially in times of crisis because it provides better identification of business opportunities and threats, and better corporate governance. Effective risk identification, assessment and mitigation, businesses can unlock the valuable upside of risk and create competitive advantage, certainty, security, efficiency, resilience and confidence.

Risk management by virtue of being an ongoing process can help improve operations, prioritize resources, ensure regulatory compliance, achieve performance targets, improve financial stability and ultimately, prevent loss or damage to the entity. It aims to secure the well-being of the company and its employees (Raghavan, 2005). Enterprise risk management which involves continuous, holistic view of risks and risk management has been internationally recommended by international rating agencies such as Harvard Business Review, Sarbanes Oxley Act of 2002 and Basel Capital Accord II as a tool for ensuring better performance in times of crisis (Buchanan, 2004).

There are significant challenges to the implementation of ERM, one is the adoption of the ERM mode. According to Gate (2006); Deloitte, (2008), ERM as risk considerations is yet to be fully integrated into business decision making. Another challenge experienced is the

variation in risk appetite between individuals and corporations. One of the major formulations on ERM was made by COSO (2004) which encompasses the crucial concept of risk appetite (Ai, *et al.*, 2012). Risk appetite is a corporation's willingness and ability to undertake risks to achieve its strategic objectives that governs business decision making. In addition, interrelations between risks and the prioritization of risks are rank in order of risk types according to importance, which is critical to holistic integration. This holistic integration is an important characteristic of the stated end-goal for ERM which is majorly to gain competitive advantage and create value (Economist Intelligence Unit, 2007).

Giesecke, et al. (2012) in their study on economic impacts of catastrophic events investigated the regional economic consequences of a hypothetical catastrophic event attack via radiological dispersal device centered on the downtown Los Angeles area. They found out that catastrophic risks when they strike can lead to the resource loss effect and shifts in the perceptions of economic agents which they termed as the behavioral effect. The resource loss effect relates to the physical destructiveness of the event, while the behavioral effect relates to changes in fear and risk perception. Other researchers have also concluded that some disaster risks when they strike lead to social, political, or economic consequences that go beyond the direct harm caused.

Zhou and Liu (2012) while studying on risk assessment of major hazards and its application in urban planning in china cited that in rapidly developing manufacturing industry it is essential to conduct a comprehensive risk assessment of the manufacturing establishments not only to the employees inside but to the general public and environment. Many manufacturing industries handle flammable, explosive, toxic, harmful, and dangerous substances. Therefore accidents such as fire, explosion, and toxic diffusion inevitably happen. Accidents resulting from these major hazards in cities cause a large number of casualties and property losses. As a result, it is important for both the governments, and developers to attach increasingly importance to the analysis of major hazards in cities realistically and to suitably plan and utilize the surrounding land based on the risk analysis results, thereby reducing the hazards.

#### 2.3.1 Enterprise Risk Identification Practices and Financial Performance

There are diverse studies that have identified risks that are faced by large scale commercial maize farmers. Ivanovaet al., (2015) examined the droughts and climate change in respect to

maize crop risk in Bulgaria. The study noted that extreme weather events, as drought, lead to substantial increase in agricultural risk and unstable farm incomes. The study focus was on the maize crop as opposed to maize farming as a commercial entity which is the focus of this study. The study therefore didn't indicate the exact manner in which the enterprise risk identification practices impacted on the financial performance of commercial maize farming which is the focus of this study.

Shoki et al., (2014) undertook a study on the Risk Management Practices and Organizational Performance in Higher Education. The study was based in Malaysia. The study's objectives included an examination of the enterprise risk identification practices and impact on the organizational performance within higher education sector. The study utilized a descriptive research design. The study noted that risk identification involved the identification of the sources of risk, areas of impacts, events and their causes and their potential consequences in order to generate a comprehensive list of risks based on those events that might create, enhance, prevent, degrade, accelerate or delay the achievement of objectives. The study failed to illustrate the ways in which enterprise risk identification practices impacts on the financial performance. The study differed from the current study in the context that it examined performance in a holistic manner as opposed to the current study that examines only the financial performance component. The study is also based in Malaysia while the current study is based in Kenya.

Machini (2016) undertook a study on the Enterprise Risk Management and Financial Performance of commercial banks in Kenya. One of the objectives was the examination of the influence of enterprise risk identification practices and financial performance of commercial banks in Kenya. The study utilized a descriptive research design and a target population of 43 commercial banks. The study noted that risk identification involved determination of the current risk levels in an organization. The study found that the commercial banks used diverse metrics in the risk identification in their firms including assessment of financial soundness of core business strategies in order to identify vulnerabilities. This financial soundness includes the examination of liquidity, solvency, repayment capacity, profitability, and financial efficiency. The study found that there was a statistically significant relationship between risk identification and financial performance of commercial banks in Kenya. This study differs from the current study in the context that it

examined enterprise risk management and financial performance in commercial bank while the current study focuses on the large scale commercial maize farming.

Karimi (2014) undertook a study on the effect of enterprise risk management on financial performance of pension fund management firms in Kenya. The study's objectives included the examination of the influence of risk identification on the financial performance of pension fund management firms in Kenya. The study utilized a population of 19 registered pension funds. The study found that the risk identification had negative but insignificant effect on the financial performance of the pension fund management firms in Kenya. This study differs from the current study in the context that it examined enterprise risk management and financial performance in pension fund while the current study focuses on the large scale commercial maize farming. It is also critical to note that the primary function of the pension fund is risk management for the purposes of pension administration.

Kinyuaet al., (2015) undertook a study on the effect of risk management on the financial performance of companies quoted in the Nairobi Securities Exchange (NSE). One of the objectives was the examination of the risk identification on the financial performance of listed companies at the NSE. The study utilized a sample size of 144 respondents drawn from the listed firms at the NSE. The study identified risk identification in form of availability of a well-documented policy on risk management, if the company regularly updates risk registers and whether the management encourage reporting of events in order to identify risks. The study found that a majority of the respondents that is 73.1% indicated that their firms had a well-documented risk management policy. A further 58% of the respondents were affirmative that their companies' regularly updated risk registers while 44.3% of the respondents were affirmative that management encouraged reporting of events in order to identify the risks. The study failed to indicate on whether the risk identification had any effect on the financial performance of the companies that were quoted at the NSE. The study was also based on the listed firms while the current study examines on the large scale farming. The firms listed at the NSE are under regulatory supervision of the Capital Markets Authority (CMA) as well as the NSE regulations which are not the case for the target population of this study.

#### 2.3.2 Enterprise Risk Assessment Practice sand Financial Performance

The enterprise risk assessment practices have impact on the financial performance of firms. According to Ahmed & Manab (2016) in a study on the Influence of Enterprise Risk

Management Success Factors on Firm Financial and Non-financial Performance defined risk assessment. The risk assessment was defined as a forward-looking activity applied to future possible events to identify the potential impact on the achievement of objectives and the likelihood of occurrence over a defined time horizon. The study didn't illustrate the manner in which risk assessment impacted on the financial performance.

Walter & Karssen (2015) undertook a study on the risk assessment of *Pratylenchus zeae* on maize in Belgium and The Netherlands. The study noted that a software known as CLIMEX can be used for carrying out risk assessments for antropods, weeds and diseases within commercial farming. While the study gives the effectiveness of CLIMEX software in risk assessment, it doesn't illustrate the manner in which the risk assessment impacts of the financial performance of maize farming.

Weber (2009) study on the information risk assessment in the security industry in the United States examines in detail the aspect of risk assessment. The study notes that risk assessment are critical in providing the decision makers with the information needed to understand factors that can negatively influence operations and outcomes and make informed judgments concerning the extent of actions needed to reduce risk. The study further noted that risk assessment involves diverse aspects such as identification of threats that could adversely affect operations; estimation of the likelihood of the identified threats materializing; and Identifying and ranking the value, sensitivity, and criticality of the operations and assets that could be affected should a threat materialize in order to determine which operations and assets are the most important. Other important aspects of risk assessment includes the potential damage or loss if the threat materializes and putting up measures to mitigate any of the risks from materializing. The study is conceptually different from the current one as it was based on a metadata analysis of risk assessment impacts on security industry in the United States as opposed to the current study based on maize farming in Kenya.

Nair et al., (2014) undertook a study on the influence of risk management on performance in relations to International Islamic Bank. The hypothesis that was being tested was that risk assessment analysis has significant influence on financial performance of the organization. The study noted that means of risk assessment included qualitative enterprise risk assessment practices that involved the use of management to evaluate the risks that organizations faced. The study was based in an Islamic bank and not the in a commercial maize farm.

#### 2.3.3 Enterprise Risk Mitigation Practices and Financial Performance

The enterprise risk mitigation practices are a critical component of financial performance in diverse firms. Clemens & Thompson (2012) examined risk mitigation as a systematic reduction in the extent of exposure to a risk and/or the likelihood of its occurrence. On the other hand, Naktari (2014) study on risk mitigation described risk mitigation as the process of reducing the effect of risks on the operations of a firm. Omino (2014) examined risk mitigation aspects in relations to financial performance of Saving and Credit Cooperative Societies (SACCOs). The study indicated that one of the key risks that SACCOs need to mitigate is the liquidity risks. The study noted that in risk mitigation that if the risk is overvalued then the firms are not able to invest their money while if the risk is undervalued then firm suffers financial loss. Mwangi (2012) in a study on risk mitigation in commercial banks noted that four diverse aspects are involved in risk mitigation; risk acceptance, risk avoidance, risk limitation and risk transfer. Risk acceptance is the process of the absorbing of risks in the operations of a firm in situations where costs of mitigating the risks would be higher than the cost of risks itself. The study further noted that risk avoidance involves strategies to avoid the exposure to the given risks. On the other hand, the risk limitation involves finding a middle ground between risk avoidance and risk acceptance to allow operational performance of the business in a profitable manner. Finally, the risk transfer involves the handing off risks to a third party for prudent management.

Amemba (2013) undertook a study on the risk management on supplies management noted diverse ways in which risk mitigation impacted on supplies management. The study noted that risk mitigation ensures contingency measures are formulated to minimize impact of risks, reduction of accumulation of the effects of risks to a level they are catastrophic, and enables preparedness of the firm to face risks. This study is different from the current one in the context that it doesn't examine the manner in which risk mitigation impacts on financial performance in large scale farming.

#### 2.3.4 Enterprise Risk Monitoring Strategies and Financial Performance

Momanyi & Njiru (2016) examined enterprise risk monitoring strategies on performance of SACCOs in Nakuru town. The study noted that risk monitoring can be used to make sure that risk management practices are in line. The study measured risk monitoring in terms of regular reporting of diverse risks to senior management, and taking staff through diverse risk management courses. The study undertook a regression analysis and found that a unit

increase in risk monitoring strategy resulted into 0.170 increase in financial performance. This was attributed to the risk monitoring being a continuous process implemented in a progressive manner that allowed the SACCOs understand their potential risk. The study was based on the SACCOs while the current study is based on the large scale farming enterprises.

Abdul & Mahmood (2015) study on the risk management practices in the banking industry in Malaysia examined the role of risk monitoring on performance of the bank. The study noted the importance of risk monitoring is to ensure appropriate strategies are undertaken in line with the organization's mandates. The study found that there was a significant influence of risk monitoring and performance of banks in Malaysia. The study didn't indicate the metrics of the risk monitoring aspects in commercial banks in Malaysia.

Tukei (2015) in a study on the operational risk management and staff performance in Kampala Metropolitan Police examined the concept of risk management and performance. The study conceptualized as a process of keeping track of the identified risks, monitoring residual risks and identifying new risk, ensuring the execution of risk plans, and evaluating their effectiveness in reducing risk. The study further examined risk monitoring as the process of keeping track of the identified risk, monitoring residual risks and identifying new risk, ensuring the execution of risk plans, and evaluating their effectiveness in reducing risk. The study noted that risk monitoring enables actualization of long term benefits in incorporating best practices. The risk monitoring also enables improvement of the risk mitigation measures and in formulation of policies for the purposes of further risk mitigation aspects.

# 2.4 Research Gaps

 Table 2.1: Research Gaps

Study	Objectives	Methodology	Major Findings (Summary)	Research Gap
Droughts and Climate Change in Bulgaria: Assessing Maize Crop Risk and Irrigation Requirement in Relation to Solid and Climate Region Author; Ivanova et al., (2015)	-To assess maize cropping risk due to observed trends for drought aggravation for the maize crop season which is associated with possible climate change trends relative to precipitation, temperature and reference evapotranspiration (ETo) at selected weather stations in Bulgaria.	-Water balance and relative yield computations were performed with the model WinISAREG after its calibration and validation using long-term experimental data -Target population; Various locations of Bulgaria	-Extreme weather events, as drought, lead to substantial increase in agricultural risk and unstable farm incomes.	-The study's focus was on the maize crop as opposed to maize farming as a commercial entity which is the focus of this study The study didn't indicate the exact manner in which the enterprise risk identification practices impacted on the financial performance of commercial maize farming which is the focus
A Framework for Risk Management Practices and Organizational Performance in Higher Education. Author: Shoki et al., (2014)	-To examine the impact of enterprise risk identification practices on the organizational performance within higher education sector	-Descriptive research design used. Target population; Malaysia's public universities	- Risk identification involved the identification of the sources of risk, areas of impacts, events and their causes and their potential consequences in order to generate a comprehensive list of risks based on those events that might create, enhance, prevent, degrade, accelerate or delay the achievement of objectives.	of this study.  -The study failed to illustrate the ways in which enterprise risk identification practices impacts on the financial performance.  -The study differed from the current study in the context that it examined performance in a holistic manner as opposed to the current study that examines only the financial performance

The Potential Distribution and Risk Assessment of Pratylenchus zeae on Maize in Belgium and The. Advances in Plant & Agriculture Research Author; Walter & Karssen (2015)	-To assess the potential geographic distribution of the pest in the study areas and other areas in Europe out of its current areas of occurrence	-Two tools were used for the study; CLIMEX, a computer simulation model and the European and Mediterranean Plant Protection Organization PRA guidelines to see if the pests can be introduced and established in the pest risk assessment areas.	-The study noted that a software known as CLIMEX can be used for carrying out risk assessments for antropods, weeds and diseases within commercial farming.	componentThe study is also based in Malaysia while the current study is based in Kenya.  -While the study gives the effectiveness of CLIMEX software in risk assessment, it doesn't illustrate the manner in which the risk assessment impacts of the financial performance of maize farming.
The Effect of Implementing Risk Management Strategies on Supply Chain Performance: A Case of Kenya Medical Supplies Agency Author; Amemba (2013)	-To determine the effect of implementing risk management strategies on supply chain performance at KEMSA.	-Both primary and secondary data used - The target respondents for the study were 24 KEMSA supply chain staff -Census sampling used -Data was analyzed using descriptive statistics.	-The study noted that risk mitigation ensures contingency measures are formulated to minimize impact of risks, reduction of accumulation of the effects of risks to a level they are catastrophic, and enables preparedness of the firm to face risks.	-This study is different from the current one in the context that it doesn't examine the manner in which risk mitigation impacts on financial performance in large scale farming.
Financial Risk Management And Performance Of Savings And Credit Co-Operative Societies In Nakuru East Sub County,	-To investigate the effect financial risk management on performance of Deposit taking SACCOs in Nakuru East Sub-County.	-Descriptive research design adoptedTarget population; all the 15 SACCOsin Nakuru East Sub-CountySample size; 45 respondents -Questionnaire with closed ended questions used to collect primary data -Secondary data collected from the	-The study found that all the SACCOs had highly adopted financial risk management practices to manage financial risk and as a result the financial risk management practices comprising of; risk	-The study was based on the SACCOs while the current study is based on the large scale farming enterprises.

Kenya.	financial reports from each SACCO	identification, risk	
Author; Momanyi &	for the period ranging from 2010-	monitoring, risk assessment	
Njiru (2016)	2014.	and risk mitigation, had a	
	-Data analysis using SPSS Version 21	positive correlation to the	
		performance of SACCOs in	
		Nakuru .	

#### 2.5 Conceptual Framework

The conceptual framework examines the interrelationship between the independent variables and the dependent variables. The independent variables include risk identification, risk assessment, enterprise risk mitigation practices and enterprise risk monitoring strategies. On the other hand, the dependent variable includes the financial performance.

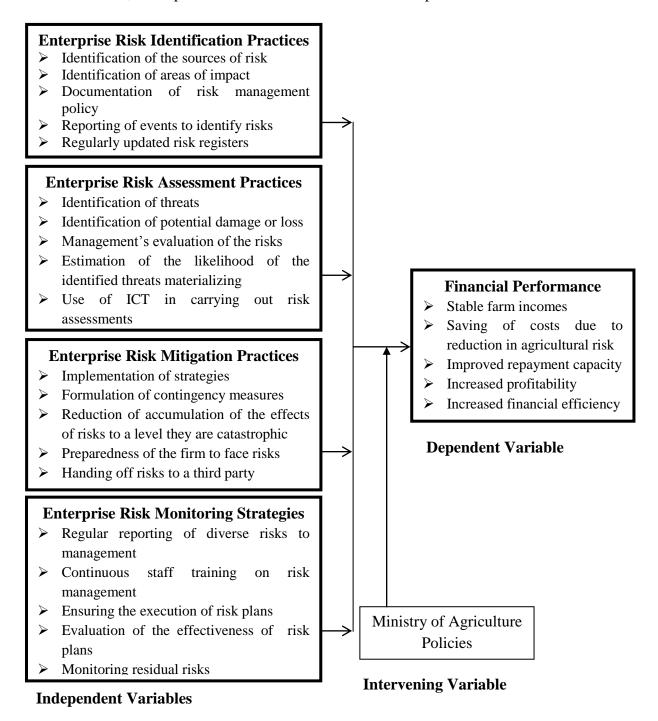


Figure 2.1:Conceptual Framework

**Source**; Researcher (2017)

#### CHAPTER THREE

#### RESEARCH METHODOLOGY

#### 3.1 Introduction

This chapter highlights the procedure which were used for generating and analyzing data including the research design, population that was studied, sampling techniques and sample size, the instruments used for gathering data, validity and reliability of the instrument, data collection method, data analysis and ethical consideration.

#### 3.2 Research Design

According to Shirish (2012), a research design is a blueprint for collection, measurement and analysis of data. A research design guides the researcher in the planning and implementation of the study, while achieving optimal control over the factors that could influence the study (Upagade & Shende, 2012). In this context, the study utilized a descriptive research design which is a design that describes the characteristics of the research phenomenon as it is on the ground without any manipulation of the variables (Kuada, 2012). A descriptive research design was preferred for this study as the research was interested in the examination of the enterprise risk management practices that influence the financial performance of commercial maize farming ventures in Nakuru County. Therefore, the enterprise risk identification practices, enterprise risk assessment practices, enterprise risk mitigation practices, and enterprise risk monitoring strategies were studied in their natural form without making any alterations to them.

#### 3.3 Target Population

A target population includes all elements, individuals, or units that meet the selection criteria for a group to be studied, to which researchers are interested in generalizing the conclusions(Keller, 2014). For purposes of a detailed examination, a representative sample is taken from this population. Since the study was interested in determining theinfluence of enterprise risk management practices on financial performance of commercial maize farming ventures in Nakuru County, the population in this study was all the 95 commercial maize farms as illustrated in the appendix III. The accountants of these firms were targeted.

#### 3.4 Sampling Procedure

A sampling procedure is the process through which a finite number of members who form a sample are identified (Diez, Barr, & Çetinkaya-Rundel, 2015). This process is conducted in such a way that the individuals selected are representative of the larger group from which

they were selected. This study adopted the census approach in which all the members of the population were picked for participation in the study(Keller, 2014). The study purposively chose farm accountants since they understood the financial dynamics. This was informed by the low number of population size. Therefore a sample size of 95 members was utilized.

#### 3.5 Data Collection Instrument

A research instrument refers to the item that is used for the purposes of collecting data to support the research objectives (Shirish, 2012). The study made use of a questionnaire as the data collection instrument. A questionnaire consists of a number of questions printed or typed in a definite order on a form or set of forms which helps the researcher generate data from the respondents(Hanna & Dempster, 2012). The advantage of the questionnaire is that it comprehensively addressed the set research objectives in the study (Upagade & Shende, 2012). Specifically, a structured questionnaire where respondents were given options that they have to choose from in answering the set questions was used to collect data during the study. This resulted in a shorter questionnaire which gave a higher response rate, as well as made it cost efficient and eased the data analysis using Statistical Packages for Social Sciences (SPSS) since the structured questionnaire provided quantitative data. The questionnaire was divided into parts A, B, C, D, E and F. Parts A consisted of the background of respondents while parts B, C, D, E and F consisted of the variables of the study. For parts B, C, D, E and F,Likert scale questions were used to enable the respondents to rate the indicators of the specific variables (both independent and dependent) in a scale of 1, 2, 3, 4, and 5 corresponding to Strongly Disagree (SD), Disagree (D), Uncertain (U), Agree (A), and Strongly Agree (SA) respectively. The neutrality of the Likert scale questions as well as ease of administration and ease of data analysis are aspects that informed their use(Hanna & Dempster, 2012).

#### 3.6 Pilot Study

A pilot study is a mini-version of the full scale study which is conducted primarily to determine the validity and reliability of the research instrument as well as to ascertain logistical and cost challenges in anticipation for the full study (Upagade & Shende, 2012). A pilot study therefore aims at improve the quality and efficiency of the larger study. The pilot study for this research was conducted in ten commercial maize farms in Kitale to avoid contamination of data. The pilot study found that all the questions in the questionnaires were both reliable and valid. Additionally, respondents found the questions to be clear and found

no formatting errors. The pilot study results were satisfactory which led to the questionnaire being adopted for final study.

#### 3.6.1 Validity

Validity ensures a test measures what it is supposed to measure. Therefore, for a research instrument the content included in the questionnaire must be relevant to the variables being investigated for the questionnaire to be considered valid. This study determined the content validity by seeking the opinion of experts in enterprise risk management, as well as the opinion of the research supervisor. The content validity examines the relevance of the questions and their ability to address the research objectives with a minimum score for the Scale Level Content Validity Index (I-CVI) and Scale Level Content Validity Index (S-CVI) of 6 for the validity of the indicators to be acceptable at item and scale level respectively (Upagade & Shende, 2012). All the items scored an I-CVI of more than 0.6 thus were considered valid at item level. The S-CVI was 0.92 for enterprise risk identification practices, 1.00 for enterprise risk assessment practices, 0.96 for enterprise risk mitigation practices, 1.00 for enterprise risk monitoring strategies, and 0.94 for financial performance. The study therefore reached a conclusion that the metrics used to examine all the variables of the study were valid.

# 3.6.2 Reliability

Reliability is the degree to which a measure supplies consistent results (Kuada, 2012). The reliability of the questionnaire was tested during the pilot study. The internal consistency test was used to evaluate the degree to which different test items in a group were reliable. In this context, the Cronbach alpha with a minimum threshold of 0.7 was used to assess the internal consistency (scale reliability) of the measuring instrument (Shirish, 2012). The Cronbach alpha coefficient was 0.775 for enterprise risk identification practices, 0.792 for enterprise risk assessment practices, 0.851 for enterprise risk mitigation practices, 0.803 for enterprise risk monitoring strategies, and 0.746 for financial performance. Since all the Cronbach alpha coefficients were above the minimum threshold of 0.7, the items were considered reliable for this research.

#### 3.7 Data Collection Procedures

The researcher sought authority from the university, the commercial maize farming ventures and the individual respondents. The authorities in form of letters from the university and the National Commission for Science, Technology, and Innovation (NACOSTI) were used to

seek authority from the management of the commercial maize farming ventures. When the management of the commercial maize farming ventures authorized the researcher to conduct the study their employees, the researcher introduced the study through a letter issued to the respondents. After the respondents read the letter of introduction and understood the contents, they were issued with the questionnaires to fill at their pleasure. Collection of the questionnaires was done at a later stage since the Drop-Off and Pick-Up (DOPU) method of questionnaire administration was used. The DOPU method of data collection is where the questionnaire is dropped to the potential respondent and picked up at a later date. This method was aimed at increasing the response rate since respondents had sufficient time to address the questionnaires (Shirish, 2012).

#### 3.8 Data Analysis

Data analysis is a process where data is examined, categorized, tabulated and recombined with the aim of discovering useful information, meant to either validate or invalidate the initial propositions of a study (Upagade & Shende, 2012). The analysis of the data followed the processes of data editing to ensure completeness and consistency of data, and coding of the data into numeric form using the SPSS software. The data was summarized and tabulated for analysis. Descriptive statistics including percentages, frequency distributions, means, and standard deviations were used to reveal patterns through the analysis of the coded data. The respondents were asked to choose the level that best explained their situation with 1=strongly disagree (SD), 2=disagree (D), 3= uncertain (U), 4=agree (A), and 5= strongly agree (SA).

The means ( $\mu$ ) in the study were grouped into five intervals, that is, (4.5<  $\mu$  ≤5) indicating tendency to strongly agree, (3.5<  $\mu$  < 4.5) indicating tendency to agree, (2.5<  $\mu$  < 3.5) indicating tendency to be uncertain, (1.5<  $\mu$  <2.5) indicating an inclination to disagree, and (1  $\leq \mu < 1.5$ ) indicating inclination to strongly disagree(Wasserman, 2004). The standard deviations of the variables ( $\sigma_X$ ) were grouped into three intervals indicating high consensus ( $\sigma_X \leq 0.5$ ), moderate consensus (0.5< $\sigma_X$ <1) and no consensus  $\sigma_X \geq 1$ (Ruppert, 2004). Therefore, a low standard deviation means that the responses were clustered around the mean implying high consensus amongst the respondents in respect to that indicator (Wasserman, 2004).

On the other hand, inferential statistics including simple and multiple linear regressions were used to draw conclusions and make predictions based on the analysis of the coded data. The regression model used was;

 $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon$ 

Where; Y= Financial Performance

 $\beta_0$  =constant

 $\beta_{1....}$   $\beta_{4}$  = Coeffeicients of estimates

 $X_1$  = Enterprise risk identification practices

 $X_2$  = Enterprise risk assessment practices

 $X_3$  =Enterprise risk mitigation practices

X<sub>4</sub> =Enterprise risk monitoring strategies

And  $\varepsilon$  is the error term

#### 3.9 Ethical Considerations

Ethical norms apply to people who conduct scientific research or other scholarly or creative activities and involve the consideration of acceptable research behavior. This behavior includes conduct of the researcher in treatment of the respondents and handling of the collected data. The respondents were notified that their participation was voluntary and that the information they present would be kept confidential. This was done through an introduction letter which was presented to the respondents before they are issued with the questionnaires .Additionally, this letter informed the respondents that should they wish to withdraw from the study at any point, no penalties or harm would come to them. By filling in the questionnaire, the respondents indicated that they have understood the conditions for participation as well as the confidentiality and purpose of the study which was academic.

#### **CHAPTER FOUR**

#### DATA ANALYSIS AND DISCUSSIONS

#### 4.1 Introduction

This chapter consists of the data analysis results and their interpretation. The results of the analysis from descriptive and inferential statistics are presented in tables. The descriptive statistics used were the frequency distributions, means, and standard deviations. The inferential statistics used included the simple linear regressions and multiple linear regressions.

# 4.2 Response Rate

The study aimed to collect data from 95 respondents therefore, 95 questionnaires were issued to the potential respondents who were farm accountants in the targeted 95 commercial maize farms in Nakuru County. Out of the 95 questionnaires issued, 89 questionnaires were returned which meant that there were 6 questionnaires which were not filled. The returned questionnaires were taken through a process of checking for data completeness and consistency. This process yielded 82 completely filled questionnaires with 7 questionnaires rejected since they had missing information. This was because information from the rejected questionnaires was insufficient for it to be included in data analysis. The data from the 82 completely filled questionnaires was the basis for the results of this study. Thus the response rate for the study was 86.3%. A response rate for data analysis to be conducted according to Sekaran & Bougie (2011)is a minimum of 80.0%. The response rate (86.3%) for this study was therefore deemed sufficient for data analysis to commence.

#### 4.3 Background Characteristics of Respondents

In a view to understand the characteristics of the respondents in regards to their general information, the respondents were asked to indicate their gender and highest education level. They were also asked to indicate how long they have worked in a commercial maize farming venture.

#### **4.3.1** Gender and Education Level of Respondents

The gender of the respondents was cross tabulated with the highest education level of the respondents. The results are presented in Table 4.1.

Table 4. 1:Gender and Education Level of Respondents Cross Tabulation

			Education Level		Total
		College Level	Graduate Level	Post Graduate	
Candan	Male	53.1%	35.9%	10.9%	100.0%
Gender	Female	77.8%	22.2%	0.0%	100.0%
To	otal	58.5%	32.9%	8.5%	100.0%

About half of the male respondents (53.1%) had college level of education, while those with graduate level of education were 35.9% of the male respondents. The male respondents with post graduate level of education were 10.9%. About three quarters of the female respondents had college level of education and 22.2% of the female respondents had graduate level of education. None of the female respondents (0.0%) had post graduate level of education.

Above half of the respondents (58.5%) had college level of education, 32.9% had graduate, and 8.5% had post graduate levels of education. The higher number of respondents with college level of education could be because the accounting needed in most of the farms is basic. The farm owners would therefore look at the cost of hiring an accountant with high qualifications as an unnecessary cost since the more qualified an employee, the higher their remuneration would be. The respondents with post graduate level of education could be farm accountants working for the big commercial farming ventures where they would be required to have a good grasp of accounting thus higher qualifications needed.

#### **4.4 Descriptive Statistics**

The Pearson's Chi Square ( $\chi$ 2) test of independence was utilized to establish whether there is a statistically significant relationship between the gender of respondents and their education level and results shown in Table 4.2. The tested research hypothesis was as follows;

H<sub>0</sub>:Gender and education level of respondents are independent

H<sub>1</sub>: Gender and education level of respondents are related

Table 4. 2: Chi-Square Testsfor Gender and Education Level of Respondents

	Value	df	Asymp.	Exact Sig.	Exact Sig.	Point
			Sig. (2-	(2-sided)	(1-sided)	Probability
			sided)			
Pearson Chi-Square	$4.230^{a}$	2	.121	.127		
Likelihood Ratio	5.710	2	.058	.075		
Fisher's Exact Test	3.618			.152		
Linear-by-Linear	4.178 <sup>b</sup>	1	.041	.063	.027	.019
Association	4.176	1	.041	.003	.027	.019
N of Valid Cases	82					

a. 1 cell (16.7%) has expected count less than 5. The minimum expected count is 1.54.

b. The standardized statistic is -2.044.

The  $\chi 2$  test of independence revealed that 16.7% of the cells had expected count less than 5. In carrying out a  $\chi 2$  test, there should be no cell with an expected count of less than 5. Since this condition was violated in this case, the fisher's exact test was carried out. Since F(2, N=82) =3.618, p=0.152>0.05as indicated in Table 4.2, the results implied that there is a 15.2% likelihood that the relationship between the gender and level of education of respondents was due to chance. This test indicated that there was no significant statistical relationship between gender and level of education of respondents. Therefore, H<sub>0</sub>(gender and education level of respondents are independent) was accepted.

### 4.3.2 Gender of Respondentsand Length of Time Worked at Venture

The study was interested in drawing comparisons between the gender of the respondents and length of time the respondents have worked in the commercial maize farming venture. The results of this examination are presented in Table 4.3.

Table 4. 3: Gender and Time Worked at Venture Cross Tabulation

			Length	of Time		Total
		Below 5 Years	6-10 Years	11-15 Years	Over 15 Years	
Condor	Male	3.1%	4.7%	57.8%	34.4%	100.0%
Gender	Female	38.9%	61.1%	0.0%	0.0%	100.0%
To	otal	11.0%	17.1%	45.1%	26.8%	100.0%

In the context of length of time the male respondents have worked in the commercial maize farming ventures, most of them (57.8%) have worked for 11-15 years followed by those who have worked for over 15 years (34.4%). The male respondents who have worked in the commercial maize farming ventures for below 5 years were 3.1% and for 6-10 years were 4.7%. Most of female respondents (61.1%) have worked in the commercial maize farming ventures for 6-10 years while 38.9% have worked in the commercial maize farming ventures for less than five years. There were no female respondents (0.0%) who have worked in the commercial maize farming ventures for 11 years and above, therefore respondents who have worked for 11 years and above were only male. The maize commercial farming ventures in the study occupy large parcels of land which could discourage women from working for many years due to security issues.

The Pearson's Chi Square ( $\chi$ 2) test of independence was utilized to establish whether there is a statistically significant relationship between the gender of respondents and the length of

time they have worked in the commercial maize farming ventures. Results are presented in Table 4.4. The tested research hypothesis was as follows;

H<sub>0</sub>: Genderof respondent and length of time they have worked in the commercial maize farming ventures are independent

H<sub>1</sub>: Gender of respondent and length of time they have worked in the commercial maize farming ventures are related

Table 4. 4: Chi-Square Testsfor Gender and Time Worked at Venture

	Value	df	Asymp. Sig. (2- sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	59.162 <sup>a</sup>	3	.000	.000		
Likelihood Ratio	62.229	3	.000	.000		
Fisher's Exact Test	55.507			.000		
Linear-by-Linear Association	42.363 <sup>b</sup>	1	.000	.000	.000	.000
N of Valid Cases	82					

a. 3 cells (37.5%) have expected count less than 5. The minimum expected count is 1.98.

The  $\chi 2$  test of independence revealed that 37.5% of the cells had expected count less than 5. Since a fundamental condition of the  $\chi 2$  test was violated, the fisher's exact test was carried out. TheF(3, N=82) =55.507, p=0.000<0.05as indicated in Table 4.4, the results implied that there is no likelihood (0.0%) that the relationship between the gender and level of education of respondents was due to chance. This test indicated that there was a significant statistical relationship between the gender of respondent and length of time they have worked in the commercial maize farming ventures. Therefore, H<sub>0</sub> (genderof respondents and length of time they have worked in the commercial maize farming ventures are independent) was rejected.

#### 4.3.3 Education Level of Respondents and Length of Time Worked at Venture

The study compared the highest education levels of respondents and the length of time these respondents have worked in commercial maize farming ventures, as shown in Table 4.5.

b. The standardized statistic is -6.509.

Table 4. 5: Education Level and Worked at Venture Cross Tabulation

				Total		
		Below 5	6-10	11-15	Over 15	
		Years	Years	Years	Years	
	College Level	10.4%	20.8%	45.8%	22.9%	100.0%
<b>Education Level</b>	Graduate Level	14.8%	7.4%	40.7%	37.0%	100.0%
	Post Graduate	0.0%	28.6%	57.1%	14.3%	100.0%
To	11.0%	17.1%	45.1%	26.8%	100.0%	

Most of the respondents with college level of education (45.8%) have worked in the commercial maize farming ventures for 11-15 years. Respondents with college level of education who have worked in the commercial maize farming ventures for less than five years, 6-10 years, and more than 15 years were 10.4%, 20.8%, and 22.9% respectively. Similarly, most of the respondents with graduate level of education (40.7%) have worked in the commercial maize farming ventures for 11-15 years. Respondents with graduate level of education who have worked in the commercial maize farming ventures for less than five years, 6-10 years, and more than 15 years were 14.8%, 7.4%, and 37.0% respectively.

Above half of the respondents with post graduate level of education (57.1%) have worked in the commercial maize farming ventures for 11-15 years. There was no respondent with post graduate education who has worked in the commercial maize farming ventures for less than five years. Respondents with postgraduate level of education who have worked in the commercial maize farming ventures for6-10 years and more than 15 years were 28.6%, 14.3% respectively. Across all levels of education, most of the respondents have worked in the commercial maize farming ventures for 11-15 years. This could be attributed to low turnover since the experience gained by these accountants could best be applied in other commercial maize farming ventures which are few in number.

The Pearson's Chi Square ( $\chi$ 2) test of independence was utilized to establish whether there is a statistically significant relationship between the education level of respondents and the length of time they have worked in the commercial maize farming ventures. Results are presented in Table 4.6. The tested research hypothesis was as follows;

H<sub>0</sub>: Education level of respondent and length of time they have worked in the commercial maize farming ventures are independent

H<sub>1</sub>: Education level of respondent and length of time they have worked in the commercial maize farming ventures are related

The  $\chi 2$  test of independence revealed that 50.0% of the cells had expected count less than 5. Since a fundamental condition of the  $\chi 2$  test was violated, the fisher's exact test was carried out. The F (6, N=82) =5.306, p=0.479>0.05 as indicated in Table 4.6, the results implied that there is a 47.9% likelihood that the relationship between the gender and level of education of respondents was due to chance.

Table 4. 6: Chi-Square Tests for Education Level and Time Worked at Venture

	Value	df	Asymp.	Exact Sig.	Exact Sig.	Point
			Sig. (2-	(2-sided)	(1-sided)	Probability
			sided)			
Pearson Chi-Square	5.639 <sup>a</sup>	6	.465	.477		
Likelihood Ratio	6.628	6	.357	.446		
Fisher's Exact Test	5.306			.479		
Linear-by-Linear	.299 <sup>b</sup>	1	.585	.651	.329	.063
Association						
N of Valid Cases	82					

a. 6 cells (50.0%) have expected count less than 5. The minimum expected count is .77.

The fisher's exact test indicated that there was no significant statistical relationship between the education level of respondent and length of time they have worked in the commercial maize farming ventures. Therefore,  $H_0$ (education level of respondent and length of time they have worked in the commercial maize farming ventures are independent) was accepted.

#### 4.4 Descriptive Statistics

Descriptive statistics were sought to examine respondents' views in regard to the various study variables. The frequencies and chi-square ( $\chi 2$ ) values were computed to make observations based on the responses from commercial maize farming ventures.

### 4.4.1 Enterprise Risk Identification Practices

The researcher sought to establish the respondent's view regarding enterprise risk identification practices. The findings from the analysis were as presented in table 4.7.

b. The standardized statistic is .546.

**Table 4. 7: Descriptive Statistics on Enterprise Risk Identification Practices** 

	SA	A	U	D	SD	χ2	P-value
	(%)	(%)	(%)	(%)	(%)		
Identification of	30	39	6	6	1	$70.073^{a}$	.000
the sources of risk	(36.6%)	(47.6%)	(7.3%)	(7.3%)	(1.2%)		
Identification of	43	16	17	6	0	36.537 <sup>b</sup>	.000
areas of impact	(52.4%)	(19.5%)	(20.7%)	(7.3%)	(0.0%)		
Availability of a	23	31	17	11	0	10.683 <sup>b</sup>	.000
well-documented	(28.0%)	(37.8%)	(20.7%)	(13.4%)	(0.0%)		
risk management							
policy							
Reporting of	22	36	22	2	0	28.634 <sup>b</sup>	.000
events in order to	(26.8%)	(43.9%)	(26.8%)	(2.4%)	(0.0%)		
identify risks by							
management							
Regularly updated	37	33	9	3	0	$42.293^{b}$	.000
risk registers	(45.1%)	(40.2%)	(11.0%)	(3.7%)	(0.0%)		

Findings from the table demonstrated that respondents agreed that there is the identification of the sources of land. 84.2% of the respondents strongly agreed and or agreed. The researcher also observed that 71.9% of the respondents were in agreement that there was also the identification of areas of impact and also that there was availability of a well documented risk management policy. Further, it was observed that respondents were in agreement with the assertion that there was reporting of events in order to identify risks by management were 43.9% of the respondents agreed and 26.8% of the strongly agreed. In addition majority of the respondents were in agreement that there was a regularly updated risk register where 85.3% of the respondents strongly agreed and or agreed. All the chi-square ( $\chi$ 2) values were significant at p<.05 meaning that the respondents had significantly diverse views in regard to all the aspects.

#### 4.4.2 Enterprise Risk Assessment Practices

Respondent's views regarding the enterprise risk assessment practices were established. The findings from the analysis were as shown in table 4.8.

**Table 4. 8: Descriptive Statistics on Enterprise Risk Assessment Practices** 

	SA	A	U	D	SD	χ2	P-
	Freq.	Freq.	Freq.	Freq.	Freq.		value
	(%)	(%)	(%)	(%)	(%)		
Identification of	23	46	2	10	1	85.683 <sup>a</sup>	.000
threats that could	(28.0%)	(56.1%)	(2.4%)	(12.2%)	(1.2%)		
adversely affect							
operations							
Identification of	42	19	15	6	0	$34.390^{b}$	.000
potential damage or	(51.2%)	(23.2%)	(18.3%)	(7.3%)	(0.0%)		
loss if the threat							
materializes							
Management's	19	37	15	11	0	19.268 <sup>b</sup>	.000
evaluation of the risks	(23.2%)	(45.1%)	(18.3%)	(13.4%)	(0.0%)		
faced by the venture							
Estimation of the	23	37	22	0	0	5.146 <sup>c</sup>	.076
likelihood of the	(28.0%)	(45.1%)	(26.8%)	(0.0%)	(0.0%)		
identified threats							
materializing							
Use of ICT in carrying	38	37	3	4	0	56.439 <sup>b</sup>	.000
out risk assessments	(46.3%)	(45.1%)	(3.7%)	(4.9%)	(0.0%)		

From the table findings indicates that majority of the respondents agreed that there was identifications of the threats that could adversely affect operations where 84.1% of them strongly agreed and or agreed. Further 51.2% and 23.2% of the respondents agreed and strongly agreed respectively that there was identification of potential damage or loss if the threat materializes. On the other hand, 45.1% and 23.2% of the respondents agreed and strongly agreed that there was management's evaluation of the risk faced by the venture. The respondent also observed that 73.1% of the respondents strongly agreed and or agreed that there was estimation of the likelihood of the identified threats materializing. However this assertion had a chi-square statistic of 5.146 which was insignificant at p<.05 therefore this indicated respondent were in agreement with each other in regard to this aspect. Additionally, 91.4% of the respondents strongly agreed or agreed that there was the use of ICT in carrying out risk assessments. All apart from one of the statement had chi-square ( $\chi$ 2) statistics which were significant indicating that respondents had diverse views from each other.

#### **4.4.3** Enterprise Risk Mitigation Practices

The study further sought to establish respondents' view relating to enterprise risk mitigation practices. The findings were presented in table 4.9.

**Table 4. 9: Descriptive Statistics on Enterprise Risk Mitigation Practices** 

	SA Freq.	A Freq.	U Freq.	D Freq. (%)	SD Freq.	χ2	P- value
Implementation of strategies to avoid the exposure to risk	38 (46.3%)	25 (30.5%)	16 (19.5%)	3 (3.7%)	0 (0.0%)	31.854 <sup>a</sup>	.000
Formulation of contingency measures to minimize impact of risks	18 (22.0%)	35 (42.7%)	19 (23.2%)	10 (12.2%)	0 (0.0%)	16.049 <sup>a</sup>	.001
Reduction of accumulation of the effects of risks to a level they are catastrophic	22 (26.8%)	33 (40.2%)	22 (26.8%)	5 (6.1%)	0 (0.0%)	19.561 <sup>a</sup>	.000
Preparedness of the firm to face risks	33 (40.2%)	38 (46.3%)	5 (6.1%)	6 (7.3%)	0 (0.0%)	44.537 <sup>a</sup>	.000
Handing off risks to a third party for prudent management	27 (32.9%)	42 (51.2%)	9 (11.0%)	4 (4.9%)	0 (0.0%)	44.341 <sup>a</sup>	.000

It was observed that majority of the respondents agreed with the aspect of enterprise mitigation practices with their responses falling on either strongly agree and or agree. 76.8% of the respondents strongly and or agreed that there was implementation of strategies to avoid the exposure of risk while 64.7% of them strongly and or agreed that there was formulation of contingency measures to minimize impact of risks. Further 67.0% of the strongly and or agreed that there was reduction of accumulation of the effects of risks to a level they are catastrophic. Additionally, 86.5% of the respondents strongly and or agreed that there was preparedness of the firm to face risk. Lastly the researcher observed that 84.1% of the strongly and or agreed that there was handing off of the risks to a third party for prudent management. All apart from one of the statement had chi-square ( $\chi$ 2) statistics which were significant indicating that respondents had diverse views from each other.

#### 4.4.4 Enterprise Risk Monitoring Strategies

Respondents' views regarding enterprise risk monitoring strategies were established and the findings were as shown in table 4.10.

**Table 4. 10: Descriptive Statistics on Enterprise Risk Monitoring Strategies** 

	SA	A	U	D	SD	χ2	P-
	Freq. (%)		value				
Regular reporting of	37	20	18	7	0	22.488 <sup>a</sup>	.000
diverse risks to	(45.1%)	(24.4%)	(22.0%)	(8.5%)	(0.0%)		
management							
Continuous staff	23	32	17	10	0	$12.732^{a}$	.000
training on risk	(28.0%)	(39.0%)	(20.7%)	(12.2%)	(0.0%)		
management							
Ensuring the	22	35	23	2	0	27.366 <sup>a</sup>	.000
execution of risk	(26.8%)	(42.7%)	(28.0%)	(2.4%)	(0.0%)		
plans							
Evaluation of the	31	39	7	5	0	42.683 <sup>a</sup>	.000
effectiveness of risk	(37.8%)	(47.6%)	(8.5%)	(6.1%)	(0.0%)		
plans							
Monitoring residual	36	28	13	5	0	$28.927^{a}$	.000
risks	(43.9%)	(34.1%)	(15.9%)	(6.1%)	(0.0%)		

The findings indicated that 69.5% of the respondents strongly and or agreed that there was regular reporting of risks to the management. Further, 67.0% of them strongly and or agreed that there was continuous staff training on risk management while 69.5% of the respondents strongly and or agreed that the venture ensured there was execution of risk plans. In addition, 85.4% of the respondents strongly and or agreed that there was evaluation of effectiveness of risk plans. On the other hand, 78.0% of the respondents strongly and or agreed that there was monitoring of residual risks. The respondents' views were however very diverse with all the responses having chi-square ( $\chi$ 2) statistic significant at p<.05.

### **4.4.5** Financial Performance

The views of the respondents relating to financial performance in commercial maize farming ventures in Nakuru county, ken Kenya were sought out. The findings from the analysis were as shown in table 4.11.

**Table 4. 11: Descriptive Statistics on Financial Performance** 

	SA	A	U	D	SD	χ2	P-
	Freq.	Freq.	Freq.	Freq.	Freq.		value
	(%)	(%)	(%)	(%)	(%)		
Stable farm incomes	16	40	18	8	0	27.463 <sup>a</sup>	.000
	(19.5%)	(48.8%)	(22.0%)	(9.8%)	(0.0%)		
Saving of costs due to	20	35	21	4	2	45.195 <sup>b</sup>	.000
reduction in	(24.4%)	(42.7%)	(25.6%)	(4.9%)	(2.4%)		
agricultural risk							
Improved repayment	29	42	1	8	2	81.049 <sup>b</sup>	.000
capacity	(35.4%)	(51.2%)	(1.2%)	(9.8%)	(2.4%)		
Increased profitability	23	46	5	6	2	83.244 <sup>b</sup>	.000
	(28.0%)	(56.1%)	(6.1%)	(7.3%)	(2.4%)		
Increased financial	33	30	14	5	0	$25.805^{a}$	.000
efficiency	(40.2%)	(36.6%)	(17.1%)	(6.1%)	(0.0%)		

The table indicated that 68.3 % of the respondents strongly and or agreed that there was stable farm income while 67.1% of the respondents strongly and or agreed that there was savings of costs due to reduction in agricultural risk. In addition, 86.6% of the respondents strongly and or agreed that there was improved repayment capacity. Further, 84.1% of the respondents strongly and or agreed that there was increased profitability. Lastly the researcher observed that 76.8% of the respondents strongly and or agreed that there was increased financial efficiency. All the chi-square ( $\chi$ 2) values were significant at p<.05 meaning that the respondents had significantly diverse views in regard to all the aspects.

#### 4.5 Correlation Analysis

The study sought to establish whether there existed any significant relationships between the independent and the dependent variables Pearson product moment correlation coefficient was used to examine the relationships. The findings were presented and discussed as in the subsequent subsections.

# 4.5.1 Correlation between Enterprise Risk Identification Practices and Financial Performance

Correlation between enterprise risk identification practices and financial performance were correlated and the findings were indicated as shown in table 4.12.

**Table 4. 12: Correlation between Enterprise Risk Identification Practices and Financial Performance** 

		Enterprise risk identification practices	Financial performance
Enterprise risk identification	Pearson Correlation	1	.376**
Enterprise risk identification practices	Sig. (2-tailed)		.000
	N	82	82
	Pearson Correlation	.376**	1
Financial performance	Sig. (2-tailed)	.000	
	N	82	82

<sup>\*\*.</sup> Correlation is significant at the  $\overline{0.01}$  level (2-tailed).

Findings from the table indicated that there existed a weak positive significant (r=.376, p=<.000) relationship between enterprise risk identification practices and financial performance. Therefore the research observed that enterprise risk identification practices has a significant role in determining the financial performance of commercial maize farming venture in Nakuru County. Therefore the first null hypothesis H<sub>01</sub>, that enterprise risk identification practices have no statistically significant influence on the financial performance of commercial maize farming ventures in Nakuru County was rejected. Therefore the study concluded that enterprise identification practice has significant influence on financial performance of commercial maize farming venture in Nakuru County. This was in agreement with other researchers such as Shoki et al., (2014) and Machini (2016) who agreed that risk identification involved the identification of the sources of risk, areas of impacts, events and their causes and their potential consequences in order to generate a comprehensive list of risks based on those events that might create, enhance, prevent, degrade, accelerate or delay the achievement of objectives and that that there was a statistically significant relationship between risk identification and financial performance in the firms. The above findings therefore indicate that risk identification has significant influence on financial performance.

# 4.5.2 Correlation between Enterprise Risk Assessment Practices and Financial Performance

The researcher sought to examine whether there was any significant relationship between enterprise risk assessment practices and financial performance. The findings were demonstrated in table 4.13.

Table 4. 13:Correlation between Enterprise Risk Assessment Practices and Financial Performance

		Enterprise risk assessment practices	Financial performance
Enterprise riels accessment	Pearson Correlation	1	.411**
Enterprise risk assessment practices	Sig. (2-tailed)		.000
practices	N	82	82
	Pearson Correlation	.411**	1
Financial performance	Sig. (2-tailed)	.000	
	N	82	82

<sup>\*\*.</sup> Correlation is significant at the 0.01 level (2-tailed).

The findings demonstrated the presence of an average positive significant (r=.411, p=.000) relationship between the two variables. The researcher observed that there is a direct relationship between the two variables hence the success of financial performance depends on enterprise risk assessment practices. This indicates that the second null hypothesis, that enterprise risk assessment practices have no statistically significant influence on the financial performance of commercial maize farming ventures in Nakuru County was rejected. Thus the study concluded that enterprise risk assessment practice have a significant impact on financial performance of commercial maize farming venture in Nakuru county. The above findings were in agreement with other scholars. Walter & Karssen (2015) undertook a study on the risk assessment of *Pratylenchus zeae* on maize in Belgium and the Netherlands. The study noted that a software known as CLIMEX can be used for carrying out risk assessments for antropods, weeds and diseases within commercial farming. Therefore enterprise risk assessment practice has a crucial role in determining the influence of financial performance on commercial maize farming ventures.

# 4.5.3 Correlation between Enterprise Risk Mitigation Practices and Financial Performance

The study utilized the Pearson correlation to examine the relationship between enterprise risk mitigation practices and Financial Performance. The findings from the analysis were as shown in the table below

# 4.5.4 Correlation between Enterprise Risk Monitoring Practices and Financial Performance

The study utilized the Pearson correlation to examine the relationship between enterprise risk monitoring practices and Financial Performance. The findings from the analysis were as shown in the table below.

Table 4. 14: Correlations between Enterprise Risk Mitigation Practices and Financial performance

		Enterprise risk mitigation practices	Financial performance
Enterprise risk mitigation	Pearson Correlation	1	.661**
practices	Sig. (2-tailed) N	82	.000 82
<b>-</b>	Pearson Correlation	.661**	1
Financial performance	Sig. (2-tailed) N	.000 82	82

<sup>\*\*.</sup> Correlation is significant at the 0.01 level (2-tailed).

It was established that enterprise risk monitoring practices had an average positive significant (r=.661, p=.000) relationship with the financial performance of commercial maize farming ventures. The relationship was found to be significant at p<.01. From the findings it was established that enterprise risk monitoring practices has a great role in determining the financial performance of commercial maize farming ventures. Therefore the third null hypothesis H<sub>03</sub> that, enterprise risk mitigation practices have no statistically significant influence on the financial performance of commercial maize farming ventures in Nakuru County was rejected. The above findings were in agreement with the findings of other researchers. Amemba (2013) who undertook a study on the risk management on supplies management noted that diverse ways in which risk mitigation impacted on supplies management noted that risk mitigation ensures contingency measures are formulated to minimize impact of risks, reduction of accumulation of the effects of risks to a level they are catastrophic, and enables preparedness of the firm to face risks. This implies that enterprise risk mitigation practice have a crucial role in determining the influence of financial performance of commercial maize farming ventures in Nakuru County.

# 4.5.5 Correlation between Enterprise Risk Monitoring Practices and Financial Performance

The study utilized the Pearson correlation to examine the relationship between enterprise risk monitoring practices and Financial Performance. The findings from the analysis were as shown in the table 4.15.

**Table 4. 15: Correlations between Enterprise Risk Monitoring Practices and Financial Performance** 

		Enterprise risk monitoring strategies	Financial performance
Entermise miels monitorine	Pearson Correlation	1	.319**
Enterprise risk monitoring	Sig. (2-tailed)		.004
strategies	N	82	82
	Pearson Correlation	.319**	1
Financial performance	Sig. (2-tailed)	.004	
	N	82	82

<sup>\*\*.</sup> Correlation is significant at the 0.01 level (2-tailed).

It was established that enterprise risk monitoring practices had a weak positive significant (r=.319, p=.004) relationship with the financial performance of commercial maize farming ventures. The relationship was found to be significant at p<.01. Therefore, the fourth null hypothesis that, enterprise risk monitoring strategies have no statistically significant influence on the financial performance of commercial maize farming ventures in Nakuru County was rejected. On the other hand, the above findings agreed with the literature with other scholars. Tukei (2015) examined the operational risk management and staff performance in Kampala Metropolitan Police examined the concept of risk management and performance. He noted that risk monitoring enables actualization of long term benefits in incorporating best practices and that risk monitoring also enables improvement of the risk mitigation measures and in formulation of policies for the purposes of further risk mitigation aspects. From the findings it was established that enterprise risk monitoring practices has a great role in determining the financial performance of commercial maize farming ventures.

#### 4.5.6 Multiple Linear Regression

The relationship that exists between the financial performance of commercial maize farming ventures in Nakuru County (dependent variable) and enterprise risk identification practices, enterprise risk assessment practices, enterprise risk mitigation practices, and enterprise risk monitoring strategies (independent variables) was explained through a simple linear regression. There was a positive correlation between the dependent variable and the four independent variables since the correlation coefficient was 0.670 as presented in Table 4.16.

Table 4. 16: Model Summary of the Multiple Linear Regression

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	$.670^{a}$	.449	.420	.45414

a. Predictors: (Constant), Risk Monitoring, Risk Mitigation, Risk Assessment, Risk Identification

The coefficient of determination was .449 which implies that 44.9% of the variance in financial performance of commercial maize farming ventures in Nakuru County was as a result of the enterprise risk identification practices, enterprise risk assessment practices, enterprise risk mitigation practices, and enterprise risk monitoring strategies adopted by the ventures. This means that other factors not considered in this model account for 55.1% of the variance in financial performance of commercial maize farming ventures in Nakuru County.

The overall viability of the regression model with financial performance (dependent variable) and the enterprise risk identification practices, enterprise risk assessment practices, enterprise risk mitigation practices, and enterprise risk monitoring strategies of commercial maize farming ventures in Nakuru County as independent variables was determined using the ANOVA. The p-value of the ANOVA was 0.000, as shown in Table 4.17 indicating that there was no likelihood or probability (0.0%) of the regression model giving a wrong prediction The minimum requirement for reliability of the model was a p-value less than 0.05 (p<0.05). Since the p-value was less than 0.05, the model was deemed reliable.

**Table 4. 17:** ANOVA<sup>a</sup> of the Multiple Linear Regression

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	12.921	4	3.230	15.663	$.000^{b}$
1	Residual	15.881	77	.206		
	Total	28.802	81			

a. Dependent Variable: Financial Performance

b. Predictors: (Constant), Risk Monitoring, Risk Mitigation, Risk Assessment, Risk Identification

The regression coefficient (beta coefficient expressed as  $\beta$ ) was used to determine the expected increase (or decrease) in the dependent variable (financial performance of commercial maize farming ventures) when the independent variables change by one point (enterprise risk identification practices, enterprise risk assessment practices, enterprise risk mitigation practices, and enterprise risk monitoring strategies). The coefficients were-0.161 enterprise risk identification practices, 0.247 for enterprise risk assessment practices, 0.931 for enterprise risk mitigation practices, and -0.118 for enterprise risk monitoring strategies as shown in Table 4.18.

Table 4. 18: Coefficients<sup>a</sup> of the Multiple Linear Regression

M	odel	Unstand Coeffi		Standardized Coefficients	t	Sig.	Collinea Statisti	•
		В	Std.	Beta	•		Tolerance	VIF
			Error					
	(Constant)	.334	.549		.608	.545		
	Enterprise risk identification practices	.247	.203	.176	1.219	.227	.341	2.929
1	Enterprise risk assessment practices	161	.207	115	777	.440	.328	3.049
	Enterprise risk mitigation practices	.931	.152	.695	6.129	.000	.557	1.795
	Enterprise risk monitoring strategies	118	.161	094	735	.464	.437	2.286

a. Dependent Variable: financial performance

Findings from the table indicated that the parameter estimates ( $\beta$ ) for enterprise risk identification was .247 with a t-value of 1.219. Thus the t-value was insignificant at p<.05 level of significance. Therefore, enterprise risk identification practices have no significant influence on commercial maize farming ventures in Nakuru town. Consequently, the null hypothesis  $\mathbf{H}_{01}$ , that enterprise risk identification practices have no statistically significant influence on the financial performance of commercial maize farming ventures in Nakuru County was failed to be rejected. In addition the parameter ( $\beta$ ) for enterprise risk assessment practices was -.161 with a t-value of -.777. The t-value was found to be insignificant at p<.05 level of significance. This means that enterprise risk assessment practices have no influential impact on commercial maize farming ventures in Nakuru town. As such, the null hypothesis  $\mathbf{H}_{02}$ , that enterprise risk assessment practices have no statistically significant influence on the financial performance of commercial maize farming ventures in Nakuru County failed to be

rejected. Further, it was observed that, the parameter estimate ( $\beta$ ) for enterprise risk mitigation practices was .931with a t-value of 6.129. As such, the t-value was found to be significant at p<.05 level of significance. It was therefore concluded that enterprise risk mitigation process practices had an important role in determining the commercial maize farming venture in Nakuru town. Thus, the null hypothesis  $\mathbf{H}_{03}$ , that enterprise risk mitigation practices have no statistically significant influence on the financial performance of commercial maize farming ventures in Nakuru County was rejected. Additionally, the parameter estimate ( $\beta$ ) for enterprise risk monitoring strategies was -.118 with a t-value of -.735. Therefore the r-value was found to be significant at p<.05 level of significance. As such, it was concluded that, enterprise risk monitoring strategies influence commercial maize farming ventures in Nakuru town. Thus the null hypothesis  $\mathbf{H}_{04}$ , that enterprise risk monitoring strategies have no statistical significant influence on the financial performance of commercial maize farming ventures in Nakuru County failed to be rejected. The study fitted the following regression model from the model coefficients table.

$$Y = .334 + .247X_1 - .161X_2 + .931X_3 - .118X_4 + \varepsilon$$

Where; Y= Financial Performance

 $\beta_0$  =constant

 $\beta_{1...}$   $\beta_{4}$  = Coeffeicients of estimates

 $X_1$  = Enterprise risk identification practices

 $X_2$  = Enterprise risk assessment practices

 $X_3$  =Enterprise risk mitigation practices

X<sub>4</sub> =Enterprise risk monitoring strategies

And  $\varepsilon$  is the error term

Thus, the enterprise risk assessment practices and enterprise risk monitoring strategies individually have a negative influence on the financial performance of commercial maize farming ventures. Therefore, the commercial maize farming ventures need to undertake the enterprise risk assessment practices and enterprise risk monitoring strategies in conjunction with other enterprise risk management practices (not just on their own) for them to have a positive influence on the financial performance. On the other hand, the enterprise risk identification practices and enterprise risk mitigation practices individually have a positive influence on the financial performance of commercial maize farming ventures. In order of influence of the independent variables on the dependent variable enterprise risk mitigation

practices had greater influence on the financial performance of commercial maize farming ventures. This was followed by enterprise risk identification practices, enterprise risk assessment practices, and the least influential on the financial performance of commercial maize farming ventures was enterprise risk monitoring strategies.

#### **CHAPTER FIVE**

#### SUMMARY, CONCLUSION, AND RECOMMENDATIONS

#### 5.1 Introduction

This study sought to examine the influence of enterprise risk management practices on financial performance of commercial maize farming ventures in Nakuru County. This was investigated with the objective of finding the influence of enterprise risk identification practices, enterprise risk assessment practices, enterprise risk mitigation practices, and enterprise risk monitoring strategies on the financial performance of commercial maize farming ventures in Nakuru County. This chapter contains the summary of the findings, the conclusions from the findings, and the recommendations.

# 5.2 Summary of Findings

The summary of the study was examined using the specific research objectives;

#### **5.2.1** Enterprise Risk Identification Practices

Descriptive statistics indicated that respondents were in agreement that there was identification of the sources of risk. However, the respondents agreed that areas of impact were identified. Additionally, they were in agreement that there was the availability of a well-documented risk management policy. Equally respondents agreed that reporting of events in order to identify risks by management, and regularly updated registers influenced the financial performance of the commercial maize farming ventures in Nakuru County. On the other hand, respondents were on average inclined to agree though there was no consensus that identification of areas of impact influenced the financial performance of the commercial maize farming ventures in Nakuru County. The correlation analysis indicated that enterprise risk identification practice had a positive significant influence on financial performance of commercial maize farming venture.

#### **5.2.2** Enterprise Risk Assessment Practices

From the descriptive it was established that respondents agreed that there was identification of threats that could adversely affect operations as well as that there was identification of potential damage or loss if the threat materializes. It was observed that there was evaluation of the risks by the management. In addition they observed that there was the estimation of the likelihood of the identified threats materializing and that there was the use of ICT in carrying out risk assessments had an influence on the financial performance of the commercial maize farming ventures in Nakuru County. Regression analysis showed a positive correlation

between the financial performance of commercial maize farming ventures and enterprise risk assessment practices.

#### **5.2.3** Enterprise Risk Mitigation Practices

Further, the respondents' were in agreement that enterprise risk mitigation practice influenced the financial performance of the commercial maize farming ventures in Nakuru County. There was moderate consensus amongst respondents and respondents on average tended to agree that implementation of strategies to avoid the exposure to risk, formulation of contingency measures to minimize impact of risks, and reduction of accumulation of the effects of risks to a level they are catastrophic, preparedness of the firm to face risks, and handing off risks to a third party for prudent management influenced the financial performance of commercial maize farming ventures. Regression analysis showed a positive correlation between the financial performance of commercial maize farming ventures and enterprise risk mitigation practices.

#### **5.2.4** Enterprise Risk Monitoring Strategies

It was established that respondents agreed that regular reporting of diverse risks to management influenced financial performance of commercial maize farming ventures in Nakuru County. On average, respondents agreed that there was continuous staff training on risk management and that execution of risk plans was ensured. In additions it was observed that there was effectiveness of risk plans, and monitoring residual risks influenced financial performance of commercial maize farming ventures in Nakuru County. The evaluation of the effectiveness of risk plans was found to have greater influence on the financial performance of their commercial maize farming. The study found a positive correlation between the financial performance of commercial maize farming ventures and enterprise risk monitoring strategies.

#### **5.2.5** Financial Performance

From the descriptive analysis it was established that there was moderate consensus amongst respondents that there was stable farm incomes also that there was saved costs due to reduction in agricultural risk. They also acknowledged that there was improved repayment capacity in commercial maize farming ventures and that there was increased profitability. In addition they agreed that there is increased financial efficiency had it has been achieved due to implementation of the enterprise risk management practices.

#### 5.3 Conclusion

The study concluded that the enterprise risk identification practices have a negative influence on the financial performance of commercial maize farming ventures in Nakuru County. It was observed that enterprise risk identification practices were significant in explaining the variations in financial performance of commercial maize farming ventures. Further, the study concluded that enterprise risk assessment practices positively influence the financial performance of commercial maize farming ventures in Nakuru County. As such it was concluded that enterprise risk assessment practices had important role in determining the financial performance of commercial maize farming ventures in Nakuru County.

In the context of enterprise risk monitoring strategies, the study concluded that they have a positive influence on the financial performance of commercial maize farming venture in Nakuru County. Therefore enhancing enterprise risk monitoring strategies enhance financial performance. Finally, the study concluded that enterprise risk mitigation practices have a positive influence on the financial performance of commercial maize farming ventures in Nakuru County. Thus, it was concluded that enterprise risk mitigation strategies is require to improved the financial performance of commercial maize farming venture in Nakuru County

#### **5.4 Recommendations**

In this context, the study recommends that commercial maize farming ventures should have regular updates of risk registers in order to understand factors that negatively influence operations and outcomes and make prompt judgments concerning the extent of actions needed to reduce risk. Additionally, the use of ICT in carrying out risk assessments should be adopted in order to reduce the risk of internal factors like impact of diseases and weeds within the commercial maize farms. This will also assist in the preparedness of the firms to face risks. Finally, an evaluation of the effectiveness of risk plans should be carried out to determine the plans that work best to improve the scale of operations and productivity of the commercial maize farming ventures.

#### 5.5 Suggestions for further studies

The study suggests that future studies be carried out in other counties in Kenya to determine the influence of enterprise risk management practices on financial performance of commercial maize farming ventures. Researchers should also investigate the influence of enterprise risk management practices on financial performance of commercial farming ventures that produce other crops different from maize.

#### REFERENCES

- Ai, J., Brockett, W., Cooper, L. & Golden. L. (2012). Enterprise Risk Management through Strategic Allocation of Capital. *Journal of Risk and Insurance*,79(1):29–56.
- Abdul, R., & Mahmood, R. (2015). Risk Management Practices And Performance Of Micro financing Banks In Malaysia. *Academic Journal UiTMT*, 4(2), 26–33.
- Ahmed, I., & Manab, A. (2016). Influence of Enterprise Risk Management Success Factors on Firm Financial and Non-financial Performance: *A Proposed Model*, 6(3), 830–836.
- Amaza, P., Kwacha, A., & Kamara, A. (2016). Farmers' Perceptions, Profitability, and Factors Influencing the Adoption of Improved Maize Varieties in the Guinea Savannas of Nigeria. *IOSR Journal of Agriculture and Veterinary Science*, 2(3), 67–72.
- Amemba, S. (2013). The Effect of Implementing Risk Management Strategies on Supply Chain Performance: A Case of *Kenya Medical Supplies Agency*, 5(14), 1–16.
- Anguka, W. (2012). The Influence of Financial Risk Management on the Financial Performance of Commercial Banks in Kenya. *International Journal of Research in Management, Economics and Commerce*, 2(1), 35–42.
- Asemeit, C. (2014). The Effect of Risk Management on Financial Performance of Insurance Companies in Kenya. *International Journal of Advanced Research*, 2(3), 30–34.
- Barry, J., Ellinger, N., Baker, B. & Hopkin, A. (2000). *Financial Management in Agriculture*. 6th ed. Danville, Illinois: Interstate Publishers.
- Asian Disaster Reduction Center.(2005). Total Disaster Risk Management Good Practices. Retrieved from: <a href="https://www.adrc.asia/publications">www.adrc.asia/publications</a>. Retrieved on 27/11/2017.
- Buchanan, L. (2004). Breakthrough ideas for 2004. Harvard Business Review, 2, 13-16.
- Chado, H. (2015). The Effect of Integrated Financial Management Information System on the Financial Management of Public Sector in Kenya. Journal of Business Studies Quarterly, 2(3), 45–56.
- Cheruiyot, C. (2013). The Influence Of Enterprise Risk Management On Strategic Management Process Of Kenya Power And Lighting Company Limited. Unpublished Master of Business Admiministration: University of Nairobi.
- Christine, G. (2016). The Effects of Risk Management Practices in Financial Performance of Hotels in Mombasa County. Unpublished Master of Arts Thesis: University of Nairobi.
- Clemens, R., & Thompson, J. (2012). Risk Measurement, Allocation, and Pricing in Network Schedule Systems. *International Journal for Management Science and Terchnology*, 2(3), 80–85.

- Cunningham, S. (2008). SME Risk Management Series. Conference organized by Singapore Business Federation (SBF) and SPRING Singapore on November 2008. Singapore.
- Deloitte. (2008) Global risk management survey (7th ed). London: Deloitte and Touche
- Diez, D., Barr, C., & Çetinkaya-Rundel, M. (2015). *OpenIntro Statistics*. OpenIntro, Incorporated.
- Durand, W. (2013). Drought Adaptation Measures and Risk Tolerance of Commercial, Small-Scale and Subsistence Maize Farmers in the Free State and North West Province of South Africa. *Drought in Arid and Semi-Arid Regions*, (March), 143–165.
- Ebenezer, O., Ahmad, W., & Omar, B. (2016). Risk Management and the Financial Performance of Commercial Banks in Nigeria: *A Literature Review Revisited*, 7(2), 14–19.
- Economic Intelligent Unit. (2007). Best practice in risk management: a function comes of age. A report by the Economist Intelligence Unit. London.
- Ettyang, A., Oloo, A., van Marken, W., & Saris, W. (2004). *Consumption of vitamin A by breastfeeding children in rural Kenya*. Food and Nutrition Bulletin, 25(3), 256–263.
- Gates, S., & Nantes A. (2006). Incorporating strategic risk into Risk Management: A survey of current corporate practice. *Journal of Applied Corporate Finance*, 18 (4),81–90.
- Giesecke, A., Burns, W., Barrett, A., Bayrak, E., Rose, A., Slovic, P., & Suher, M. (2012). Assessment of the regional economic impacts of catastrophic events: CGE analysis of resource loss and behavioral effects of an RDD attack scenario. *Journal of Risk Anal*, 32(4),583-600.
- Girei, A., & Galadima, E. (2016). Resource-Use Efficiency and Profitability of Maize Production in Lafia Local Government Area of Nasarawa State, Nigeria. *European Journal of Academic Essays*, 3(6), 234–238.
- Goddy, E. (2017). Analysis of profitability in maize production in Obubra Local Government Area of Cross River State, *Nigeria. Journal of Agricultural Sciences*, 5(1), 1–5.
- Hanna, D., & Dempster, M. (2012). Psychology Statistics For Dummies. John Wiley & Sons.
- Hardaker, B., Huirne, M., Anderson, R. & Lien, G. (2004). *Coping with Risk in Agriculture*. 2nd ed. Oxfordshire: CABI Publishing
- Harwood, J., Heifner, R., Coble, K., Perry, J. & Somwaru, A. (1999). *Managing Risk in Farming*.
- Hassan, M., Resmi, I., & Hossain, S. (2017). Farmer 's profitability of maize cultivation at Rangpur district in the socio-economic context of Bangladesh: An empirical analysis. *International Journal of Applied Research*, 3(4), 794–800.

- Ingirige, B., Wedawatta, G., & Amaratunga, D. (2008). *Investigating SME resilience and their adaptive capacities to extreme weather events: A literature review and synthesis*. Salford: University of Salford.
- Institution of Occupation Safety and Health. (2002). SME Risk Management Tool Kit. London: Institution of Occupation Safety and Health.
- Ivanova, P., Alexandrov, P., & Doneva, K. (2015). Droughts and Climate Change in Bulgaria: Assessing Maize Crop Risk and Irrigation Requirement in Relation to Soild and Climare Region. *Bulgarian Journal of Agricultural Science*, 21(1), 35–53.
- Karimi, B. (2014). The Effect of Enterprise Risk Management on Financial Performance of Pension Fund Management Firms in Kenya. Unpublished Master of Science in Finance: University of Nairobi.
- Keller, G. (2014). Statistics for Management and Economics (9th ed.). Cengage Learning.
- Kinuthia, W. (2013). Relationship Between Financial Risk Management Systems and Financial Performance of Micro Fiance Institutions in Kenya. *Interdisciplinary Journal of Contemporary Research in Business*, 1(3), 25–29.
- Kinyua, K., Gakure, R., Gekara, M., & Orwa, G. (2015). Effect Of Risk Management On The Financial Performance Of Companies Quoted In The Nairobi Securities Exchange. *International Journal of Business & Law Research*, 3(4), 26–42.
- Kuada, J. (2012). Research Methodology: A Project Guide for University Students. Nairobi: Samfundslitteratur.
- Machini, J. (2016). The Relationship Between Enterprise Risk Management and Financial Performance of Commercial Banks in Kenya. Unpublished Master of Arts Thesis: University of Nairobi.
- Momanyi, O., & Njiru, A. (2016). Financial Risk Management And Performance Of Savings And Credit Co-Operative Societies In Nakuru East Sub County, Kenya. *International Journal of Research in Business Management*, 4(4), 55–66.
- Muguchu, M. (2013). The effect of access to credit and financial performance of small and medium enterprises in Nairobi, Kenya. *Journal of Emerging Issues in Economics, Finance and Banking*, 1(1), 125–130.
- Mwaniki, R., (2006). Supporting SMEs Development & the Role of Microfinance in Africa. Nairobi: INAFI Africa Trust.
- Mwangi, G. (2012). The Effect of Credit Risk Management on the Financial Performance of Commercial Banks in Kenya. *International Journal of Financial Research*, 1(1), 45–47.
- Mwangi, N. (2017). Fa*ll army worms invade crops in Central Kenya*. Retrieved from https://www.standardmedia.co.ke/business/article/2001242951/fall-army-worms-invade-crops-in-central-kenya

- Nair, K., Purohit, H., & Choudhary, N. (2014). Influence of Risk Management on Performance: *An Empirical Study of International Islamic Bank*, 4(3), 549–563.
- Naktari, L. (2014). Humanitarian Risk Mitigation Strategies Adopted By Non-Governmental Organizations in West Pokot County, Kenya Longit B. Naktari. *IOSR Joournal of Business and Management*, 4(2), 14–17.
- Nicholas, C. (2009). *The Startup Entrepreneur's Guide to Risk Management*. Retrieved from: http://www.businessinsider.com/the-startup-entrepreneur-guide-to-risk-management-2009-6. Retrieved on 3/6/2017
- Nigussie, W. (2016). Assessing determining factors of Best Risk Management Practice of Ethiopian Commercial Banks. Unpushished Master of Science in Accounting & Finance: Addis Ababa University.
- Ntabakirabose, G. (2015). An Analytical Study of the Factors Influencing Maize Production in Rwanda: A Case Study of Gatsibo District. *International Journal Of Business & Management*, 3(10), 146–181.
- Nyaga, K. (2014). The Effect of Enterprise Risk Management on Financial Performance of Pension Fund Management Firms in Kenya. Unpublished Master of Arts Thesis: University of Nairobi.
- Odwori, P., Mapelu, M., Odhiambo, M., & Nyangweso, P. (2010). Forecasting Yield and Profitability of Maize Cropping System Using Simulation Models in Uasin Gishu, Kenya. 3rd African Association of Agricultural Economists (AAAE).
- Okeyo, V. (2017). *Armyworm complicates East Africa's food security calculations*. Retrieved from http://www.nation.co.ke/health/The-great-armyworm-invasion/3476990-3918946-bxjayjz/index.html
- Olubunmi, A. (2016). Analysis of Resource Use Efficiency And Profitability Of Maize Production In Some Selected Agricultural Zones Of Kaduna State, Nigeria. Unpublished Master of Science Thesis in Agricultural Economics: Ahmadu Bello University, Zaria, Nigeria.
- Omino, A. (2014). Liquidity Risk Mitigation Measures and Financial Performance of Saving and Credit Cooperative Societies in Kisumu County, Kenya. Unpublished Master of Business Admiministration: University of Nairobi.
- Otunaiya, O., Ologbon, C., & Oyebanjo, O. (2013). Determinants of Financial Performance of Maize Farms in Egba Division of Ogun State, Nigeria. *IOSR Journal of Agriculture and Veterinary Science*, 4(4), 27–30.
- Pataky, J. (2013). Pest Analysis; The Risk Of Introducing Erwinia Stewartii In Maize Seed. *International Seed Federation*, 2(3), 45–52.
- Quon, K., Zeghal, D., & Maingot, M. (2012). Enterprise risk management and firm performance, *Journal of Strategic Management*, 62(3), 263–267.
- Raghavan, R. (2005). Risk Management in SMEs. *The Chartered Accountant*, 530-535, Available on: http://www.icaew.com/index.cfm?route=124661. Retrieved 26/8/2017.

- Ruppert, D. (2004). *Statistics and Finance:* An Introduction. Springer Science & Business Media.
- Satchu, A. (2009) *Navigating the Global Financial Markets Turn your business on its head.* Retrieved from <a href="http://www.rich.co.ke">http://www.rich.co.ke</a>. Retrieved on 22/9/2017.
- Sekaran, U., & Bougie, R. (2011). Research Methods for Business: A Skill Building Approach (5th ed.). Delhi: Aggarwal printing press.
- Shirish, S. (2012). Research Methodology in Education. Lulu Publications.
- Shoki, M., Zakuan, N., Tajudin, M., & Ahmad, A. (2014). A Framework for Risk Management Practices and Organizational Performance in Higher Education. Review of Integrative Business and Economics Research, 3(2), 422–432.
- Stoneburner, G., Goguen, A., & Feringa, A. (2002). *Risk Management Guide for Information Technology Systems*. Gaithersburg: National Institute of Standards and Technology
- Tatum, M., (2003); *what is risk management?* Retrieved from: <a href="http://www.wisegeek.com/what-is-risk-management.htm">http://www.wisegeek.com/what-is-risk-management.htm</a>. Retrieved on 4/7/2010.
- Teoh, P., Lee, Y., & Muthuveloo, R. (2017). The Impact of Enterprise Risk Management, Strategic Agility, and Quality of Internal Audit Function on Firm Performance. *International Review of Management and Marketing*, 7(1), 222–229.
- Tukei, M. (2015). Operational Risk Management And Staff Performance In Kampala Metropolitan Police. Unpublished Doctor of Philosophy: Mbarara University of Science and Technology.
- Upagade, V., & Shende, A. (2012). *Research Methodology* (2nd ed.). Ram Nagar, New Delhi: S.Chad and Company Ltd.
- Vitor, A., Wongnaa, A., & Aidoo, R. (2016). Resource use efficiency among maize farmers in Ghana. Agriculture & Food Security, 8(2),1–10.
- Walter, N., & Karssen, G. (2015). The Potential Distribution and Risk Assessment of Pratylenchus zeae on Maize in Belgium and The. Advances in Plant & Agriculture Research: Eart University, Costa Rica. https://doi.org/10.15406/apar.2015.02.00062
- Wasserman, L. (2004). *All of Statistics: A Concise Course in Statistical Inference* (illustrate). Springer Science & Business Media.
- Weber, J. (2009). *Information Security Enterprise risk assessment practices of Leading Organizations*. American Review of Information Systems, 13(5), 18–25.
- Wendel, C., & Harvey, M. (2006) SME Credit Scoring: Key Initiatives, Opportunities and Issues. *Access Finance*, 10. 34-38.
- Zhou, Y., & Liu, M. (2012). Risk assessment of major hazards and its application in urban planning: A case study. *Risk Anal*, 32, 566–577.

**APPENDICES** 

**Appendix 1: Introduction Letter** 

Dear Sir/Madam

My name is Joseph Oleku, a student at Kabarak University, pursuing a masters' degree of

Business Administration. I am carrying out a study to examine the Influence of Enterprise

Risk Management Practices on Financial Performance of Commercial Maize Farming

Ventures in Nakuru County, Kenya. This study is part of my academic discourse.

The purpose of this letter is to request you to kindly fill the attached questionnaire. Your

participation in the study is voluntary in nature and your refusal to participate will not involve

any penalty or loss of benefits to which you or your organization are otherwise entitled. The

information obtained from this exercise will be held in confidence and will be used for

academic purposes only.

Yours' faithfully,

Joseph Oleku

57

#### **Appendix 2: Questionnaire**

**Instructions:** Please complete the following questionnaire appropriately.

**Confidentiality:** The responses you provide will be strictly confidential. No reference will be

made to any individual(s) in the report of the study.

Please tick or answer appropriately for each of the Question provided.

#### PART A: BACKGROUND INFORMATION

1)	What is your gender?	Male Female	[ ]
2)	What is your highest education level?	College Level Graduate Level Post Graduate	[ ] [ ]
3)	How long have you worked in a commercial maize farming venture?	Below 5 Years 6-10 Years 11-15 Years Over 15 Years	[ ] [ ] [ ]

#### PART B: ENTERPRISE RISK IDENTIFICATION PRACTICES

For each of the following parts, please tick where applicable to the extent to which you agree using the following Likert scale.

SA= Strongly Agree A=agree U=Uncertain D=Disagree SD=Strongly

	The following enterprise risk identification practices have	SA	A	U	D	SD
	played a significant role in financial performance;					
5)	Identification of the sources of risk					
6)	Identification of areas of impact					
7)	Availability of a well-documented risk management policy					
8)	Reporting of events in order to identify risks by management					
9)	Regularly updated risk registers					

#### PART C: ENTERPRISE RISK ASSESSMENT PRACTICES

For each of the following parts, please tick where applicable to the extent to which you agree using the following Likert scale.

SA= Strongly Agree A=agree U=Uncertain D=Disagree SD=Strongly

	The following enterprise risk assessment practices have played a significant role in financial performance;	SA	A	U	D	SD
10)	Identification of threats that could adversely affect operations					
11)	Identification of potential damage or loss if the threat					

	materializes			
12)	Management's evaluation of the risks faced by the venture			
13)	Estimation of the likelihood of the identified threats			
	materializing			
14)	Use of ICT in carrying out risk assessments			

#### PART D: ENTERPRISE RISK MITIGATION PRACTICES

For each of the following parts, please tick where applicable to the extent to which you agree using the following Likert scale.

SA= Strongly Agree A=agree U=Uncertain D=Disagree SD=Strongly

	The following enterprise risk mitigation practiceshave played a significant role in financial performance;	SA	A	U	D	SD
15)	Implementation of strategies to avoid the exposure to risk					
16)	Formulation of contingency measures to minimize impact of risks					
17)	Reduction of accumulation of the effects of risks to a level they are catastrophic					
18)	Preparedness of the firm to face risks					
19)	Handing off risks to a third party for prudent management					

#### PART E: ENTERPRISE RISK MONITORING STRATEGIES

For each of the following parts, please tick where applicable to the extent to which you agree using the following Likert scale.

SA= Strongly Agree A=agree U=Uncertain D=Disagree SD=Strongly

	The following enterprise risk monitoring strategies aspects	SA	A	U	D	SD
	have played a significant role in financial performance;					
20)	Regular reporting of diverse risks to management					
21)	Continuous staff training on risk management					
22)	Ensuring the execution of risk plans					
23)	Evaluation of the effectiveness of risk plans					
24)	Monitoring residual risks					

#### PART F: FINANCIAL PERFORMANCE

For each of the following parts, please tick where applicable to the extent to which you agree using the following Likert scale.

SA= Strongly Agree A=agree U=Uncertain D=Disagree SD=Strongly

	The risk management practices have assisted in the following	SA	A	U	D	SD
	financial performance metrics;					
25)	Stable farm incomes					
26)	Saving of costs due to reduction in agricultural risk					
27)	Improved repayment capacity					
28)	Increased profitability					
29)	Increased financial efficiency					

**Appendix 3: List of Commercial Maize Farming Enterprises** 

S/No	Name of the Maize Farm	Location	Acrage	Ouput (kgs)
1)	Agriflora Farm	Njoro	80	129,600
2)	Albert Kipchoge	Nakuru West	35	53,550
3)	Alexander Sitinei	Naivasha	150	243,000
4)	Alice Wanjiku	Naivasha	50	72,000
5)	Anna Lagat	Rongai	40	54,000
6)	Arther Brown	Naivasha	55	99,000
7)	Arther Wambugu	Subukia	80	129,600
8)	Benjamin Kipkulei	Naivasha	200	324,000
9)	Bontana Farm	Rongai	50	90,000
10)	Caroline Mungai	Subukia	40	57,600
11)	Charles Atuya Ndubi	Nakuru West	35	47,250
12)	Chebochok Farm	Rongai	80	129,600
13)	Chemusian Farm	Rongai	200	360,000
14)	Chesikowo Farm	Rongai	85	137,700
15)	Chesulut Farm	Rongai	100	162,000
16)	Crater Farm	Naivasha	50	90,000
17)	Damaris Warui	naivasha	50	81,000
18)	David Bet Kibiwot	Rongai	200	342,000
19)	David Kahugu	Subukia	150	270,000
20)	David Kipngeno	Rongai	40	64,800
21)	David Mungai Mucheru	Rongai	100	153,000
22)	Dennis Kipkemoi	Rongai	100	135,000
23)	Dr. Mwathi	Subukia	150	243,000
24)	Dr. Sally Koskei	Rongai	40	72,000
25)	Evans Mageyo	Rongai	100	180,000
26)	Francis Waweru Kinyanjui	Rongai	55	89,100
27)	Geoffrey Maina	Rongai	40	54,000
28)	Gogar Farm	Rongai	500	900,000
29)	Gideon Moi Farm	Rongai	150	243,000
30)	Gilbert Gaddy	Naivasha	50	67,500
31)	Gilbert Kipkorir	Rongai	66	106,920
32)	Gladys Mwirigi	Njoro	40	64,800
33)	Grace Komen Farm	Njoro	78	112,320
34)	Grace Njenga Farm	Rongai	150	229,500
35)	Green Hill Farm	Njoro	100	180,000

36)	Henry Kibet Kipkemoi	Njoro	50	90,000
37)	Henry Sigei	Rongai	90	145,800
38)	Jennifer Moi Farm	Rongai	80	122,400
39)	Joel Chepngorem	Rongai	120	194,400
40)	John Lokorio Farm	Rongai	50	81,000
41)	Joseph Rotich	Molo	50	90,000
42)	Joseph Simatwa	Molo	30	48,600
43)	Joyce Rono	Njoro	25	40,500
44)	Judith Chepkorir	Molo	35	53,550
45)	Kabarak Farm	Rongai	100	153,000
46)	Kahenya Farm	Subukia	80	115,200
47)	Kansiwa Farm	Nakuru East	50	81,000
48)	Karen Jepkemoi	Molo	65	87,750
49)	Kelelwet Farm	Nakuru West	50	81,000
50)	Kennedy Chebii Kipkulei	Nakutu West	100	162,000
51)	Deloraine Farm	Rongai	250	450,000
52)	Kerito Farm	Nakuru East	50	81,000
53)	Kibet Douglas Cheptoo	Njoro	30	48,600
54)	Kingstone Njenga	Rongai	200	288,000
55)	Lee Njiru Farm	Rongai	60	97,200
56)	Livingstone Ruto Farm	Rongai	39	63,180
57)	Madrugada Farm	Rongai	300	675,000
58)	Mark Too	Rongai	60	108,000
59)	Mary Chemeli Koech	Rongai	50	81,000
60)	Mary Tom	Rongai	35	53,550
61)	Michael Kiprotich	Nakuru West	60	91,800
62)	Miriam Kiptanui	Rongai	50	81,000
63)	Moses Kinuthia	Rongai	60	108,000
64)	Moses Malungu Kiarie	Rongai	50	81,000
65)	Mosonik Farm	Rongai	70	113,400
66)	Mugambi Farm	Njoro	80	129,600
67)	Murage Farm	Rongai	50	81,000
68)	Muruki Farm	Subukia	50	76,500
69)	Mutua Farm	Njoro	120	194,400
70)	Mwangi Farm	Gilgil	150	256,500
71)	Night Ngale	Njoro	50	90,000
72)	Noah Too	Rongai	50	90,000
73)	Paul Gichea	Nakuru West	40	64,800
74)	Peninah Inyanje	Rongai	100	162,000

75)	Phillip Kitwa Farm	Bahati	40	61,200
76)	Prof. Sambili	Rongai	50	81,000
77)	Richard Kipchilat	Rongai	100	180,000
78)	Rono Farm	Kuresoi North	80	129,600
79)	Rono Farm	Rongai	89	144,180
80)	RVIST Farm	Njoro	80	144,000
81)	Samuel Maru	Njoro	30	45,900
82)	Sikilai Farm	Rongai	45	72,900
83)	Sila Boit Farm	Njoro	200	324,000
84)	Silvester Omurwa Maruka	Rongai	65	105,300
85)	Stephen Kibowen	Subukia	100	162,000
86)	Sun Ripe Farm	Naivasha	45	81,000
87)	Sunset Farm	Njoro	90	162,000
88)	Taita Towett	Rongai	100	162,000
89)	Technology Farm	Njoro	200	360,000
90)	Tony Huge Farm	Naivasha	200	396,000
91)	Tulwet Farm	Rongai	120	194,400
92)	Wasa Farm	Njoro	55	89,100
93)	Wieleli Farm	Molo	100	171,000
94)	Wilson Kipketer	Ngata	40	64,800
95)	Yuna Farm	Nakuru West	150	243,000
	TOTAL		8,497	14,251,950

**Source:** Nakuru County Government (2017) Ministry of Agriculture, Livestock Development and Fisheries



# SCHOOL OF BUSINESS & ECONOMICS

P.O. Private Bag, 20157 Kabarak, KENYA Email: jgathii@kabarak.ac.ke Tel: 020-2035181 Fax: 254-51-343529/343012 www.kabarak.ac.ke

6<sup>th</sup> November, 2017

To Whom It May Concern:

Dear Sir/Madam,

RE: JOSEPH OLEKU NKIRIMPAI- GMB/NE/0815/05/16

This is to confirm that the above named is a bonafide student of Kabarak University pursuing a Master of Business Administration (Finance Option).

Joseph is required to collect and analyze data on "Influence of Enterprise Risk Management Practices on Financial Performance of Commercial Maize Farming Ventures in Nakuru County.

We request that you facilitate him in his data collection.

Your assistance will be highly appreciated.

Thank you.

Yours faithfully,

KABARAK UNIVERSITY DEPT. - OF B & ES Dr. John Gathii O. Box 3270

**Kabarak University Moral Code** 

As members of Kabarak University family, we purpose at all times and all places, to set apart in one's heart, Jesus as Lord. (1 Peter 3:15)