

**THE EFFECTS OF RISK MITIGATION STRATEGIES ON THE FINANCIAL
PERFORMANCE OF MANUFACTURING FIRMS IN KENYA**

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D61/67688/2011

**A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILMENT OF THE
REQUIREMENTS FOR THE DEGREE OF MASTER OF FINANCE, SCHOOL OF
BUSINESS, NAIROBI UNIVERSITY**

OCTOBER 2014

DECLARATION

I declare that this research is my original work and has not been submitted for an award of a degree in any other university for examination/academic purposes.

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SIGN..... DATE.....

This research project has been prepared and submitted for examination with my approval as University supervisor.

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SIGN..... DATE.....

DEDICATION

I dedicate this research Project to my entire family.

ACKNOWLEDGEMENT

My sincere gratitude goes to Almighty God for the much needed strength, courage and health He has given me to carry out my research. I am very grateful to my supervisor, Dr Josiah Aduda for the intellectual advice and encouragement that he has given me. Special thanks go to my family members for creating a conducive environment for learning during my studies. I also thank the entire administration and management of the University for her personal dedication and assistance and all those who have sacrificed their time towards the contribution of this noble duty. I am deeply indebted to many others whom I have consulted in the course of preparing this project. I thank them for being supportive and co-operative in various ways. Finally, I thank God for my parents as I express special gratitude to my mother for her value for education and took me to school and educated me amidst skepticisms of girl child education.

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ABBREVIATIONS

KAM	-	Kenya Association of Manufacturers
SME	-	Small and medium enterprises
UNIDO	-	United Nations Industrial Development Organization
GDP	-	Gross Domestic product
CP	-	Contingency planning
CRS	-	Constant return to scale
DEA	-	Data Envelopment Analysis
GLS	-	Generalized least squares
CCR	-	Correlated component regression
DMU's	-	Decision Making Units
R&D	-	Research and development
VRS	-	Variable returns to scale

ABSTRACT

Kenya's manufacturing sector is going through a major transition period largely due to the structural reform process, which the Kenya Government has been implementing since the mid-eighties with a view to improving the economic and social environment of the country. Manufacturing firms fall under the umbrella of Kenya Association of Manufacturers (KAM) (2002). Kenya association of manufacturers posits that removal of price controls, foreign exchange controls and introduction of investment incentives have, however, not resulted in major changes in the overall economy, and in particular, they have not improved the manufacturing performance. The impact of risk on the business environment deals with the level of understanding of cause effect relationships. The impact of a given state of events may cause uncertainty for a firm, industry or the general business environment. By incorporating risk management into manufacturing firms' operations, manufacturing firms are better equipped to exploit their resources, thereby enabling their organizations to transform an expenditure activity into an activity that can yield a positive return .Several studies relating to risk mitigation have previously been conducted in Kenya. However there lacks evidence so far of a study conducted in Kenya to investigate the effects of risk mitigation strategies on the financial performance of manufacturing firms in Kenya. Therefore, it is against this backdrop that this study sought to fill this gap by answering the following question; what are the effects of risk mitigation strategies on the financial performance of manufacturing firms in Kenya. The study adopted a descriptive approach in trying focus on large manufacturing firms in Nairobi .The population of the study in this research was of large scale manufacturing companies that are based in Nairobi .The study therefore involved 46 large manufacturing companies in Nairobi. Table 3.1 shows how 46 firms that form the sample size was arrived at. The study used primary data that was collected through a self-administered questionnaire that consisted of both open and closed ended questions that was designed to elicit specific responses for qualitative and quantitative analysis respectively.The research deployed both qualitative and quantitative methods The study found out that most frequent occurring risk is Production (failures in internal systems, processes and people, or from external factors) .Further respondents indicated that Economic (associated with commercial and business performance) risk; occupational risk (health and safety of employees) and operational risk, (fraud, oversight failure, lack of control, and managerial limitations, human error or omission, design mistakes unsafe behavior, employee practice risks, and sabotage) occurs frequently. The study concludes that most frequent occurring risk is Production (failures in internal systems, processes and people, or from external factors).The study recommends proper risk mitigation planning.

CHAPTER ONE: INTRODUCTION

1.1 Background of the study

Kenya's manufacturing sector is going through a major transition period largely due to the structural reform process, which the Kenya Government has been implementing since the mid-eighties with a view to improving the economic and social environment of the country. Manufacturing firms fall under the umbrella of Kenya Association of Manufacturers (KAM) (2002). Kenya association of manufacturers posits that removal of price controls, foreign exchange controls and introduction of investment incentives have, however, not resulted in major changes in the overall economy, and in particular, they have not improved the manufacturing performance. Therefore, to build a self-sustaining industrial sector, it is necessary to establish strategic linkages within the domestic economy. The growth in manufacturing sector has mainly been attributed to rise in output of the agro-processing industries. These included sugar, milk, grain milling, fish, tea, oils and fats processing sub-sectors. Other key sub-sectors of manufacturing that perform well are: manufacture of cigarettes, cement production, batteries (both motor vehicles and dry cells), motor vehicle assembly and production of galvanized sheets. The Kenya Government has always been committed to developing a mixed economy where both public and private sector companies are present (Kenya Government, Development Plan 1989-1993). Public sector participation in manufacturing is much smaller than the private sector and is still decreasing due to government's change of policy; the emphasis is now being given to privatization of the industrial sector (KAM, 2002).

Risk and risk mitigation is a major concern for all companies (Alquier and Lagasse, 2006). Ntlhane (1995) asserts that risk management is the core principle that entrepreneurial or management should focus on in recognizing future uncertainty, deliberating risks, possible manifestations and effects, and formulating plans to address these risks and reduce or eliminate its impact on the enterprise. The impact of risk on the business environment deals with the level of understanding of cause effect relationships. The impact of a given state of events may cause uncertainty for a firm, industry or the general business environment. By incorporating risk management into manufacturing firms' operations, manufacturing firms are better equipped to

exploit their resources, thereby enabling their organizations to transform an expenditure activity into an activity that can yield a positive return (Kirytopoulos et al., 2001; Banham, 2004). This study therefore will seek to find out the effects of risk mitigation strategies on the financial performance of manufacturing firms in Kenya.

1.1.1 Risk Mitigation Strategies

According to Smithson and Wilford (1995) risk may be viewed as uncertainty that surrounds future events and outcomes. It is the expression of the likelihood and impact of an event with the potential to influence positively or negatively. Risk is a combination of the probability of an event (usually adverse) and the nature and severity of the event. Risk mitigation is the actions aimed at reducing the severity/ impact of risk. In order to mitigate risks one must first assess the potential impact of risk. Business Risk Mitigation may be defined as a concept used by stakeholders, management, employees or auditors to express concern about the probable material effects of an uncertain environment on business goals (Crabb, 2003).

Business risk mitigation helps organization to find ways to manage events that will negatively impact the financial, physical, or human capital of an organization. Business risk mitigation also recognizes that the purpose of organizations is to deliver services and goods to their respective customers and to meet business goals. Organizations and institutions put tangible assets (such as dollars, technology, processes, and people) and intangible assets (such as reputation, brand and information) at risk to achieve objectives. Whether the organization is for-profit, not-for-profit or governmental the task of management is to manage these risks in an uncertain environment. Organizational management becomes synonymous with risk management. The simplest type of risk mitigation is to set limits on exposures in the different risk categories in order to achieve diversification effects (Alquier and Lagasse, 2006).

Accepting the notion that the volatility of performance has some negative impact on the value of the firm leads managers to consider risk mitigation strategies. There are three generic types of risk mitigation strategies which include: elimination or avoidance of risks through simple business practices, transferring risks to other participants and management of risks at the firm level. In the first of these cases, the practice of risk avoidance involves actions to reduce the chances of idiosyncratic losses by eliminating risks that are superfluous to the institution's

business purpose. Common risk avoidance actions, here, are underwriting standards, hedges or asset-liability matches, diversification, reinsurance or syndication, and due diligence investigation. In each case, the goal is to rid the firm of risks that are not essential to the financial service provided, or to absorb only the optimal quantity of a particular kind of risk. What remain are some portion of systematic risk and the unique risks that are integral to an institution's unique business franchise. In both of these cases, risk mitigation remains incomplete and could be further enhanced. In the case of systematic risk, any systematic risk not required to do business can be minimized. Whether or not this is done is a business decision that can be clearly indicated to stockholders. Likewise, in the case of operational risk, these risks of service provision - including fraud, oversight failure, lack of control, and managerial limitations can be addressed (Alquier and Tignol, 2006).

According to Prasanna, (2002), aggressive risk mitigation activities in both these areas will constrain risk while reducing the profitability from the business activity. Accordingly, the level of effort focused on reducing these risks can be communicated to shareholders and cost-justified. There are also some risks that can be eliminated, or at least substantially reduced through the technique of risk transfer. Markets exist for the claims issued and/or assets created by many of the financial institutions. Individual market participants can buy or sell financial claims to diversify or concentrate the risk in their portfolios. To the extent that the market understands the financial risks of the assets created or held by the financial firm, they can be sold in the open market at their fair market value. If the institution has no comparative advantage in managing the attendant risk, there is no reason for the firm to absorb and/or manage such risks, rather than transfer them. In essence, there is no value-added associated with absorbing these risks at the firm level (Prasanna, 2002).

Risk mitigation is therefore taking prominence even far above issues of financing constraints in long-term as well as short term investments (Plourd, 2009). This field is a rapidly developing discipline and there are many and varied views and descriptions of what risk mitigation involves, how it should be conducted and what it is for. Risk management according to Raghavan (2005) is an ongoing process targeted to enhance operation, practices, resource allocation, ensure compliances to established rules, achieve performance goals, improve financial health and

prevent damage to the firm. In general the strategies employed include; transferring the risk to another party, avoiding the risk, reducing the negative effect of the risk, and accepting some or all of the consequences of a particular risk.

Traditional risk mitigation focuses on risks stemming from physical or legal causes such as natural disasters or fires, accidents, death and lawsuits (Feridun, 2006). Risk mitigation is an action in present for securing the future, proactive activity (Raghavan, 2005). It is the process of measuring, or assessing risk and then developing strategies to manage the risk. According to a study conducted by Ntlhane (1995), Small and medium enterprises (SME) owner and managers were not versed in the availability and use of risk reduction techniques to reduce the adverse effects of risks on the enterprise. Their study concluded that owners and managers preferred avoiding risks rather than devising risk control methods, a conclusion that Smit and Watkins (2012) also came up with. This impedes on the economic progress of a country as every business can be defined by its ability to take on greater risks.

1.1.2 Financial Performance

Financial performance refers to the degree to which financial objectives being or has been accomplished. It is the process of measuring the results of a firm's policies and operations in monetary terms. It is used to measure firm's overall financial health over a given period of time and can also be used to compare similar firms across the same industry or to compare industries or sectors in aggregation. In other words financial performance is company's ability to generate new resources, from day-to-day operations, over a given period of time; performance is gauged by net income and cash from operations. A portfolio is a collection of investments held by an institution or a private individual (Aggrey, Eliab & Joseph, 2010). According to Awino (2011) manufacturing is an important sector in Kenya and it makes a substantial contribution to the country's economic development. It has the potential to generate foreign exchange earnings through exports and diversify the country's economy. This sector has grown over time both in terms of its contribution to the country's gross domestic product and employment. The average size of this sector for tropical Africa is 8 per cent. Despite the importance and size of this sector in Kenya, it is still very small when compared to that of the industrialized nations United Nations Industrial Development Organization (UNIDO, 1987).

1.1.3 Risk Mitigation Strategies and Financial Performance

Business risk comes in many forms. Quantitative exposures include treasury risks, currency risks, and interest rate risks while those qualitative by nature include human resources political risks, and some categories of strategic and operational risks. Asaf (2004) indicates that experts at Pricewaterhouse Coopers divided the population of risks the company is exposed to into five main groups: First, Strategic risks which include risks of plans failing, poor corporate strategies, weak marketing strategies, poor acquisition strategies, and changes in consumer behavior, adverse political or regulatory change. This group also includes adverse changes in government policies and a broad range of economic financial investment, and social policies that could affect the financial returns of the firm (Crabb, 2003).

Additionally, Operational risks which include risks of human error or omission design mistakes unsafe behavior, employee practice risks, and sabotage. Moreover, Commercial risks which include risks of business interruption, loss of a key executive, supplier failure, and lack of legal compliance. On the other hand, Technical risks which include risks of physical asset failing or being damaged, equipment breakdown, infrastructure failure, fire, explosion, pollution etc. More crucial, there are financial risks which include risks of financial controls failing, treasury risks, lack of counterparty of credit assessment, sophisticated financial fraud and the effect of changes in macroeconomic factors. Interest rate risk and foreign currency risk are the main categories of financial risks.

Risk can be divided into categories, and the risks within each category can prioritized/ranked in terms of probability of occurrence and impact in relation to the organization's needs and operations. The general types of risk faced by all businesses can be grouped into five broad categories: market risk (unexpected changes in interest rates, exchange rates, stock prices, or commodity prices); credit/default risk; operational risk (equipment failure, fraud); liquidity risk (inability to pay bills, inability to buy or sell commodities at quoted prices); and political risk (new regulations, expropriation). In addition, the financial future of a business enterprise can be dramatically altered by unpredictable events such as depression, war, or technological breakthroughs whose probability of occurrence cannot be reasonably quantified from historical data (Copeland & Weston, 2009).

Risk management is the identification, assessment, and prioritization of risks followed by coordinated and economical application of resources to minimize, monitor, and control the probability and/or impact of unfortunate events or to maximize the realization of opportunities (Wenk, 2005). Effective risk management can bring far reaching benefits to all organizations, whether large or small, public or private sector (Ranong and Phuenggam, 2009). These benefits include, superior financial performance, better basis for strategy setting, improved service delivery, greater competitive advantage, and less time spent firefighting and fewer unwelcome surprises. Other include; increased likelihood of change initiative being achieved, closer internal focus on doing the right things properly, more efficient use of resources, reduced waste and fraud, and better value for money, improved innovation and better management of contingent and maintenance activities (Wenk, 2005).

The intent of risk mitigation planning is to answer the question of what is the program approach for addressing this potential unfavorable consequence. One or more of these mitigation options may apply: avoiding risk by eliminating the root cause and/or the consequence, controlling the cause or consequence, transferring the risk, and/or assuming the level of risk and continuing on the current program plan. Risk mitigation therefore entails planning the activity that identifies, evaluates, and selects options to set risk at acceptable levels given program constraints and objectives. Risk mitigation planning is intended to enable program success. It includes the specifics of what should be done, when it should be accomplished, who is responsible, and the funding required to implement the risk mitigation plan. The most appropriate program approach is selected from the mitigation options listed above and documented in a risk mitigation plan. The level of detail depends on the program life-cycle phase and the nature of the need to be addressed. However, there must be enough detail to allow a general estimate of the effort required and technological capabilities needed based on system complexity. For each root cause or risk, the type of mitigation must be determined and the details of the mitigation described (Gweyi, 2013).

Once alternatives have been analyzed, the selected mitigation option should be incorporated into program planning, either into existing program plans or documented separately as a risk

mitigation plan (not to be confused with the risk management plan). Hofmann, (2009), posits that, the risk mitigation plan needs to be realistic, achievable, measurable, and documented. In addition it should address descriptive title for the identified risk; the date of the plan; the point of contact responsible for controlling the identified root cause; a short description of the risk (including a summary of the performance, schedule, and resource impacts, likelihood of occurrence, consequence, whether the risk is within the control of the program), root causes leading to the risk. Furthermore, it should provide the options for mitigation (possible alternatives to alleviate the risk), definition of events and activities intended to reduce the risk, success criteria for each plan event, and subsequent “risk level if successful” values, a management recommendation whether budget or time is to be allocated, and whether or not the risk mitigation is incorporated in the estimate at completion or in other program plans. Finally it should provide appropriate approval levels (higher-level Product Manager and Systems Engineer), and identified resource needs.

1.1.4 Manufacturing Firms in Kenya

The manufacturing sector has a great potential on promoting economic growth and competitiveness in the country like Kenya. It is the third leading sectors contributing to GDP in Kenya. The sector has experienced the fluctuations over the years under different financial conditions. It experienced the lowest real GDP growth rates in 2008 to 2009 as 1.7 percent in 2008 and improved to 2.6 percent in 2009 (East African Community Facts and Figures – 2010, March Issue, 2011). The lack of demand from the domestic market caused depreciation in Shilling and international demand was largely hit by global financial crises that caused the slower growth in the manufacturing sector. In terms of gross domestic product (GDP), the share of manufacturing sector maintained in the last 10 years from 2000-2001 as 10 percent to 2009-2010.

Performance, a quality of any company, is achieved by valuable outcome such as higher returns. It can also be measured by the levels of efficiency and this can be analyzed by a variety of methods, such as the parametric (stochastic frontier analysis) and non parametric (data envelopment analysis). The management of any company would like to identify and eliminate the underlying causes of inefficiencies, thus helping their firms to gain competitive advantage and attain sustainable competitive advantage, or at least, withstand the challenges from others

(Yang, 2006). In the economically competitive world, good financial management is a key indicator of a corporation performance. The present status of manufacturing sector in Kenya, which suggests that efficiency, is a main issue and plays an important role in economic improvement during the present scenario (East African Community Facts and Figures – 2011, October Issue, 2011). It is also important from a policy perspective because it provides information relevant to policy design for industry specific strategies.

One of the strategies that can help in improving performance is risk mitigation strategies since the manufacturing industries in Kenya operates in the present day volatile environment facing a large number of risks such as political risk, credit risk, liquidity risk, foreign exchange risk, market risk and interest rate risk, among others risks. These risks have an effect of threatening the industry's survival and success. Among the most common risk that faces manufacturing firms in Kenya is the credit risk. These firms use various techniques to mitigate credit risk. The most common are collateral, guarantees, netting off loans against deposits of the same counterparty; this is especially used by large multinational corporations, which engage in intercompany trade. The payments are netted off against the receipts and the balance is paid thus reducing the credit risk. Credit insurance, factoring, debt collection, surety bonds and letter of credit are others techniques widely used. While use of these techniques will reduce or transfer credit risk, other risks may arise which include legal, operational, liquidity and market risks (Smith and Stultz, 2005).

Corporate face a number of credit risk exposure. For manufacturing companies, a larger or strategic exposure to this risk comes in the form of longer-term supply contracts. Consider the risk involved in manufacturing large stocks of a certain distributor and the potential effects of a credit down grade of such large customers on their suppliers (Smith and Stultz, 2005). These risks could be managed or mitigated in different ways such as use of credit derivatives (Stanley, 2006), credit insurance, surety bonds and securitization and netting off (Smith and Stultz, 2005) factoring, letters of credit and use of debt collectors. Of these credit mitigation practices credit derivatives are rapidly developing despite the fact that the market still lacks, the transparency and liquidity of more traditional, exchange-traded instruments (Freeman & Cox, 2006). Smithson and Mengle (2000), defines a credit derivative as a contract to transfer credit risk from one

counter party to another. Early forms of credit derivative were financial guarantees with current forms including credit default swap and total return swap. Since they are traded over-the-counter, credit derivatives can be tailored to suit the particular needs of the purchaser (Smithson and Mengle, 2000).

The market for credit derivatives has been and still is dominated by banks and insurance companies, who trade credit risk among themselves with incentives to distribute and diversify risk, gain additional yield and to manage their capital requirements under Basel accords. To use whichever instrument correctly a credit policy must be instituted. A credit policy is the blueprint used by a business in making its decision to extend credit to a customer. The primary goal of a credit policy is to avoid extending credit to customers who are unable to pay their accounts. The credit policy for larger businesses can be quite formal while that of small businesses tends to be quite informal with a number of small business owners relying on their instincts (Miller, 2002). The credit policy can also be lenient or stringent. A good credit policy should help attract and retain good customers, without having a negative impact on the cash flow.

Miller (2002) advocates that there are at least four reasons to have a written credit policy, and they each add to the productivity of the entire organization. These reasons are seriousness of this undertaking, need for consistency among departments, need for consistent treatment toward customers and finally it provides recognition to the credit department as a separate entity. The credit approval process must be designed to avoid substantive and procedural errors. Substantive errors comprise the erroneous assessment of a credit exposure despite comprehensive and transparent presentation. Procedural errors on the other side may take one of two forms, where the procedural-structural design of the credit approval process itself may be marked by procedural errors thus lead to an incomplete or wrong presentation of the credit exposure. On the other hand, procedural errors can result from an incorrect performance of the credit approval process caused by negligent or intentional misconduct by the persons in charge of executing the credit approval process.

1.2 Research Problem

The impact of risk on the business environment deals with the level of understanding of cause effect relationships. The impact of a given state of events may cause uncertainty for a firm, industry or the general business environment. By incorporating risk management into manufacturing firms' operations, manufacturing firms are better equipped to exploit their resources, thereby enabling their organizations to transform an expenditure activity into an activity that can yield a positive return (Kirytopoulos et al., 2001; Banham, 2004). Kenya at its independence, adopted a mixed economic structure that allowed for the development of the private sector, including manufacturing industries. The next four decades saw varieties in the country's policy and strategic directions, but growth of the manufacturing sector, particularly food processing and related sectors remained on the country's agenda throughout. Recent policy documents, including the Economic Recovery Strategy for Wealth and Employment Creation (Kenya 2003) and the Kenya Vision 2030 (Kenya 2008), have reiterated the country's commitment to expand tourism, trade, and industry as part of Kenya's overall development strategy. Vision 2030 stresses the importance of the manufacturing sector and identifies food processing as the most important single sub-sector in terms of its contribution to GDP (28.7%) and manufacturing-sector employment (34.5%).

Several studies relating to risk mitigation have previously been conducted in Kenya, for instance Kagwathi, Kamau, Njau and Kamau (2014) conducted a study on Risks Faced and Mitigation Strategies Employed by Small and Medium Enterprises in Nairobi, Kenya. The findings of their study indicated that SMEs in Kenya employs diversification, collaboration, insurance and credits scorecards as strategies to risk mitigation strategies whereby 66% of SMEs used at least one of these strategies. Another study conducted by Ayiekoh (2006) on Kenyan Banking Industry, associated Risks and Mitigation Strategies found out that Banks in Kenya employs record management, credit management, insurance, partnerships and mergers, due diligence and macroeconomic forecasting as strategies to mitigate risks. Finally a conducted by Gweyi (2013) on credit risk mitigation strategies adopted by Commercial Banks in Kenya found out that the banks had policies and strategies that governed the loan lending. Though this existed, most of the banks did not seem to efficiently implement the same. The banks also assumed some of the economic factors, which could affect their loan performance. The banks also concentrated highly

on collateral as the main security for loans, which at times made the banks assume other strategies of preventing risk. However there lacks evidence so far of a study conducted in Kenya to investigate the effects of risk mitigation strategies on the financial performance of manufacturing firms in Kenya. Therefore, it is against this backdrop that this study sought to fill this gap by answering the following question;

(i) What is the effect of risk mitigation strategies on the financial performance of manufacturing firms in Kenya?

1.3 Objective of the Study

1.3.1 General objective

The general objective of this study was to investigate the effects of risk mitigation strategies on the financial performance of manufacturing firms in Kenya

1.3.2 Specific objectives

- i. To find out the effects of risk transfer strategies on financial performance of manufacturing firms in Kenya
- ii. To find out the effects of Collaboration/ partnership strategies on financial performance of manufacturing firms in Kenya
- iii. To find out the effects of risk Diversification strategies on financial performance of manufacturing firms in Kenya
- iv. To find out the effects of risk Prevention/ reduction strategies on financial performance of manufacturing firms in Kenya

1.4 Value of the study

The finding of this study will help current and potential investors in the manufacturing sector to be better equipped with strategies to minimize risks when conducting business in order to improve financial performance.

Secondly, manufactures in the small and medium scale enterprises can use the finding of this study to mitigate risks and thereby improve financial performance. The reasons is having identified possible risks and strategies to mitigate them, a business can then assign the most

relevant party (internal staff or external experts as appropriate) to deal with them. A strong risk management process will ensure that once assigned, a risk can be tracked to ensure it is dealt with on time and effectively.

The findings of this study will also be significant to other researchers as it will add to the knowledge of this field of study.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter summarizes the information from other researchers who have carried out their research in the same field of study. The specific areas covered here are the theoretical framework, empirical review, and culminate by presenting a summary of the chapter.

2.2 Theoretical review

This study is premised on the theory of opportunistic entrepreneurship, portfolio theory and contingency planning theory.

2.2.1 The Theory of Opportunistic Entrepreneurship

Cressy (1991) on the theory of entrepreneurial opportunism points out that the theory allows the individual to receive a continuous sequence of projects in each of which he makes a decision to invest or not. The model takes the form of the derivation of an optimal decision rule over project success based on probability which maximizes the entrepreneur's expected return and minimize risk given his current knowledge. This rule tells the entrepreneur which projects to accept and which to reject. The optimal reservation probability is shown to be a function of the quality of the entrepreneur's data, ability to formulate the correct model and to update that model as information accumulates.

2.2.2 Portfolio Theory

Harry Markowitz first developed the basis of portfolio theory in 1959. The common sense behind the portfolio theory is based on the adage 'do not put all your eggs in one basket'. This explains the risk-reducing effect of spreading investment across a range of assets, that in a portfolio unexpected bad news concerning one company will be compensated for to some extent by an expected good news about another. Markowitz (1959) has given the tools for identifying portfolios that give the highest return for a particular level of risk. The investors can then select the optimum risk-return trade-off for themselves depending on the of personal risk aversion. These portfolios of different proportions satisfy a particular level of investor risk tolerance. According to the portfolio theory there is a risk-reducing effect of spreading investment across a range of assets rather than running a single investment.

2.2.3 Contingency Planning Theory

Contingency planning (CP) also known as business continuity planning is a crucial element of risk management. The fundamental basis of Contingency Planning (CP) is that, since not all risks can be eliminated in practice, residual risks always remain. Despite the organization's very best efforts to avoid, prevent or mitigate them, incidents will still occur. Particular situations, combinations of adverse events or unanticipated threats and vulnerabilities may conspire to bypass or overwhelm even the best information security controls designed to ensure confidentiality, integrity and availability of information assets (Hisnson and Kowalski, 2008). In the context of this study, CP is defined as the totality of activities, controls, processes, plans etc. relating to major incidents and disasters. It is the act of preparing for major incidents and disasters, formulating flexible plans and marshaling suitable resources that will come into play in the event, whatever actually eventuates. The very word 'contingency' implies that the activities and resources that will be required following major incidents or disasters are contingent (depend) on the exact nature of the incidents and disasters that actually unfold. In this sense, CP involves preparing for the unexpected and planning for the unknown. The basic purpose of CP is to minimize the adverse consequences or impacts of incidents and disasters.

2.3 Empirical Review

A number of studies have been carried out of Financial Risk Management in both the public and private sector both locally and globally.

2.3.1 Local Studies on Risk Mitigation

Several studies relating to risk mitigation have previously been conducted in Kenya, for instance Kagwathi, Kamau, Njau and Kamau (2014) conducted a study on Risks Faced and Mitigation Strategies Employed by Small and Medium Enterprises in Nairobi, Kenya. The findings of their study indicated that SMEs in Kenya employs diversification, collaboration, insurance and credits scorecards as strategies to risk mitigation strategies whereby 66% of SMEs used at least one of these strategies. Another study conducted by Ayiekoh (2006) on Kenyan Banking Industry, associated Risks and Mitigation Strategies found out that Banks in Kenya employs record management, credit management, insurance, partnerships and mergers, due diligence and macroeconomic forecasting as strategies to mitigate risks. Finally a conducted by Gweyi (2013) on credit risk mitigation strategies adopted by Commercial Banks in Kenya found out that the

banks had policies and strategies that governed the loan lending. Though this existed, most of the banks did not seem to efficiently implement the same. The banks also assumed some of the economic factors, which could affect their loan performance. The banks also concentrated highly on collateral as the main security for loans, which at times made the banks assume other strategies of preventing risk.

2.3.2 Studies on risk mitigation globally

Globally, Buttimer (2001) carried out two case studies on the implementation of Financial Risk management by US government agencies. He found out that the first Company was successful in its financial risk management efforts and having both internal and external support for a risk management system was important. In the second case study, he concluded that government can affect financial risk indirectly as well as directly and when the government is using derivatives, it must be careful not 'move' the markets. Fatemi and Glaum (2001) studied risk management practices of German firms. They found out that the authority and responsibility for risk management was highly centralized in most firms that responded. Bodnar, Matson & Hayt (1998) indicate that risk management is highly centralized in American firms.

Fatemi and Glaum also found out that most of the firms used derivative instruments for hedging purposes. Transaction exposure was the exposure that most of the firms were greatly concerned with. Glaum (1998), studied foreign exchange Risk management in German non-financial Corporation and found out that most of the firms were concerned with managing their transaction exposure. Most of them adopted selective hedging strategic based on exchange rate forecasts, the exposure concept favored by academic literature was of little importance in practice and most managers used forecasting technique since they believed that most markets were not information efficient.

Brucaite and Yan (2000) conducted a case study on two Swedish firms (SKF and Elof Hanson) with specific reference to financial Risk management with the two Companies. They found out that Forwards were the main instruments used by SKF for exposure hedging, the company's treasury department wholly dealt with Financial exposure management while the subsidiaries did not take any exchange risk at all. The organization of the exchange risk management was based

on the centralization principle and was fully centralized for the Swedish divisions of the SKF company, the company used forwards as the main instruments for exposure hedging) the company did not consider translation risk important and therefore did not hedge it. They also found out that transactions exposure was the most important for the two companies. Doldel (1993) found out that on his extensive survey, 85% of the responding firms used derivatives to manage financial risk. About 90% of the firms that responded said that their view would affect the extent to which they hedged. For the companies surveyed, the focus of risk management was mostly on transaction exposures. He also found out that the use of derivatives was greater for large firms than small firms. Crabb (2003) indicates that the findings of Bailey, et al. (2003) Gay, et al. (1998), Cecsny, et al. (1997), Graham and Rogers (2002), and Nance et al. (1993) are consistent that the use of derivatives is positively correlated with firm size.

2.4 Financial Performance

Performance, a quality of any company, is achieved by valuable outcome such as higher returns. It can also be measured by the levels of efficiency and this can be analyzed by a variety of methods, such as the parametric (stochastic frontier analysis) and non parametric (data envelopment analysis). The management of any company would like to identify and eliminate the underlying causes of inefficiencies, thus helping their firms to gain competitive advantage and attain sustainable competitive advantage, or at least, withstand the challenges from others (Yang, 2006). In the economically competitive world, good financial management is a key indicator of a corporation performance.

Various studies have so far been conducted on financial performance analysis, using conventional methods such as financial ratios. Since conventional methods can only support single input-output, the new approach introduced by Charnes ,Cooper and Rhodes (1978) known as constant return to scale (CRS)-Data envelopment analysis. This model supports multi input-output data. Banker, Charnes and Cooper (1984), further extended it to variable return to scale. Since then, it has been used extensively by various researchers in different fields of interests including manufacturing companies. Aggrey, Eliab and Joseph (2010), investigated the relationship between firm size and technical efficiency in East Africa manufacturing firms using DEA approach and GLS technique. Output was all output produced by firm in a year and inputs

were cost of raw material solid and liquid fuel, electricity, and water. They found negative association between firm size and technical efficiency in both Uganda and Tanzania manufacturing firms. Din et al. (2007), investigated the technical efficiency of the large scale manufacturing sector in Pakistan using DEA approach by output oriented model under CRS and VRS assumptions. Sample of 101 industries for 2 periods as 1995 to 1996 and 2000 to 2001 were considered. Inputs included were capital, labor, industrial cost and non-industrial cost and output was contribution of GDP. CCR model indicated that mean efficiency has improved from 0.23 in 1995-96 to 0.42 in 2000-01 and only 2 industries could maintain their ranking in both periods. On the other hand, under BCC model, average efficiency score has increased from 0.31 in first period to 0.49 in the second period. Later, Tahir and Memon, (2011) and Memon and Tahir (2011) adopted the approach to investigate the efficiency of top manufacturing companies in Pakistan.

Thakur (2005) evaluated the efficiency levels of 26 Indian state-owned electric utilities by CCR and BCC-DEA model. The CCR efficiency had a mean score of 68 percent with three (Decision Making Units (DMU's) on efficiency frontier and majority were below the average efficiency level. The results using BCC model showed that the average efficiency was 84 percent with 10 DMU's were considered efficient. Thore, Kozmetsky and Phillips (1994), examined the productive efficiency of U. S. computer manufacturers using DEA. Their results showed that few corporations were able to stay at the productivity efficiency throughout the time period under study. Abokareh and Kamaruddin (2011) considered effect on efficiency of 21 Libyan manufacturing firms before and after privatization, from 2000 to 2008. The pre and post-privatized effect suggested no significant difference in technical efficiency. Average technical efficiency of all firms in the years (before privatization) was 49.5 percent, whereas, after privatization it became 62.3 percent. In addition, state-owned firms improved only 9.3 percent after privatization and private firms increased only 15.3 percent after privatization, though in all conditions there was no significant effect.

Qiang and Cai (2009) analyzed efficiency high-tech industries in China with two inputs and two outputs. R&D expenditure and R&D personnel were selected as input, while, patent and sale revenue were selected as the output variables. Output-oriented DEA model is used to examine

efficiency by CCR model for 6 years. The results showed that average technical efficiency declined from 2002 to 2007. Herbal medicine industry achieved five times 100 percent efficiency in six years, followed by Entire Computer industry with 4 times 100 percent efficiency. However, three companies had decreasing variation from 2002 to 2007. Again decreasing trend showed by VRS model with only 5 efficient companies in 2007. However, 1 company achieved 100 percent score in six years. Zhou et al. (2011), assumed similar technology on large and medium-sized enterprises from thirty provinces using both CRS and VRS for the period from 2006 to 2008. The decreasing trend of technical efficiency was found in three years. 2006 is considered as the most efficient year with 23.3 percent efficient firms. Mostly, scale inefficiencies (decreasing return to scale) were observed throughout the years. Hajiha and Ghilavi (2012) assessed efficiency of 100 Tehran stock exchange listed manufacturing companies from Iran. BCC output oriented model was used to measure efficiency in seven years (2004-2010). Among 100 companies, there were only 37 percent DMU's who appeared to be as fully efficient in 2010. Furthermore, 1st and 2nd DMU's were efficient throughout the entire period. Wu et al. (2006), examined the performance of the retailing industry in Taiwan using CCR DEA model. Four inputs and two outputs were employed for five years (1998-2002). It was found that, on average 74 percent of companies were inefficient in five years and 2000 appeared as most efficient year with 12 efficient companies. Further, there were six companies which were consistently efficient in each year.

2.5 Summary

The review has evaluated various theories that this study is based on. These theories are important in explaining the risk mitigation strategies adopted by various manufacturing firms and the impact of these strategies on the financial performance of the firms. The literature review also shows that risk in manufacturing firms is key and many researchers are giving it attention. The literature also shows that different manufacturing firms adopt different risk mitigation strategies as the key financial performance indicators also differ.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

The chapter describes the proposed research design, the target population, sampling design and size, data collection instruments and procedures, validity and reliability and the techniques for data analysis.

3.2 Research Design

This research involved a cross sectional survey of the large manufacturing companies operating in Kenya. The study adopted a descriptive approach in trying focus on large manufacturing firms in Nairobi. According to Emory (1995), a survey is feasible when the population is small and variable hence the researcher was able to cover all the elements of the population. Robson (2004) underlines that; descriptive research aims at availing accurate information on the variables with the intention of bettering understanding of the subject under study. Kothari (2004) affirms this in his argument that descriptive research provides a framework for exploring a social phenomenon while Mugenda and Mugenda (2003) reckons that it offers the study a chance to bring out new insight providing perspective to the variables. Therefore the survey was considered to be more efficient and economical.

3.3 Population of the Study

The population of the study in this research was of large scale manufacturing companies that are based in Nairobi. According to the Kenya Association of Manufacturers, there are a total of 455 large scale manufacturing companies operating in Nairobi (Kenya Association of Manufacturers (KAM) Directory. June, 2011). The 455 large scale manufacturing companies represented the study population. Due to their high numbers; they were sampled according to various sectors under which they operate. The reason for concentrating only on large manufacturing firms is on the assumption that they have risk management departments.

3.4 Sample size

According to Cooper and Schindler (2006), sampling is the process of selecting a number of individuals for a study in such a way that the individuals selected represent the larger group from which they were selected. Sampling involves the researcher securing a representative group that

will enable him/her to gain information about the population (Mugenda and Mugenda, 2003). Stratified random sampling method will be applied to come up with the sample size, since the population in different large manufacturing firms was considered heterogeneous, implying that a simple random sample would have been unrepresentative. This according to Cooper and Schindler (2006) ensured that each manufacturing subsector was represented. According to Mugenda and Mugenda (2003), at least 10% of the target population was important for the study. The study therefore involved 46 large manufacturing companies in Nairobi. Table 3.1 shows how 46 firms that form the sample size was arrived at. The study will pick head of risk management department from each of the manufacturing firms.

Sample size

Sector	No. of firms	Percentage	Sample size
Building	6	1.3	1
Food, Beverages	100	22	10
Chemical	62	13.6	6
Energy	42	9.2	4
Plastics	54	11.9	5
Textile	38	8.4	4
Wood products	22	4.8	2
Pharmaceutical	20	4.4	2
Metal and allied	38	8.4	4
Leather	8	1.8	1
Motor	17	3.7	2
Paper	48	10.5	5
Total	455	100	46

3.5 Data Collection

The study used primary data that was collected through a self-administered questionnaire that consisted of both open and closed ended questions that was designed to elicit specific responses for qualitative and quantitative analysis respectively. The closed ended questions enabled the researcher to collect quantitative data. Primary data sourced from the respondents in

the institution and secondary data from the library was the study's key evidence. The researcher selectively sampled and identified data that is easily accessible and important for the problem under investigation. The questionnaires was administered by drop and pick method.

3.6 Data Analysis

The research deployed both qualitative and quantitative methods. According to Kothari (2008) this aided in understanding the main research theme more effectively as both methods will complement each other's deficiencies. The process of data analysis involved data clean up and explanation. The data was then coded and checked for any errors and omissions (Kothari, 2004). Frequency tables, percentages and means were used to present the findings. Responses in the questionnaires was tabulated, coded and processed by use of a computer Statistical Package for Social Science (SPSS) version 17.0 programme for data analysis. This was coupled with the content analysis on qualitative issues to generalize the results. The impact of risk mitigation strategies were X (independent variables) and dependent variable is Y (Financial performance).

The regression equation to be used is:

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

Where Y is the dependent variable (Financial performance (Operating profit, Return on Assets and Return on Equity)), β_0 is the regression coefficient, β_1 , β_2 , β_3 , β_4 and β_5 are the slopes of the regression equation, X_1 is the risk transfer strategies independent variable, X_2 is Collaboration/ partnership strategies independent variable, X_3 is risk Diversification strategies independent variable, X_4 is Prevention/ reduction strategies independent variable while α is an error term normally distributed about a mean of 0 and for purposes of computation, the α is assumed to be 0.

3.7 Data validity and reliability

Validity refers to the extent which a test measures what we actually wish to measure: it is based on the adequacy with which the items in an instrument measure the attributes of the study (Nunnally and Bernstein, 2000). Yin (2003)'s solution for assuring construct validity is: Use multiple source of information, establish chain of evidence and have key informants review the

report. Multiple sources of information was used in the form of three kinds of sources: literature review on previous empirical research, primary data in the form of interviews using questionnaires.

Reliability is the extent to which any measuring procedure yields the same results on repeated trials (Neuman, 2000). In many areas of research, the precise measurement of hypothesized processes or variables (theoretical constructs) poses a challenge by itself. In general, in all social sciences, an unreliable measurement of people's beliefs or intentions obviously hampers efforts to predict their behaviour. Reliability and item analysis can be used to construct reliable measurement scales, to improve existing scales, and to evaluate the reliability of scales already in use. Specifically, Reliability and item analysis aided in the design and evaluation of sum scales, that is, scales that are made up of multiple individual measurements (e.g., different items, repeated measurements, different measurement devices, etc.). The program will compute numerous statistics that will allow the user to build and evaluate scales following the so-called classical testing theory model. The assessment of scale reliability is based on the correlations between the individual items or measurements that make up the scale, relative to the variances of the items. In this context the definition of reliability is straightforward: a measurement is reliable if it reflects mostly true score, relative to the error.

CHAPTER FOUR

DATA ANALYSIS AND INTERPRETATION

4.1 Introduction

This section presents analysis and findings of the study as set out in the research methodology.

The study's findings are presented to investigate the effects of risk mitigation strategies on the financial performance of manufacturing firms in Kenya.

4.1.1 Response Rate

The population of the study in this research was of large scale manufacturing companies that are based in Nairobi. According to the Kenya Association of Manufacturers, there are a total of 455 large scale manufacturing companies operating in Nairobi (Kenya Association of Manufacturers (KAM) Directory. June, 2011). The 455 large scale manufacturing companies represented the study population. Due to their high numbers; they were sampled according to various sectors under which they operate. The reason for concentrating only on large manufacturing firms is on the assumption that they have risk management departments. The study involved 46 large manufacturing companies in Nairobi. The study picked head of risk management department from each of the manufacturing firms.

All the 46 head of risk management department from each of the manufacturing firms responded to the questionnaire giving a response rate of 100%. This response rate is considered satisfactory to make conclusions for the study. Mugenda and Mugenda (2003) observed that a 50% response rate is adequate, 60% good and above, while 70% rated very good.

4.1.2 Reliability and Validity

According to Borg and Gall (1989), validity is the degree to which a test measures what it is intended to measure. Mugenda and Mugenda (2003) define validity as the accuracy and meaningfulness of inferences, which are based on the research results. To enhance validity of the instrument, a pre-testing (pilot study) was conducted on a population similar to the target population.

Reliability of a measuring instrument is the degree of consistency with which it measures whatever it is meant for (Dempsey & Dempsey, 2000).Mugenda and Mugenda (2003) define reliability as a measure of the degree to which a research instrument yields consistent results or data after repeated trial. However, reliability in the research is influenced by random error. Random error is the deviation from a true measure due to factors that have not been effectively addressed by the researcher. As random error increases, reliability decreases. These errors might arise from inaccurate coding, ambiguous instructions to the subjects, interview fatigue and interview bias. The researcher in designing and administering of his instruments took care to avoid such errors. According to George and Mailey (2003), the researcher used the most common internal consistency measure known as Cronbach’s alpha (α). It indicates the extent to which a set of test items can be treated as measuring a single latent variable (Cronbach, 1951). The Cronbach alpha ranges from 0 – 1 and the closer to 1, the greater the consistency. The recommended value of 0.7 was used as a cut-off of reliabilities.

Independent variables	Reliability Cronbach’s Alpha	Comments
Risk transfer strategies	0.83	Accepted
Collaboration/ partnership strategies	0.87	Accepted
Diversification strategies	0.79	Accepted
Risk Prevention/ reduction strategies	0.75	Accepted

4.2 Study variables study

The sought to find out Level of occurrence among the risks outlined which relate to manufacturing firms. From the findings, respondents indicated that the most frequent occurring

risk is Production (failures in internal systems, processes and people, or from external factors) indicated by a mean of 4.87. Further respondents indicated that Economic (associated with commercial and business performance) risk; occupational risk (health and safety of employees) and operational risk, (fraud, oversight failure, lack of control, and managerial limitations, human error or omission, design mistakes unsafe behavior, employee practice risks, and sabotage) occurs frequently as indicated by a mean of 4.12, 3.91 and 3.85 respectively.

The study findings are in line with literature review where Asaf (2004) finds that business risk comes in many forms. Quantitative exposures include treasury risks, currency risks, and interest rate risks while those qualitative by nature include human resources political risks, and some categories of strategic and operational risks. Pricewaterhouse Coopers divided the population of risks the company is exposed to into five main groups: First, Strategic risks which include risks of plans failing, poor corporate strategies, weak marketing strategies, poor acquisition strategies, and changes in consumer behavior, adverse political or regulatory change. This group also includes adverse changes in government policies and a broad range of economic financial investment, and social policies that could affect the financial returns of the firm (Crabb, 2003).

Table 4. 1: Level of occurrence among the risks outlined which relate to manufacturing firms

Types of risks	Most frequent	Frequently	Often	Sometimes	Seldom	Mean	Sdev
Production (failures in internal systems, processes and people, or from external factors).	0.6	6.7	20.73	42.07	29.26	4.8	0.94
Economic (associated with commercial and business performance)	0.6	6.7	20.73	42.07	29.26	4.12	0.84
occupational risk (health and safety of employees)	1.21	6.7	20.73	42.07	29.26	3.91	0.93
operational risk, (fraud, oversight failure, lack of control, and managerial limitations, human error or omission, design mistakes unsafe behavior, employee practice risks, and sabotage)	0	12.19	17.07	42.68	28.04	3.85	0.96

Whether organization use the following risk mitigation strategies to manage risks; risk transfer strategies, Collaboration/ partnership strategies, Diversification strategies and risk Prevention/ reduction strategies

From the findings, 56% of the respondents indicated that organization use risk mitigation strategies to manage risks such as ; risk transfer strategies, Collaboration/ partnership strategies, Diversification strategies and risk prevention/ reduction strategies while 44% indicated that organization do not use the above risk mitigation strategies.

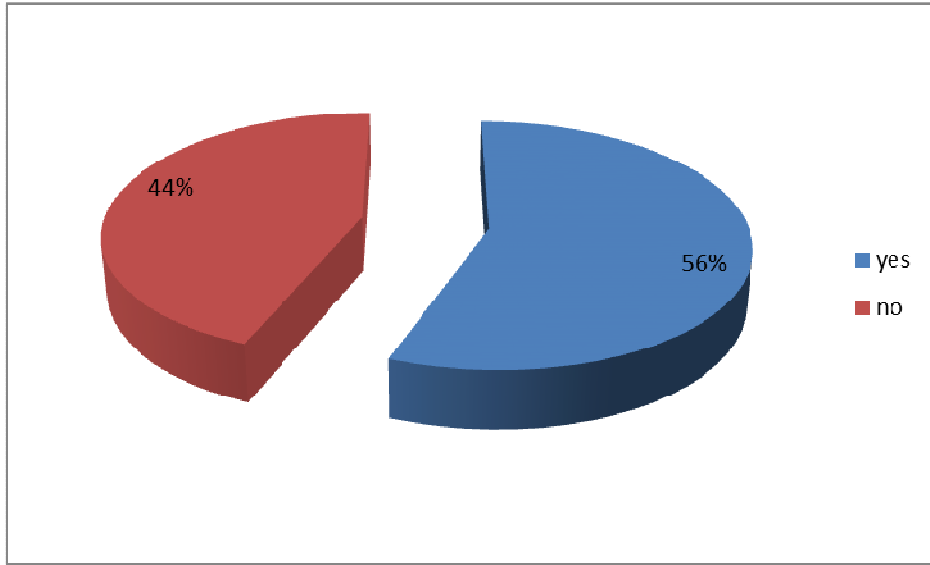


Figure 4. 1: Whether organization use the following risk mitigation strategies to manage risks; risk transfer strategies, Collaboration/ partnership strategies, Diversification strategies and risk Prevention/ reduction strategies

Table 4. 2: Extent to which firm use financial risk mitigation strategies

Extent of utilization of risk mitigation strategies	Least extent	Small extent	Moderate extent	Great extent	Most extent	Mean	Stdev
Risk transfer strategies	0.61	1.21	22.56	36.58	39.02	4.12	.8420
Collaboration/ partnership strategies	1.21	6.70	20.73	42.07	29.26	3.91	.936
Diversification strategies	0	12.19	17.0	42.68	28.04	3.86	.9626
Risk prevention/ reduction strategies	0	6.097	18.90	42.07	32.92	4.04	.8755

From the findings on the extent to which firm use financial risk mitigation strategies, majority of the respondents indicated that to a great extent firm use financial risk mitigation strategies such

as Risk transfer strategies, Risk prevention/ reduction strategies, collaboration/ partnership strategies and Diversification strategies as indicated by a mean of 4.12 ,4.04 ,3.91 and 3.86 respectively.

The findings collaborate with literature review by Hofmann, (2009) who posits that, the risk mitigation plan needs to be realistic, achievable, measurable, and documented. In addition it should address descriptive title for the identified risk; the date of the plan; the point of contact responsible for controlling the identified root cause; a short description of the risk (including a summary of the performance, schedule, and resource impacts, likelihood of occurrence, consequence, whether the risk is within the control of the program), root causes leading to the risk.

Extent to which utilization risk mitigation strategies affect the operating profit margin in organization

From the findings, 37% of the respondents indicated that to a very great extent risk mitigation strategies affect the operating profit margin organization, 36% indicated to a great extent while 15% and 12% of the respondents indicated that to a least extent and very least extent utilization risk mitigation strategies affect the operating profit margin organization.

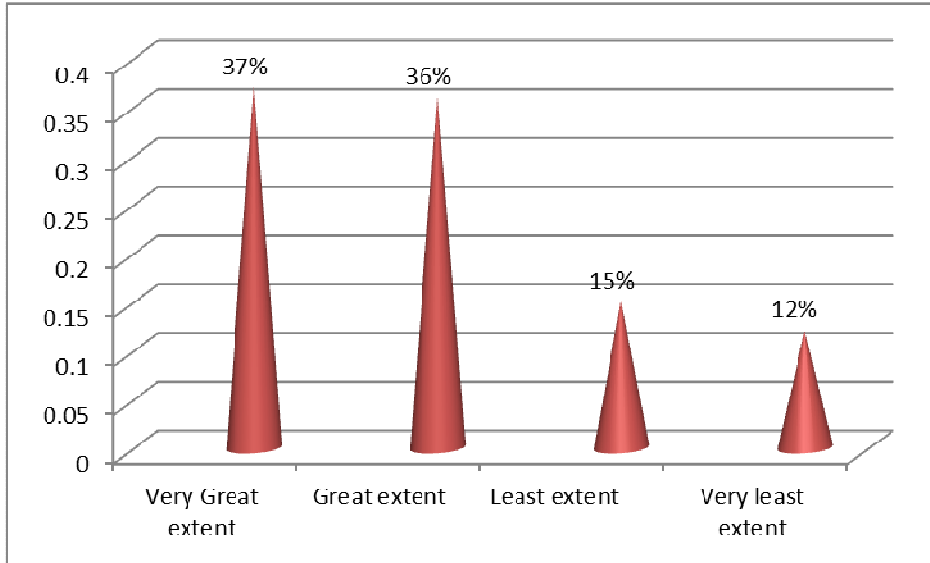


Figure 4. 2: Extent to which utilization of risk mitigation strategies affect the operating profit margin organization

Extent to which utilization of risk mitigation strategies affect the Return on Assets (ROA) in organizations

From the findings, 47% of the respondents indicated that to a very great utilization of risk mitigation strategies affect the Return on Assets (ROA) in organizations, 26% indicated to a great extent while 10% and 17 % of the respondents indicated that to a least extent and very least extent utilization of risk mitigation strategies affect the Return on Assets (ROA) in organizations.

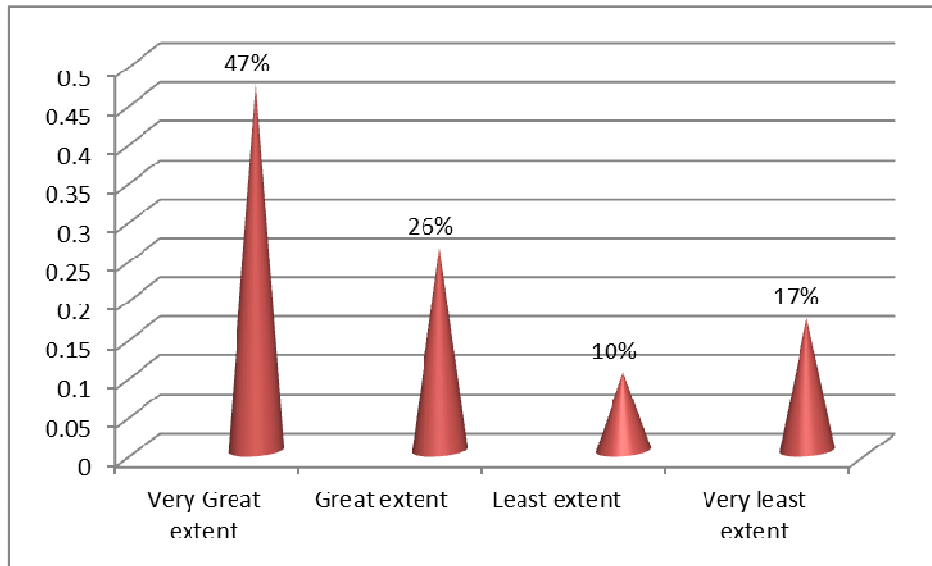


Figure 4. 3: Extent to which utilization of risk mitigation strategies affect the Return on Assets (ROA) in organizations

Extent to which utilization of risk mitigation strategies affect the Return on equity in organizations

The findings showed that, 50% of the respondents indicated that to a very great utilization of risk mitigation strategies affect the return on equity in organizations, 19% indicated to a great extent while 17% and 14% of the respondents indicated that to a least extent and very least extent utilization of risk mitigation strategies affect the return on equity in organizations.

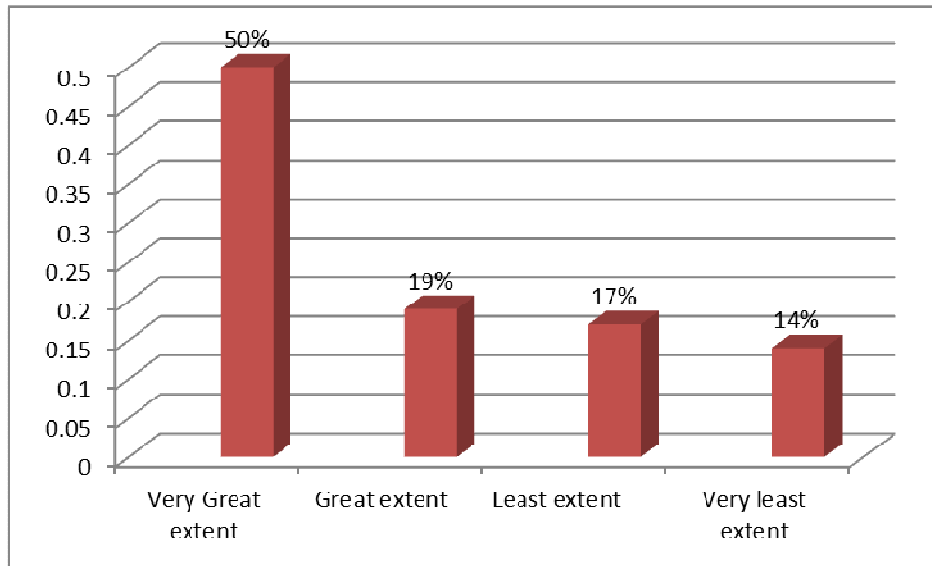


Figure 4. 4: Extent to which utilization of risk mitigation strategies affect the Return on equity in organizations

Extent to which organization involve the following parties in the risk Identification process for effective financial risk management

The study sought to find out the extent to which organization involve the following parties in the risk Identification process for effective financial risk management. From the findings, respondents indicated that to a great extent organization involve Senior ICT employees, External auditors and internal system auditors as indicated by a mean of 4.2, 3.9 and 3.8 respectively. Further respondents indicated that to a moderate extent Middle and Lower Level Employees are involved in in the risk Identification process for effective financial risk management as indicted by a mean of 3.3.

The findings are in line with goals (Crabb, 2003) who argues that business Risk Mitigation may be defined as a concept used by stakeholders, management, employees or auditors to express concern about the probable material effects of an uncertain environment on business Crabb

argues that for effective risk mitigation strategies external auditors and internal system auditors should be involved .

Table 4. 3: Extent which organization involve the following parties in the risk Identification process for effective financial risk management

Extent of utilization of risk mitigation strategies	Least extent	Small extent	Moderate extent	Great extent	Most extent	Mean	Stdev
Internal system auditors	2.43	6.09	21.95	44.51	25	3.83	0.95
External system auditors	1.82	2.43	20.73	49.39	25.60	3.94	0.85
Senior ICT employees	0.60	3.65	12.80	33.53	49.39	4.27	0.86
Middle and Lower Level Employees	1.82	2.44	12.80	51.21	31.70	3.35	3.22

Extent of agreement with the statements concerning Risk reduction strategies

From the findings, respondents strongly agreed that the internal auditor is responsible to review and verify the risk management systems, guidelines and risk reports as indicated by a mean of 4.91. Further respondents agreed that There is a separation of duties between those who generate risks and those who manage and control risks and that firm has put in place an internal control system capable of swiftly dealing with newly recognized risks arising from changes in environment as indicated by a mean of 3.95 and 3.94 respectively. Finally respondents were neutral on the statement that firm has countermeasures (contingency plan) against disaster and accidents as indicated by 3.12.

Table 4. 4: Extent of agreement with the statements concerning Risk reduction strategies

The extent of agreement to adoption of risk reduction strategies	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Sdev
The firm has put in place an internal control system capable of swiftly dealing with newly recognized risks arising from changes in environment	2.45	4.88	23.17	35.37	34.14	3.94	0.99
There is a separation of duties between those who generate risks and those who manage and control risks	1.22	6.7	20.73	42.07	29.26	3.95	0.95
The firm has countermeasures (contingency plan) against disaster and accidents.	0.61	1.24	22.56	36.58	39.024	3.12	0.84
The internal auditor is responsible to review and verify the risk management systems, guidelines and risk reports.	1.23	6.7	20.73	42.07	29.26	4.91	0.93

Extent to which organization focus on strategies of recognizing and mitigating risks

The study sought to find out the organization focus on strategies of recognizing and mitigating risks .From the findings respondents agreed that organization focus on possible manifestations and effects , formulating plans to address risks, recognizing future uncertainty and recognizing future uncertainty impact on the enterprise as a strategies of recognizing and mitigating risks as indicated by a mean of 4.0. 3.88, 3.86 and 3.74 respectively. Further respondents agreed to a moderate extent that organization reduce or eliminate risk impact on the enterprise as a strategy of recognizing and mitigating risks as indicated by a mean of 3.4.

Table 4. 5: Extent to which organization focus on strategies of recognizing and mitigating risks

	Least extent	Small extent	Moderate extent	Great extent	Most extent	Mean	Stdev
recognizing future uncertainty,	1.21	7.92	26.82	43.29	20.73	3.74	0.91
deliberating risk avoidance actions risks,	4.26	6.7	15.85	42.68	30.48	3.88	1.05
possible manifestations and effects	1.82	5.48	16.46	42.07	34.14	4.01	0.94
formulating plans to address these risks and	3.65	9.14	15.24	40.85	31.09	3.86	1.07
reduce or eliminate its impact on the enterprise	2.24	6.92	36.82	33.29	20.73	3.4	0.91

Extent of agreement with the statement: Business risk mitigation helps organization to find ways to manage events that will negatively impact the financial, physical, or human capital of an organization

From the findings, 57% and 24% of the respondents agreed that to a very great extent and great extent respectively business risk mitigation helps organization to find ways to manage events that will negatively impact the financial, physical, or human capital of an organization. While 11% and 8% of the respondents indicated that to least and very least extent business risk mitigation helps organization to find ways to manage events that will negatively impact the financial, physical, or human capital of an organization.

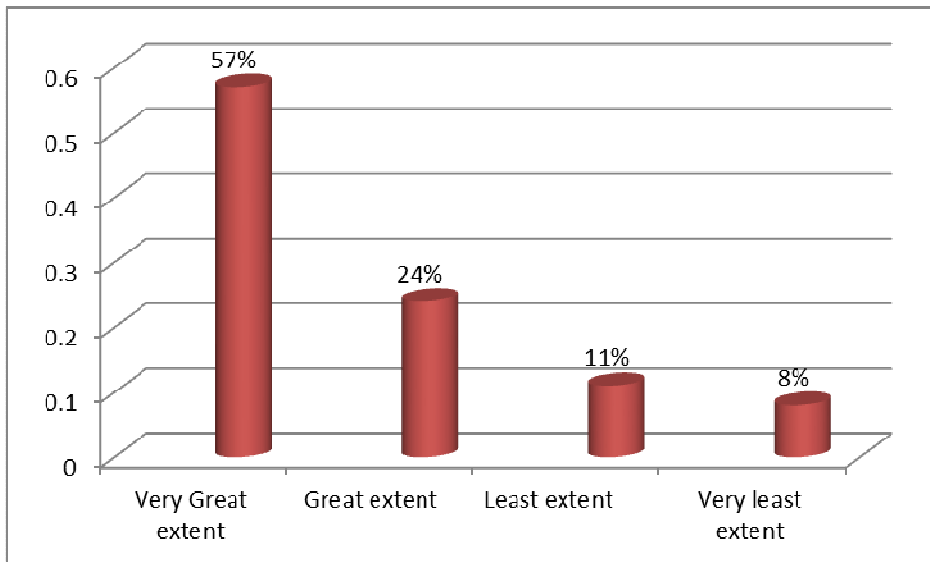


Figure 4. 5: Extent of agreement with the statement: Business risk mitigation helps organization to find ways to manage events that will negatively impact the financial, physical, or human capital of an organization

Extent of agreement statement: organizations put tangible assets (such as dollars, technology, processes, and people) and intangible assets (such as reputation, brand and information) at risk to achieve its objectives

The study found out that 38% and 17% of the respondents strongly disagreed that organizations put tangible assets (such as dollars, technology, processes, and people) and intangible assets (such as reputation, brand and information) at risk to achieve its objectives while 23%,12% and 10% of the respondents agreed that organizations put tangible assets (such as dollars, technology, processes, and people) and intangible assets (such as reputation, brand and information) at risk to achieve its objectives.

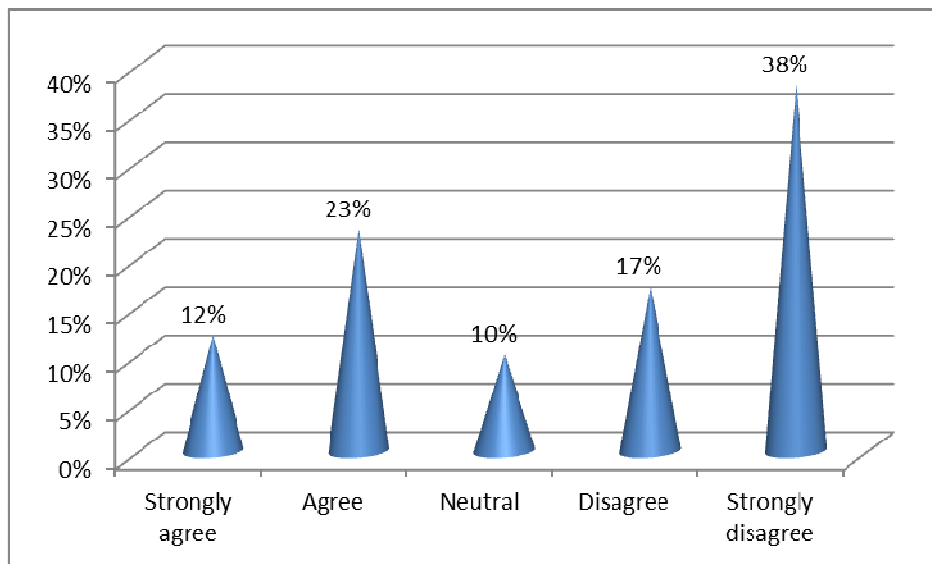


Figure 4. 6: Extent of agreement statement: organizations put tangible assets (such as dollars, technology, processes, and people) and intangible assets (such as reputation, brand and information) at risk to achieve its objectives

Extent of agreement with the statement: The management of my organization set limits on exposures in the different risk categories in order to achieve diversification effects.

The findings showed that 41% and 20% of the respondents strongly disagreed that management of organization set limits on exposures in the different risk categories in order to achieve diversification effects while 20%, 10% and 9% of the respondents agreed that management of

organization set limits on exposures in the different risk categories in order to achieve diversification effects.

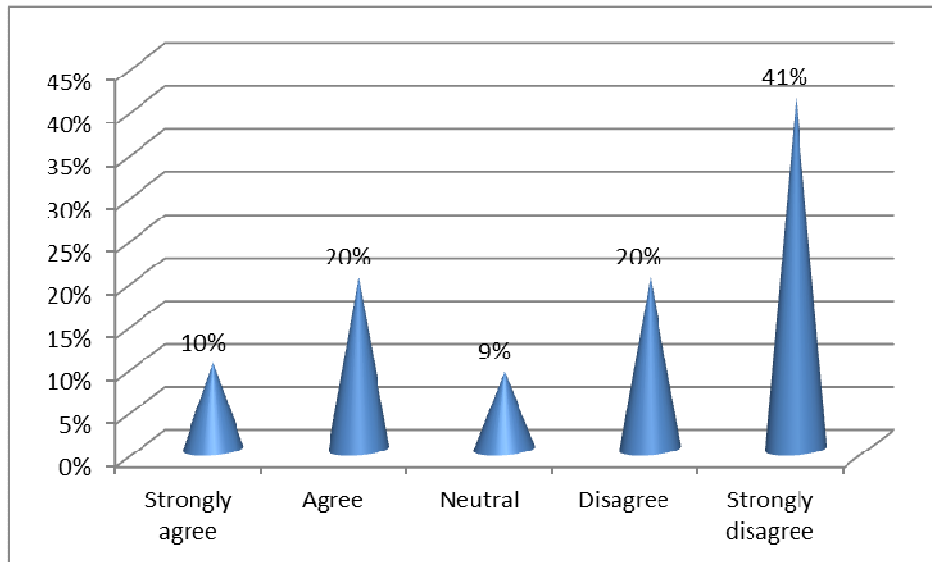


Figure 4. 7: Extent of agreement with the statement: The management of my organization set limits on exposures in the different risk categories in order to achieve diversification effects.

Methods used by firm in relation to risk avoidance actions

The study sought to find out the methods used by firm in relation to risk avoidance actions. From the findings, respondents 45% ,34% ,47% ,38% and 44% of the respondents indicated that methods used by firm in relation to risk avoidance actions include Underwriting standards, Hedges or asset-liability matches, Diversification, Reinsurance or syndication and Due diligence investigation while 55% ,66% ,53% ,62% and 56% indicated that their firm do not use the above methods.

Table 4. 6: Methods used by firm in relation to risk avoidance actions

Risk avoidance actions	YES	NO
Underwriting standards,	45%	55%
Hedges or asset-liability matches,	34%	66%
Diversification,	47%	53%
Reinsurance or syndication,	38%	62%
Due diligence investigation.	44%	56%

Extent to which risk mitigation strategies employed by firm assist organization to achieve the following

Respondents agreed that to a very great extent risk mitigation strategies employed by firm assist organization to achieve performance goals and improve financial health and prevent damage to the firm as indicated by a mean of 4.82 and 4.56. Further respondents agreed that to a great extent risk mitigation strategies employed by firm assist organization to achieve enhanced operation ,Enhancing practices ,ensure compliances to established rules and enhancing resource allocation as indicated by a mean of 4.35,4.10 and 3.93 respectively.

Table 4. 7: Extent to which risk mitigation strategies employed by firm assist organization to achieve the following

	no extent	Very least	Moderate extent	Great extent	Very Great extent	Mean	Stdev
Enhancing operation	1.21	9.14	15.85	48.78	25	4.35	4.51
Enhancing practices	1.21	9.75	26.82	31.70	30.48	4.10	4.12
Enhancing resource allocation	1.21	4.26	24.39	39.63	30.48	3.93	.91
Ensure compliances to established rules	0.60	3.65	15.85	44.51	35.365	4.10	.84
Achieve performance goals	0	4.26	15.24	40.85	39.63	4.82	5.12
Improve financial health and prevent damage to the firm	0.6	0.6	12.8	38.41	47.56	4.56	3.19

4.3 Regression analysis

The researcher conducted a multiple regression analysis so as to investigate the effects of risk mitigation strategies on the financial performance of manufacturing firms in Kenya. The researcher applied the statistical package SPSS, to enter and compute the measurements of the multiple regressions for the study as presented below.

Table 4. 8: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.908 ^a	.772	.796	.89757

Source: Research, 2014

a. Predictors: (Constant), risk transfer strategies, Collaboration/ partnership strategies, risk Diversification strategies, risk Prevention/ reduction strategies.

b. Financial performance (Operating profit margin, Return on assets and return on Equity)

Coefficient of determination explains the extent to which changes in the dependent variable can be explained by the change in the independent variables or the percentage of variation in the dependent variable (performance (Operating profit margin, Return on assets and return on Equity) that is explained by all the 4 independent variables (risk transfer strategies, Collaboration/ partnership strategies, risk Diversification strategies, risk Prevention/ reduction strategies.) The four independent variables that were studied, explain 77.2% of variance to investigate the effects of risk mitigation strategies on the Operating profit margin, Return on assets and return on Equity as represented by the R^2 . This therefore means that other factors not studied in this research contribute 22.8% of variance in the dependent variable. Therefore, further research should be conducted to investigate the effects of risk mitigation strategies on the performance of manufacturing firms in Kenya

Table 4. 9:ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	18.423	5	18.423	9.123	.002 ^b
	Residual	34.31	40	.806		
	Total	52.733	45			

a. Predictors: (Constant), risk transfer strategies, Collaboration/ partnership strategies, risk Diversification strategies, risk Prevention/ reduction strategies.

b. Financial performance (Operating profit margin, Return on assets and return on Equity)

The F critical at 5% level of significance was 3.56. since F calculated is greater than the F critical (value 9.123), this shows that the overall model was significant. The significance is less than 0.05, thus indicating that the predictor variables, explain the variation in the dependent variable which is performance (Operating profit margin, Return on assets and return on Equity). If the

significance value of F was larger than 0.05 then the independent variables would not explain the variation in the dependent variable.

Table 4. 10: Multiple Regression Analysis

Model	Unstandardized Coefficients		Standardized Coefficients	Sig.
	B	Std. Error	Beta	
1 (Constant)	7.978	.984		.000
risk transfer strategies technology innovations	.270	.117	.272	.000
Collaboration/ partnership strategies	.032	.165	.025	.001
risk Diversification strategies	.305	.148	.256	.004
risk Prevention/ reduction strategies	.391	.180	.275	.000

a. Predictors: (Constant), risk transfer strategies, Collaboration/ partnership strategies, risk Diversification strategies, risk Prevention/ reduction strategies.

b. Financial performance (Operating profit margin, Return on assets and return on Equity)

The regression equation ($Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4$) was interpreted to mean

$$Y = 7.978 + .270X_1 + .032X_2 + .305X_3 + .391X_4$$

Where Y is the dependent variable (financial performance (Operating profit margin, Return on assets and return on Equity))

X₁ is risk transfer strategies, X₂ a Collaboration / partnership strategy, X₃ is risk Diversification strategies and X₄ is the risk Prevention/ reduction strategies.

According to the equation, taking all factors (risk transfer strategies, Collaboration/ partnership strategies, risk Diversification strategies, risk Prevention/ reduction strategies) constant at zero, overall financial performance (Operating profit margin, Return on assets and return on Equity) will be 7.978. The data findings also show that a unit increase in risk transfer strategies variable will lead to a 0.270 increase in financial performance (Operating profit margin, Return on assets and return on Equity); a unit increase Collaboration/ partnership strategies will lead to a 0.032 increase in financial performance (Operating profit margin, Return on assets and return on Equity); a unit increase in risk diversification strategies will lead to a 0.305 increase in financial performance (Operating profit margin, Return on assets and return on Equity) and a unit increase in risk Prevention/ reduction strategies will lead to a 0.391 increase in financial performance (Operating profit margin, Return on assets and return on Equity). This means that the most significant factor is risk Prevention/ reduction strategies followed by risk Diversification strategies.

4.4 Discussion

From the findings, respondents indicated that the most frequent occurring risk is Production (failures in internal systems, processes and people, or from external factors). Further respondents indicated that Economic (associated with commercial and business performance) risk; occupational risk (health and safety of employees) and operational risk, (fraud, oversight failure, lack of control, and managerial limitations, human error or omission, design mistakes unsafe behavior, employee practice risks, and sabotage) occurs frequently. The study findings are in line with literature review where Asaf (2004) finds that business risk comes in many forms. Quantitative exposures include treasury risks, currency risks, and interest rate risks while those qualitative by nature include human resources political risks, and some categories of strategic and operational risks.

From the findings on the extent to which firm use financial risk mitigation strategies, majority of the respondents indicated that to a great extent firm use financial risk mitigation strategies such as Risk transfer strategies, Risk prevention/ reduction strategies, collaboration/partnership strategies and Diversification. The findings collaborate with literature review by Hofmann, (2009) who posits that, the risk mitigation plan needs to be realistic, achievable, measurable, and documented. In addition it should address descriptive title for the identified risk; the date of the plan; the point of contact responsible for controlling the identified root cause; a short description of the risk (including a summary of the performance, schedule, and resource impacts, likelihood of occurrence, consequence, whether the risk is within the control of the program), root causes leading to the risk. The study also found from the multiple regression analysis that risk transfer strategies, Collaboration/ partnership strategies, risk Diversification strategies, risk Prevention/ reduction strategies are key ingredient in the financial performance (Operating profit margin, Return on assets and return on Equity). Binder, B., (1997) in his findings in *Managing Financial Risk* found out that competitive strategies create a wide range of products thereby promoting performance.

CHAPTER FIVE

SUMMARY CONCLUSION AND RECOMMENDATIONS

5.1 Summary of findings

The study found out that organization use the following risk mitigation strategies to manage risks; risk transfer strategies, Collaboration/ partnership strategies, Diversification strategies and risk Prevention/ reduction strategies

From the findings on the extent to which firm use financial risk mitigation strategies, majority of the respondents indicated that to a great extent firm use financial risk mitigation strategies such as Risk transfer strategies, Risk prevention/ reduction strategies ,collaboration/ partnership strategies and Diversification strategies.

The findings collaborate with literature review by Hofmann, (2009) who posits that, the risk mitigation plan needs to be realistic, achievable, measurable, and documented. In addition it should address descriptive title for the identified risk; the date of the plan; the point of contact responsible for controlling the identified root cause; a short description of the risk (including a summary of the performance, schedule, and resource impacts, likelihood of occurrence, consequence, whether the risk is within the control of the program), root causes leading to the risk.

Majority of the respondents indicated that to a very great extent risk mitigation strategies affect the operating profit margin organization, that utilization of risk mitigation strategies affect the return on Assets (ROA) in organizations and that utilization of risk mitigation strategies affect the return on equity in organizations

From the findings extent to which organization involve the following parties in the risk Identification process for effective financial risk management, respondents indicated that to a great extent organization involve Senior ICT employees, External auditors and internal system auditors as indicated by a mean .Further respondents indicated that to a moderate extent Middle and Lower Level Employees are involved in in the risk Identification process for effective financial risk management.

From the findings on risk reduction strategies, respondents strongly agreed that the internal auditor is responsible to review and verify the risk management systems, guidelines and risk reports. Further respondents agreed that there is a separation of duties between those who generate risks and those who manage and control risks and that firm has put in place an internal control system capable of swiftly dealing with newly recognized risks arising from changes in environment. Finally respondents were neutral on the statement that firm has countermeasures (contingency plan) against disaster and accidents.

5.2 Conclusion

The study concludes that most frequent occurring risk is Production (failures in internal systems, processes and people, or from external factors). Economic (associated with commercial and business performance) risk; occupational risk (health and safety of employees) and operational risk, (fraud, oversight failure, lack of control, and managerial limitations, human error or omission, design mistakes unsafe behavior, employee practice risks, and sabotage) occurs frequently .

The study further concludes that organization use the following risk mitigation strategies to manage risks; risk transfer strategies, Collaboration/ partnership strategies, Diversification strategies and risk Prevention/ reduction strategies and that majority of firms use financial risk mitigation strategies such as Risk transfer strategies ,Risk prevention/ reduction strategies

,collaboration/ partnership strategies and Diversification strategies. To a very great extent risk mitigation strategies affect the operating profit margin organization, that utilization of risk mitigation strategies affect the return on Assets (ROA) in organizations and that utilization of risk mitigation strategies affect the return on equity in organizations.

Further the study concludes that Senior ICT employees, External auditors, internal system auditors and Middle and Lower Level Employees are involved in in the risk Identification process for effective financial risk management. From the findings on risk reduction strategies, the study concludes that internal auditor is responsible to review and verify the risk management systems, guidelines and risk reports.

Finally the study concludes that risk mitigation helps organization to find ways to manage events that will negatively impact the financial, physical, or human capital of an organization, organizations put tangible assets (such as dollars, technology, processes, and people) and intangible assets (such as reputation, brand and information) at risk to achieve its objectives and that management of organization set limits on exposures in the different risk categories in order to achieve diversification effects .On the methods used by firm in relation to risk avoidance actions, respondents indicated that methods used by firm in relation to risk avoidance actions include Underwriting standards, Hedges or asset-liability matches, Diversification, Reinsurance or syndication and Due diligence investigation.

5.3 Recommendations for policy and practice

The study recommends proper risk mitigation planning. The intent of risk mitigation planning is to answer the question of what is the program approach for addressing this potential unfavorable consequence. One or more of these mitigation options may apply: avoiding risk by eliminating

the root cause and/or the consequence, controlling the cause or consequence, transferring the risk, and/or assuming the level of risk and continuing on the current program plan.

Risk mitigation should therefore entail planning the activity that identifies, evaluates, and selects options to set risk at acceptable levels given program constraints and objectives. Risk mitigation planning should be intended to enable program success. It should include the specifics of what should be done, when it should be accomplished, who is responsible, and the funding required to implement the risk mitigation plan. The most appropriate program approach should be selected from the mitigation options listed above and documented in a risk mitigation plan.

The study further recommends that Senior ICT employees, External auditors, internal system auditors and Middle and Lower Level Employees should be involved in in the risk Identification process for effective financial risk management.

Finally the study recommends that methods used by firm in relation to risk avoidance actions should include Underwriting standards, Hedges or asset-liability matches, Diversification, Reinsurance or syndication and Due diligence investigation.

5.4 Limitations of the study

The study encountered a number of limitations. One of the limitations was accessibility of the large scale manufacturing companies that are based in Nairobi. The researcher dealt with this limitation by introducing herself through the introduction letter from the university.

Another limitation was the financial constraints encountered in the research process. This was through transportation cost .At times time the researcher was forced to pay the respondents to get attention from their busy schedule.

An earlier start of the data collection would have made the data collection process more involving and comprehensive. However the researcher was able to use the little time schedule to collect data that assisted in analysis.

Finally the analysis in chapter four was technical and the research sought to find the right mechanism that included attending data analysis software training in order to be able to code and analyze data.

5.5 Recommendation for further studies

The study was done to investigate the effects of risk mitigation strategies on the financial performance of manufacturing firms in Kenya. A study should be carried out on challenges that affect the identification of risk in financial organizations.

Further study should be carried out to identify the impact risk mitigation strategies failures on the financial performance of manufacturing firms in Kenya.

Also a study should be carried out on the risk mitigation strategies on the financial performance of processing firms in Kenya.

A study on the comparison on risk mitigation strategies and their effect should also be carried out.

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APPENDICES

APPENDIX I: LETTER OF INTRODUCTION

Dear Sir/Madam,

RE: REQUEST TO COLLECT DATA FOR AN MBA PROJECT

I, CAROLINE MARY NJERI, am a post graduate student at University of Nairobi pursuing a Degree of Master in Business Administration finance option.

Pursuant to the pre-requisite course work, I am currently conducting a research project on **the effects of risk mitigation strategies on the financial performance of manufacturing firms in Kenya.**

The focus of my research is the large manufacturing companies in Nairobi and this will involve use of questionnaires administered to the head of risk management department from each of the manufacturing firms

I kindly seek your assistance in filling this questionnaire and I guarantee you the data will be used solely for academic use and will not at any one time disclosed to anybody without your authority and consent. I have enclosed an introductory letter from the University. Your assistance is highly valued. Thank you in advance.

Yours faithfully,

CAROLINE MARY NJERI

D61/ 67668/2011

.....

MBA Student,

University of Nairobi (UON)

Extent of utilization of risk mitigation strategies	1	2	3	4	5
Risk transfer strategies					
Collaboration/ partnership strategies					
Diversification strategies					
Risk prevention/ reduction strategies					

3. To what extent does the utilization of these risk mitigation strategies affect the operating profit margin in your organization?

Very Great extent []

Great extent []

Least extent []

Very least extent []

4. To what extent does the utilization of these risk mitigation strategies affect the Return on Assets (ROA) in your organization?

Very Great extent []

Great extent []

Least extent []

Very least extent []

5. To what extent does the utilization of these risk mitigation strategies affect the Return on equity in your organization?

Very Great extent []

Great extent []

Least extent []

Very least extent []

6. To what extent does your organization involve the following parties in the risk Identification process for effective financial risk management? Use a scale of 1 to 5 where 1 is the least extent and 5 is the most extent.

Parties involved in risk identification	1	2	3	4	5
Internal system auditors					
External system auditors					
Senior ICT employees					
Middle and Lower Level Employees					
Other, Please Specify					

7. To what extent do you agree to the following statements concerning Risk reduction strategies? Use a scale of 1 to 5 where 1 is strongly disagreeing and 5 is strongly agree.

The extent of agreement to adoption of risk reduction strategies	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
The firm has put in place an internal control system capable of swiftly dealing with newly recognized risks arising from changes in environment					
There is a separation of duties between those who generate risks and those who manage and control risks					
The firm has countermeasures (contingency plan) against disaster and accidents.					

The internal auditor is responsible to review and verify the risk management systems, guidelines and risk reports.					
Other, Please Specify					

8. To what extent does your organization focus on the following strategies of recognizing and mitigating risks? Use a scale of 1 to 5 where 1 is to Very Great extent , 2 Great extent,3 Least extent , 4 Very least and 5, no extent

	1	2	3	4	5
recognizing future uncertainty,					
deliberating risk avoidance actions risks,					
possible manifestations and effects					
formulating plans to address these risks and					
reduce or eliminate its impact on the enterprise					

9. To what extent do you agree to the following statement? Business risk mitigation helps organization to find ways to manage events that will negatively impact the financial, physical, or human capital of an organization

- Very Great extent []
- Great extent []
- Least extent []
- Very least extent []

10. To what extent do you agree to the following statement? My organizations put tangible assets (such as dollars, technology, processes, and people) and intangible assets (such as reputation, brand and information) at risk to achieve its objectives.

Strongly agree () Disagree ()
 Agree () Strongly disagree ()
 Neutral ()

11. To what extent do you agree to the following statement? The management of my organization set limits on exposures in the different risk categories in order to achieve diversification effects

Strongly agree () Disagree ()
 Agree () Strongly disagree ()
 Neutral ()

12. In relation to risk avoidance actions, which of the following methods are used by your firm? Tick appropriately

Risk avoidance actions	YES	NO
Underwriting standards,		
Hedges or asset-liability matches,		
Diversification,		
Reinsurance or syndication,		
Due diligence investigation.		

13. To what extent do risk mitigation strategies employed by your firm assist your organization to achieve the following? Use a scale of 1 to 5 where 1 is to Very Great extent , 2 Great extent,3 Least extent , 4 Very least and 5, no extent

	1	2	3	4	5
Enhancing operation					
Enhancing practices					
Enhancing resource allocation					
Ensure compliances to established rules					
Achieve performance goals					
Improve financial health and prevent damage to the firm					

14. What would you recommend for risk mitigation in your organization?

.....

.....

.....

THANK YOU FOR YOUR RESPONSE!