

**EFFECT OF FINANCIAL RISK MANAGEMENT ON FINANCIAL
PERFORMANCE OF OIL COMPANIES IN KENYA**

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DECLARATION

I declare that this is my original work and has not been presented in any other University or College for Examination or Academic purposes.

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DEDICATION

This project is dedicated to my family and friends. For your unending encouragement towards this research project and supporting me all the way. Your assistance towards this achievement is greatly appreciated.

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It has been an exciting and instructive study period in the University of Nairobi and I feel privileged to have had the opportunity to carry out this study as a demonstration of knowledge gained during the period studying for my master's degree. With these acknowledgments, it would be impossible not to remember those who in one way or another, directly or indirectly, have played a role in the realization of this research project. Let me, therefore, thank them all equally.

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ABSTRACT

The purpose of the study was to determine the effect of financial risk management on financial performance of Oil Companies in Kenya. The study adopted causal research design. The study population consisted of all 85 Oil Companies operating in Kenya. The sample size of the study was comprised of 40 Oil companies in Kenya. The sample was selected based on stratified random selection of the companies listed by PIEA list of the market share of various companies. Semi-structured questionnaires were used to obtain primary data about the population. The study will also use secondary data. The study used quantitative techniques in analyzing the data using Statistical Package for Social Science (SPSS). A linear regression model of financial performance versus financial risk management techniques was applied to examine the relationship between the variables. The response on financial risk management techniques was quantified based on the responses derived from the Likert-Scaled questions. Piloting was carried out to test the validity and reliability of the instruments. It was conducted by the researcher taking some questionnaires to the Oil Companies headquarter in Nairobi which were filled by some respondents at random. The objective of the study was to establish whether financial risk management affects the financial performance of Oil Companies in Kenya. The study found that most Oil companies had highly adopted financial risk management practices to manage financial risk and as a result the financial risk management practices comprising of; understanding risk, risk identification, risk analysis and assessment & risk monitoring, have a positive correlation to the financial performance of Oil Companies in Kenya. The study recommends that that risk management techniques should be emphasized and utilized more effectively by Oil companies in Kenya.

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ACRONYMS

APT:	Arbitrage Pricing Theory
BCBS:	Basel Committee on Banking Supervision
CAMEL:	Capital adequacy, Asset quality, Management efficiency, Earnings and Liquidity
CAPM:	Capital Asset Pricing Theory
COSO:	Committee of Sponsoring Organizations
ERM:	Enterprise Risk Management
HSE:	Health, Safety and Environmental
NPLs:	Non-Performing Loans
OTC:	Over the Counter
RM:	Risk management
RMS:	Risk Management System

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background of the Study

The economic environment in which most firms operate is highly volatile and uncertain. This has resulted due to internationalization of business environments. Oil Companies have benefitted of internationalization in many ways as the most countries have become more open due to reductions in trading barriers (Moeller, 2007). These benefits to companies include the possibility to broaden their customer base and to better optimize the cost structure of their operations (Hutson and Stevenson, 2010). As a result, companies face a broad spectrum of complex risks threatening their businesses, information and people.

Often, many of these events can be traced back to failed business practices, whether they are complex environmental impact programs or simply managing behavioral changes as part of implementing new standard operating practices. This leads companies to be exposed to a wide variety risks such as exchange rate risk and commodity price risk which again have a great impact to companies' value. To protect themselves against the exposures to these risks many companies have established risk management programs (Kasanen *et al.*, 1996). In addition risk management is gaining more attention due to several incidences like the bankruptcy of Enron. Furthermore, the importance of risk management is difficult to be understated. Companies can gain huge competitive advantage by conducting efficient risk management processes and practices and even companies' survival might depend on how or if they are involved in risk management.

Despite the increasing exposure to risk events, many companies view risk management as primarily a finance or health, safety and environmental (HSE) problem. And, consequently, most companies tend to treat risk as a "cost center" and undervalue or under invest in integrated risk management practices.

In practice the process of assessing overall risk can be difficult, and balancing resources used to mitigate between risks with a high probability of occurrence but lower loss versus a risk with high loss but lower probability of occurrence can often be mishandled. Risk

management (RM) is a new paradigm for managing business risks , which is highly strategic in nature and is an array of components (Psica, 2008), put together through due process within an organization that work together to manage risk over time efficiently and effectively (Moeller, 2007) and is purposefully broad in its definition (Moeller, 2007).

Oil and gas companies constitute some of the world's largest corporations. Accidents of geology (Noreg, 2002) have left some regions with abundance of oil and gas reserves and such size and scale introduces additional challenges in managing risks. Recent oil and gas related international debacles that hit the headline news across the globe had risks in “hard to define” and/or “hard to quantify” categories across the enterprise risk spectrum. The significance of RM for oil industry has been elucidated in several reports that have vividly illustrated the need for a proactive RM program in the oil and gas industry (Blanco and Regan, 2006).

Oil industry has several special characters which make hedging crucial for market participants. Oil industry is characterized by great price volatilities that expose oil companies to a massive commodity price risk. In addition the oil supply chain includes a lot of challenges due to globalization, long lead times and nature of oil. To meet industry participants' hedging needs there's well-developed financial markets and wide variety of instruments available. Hence in oil industry swaps, futures, options, and forwards are used extensively to hedge oil companies' exposures to commodity price risk and exchange rate risk exposures (Chorn, and Croft, 2000).

Oil is one of the most important commodities in the world. Furthermore oil industry is one of the industries that is highly dependent on risk management in its volatile business environment. Until the beginning of 1970's the price of oil was very stable and fluctuated only between 5 and 15 U.S. dollars per barrel. However, after the oil crisis in 70's the crude oil price raised to the level of 10-40 U.S. dollar per barrel (Krichene, 2002). Furthermore the oil price fluctuations have increased dramatically recently and crude oil price has fluctuated even 100 U.S. dollars within one year. The year 2008 was a good example of this when crude oil price first increased from 90 U.S. dollars to 140 and then

dropped below 40 dollars per barrel within just few months. From oil refining companies point of view during the current period of high oil price volatility, risk management has become an essential element of companies operations (Abid and Mseddi, 2010)

As such, risk-management approaches by the firm are relevant in the sense that they are able to add value. These activities may reduce total risk and diversified investors have already done so by eliminating all of the specific risk. Hence, risk management activities will increase the market price of the firm's shares for listed companies. Approaching financial risks, such as market, credit, and operational uncertainties, in a professional manner is becoming increasingly important in oil enterprises (IFSB 2010). Market swings, interest-rate volatility, loan defaults, falsified data in oil companies reports, and fraud have not only led to financial losses but also tarnished reputations in the past few years. It is becoming increasingly important to monitor and manage financial risks in oil companies and financial risk management and risk management tools and instruments have developed to a great extent to mitigate and improve financial performance (Carey, 2001). Financial Risk management framework is important for oil companies in Kenya. In conjunction with the underlying frameworks, basic risk management process that is generally accepted is the practice of identifying, analyzing, measuring, and defining the desired risk level through risk control and risk transfer.

1.1.1 Financial Risk Management Techniques

Financial risks are only one category of a broad field of risks. Furthermore financial risks can be classified into three subclasses credit risk, liquidity risk, and market risk. Market risk can be classified into four broad classes, foreign currency, interest rate, commodity, and equity risk. For financial risk management there are many different kinds of definitions. Some researchers define it whether very broadly or narrowly which leads that there is no globally accepted definition of financial risk management (Yakup and Asli, 2010). However financial risk is such a complex and extensive concept that financial risk-management practitioners need often specialize themselves only to certain part of financial risk management as for instance foreign exchange risk.

However Ekwall (2010) has relatively narrow view to risk management, he finds risk management as the risk handling process. Panos et al., (2009) define risk management as the process whereby decisions are made to accept a known or anticipated risk and/or the implementation of actions to reduce the effects or likelihoods of those risks. Furthermore in Jansson and Norrman's (2004) view risk management leads to avoiding, reducing, transferring, sharing or taking the risk. Also it is good to notice that risk management is a very broad term due to the wide range of risks and thus there are several categories of risk management as financial risk management operational risk management, supply chain risk management (Mishkin, 2007).

Boston Consulting Group (2001) defines financial risk management as a sequence of four processes which include identification of events into one or more broad categories such as market, credit, operational and other risks into specific sub-categories assessment of risks using data and risk mode, monitoring and reporting of the risk assessments on a timely basis and control of these risks by senior management. Jansson and Norrman (2004) define risk management process as focusing on understanding the risks, and minimizing their impact. Kuusela and Ollikainen (1998) describe the risk management process as Risk identification, measurement and analyzing, controlling and finance, evaluation and cost calculations.

1.1.2 Financial Performance

Financial performance is a measure of companies' policies and operations in monetary terms. It is a general measure of a firm's overall operation health over a given period of time, and can be used to compare similar firms across the same industry or to compare industries or sectors in aggregation. There are many different ways to measure a companies's financial performance. This may be reflected in the firm's return on investment, return on assets, value added, among others and is a subjective measure of how a firm can use assets from its primary mode of business and generate revenues.

According to Mishkin (2007), the financial industry, like other industries is in business to earn profits by selling its products. To maximize the profits, financial institutions develop new products to satisfy their own needs as well as those of their customers; in other

words, innovation-which can be extremely beneficial to the economy-, is driven by the desire to get or stay rich. This view of the innovation process leads to the following simple analysis: A change in the financial environment will stimulate a search by firms for innovations that are likely to be profitable. Companies are finding that many of the old ways of doing business were no longer profitable; the products and services they had been offering to the market were no longer selling (McNamee and Selim, 1999). To survive in the new economic environment, oil companies have to research and develop new products and services that would mitigate financial risks and improve profitable (Ball and Shivakumar 2004).

1.1.3 Financial Risk Management and Financial Performance

Most organizations perform the basic elements of risk management. However companies with more mature risk practices do better financially. They tend to outperform the other companies by making stronger decisions, more efficiently deploying scarce resources and reducing their exposure to negative events. Companies around the world have made substantial investments in personnel, processes and technology to help control business risk. Historically, these risk investments have focused primarily on financial controls and regulatory compliance. Effective risk management starts at the top with clarity around risk strategy and governance. It is critical that the proper oversight and accountability exist at the board and executive levels.

In linking the risk management practices and financial performance for Oil companies, the mean scores of each risk management practices will be correlated with the ROA and ROE. Risk management practices will be explained by risk management environment, policies and procedures, risk measurement practices, risk mitigation practices, risk monitoring practices and internal control practices. The result of correlations analysis between ROA/ROE and all risk management practices will be used to show whether there is any correlation between ROA and risk measurement practices and also to explain how strongly the variables correlate.

1.1.4 Oil Industry in Kenya

Prior to liberalization in October 1994, an important attribute of Kenya's oil industry was a comparatively high level of government's direct involvement, and an equally low level of private sector participation. Seven marketing and distribution companies were responsible for procuring and importing their own oil (Mecheo and Omiti 2003). After liberalization many independent oil companies emerged. Currently there are 85 registered oil companies in Kenya of which six are major. The major oil companies includes; Kenya Shell Ltd, Total Kenya Ltd, Kenol/Kobil (Kenya oil Ltd), Oil Libya Kenya Ltd, National Oil Corporation of Kenya (NOCK) and Engen. Kenya Shell Ltd and Total Kenya Ltd are multinationals .The others are either local or regional companies. The major oil companies control about 75% of the market share and own major oil installations within the country. For example Kenya shell owns petroleum storage facilities in Nairobi and Mombasa, liquefied petroleum gas (LPG) filling plant in Nairobi and lubricants blending plant in Mombasa (Mecheo and Omiti 2003)

The major oil companies have a distinct brand, which completely differentiates them from the others. For example Kenya Shell, Kenol/Kobil and Total have lubricants and LPG brands that belong to them independently. These brands offer them companies identity and help them extend brand loyalty among their customers. Major oil companies also run a nationwide network of retail outlets. For example Kenol /Kobil Petroleum Limited have an elaborate retail network in Kenya, with over 180 service stations. The two companies are strong players in the market, commanding a market share of over 20% (Petroleum Insight – Magazine of the Petroleum Institute of East Africa 1st Quarter 2009). Despite boost in the number of independent oil distribution companies in Kenya after 1994 liberalization, the major oil companies have maintained their position through acquisitions and mergers. In 2006 Kenya Shell Limited acquired the shareholding of BP in Kenya increasing its market share from 15% to 25% in 2008. Oil Libya acquired Exxon Mobil shareholding in Kenya in 2007. Recently Total Kenya acquired all the assets of Chevron in Kenya.

1.2 Statement of the Problem

Efficient financial risk management practices have been vital in allowing the phenomenal growth in oil firms. In addition to volatile markets oil companies face challenges also due to their complex supply chains. Oil supply chain is global and is characterized by long lead times and several sources of possible unexpected changes. Further, both volumes and value of product in oil supply chain are massive. The complexity of supply chain, liquid nature of oil, and unexpected events in supply chain make risk management in oil companies highly challenging.

Yakup and Asli (2010) point out in their study that over the last decade the business environment has become more and more global, which has not only enabled companies to gain access to new customers and to additional resource but also forced companies to cope with increased level of international competition and a growing diversity of international business risks as risks of fluctuating currencies, commodity prices and interest rates. This also raises the importance of risk management, financial risk management, and hedging (Yakup and Asli, 2010). However as Ameer (2010) points out that even though risk management has gained a lot of attention since mid-1970's most of the earlier studies of financial risk management have mostly concentrated on companies' foreign currency risk and only recently market risks such as commodity risk has gained more of attention.

Triantis (2000) finds financial methods to manage risk as being the most appropriate. According to Triantis (2000) using financial instruments provides significant benefits to companies such as corporate tax benefits, steady stream of cash flows which enables investing in a timely and profitable manner in future projects, and decreased probability of incurring bankruptcy or reorganization costs. Information asymmetry, taxes and transaction costs are the reasons which justify companies exercising risk management on behalf of individual companies's shareholders (Fan and Wang, 2011). Also Smith and Stulz (1985) argue that hedging can affect firm value, as hedging can affect tax liabilities, stakeholder contracting costs, and relationship between financial policy and future real investment decisions. Furthermore also Ameer (2010) mentions that hedging can increase

a companies's value by reducing external liabilities such as taxes paid to government and both direct and indirect bankruptcy costs.

Risk management reduces agency costs as it aligns managerial interests with the interests of capital suppliers (Ameer, 2010). Geczy et al. (1997) note that companies use financial risk management to reduce cash flow variations which could otherwise prevent companies to invest in different growth prospects. However the main reason why companies implement financial risk management techniques is the motivation to reduce the variability of cash flows and contribute to maximizing companies's financial performance (Triantis, 2000). Boyabatli and Toktay (2004) state that increasing shareholder value by enhancing firm value through the management of risk exposures is the main objective of risk management programs.

Despite the well-established literature on the conventional financial institutions, studies on the relationship between financial risk management techniques and the financial performance in oil companies remain scanty. The growing market demand and attention given to the oil companies has escalated the research interest in this area as well.

Previous study has focus on liquidity risk in oil companies in Kenya For instance Okuto (2011) studied the management of financial risks exposure of fuel price changes in the Airlines while Kairu (2011) carried a study on the impact of risk management on profitability of the Kenya power and lighting companies staff retirement benefits scheme. Despite the oil companies financial environment operate in, no study that has been carried out to determine the impact of financial risk management techniques adopted by the oil companies on financial performance. This study therefore seeks to determine the impact of financial risk management techniques on financial performance of oil companies's institutions in Kenya. This will answer the question,

What is the effect of financial risk management techniques on financial performance of oil companies in Kenya?

1.3 Objective of the Study

To determine the effect of financial risk management on financial performance of Oil Companies in Kenya

1.4 Value of the Study

The outcome of the research will be most beneficial to the oil companies to provide the management and directors in these companies with insight into the various approaches towards financial risk management techniques, how effectively risk management techniques are in mitigating risks and influence financial performance.

This research will also benefit the government in the developing policy papers, policy making regarding taxation and other regulatory requirements of oil in the country. The policy maker will gain insight how well to incorporate the sector effectively to ensure effective mitigation of financial risks for the oil companies achieve high financial gains.

Academicians will be furnished with relevant information regarding effect of financial risk management techniques on performance in oil sector. The study will add to the body of empirical literature on financial risk exposure of oil firms and form a basis for further research.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

This chapter reviews past studies from other researchers who have focused their study in the same field. The chapter addresses financial risk management practices, theoretical review, empirical review and research gap.

2.1.1. Financial Risk Management Practices

According to Tapiero (2004), financial risk management refers to the practice of creating economic value in a firm by using financial instruments to manage exposure to risk, particularly credit risk and market risk. Similar to general risk management, financial risk management requires identifying its sources, measuring it, and plans to address them (Conti and Mauri, 2008). Financial risk is often defined as the unexpected variability or volatility of returns and thus includes credit risks, liquidity risks and market risks (Holton, 2004). Therefore, financial risk management practices are those activities and procedures that are employed by managers in an effort of safeguarding an organization from credit risks, liquidity risks and market risks. Financial risk management practices fall into three major categories; credit risk practices, liquidity risk management practice as and market risks (Kithinji, 2010). This financial risk management practices may influence the financial performance of Oil firms.

Risk management framework is important for all organizations. In conjunction with the underlying frameworks, basic risk management process that is generally accepted is the practice of identifying, analysing, measuring, and defining the desired risk level through risk control and risk transfer. Basel Committee on Banking Supervision (BCBS) (2001) defines financial risk management as a sequence of four processes: Identification of financial risks into one or more broad categories of market, credit, operational and other risks into specific sub-categories; Assessment of risks using data and risk model; Monitoring and reporting of the risk assessments on a timely basis and Control of these risks by senior management.

There are few conceptual studies on risk identification of organizations (e.g. Kromschroder and Luck, 1998; Luck 1998; Tchankova, 2002; Barton et al. (2002) Risk identification is the first stage of risk management Tchankova, (2002) and a very important step in risk management .The first step in organizing the implementation of the risk management function is to establish the crucial observation areas inside and outside the corporation. Then, the departments and the employees must be assigned with responsibilities to identify specific risks. For instance, interest rate risks or foreign exchange risks are the main domain of the financial department. It is important to ensure that the risk management function is established throughout the whole corporation.

There are many other approaches for risk identification, for instance, scenario analysis or risk mapping. An organization can identify the frequency and severity of the risks through risk mapping which could assist the organization to stay away from high frequency and low severity risks and instead focus more on the low frequency and high severity risk. Risk identification process includes risk-ranking components where these ranking are usually based on impact, severity or dollar effects (Barton et al. 2002). Accordingly, the analysis helps to sort risk according to their importance and assists the management to develop risk management strategy to allocate resources efficiently.

There are many conceptual studies made on risk analysis and assessment by reference to measurement and mitigation of risk. In practice, it is useful to classify the different risks according to the amount of damage they possibly cause Fuser, (1999). This classification enables the management to divide risks that are enabling to threat the existence of the corporation from those which can only causing slight damages. Frequently, there is an inverse relationship between the expected amount of loss and its corresponding likelihood, i.e. risks that will cause a high damage to corporation, like earthquakes or fire, occur seldom, while risks that occur daily, like interest rate risks or foreign exchange risks, often cause only relatively minor losses, although these risks can sometimes harm the corporations seriously.

Effective risk management requires a reporting and review structure to ensure that risks are effectively identified and assessed and that appropriate controls and responses are

in place Al-Tamimi and Al-Mazrooei, (2007). Risk monitoring can be used to make sure that risk management practices are in line and proper risk monitoring also helps bank management to discover mistake at early stage. Monitoring is the last step in the corporate risk management process According to them; control has to be established at different levels. The control by the management board will not be enough to ensure the effective functioning of the risk monitoring system, because the management board members do not have time on their hands to exercise extensive control. Hence, the management board will install an independent unit to complete the task of internal supervision. This task is the responsibility of the internal audit. If the auditor discovers a defect, he will have to inform the management board. Finally, the shareholders of the corporation can use their rights to demand information in order to judge the efficiency of the risk management system.

2.2 Theoretical Review

Several theories have been put forward on financial risk management. In this section we expound on some of these theories.

2.2.1 Enterprise Risk Management Theory

A corporation that chooses to manage risks can do so in two fundamentally different ways: it can manage one risk at a time, or it can manage all of its risks holistically. The latter approach is often called enterprise risk management (ERM). According to Tseng (2007), Enterprise Risk Management (ERM) is a framework that focuses on adopting a systematic and consistent approach to managing all of the risks confronting an organization. Gordon et al. (2009) on the other hand defines ERM as the overall process of managing an organization's exposure to uncertainty with particular emphasis on identifying and managing the events that could potentially prevent the organization from achieving its objective. ERM is an organizational concept that applies to all levels of the organization.

According to Committee of Sponsoring Organizations (COSO) (2004), Enterprise risk management is a process, effected by an entity's board of directors, management and other personnel, applied in strategy setting and across the enterprise, designed to identify

potential events that may affect the entity, and manage risk to be within its risk appetite, to provide reasonable assurance regarding the achievement of entity objectives.

In conducting ERM, the following are listed as some of the areas or aspects of the organization that a risk manager needs to look into namely: the people, intellectual assets, brand values, business expertise and skills, principle source of profit stream and the regulatory environment (Searle, 2008). This will help organization to balance the two most significant business pressures; the responsibility to deliver succeed to stakeholders and the risks associated with and generated by the business itself in a commercially achievable way. By doing so, the risk manager is constantly aware of the risks it faces and therefore constantly monitors its exposure and be positioned to change strategy or direction to ensure the level of risks it takes is acceptable.

2.2.2 Capital Asset Pricing Theory

William Sharpe (1964) published the capital asset pricing theory (CAPM). Parallel work was also performed by Treynor (1961) and Lintner (1965). CAPM extended Harry Markowitz's portfolio theory to introduce the notions of systematic and specific risk. CAPM decomposes a portfolio's risk into systematic and specific risk. Systematic risk is the risk of holding the market portfolio. As the market moves, each individual asset is more or less affected. To the extent that any asset participates in such general market moves, that asset entails systematic risk.

Specific risk is the risk which is unique to an individual asset. It represents the component of an asset's return which is uncorrelated with general market moves (Lintner, 1965). “No matter how much we diversify our investments, it's impossible to get rid of all the risk. As investors, we deserve a rate of return that compensates us for taking on risk. The capital asset pricing model (CAPM) helps us to calculate investment risk and what return on investment we should expect.”

It took nearly a decade after the introduction of CAPM for investment professionals to begin to view it as an important tool in helping investors understands risk. The key

element of the model is that it separates the risk affecting an asset's return into two categories. The first type is called unsystematic, or companies-specific, risk. The long-term average returns for this kind of risk should be zero. The second kind of risk, called systematic risk, is due to general economic uncertainty. CAPM states that the return on assets should, on average, equal the yield on a risk-free bond held over that time plus a premium proportional to the amount of systematic risk the stock possesses (Markowitz 1952).

The treatment of risk in the CAPM refines the notions of systematic and unsystematic risk developed by Harry M. Markowitz in the (1950s). Unsystematic risk is the risk to an asset's value caused by factors that are specific to an organization, such as changes in senior management or product lines. For example, specific senior employees may make good or bad decisions or the same type of manufacturing equipment utilized may have different reliabilities at two different sites. In general, unsystematic risk is present due to the fact that every companies is endowed with a unique collection of assets, ideas and personnel whose aggregate productivity may vary (Markowitz, 1952).

2.2.3 Arbitrage pricing theory

The Arbitrage Pricing Theory (APT) is described in investopedia as an asset pricing model based on the idea that an asset's returns can be predicted using the relationship between that same asset and many common risk factors. It was created in 1976 by Stephen Ross; this theory predicts a relationship between the returns of a portfolio and the returns of a single asset through a linear combination of many independent macro-economic variables. It is a one-period model in which every investor believes that the stochastic properties of returns of capital assets are consistent with a factor structure. It is often viewed as an alternative to the capital asset pricing model (CAPM), since the APT has more flexible assumption requirements. Whereas the CAPM formula requires the market's expected return.

APT uses the risky asset's expected return and the risk premium of a number of macro-economic factors. The theory describes the price where a mispriced asset is expected to

be. Arbitrageurs use the APT model to profit by taking advantage of mispriced securities. A mispriced security will have a price that differs from the theoretical price predicted by the model. By going short an overpriced security, while concurrently going long the portfolio the APT calculations were based on, the arbitrageur is in a position to make a theoretically risk-free profit. (Ross, 1976)

The basis of arbitrage pricing theory is the idea that the price of a security is driven by a number of factors. These can be divided into two groups: macro factors, and companies specific factors. Ross' formal proof shows that the linear pricing relation is a necessary condition for equilibrium in a market where agents maximize certain types of utility. The subsequent work, which is surveyed below, derives either from the assumption of the preclusion of arbitrage or the equilibrium of utility-maximization. A linear relation between the expected returns and the betas is tantamount to an identification of the stochastic discount factor. The APT is a substitute for the Capital Asset Pricing Model (CAPM) in that both assert a linear relation between assets' expected returns and their covariance with other random variables. (Ross, 1976)

Arbitrage pricing theory does not rely on measuring the performance of the market. Instead, APT directly relates the price of the security to the fundamental factors driving it. The problem with this is that the theory in itself provides no indication of what these factors are, so they need to be empirically determined. Obvious factors include economic growth and interest rates. For companies in some sectors other factors are obviously relevant as well - such as consumer spending for retailers. The potentially large number of factors means more betas to be calculated. There is also no guarantee that all the relevant factors have been identified. This added complexity is the reason arbitrage pricing theory is far less widely used than CAPM (Sharpe, 1992).

2.3 Hedging Practices and Instruments

The first phase in financial risk management and hedging process is to identify and evaluate the risk exposure, which can be a difficult task (Okochi, 2008). Identifying the risks is challenging as companies are exposed to a portfolio of risks which contains both

companies specific risks and risks that are common to all firms in the economy. When financial risks which exposure is meant to be hedged are under analysis, companies must identify those risks that are subject to asset prices such as interest rates, exchange rates and commodity prices.

Companies use hedging instruments as derivatives in order to handle and reduce the risks they must face in their business. Advances in financial theory have created wide variety of hedging instruments such as derivatives and made them easily available for market participants. The derivative markets were developed in order to enable price detection and to facilitate risk pricing and hedging.

Derivatives are financial assets that derive their value from other assets. These are financial instruments which change their market value depending on the price of actual variable like exchange rate, stock price or price of commodity (Yakup and Asli, 2010). When the price of oil increases because of e.g. decreased supply, the prices of oil derivatives increase as well. In particular, there are financial derivatives that are tailored contracts written over asset prices such as interest rates, exchange rates and commodity prices. Derivatives are used neither financing nor investing but to transferring price risk associated with asset price fluctuations.

In financial markets there are several instruments developed to meet the participants' needs to hedge their exposures to foreign exchange rates, interest rates, and commodity prices or to their interest to speculate. The hedging tools that are used by firms are discussed below.

Futures contracts are financial derivatives which mean trading of deliveries that are in the future but the price is agreed already today. Like other derivatives, futures contract is an agreement to do something in the future, no goods or assets are exchanged today. However even though a physical delivery is possible, normally there's is no physical delivery and the delivery is settled so that only the price difference between positions is paid. Movements in commodities spot market prices affect to the value of bought or sold futures contract so that the rise in the spot price of the commodity benefits the party that

has bought the futures and vice versa for the one that was on the selling side. For most commodities as metals, energy products, and grains have their own futures contracts. In addition futures contracts are available for most currencies.

Forwards are very similar to futures contracts. The main difference is that futures are mostly traded in exchanges as forwards are tailored and mostly traded in OTC markets, which are explained a bit later in this study. Also the cash flow mechanism is slightly different to futures.

Swap contracts are common financial instruments that mostly used for hedging instead of speculating. Swaps can be used e.g. to hedge commodity prices, interest rates and currency rates. As with other derivatives physical delivery is not usually the aim of a swap contract.

Options are financial instruments which are used to buy a right, compared to an obligation which is a case with swaps and futures, to buy or sell the commodity or currency in an agreed price. Options are used to hedge both price and exchange rate risks.

Over The Counter (OTC) markets are unregulated markets compared to exchanges in which companies can make contracts to meet their own individual needs as long as they are able to find a counterparty that is willing to enter to a contract with them. Brokers are commonly used to find counterparty. Most of the swap and option contracts are done on OTC markets as official exchanges can't meet companies' hedging needs with their standardized contracts (Fusaro, 1998).

Commodity hedging its characteristic for all business environments that stock must be purchased and paid before the final product is sold to customers (Okochi, 2008). This period between purchasing the stock and selling the product puts a companies under an exposure of a price fluctuation which is the reasoning behind commodity hedging.

Whether companies use swaps, options or futures depends largely whether they are hedging long term debt or operational short-term transactions. Forwards and futures are

relatively low cost instruments and are suitable to hedge frequent exposures and uncertain transactions.

2.4 Empirical Review

In a study that was carried out by Steven (2003), he found out that corporate financial risk management seeks to manage a companies's exposure to currencies, interest rates, energy, commodities and other factors driven by the financial market. It should be viewed as an ongoing process that continually evolves with the companies as it encounters new and unforeseen risks. However, in reality, many companies that have identified various risks in their businesses do not have formal risk policies or strategies in place to manage these risks within a corporate approved process (Baldoni, 2001 and Jalilvand 2000). Many companies regard financial risk management as a series of unrelated transactions tied to a specific event or process. With this transactional approach to managing risk, one begins with a blank sheet of paper each time a new issue or problem arises, and then develops an independent solution for each disparate problem. While the dangers of this kind of approach seem obvious, it is surprising how many companies rely on transactional approach. Clearly, companies would benefit from a process that is woven into their overall business strategies and management process.

The study also revealed that financial industry in emerging economies is often heavily regulated and thus many risk management products, which are available in developed economies, may not be available. At the meantime, the technological infrastructures for emerging economies are often lagging behind that in the developed economies. Thus financial risk management in emerging economies has a long way to go. On the other hand, the awareness and willingness of companies in managing their risks has definitely increased in the emerging economies due to impact of events such as the European financial crisis. That is, the demand for financial risk management is increasing, especially in the past few years. Due to the great business potential, companies from industrial economies are keen to explore the financial risk management in emerging economies. Thus the development of financial risk management in emerging economies will be likely to grow at a fast pace. In sum, the emerging economies have to face the

trends of financial risk management in the digital economy and thus face similar challenges.

HMT (2004) presents two common alternative structures for risk management. The first one involves an Audit Committee, established as a Committee of the Board, ideally with non-executive membership and chaired by a non-executive, which will be charged with supporting the Accounting Officer in their responsibilities for issues of risk, control and governance and associated assurance. Financial risk management practices fall into three major categories; credit risk practices, liquidity risk management practice as and market risks (Kithinji, 2010). These financial risk management practices may influence the financial performance of oil firms. In a study on risk management policies and practices in a Vietnamese Joint-Stock Commercial Bank's Transaction Office, Dam (2010) investigated the credit risk management framework and the effectiveness of the credit risk management practices at both the firm's and a transaction office's level. The study had a research gap since it did not address the effect of credit risk management practices on the financial performance of these firms.

Kithinji (2010) conducted a study on credit risk management and profitability of commercial banks in Kenya using the non-performing loan portfolio (the independent variable) as an indicator of the effectiveness of credit management practices. The intervening variable was the amount of credit as indicated by loans and advances normalized by the total assets. The dependent variable was the profitability measured by the return on total assets. The author concluded that there was no significant relationship between credit risk management (non-performing loan portfolio), amount of credit and profitability. The study by Kithinji (2010) differs from this study in several respects;-the author used secondary data only while this study will use primary data from questionnaires and secondary data from the Oil companies. In addition, the study concentrated on commercial banks while this study is on Oil firms. The study also concentrated on credit risk only and failed to recognize the role of other financial risk such as market risk and liquidity risk.

Kargi (2011) conducted a study on credit risk and the performance of Nigerian banks. Kargi used non-performing credit portfolios and these significantly contributed to financial distress in the banking sector. Financial ratios as measures of bank performance and credit risk were the data collected from secondary sources mainly the annual reports and accounts of sampled banks from 2004 - 2008. The author concluded that credit risk management has a significant impact on the profitability of Nigeria banks. Therefore, management need to be cautious in setting up a credit policy that might not negatively affects profitability and also they need to know how credit policy affects the operation of their banks to ensure judicious utilization of deposits.

Ahmed *et al.* (2011) conducted a study on risk management practices and Islamic Banks. The authors' aim was to determine the firm's level factors which have significantly influenced the risk management practices of Islamic banks in Pakistan. The study used credit, operational and liquidity risks as dependent variables while size, leverage, NPLs ratio, capital adequacy and asset management are utilize as explanatory variable for the period of four years from 2006 to 2009. The study concluded that size of Islamic banks have a positive and statistically significant relationship with financial risks (credit and liquidity risk), whereas its relation with operational risk is found to be negative and insignificant. The asset management establishes a positive and significant relationship with liquidity and operational risk. The debt equity ratio and non-performing loans (NPLs) ratio have a negative and significant relationship with liquidity and operational risk. In addition, capital adequacy has negative and significant relationship with credit and operational risk, whereas it is found to be positive and with liquidity risk. The study differs from this study since their study concentrated on the Asian market while this study will focus on the Kenyan market.

Hansen (2009) conducted a study on the strategic foreign exchange risk management practice by Danish medium-sized non-financial, not-listed companies that are involved in international activities. The study showed that interaction between financial and operational hedges exists in the management of operating exposure and that operational and financial strategies are seen as complements to each other. The empirical results supported the hypothesis that the hedging strategies of the companies depend on their

flexibility. Multi-nationality and foreign build exposure were significant explanatory factors for the importance and application of various hedging strategies. On the aggregate level, the risk management objective of the companies and the involvement of both the operational and financial departments in the risk management were significant factors in explaining the importance and application of the operational hedging strategies. The size of the companies exhibited significance in explaining the importance and application of the financial hedging means. The study differs from the current study since it did not link foreign exchange risk management practices to the financial performance of Oil firms. In addition, the study by Hansen (2009) was conducted in a developed economy while the current study is being conducted in a developing economy. Furthermore, the study did not focus on Oil firms.

According to Yakup and Asli (2010) increased risk exposures and increased hedging activity are consequences of internalization in of business environments. Also Yakup and Asli (2010) point out companies that have foreign sales, foreign income, and foreign assets are exposed to exchange rate risk (due to more of foreign currencies) and interest rate risk (due to higher leverage and lower quick ratios). Oil companies are also more likely to be exposed to commodity price risk as their market prices become more volatile (Yakup and Asli, 2010).

Panos *et al.* (2009) highlight in their study that commodity risks have become more evident than before. For instance rapidly developing economies like China and India have driven up the global demand and prices. As the risk exposures have increased companies are aiming to manage their exposures better and hence avoiding increased costs or earning volatility (Panos *et al.*, 2009). However, the development of commodity exchanges and emergence of wide availability of forwards and other derivatives allows companies to meet these targets Panos *et al.*, (2009). Through the developed markets companies are able to hedge the price and demand uncertainties by using financial contracts as forwards, futures, swaps, and options as discussed earlier. Many commodities like agricultural products (corn, wheat, and soybeans), energy products (crude oil, petroleum products) and metals (aluminium, gold, copper) have their own hedging instruments

Okochi (2008) points out that commodity risk management is not always very straight forward and has often several challenges. Even defining the commodity price risk exposure which can be considered as a starting point of commodity hedging can be problematic (Okochi, 2008). After the exposures are defined and measured companies need to start analysis whether it is possible or reasonable to hedge the exposure. However, the efficiency of hedging strategy depends highly on the existence of a strong and stable correlation between commodity's spot and futures prices.

The efficiency of hedging strategy depends highly on the existence of a strong and stable correlation between commodity's spot and futures prices. If the correlation doesn't hold persistently or the level of correlation changes over time hedging loses its effectiveness. However, commodities futures contracts generally correlate very well with underlying commodity's spot prices (Gaur and Seshadri, 2005). For instance crude oil futures correlate excellently with crude oil spot prices.

2.5 Summary of Literature Review

Among the many academic articles, there is still a notable gap in this research study that has been undertaken to date in the context of financial risk management which will help firm to improve on financial performance. This study therefore aims at investigating and widening their scope on the impact of financial risk management to the financial performance of oil companies. The study will provide scholars with useful information on how to avert the exposure in their research. It will also be of use to financial managers who have the responsibility of managing the risk associated with foreign exchange exposure, credit risks and other transactional risks. To this end most research on the impact of financial risk management practices on financial performance has focused on the exposure of multinational companies and most of the focus has been financial institutions. This body of research has found mixed results regarding significant impact of risk management on financial performance of organizations. This will study seek to fill the existing research gap by determining the impact of financial risk management on financial performance of oil companies in Kenya.

CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the research design and methodology that will be used to carry out the research. It presents the research design, the population, sample size and sampling procedure, data collection and data analysis.

3.2 Research design

The study adopted causal research design in which quantity data was collected and analysed in order to describe the specific phenomenon in its current trends, current events and linkages between different factors at the current time. Causal research design was chosen because it enabled the study to establish the impact of financial risk management techniques on financial performance oil companies in Kenya. It was used to obtain information concerning the current status of the impact of financial risk management techniques on financial performance in Oil companies in Kenya.

3.3 Target Population

The study population consisted of all 85 Oil Companies operating in Kenya the list of the Oil Companies is obtained from the Energy Regulatory Commission register of Licensed Petroleum Companies.

3.4 Sampling Methods

The sample size of the study was 40 oil companies in Kenya with highest market share as well as those with a relatively small market share. This sample was selected based on stratified random selection of the companies listed by PIEA list of the market share of various companies. Sampling is that part of statistical practice concerned with the selection of an unbiased or random subset of individual observations within a population of individuals intended to yield some knowledge about the population of concern, especially for the purposes of making fair generalization of results back to the population from which they were chosen.

3.5 Data Collection

Questionnaires were used to obtain important information about the population. According to Sproul (1998), a self-administered questionnaire is the only way to elicit self-report on people's opinion, attitudes, beliefs and values. The questionnaire contained both closed-ended and also a few open ended questions.

The study also used secondary data. Primary data was collected using semi-structured questionnaires. The questionnaires were administered using drop and pick method. The questionnaires were used because it allowed the respondents who will be risk managers to give their responses in a free environment. Secondary data was collected from the financial statements of the oil companies' books of 5 years (2008-2012) to collect information on annual earnings.

3.6 Data analysis

The study used quantitative techniques in analyzing the data. After receiving questionnaires from the respondents, the responses were edited, classified, coded and tabulated to analyze quantitative data using Statistical Package for Social Science (SPSS). Tables and charts were used for further representation for easy understanding and analyzes.

The collected data was thoroughly examine and checked for completeness and comprehensibility. The data was then be summarized, coded and tabulated. Inferential statistic was used to establish the impact of financial risk management practices and the financial performance of oil companies, performance of oil companies was measured by their profitability in terms of Return on Assets. Inferential statistics seeks to establish a causal effect relating independent variables to the dependent variable. While financial risk management practice will be quantified from Linkert questions. Correlation analysis was used to establish the strength of the relationship between financial risk management practices and the financial performance of Oil companies in Kenya

A linear regression model of financial performance versus financial risk management techniques was applied to examine the relationship between the variables. The model treated financial performance of oil companies as the dependent variable while the

independent variables were the financial risk management practices. The response on financial risk management techniques was quantified based on the responses derived from the Likert-Scaled questions. Financial risk management is function of four aspects i.e. understanding risk and risk management, risk identification, risk analysis and assessment and risk monitoring:

$$RMP = f(URM, RI, RAA, RM)$$

Where:

RMP = risk management practices;

URM = understanding risk and risk management;

RI = risk identification

RAA = risk analysis and assessment

RM = risk monitoring

Therefore the relationship between financial performance and financial risk management can be represented in the linear equation derived below:

$$Y = \alpha + \beta_1 URM + \beta_2 RI + \beta_3 RAA + \beta_4 RM + \beta_5 \text{Size} + \beta_6 CS + e$$

Where:

Y= Financial Performance represented by ROA

α = Constant Term

β_1 = Beta coefficients

URM= Understanding risk and risk management

RI= Risk Identification

RM= Risk Monitoring

RAA= Risk analysis and assessment

Size= Size of the companies represented by a ratio of Turnover to Total Assets

CS= Capital structure represented by the Debt-Equity Ratio

ϵ = Error Term

In establishing the effect of financial risk management practices and companies's performance/profitability, there is a need to have a deeper understanding on the measurement of financial risk management practices. The use of questionnaire survey is highly suitable as Oil companies normally disclose minimal details on their risk management strategies in their annual reports (Tufano, 1996). Hence, questionnaires surveys will be used to measure the risk financial management practices of oil companies by giving a score to their practices. To measure the financial risk management practices, five important components in reference to Basel Committee on Banking Supervision (1999 and 2001) which are components are Risk Management Environment, Policies and Procedures, Risk Measurement, Risk Mitigation, Risk Monitoring and Internal Control. All these five components are then link with the mean of ROA.

The dependent variable was the financial performance of the Oil companies whereas the independent variables were the CAMEL components of Capital adequacy, Asset quality, Management efficiency, Earnings and Liquidity. Management efficiency was used as a measure of financial performance, the ratio of earning assets to total assets.

3.7 Validity and reliability

Piloting was carried out to test the validity and reliability of the instruments. Validity was indicated and the degree to which the instrument measures the constructs under investigation (Mugenda and Mugenda, (2003). There are three types of validity test which include content, criterion and related construct validity. This study used content validity because it measured the degree to which the sample of the items represents the content that the test is designed to measure.

A pilot study was conducted by the researcher taking some questionnaires to the Oil Companies headquarter in Nairobi which were filled by some respondents at random. From this pilot study the researcher was able to detect questions that need editing and those that are ambiguous. The final questionnaire was then printed and used to collect data to be used for analysis.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

This chapter presents analysis and findings of the study as set out in the research methodology. The data was gathered exclusively from questionnaire as the research instrument. The questionnaire was designed in line with the objectives of the study. To enhance quality of data obtained, pie charts, graphs and likert type questions were included whereby respondents indicated the extent to which the variables were practiced in a five point likerts scale.

4.2 Demographic Information

In order to capture the general information of the respondents' issues such as the name of the oil companies and the position in which the respondents hold in the oil companies were captured in the first section of the questionnaire.

4.2.1 Response Rate

The sample population for the study comprised of 40 Oil Companies in Kenya. The respondents comprised of 40 households selected from the Finance Department. The questionnaires that were handed out for filling in were 40. Those who returned the questionnaires were 32 respondents bringing the response rate at 80%. The study findings indicated that the response rate for the study was 80% which was sufficient and representative of the entire population. According to Mugenda and Mugenda (1999), a response rate of 50% is adequate for analysis and reporting; a rate of 60% is good and a response rate of 70% and over is excellent.

Table 4.1: Response Rate and Position at Oil Companies

Respondents	Sample population	Percentage	Response rate	Percentage
Category	Frequency	%	Frequency	%
Finance Managers	18	45%	14	35%
Chief Finance Officers	5	7.5%	3	20.5%
Credit analyst	10	30%	10	30%
Others	7	17.5%	5	12.5%
Total	40	100%	32	80%

Source: Author, 2013

4.2.2 Name of Oil companies

The respondents were asked to indicate the name of the oil companies in which they work for. According to the study, the respondents indicated the name of the Oil companies operating in Kenya with the highest and smallest market share. The study used a sample size of 40 oil companies in Kenya that were selected based on stratified random selection of the companies listed by PIEA list of the market share of various companies. Some of the Oil companies were Shell Kenya Limited, Libya Oil Kenya Limited, Total Kenya Limited, Kenol Kobil, Hashi Energy, National Oil Corporation of Kenya, Hass petroleum and Premium Oil companies etc.

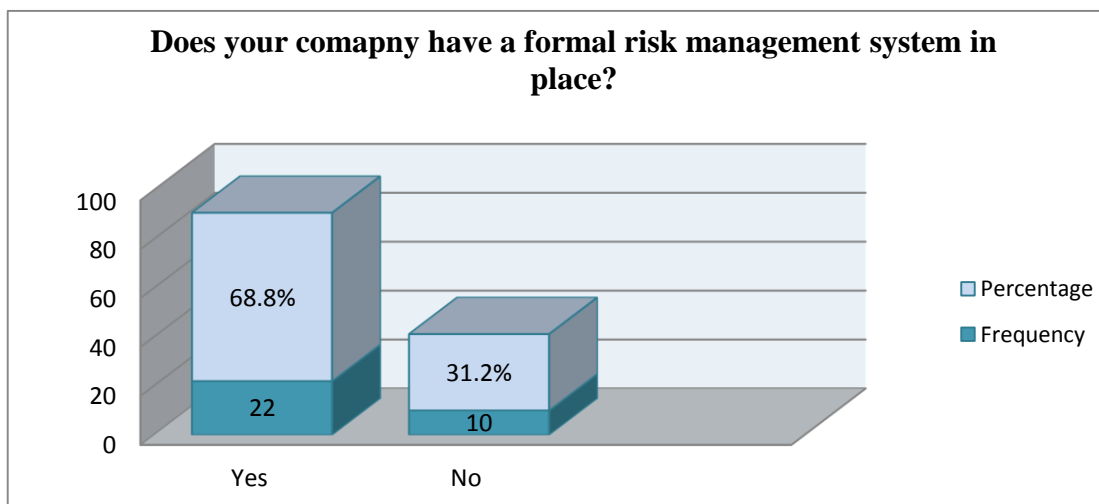
4.2.3 Position held in the Oil Companies

The respondents were asked to indicate the position they held in the petroleum companies. According to the study findings, the majority of the respondents indicated that they worked as Financial Managers and Chief Finance Officers. The position of the respondents was relevant to the study as the main objective of the study was to determine the effect of financial risk management techniques on financial performance of Oil Companies in Kenya.

4.3 Information on Financial Risk Management

4.3.1 Formal Risk Management system

Figure 4.1: Formal Risk Management system (RMS)

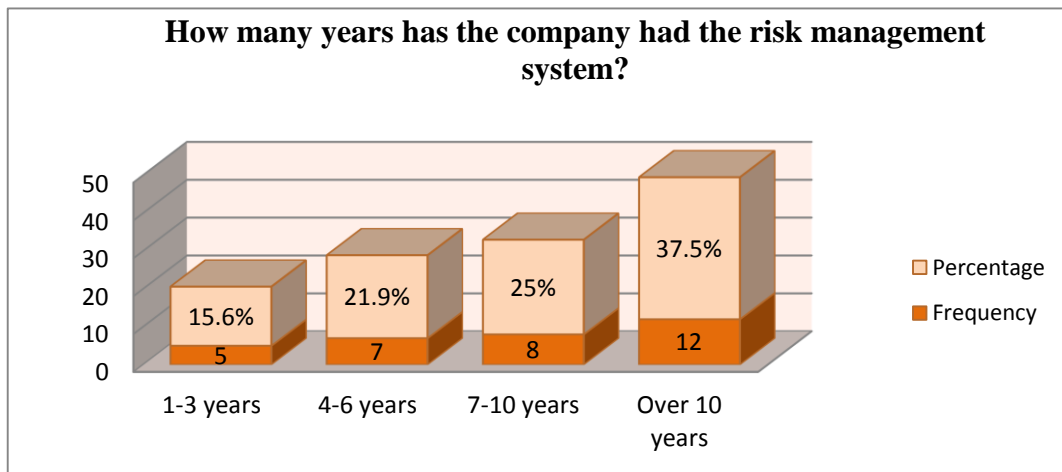


Source: Author, 2013

Majority of the respondents 68.80% agreed that their companies have a formal risk management system in place while 31.2% disagreed that their companies have a formal risk management system in place.

4.3.2 Number of years Companies had RMS

Figure 4.2: Number of years Companies had RMS



Source: Author, 2013

The study found out that majority of the respondents 37.5% stated that the companies had a formal risk management system and it had been in the companies for over 10 years. 25% of the respondents indicated that between 7-10 years the companies has had the Risk Management System (RMS); 21.9% of the respondents indicated that between 4-6 years the companies has had the Risk Management System; 15.6% of the respondents indicated that between 1-3 years the companies has had the Risk Management System.

4.4 Parties involved in formulation of risk management policies

The respondents were asked to rate the participation of the following parties in formulation risk management policies using a scale of 1-5 where 1= very little extent, 2= less extent, 3= moderate extent, 4= large extent and 5= very great extent. The scores of 'less extent' have been taken to present a variable which had an impact to a very little extent (V.L.E) and less extent (L.E) (equivalent to mean score of 0 to 2.5 on the continuous Likert scale ;($0 \leq \text{V.L.E/L.E} < 2.4$). The scores of 'to a moderate extent' have

been taken to represent a variable that had an impact to a moderate extent (M.E.) (equivalent to a mean score of 2.5 to 3.4 on the continuous Likert scale: $2.5 \leq M.E. < 3.4$). The score of 'most used' have been taken to represent a variable which had an impact to a Great extent (G.E.) (equivalent to a mean score of 3.5 to 5.0 on a continuous Likert scale; $3.5 \leq G.E. < 5.0$). A standard deviation of >1.5 implies a significant difference on the impact of the variable among respondents.

Table 4.2: Parties involved in formulation of risk management policies

Parties involved	Mean	Std. Dev
Executive management	3.6043	1.35414
Employee suggestions	2.8913	1.52682
Board of directors	3.1957	1.53242
Financial manager	3.1522	1.55156
Credit analyst	3.9130	1.40114
Third parties e.g financial consultants	3.5435	1.43022
Others, please specify	2.4134	1.41571

Source: Author, 2013

From the findings the respondents identified the following as the parties involved in formulation of risk management policies; Executive management (mean of 3.6043), credit analyst (mean of 3.9130) and third parties e.g financial consultants (mean of 3.5435) were rated to a large extent they were involved in the formulation of risk management policies. On a moderate extent the following were the parties involved in formulation of risk management policies; Board of directors (mean of 3.1957), financial manager (mean of 3.1522) and employee suggestions (mean of 2.8913). Other parties involved in formulation of risk management policies were rated to a less extent with a mean of 2.4134.

4.5 Major roles of financial risk management

The respondents were asked to what extent they rate the following as major roles that the financial risk management plays in their organisation. The table below rates the major roles using a scale of 1-5 where 1= very little extent, 2= less extent, 3= moderate extent, 4= large extent and 5= very great extent.

The scores of ‘less extent’ have been taken to present a variable which had an impact to a very little extent (V.L.E) and less extent (L.E) (equivalent to mean score of 0 to 2.5 on the continuous Likert scale ;($0 \leq V.L.E/L.E < 2.4$). The scores of ‘to a moderate extent’ have been taken to represent a variable that had an impact to a moderate extent (M.E.) (equivalent to a mean score of 2.5 to 3.4 on the continuous Likert scale: $2.5 \leq M.E. < 3.4$). The score of ‘most used’ have been taken to represent a variable which had an impact to a Great extent (G.E.) (equivalent to a mean score of 3.5 to 5.0 on a continuous Likert scale; $3.5 \leq G.E. < 5.0$). A standard deviation of > 1.5 implies a significant difference on the impact of the variable among respondents.

Table 4.3: Major roles of financial risk management

Roles	Mean	Standard Deviation
Enhancing financial strength	4.9130	.83253
Implement and ensure security	4.5217	1.06173
Ensure employees protection	4.0870	1.35344
Management risk transfer programs	3.4783	1.51146
Establish business continuity programs	4.3261	1.14728

Source: Author, 2013

From the findings the respondents identified the major roles of financial risk management as follows; Enhancing financial strength (mean of 4.9130) was rated as a major role of financial risk management to a very great extent and implement and ensure security (mean of 4.5217) was also rated to a very great extent a major role of financial risk management. Ensure employees protection (mean of 4.0870) was rated to a large extent a major role of financial risk management and establish business continuity programs was also rated to a large extent a major role of financial risk management. Management risk transfer programs (mean of 3.4783) was rated to a moderate extent as a role of financial risk management.

4.5.1 Factors that influence attitude towards financial risk management

The respondents were asked to rate the extent to which the following major factors influence the organisations attitude towards financial management using a scale of 1-5 where 1= very little extent, 2= less extent, 3= moderate extent, 4= large extent and 5=

very great extent. The scores of ‘less extent’ have been taken to present a variable which had an impact to a very little extent (V.L.E) and less extent (L.E) (equivalent to mean score of 0 to 2.5 on the continuous Likert scale ;($0 \leq V.L.E/L.E < 2.4$). The scores of ‘to a moderate extent’ have been taken to represent a variable that had an impact to a moderate extent (M.E.) (equivalent to a mean score of 2.5 to 3.4 on the continuous Likert scale: $2.5 \leq M.E. < 3.4$). The score of ‘most used’ have been taken to represent a variable which had an impact to a Great extent (G.E.) (equivalent to a mean score of 3.5 to 5.0 on a continuous Likert scale; $3.5 \leq G.E. < 5.0$). A standard deviation of >1.5 implies a significant difference on the impact of the variable among respondents.

Table 4.4: Factors that influence attitude towards financial risk management

Factors	Mean	Standard Deviation
Board of Directors influence	3.2861	1.42572
Regulatory requirements	4.0652	1.33020
Industry Competition	4.0217	1.57289
Competition in the entire economy	2.0870	1.71076
Desire for achievement of high returns	3.5435	1.43022

Source: Author, 2013

The study found that the following statements as the major factors influencing the organisations attitude towards financial risk management. To a large extent, Regulatory requirements (mean of 4.0652) and Industry Competition (mean of 4.0217) were rated as factors that influence attitude towards financial risk management. Board of Directors influence (mean of 3.2861) and Desire for achievement of high returns (mean of 3.5435) were rated to a moderate extent as factors that influence attitude towards financial risk management. Competition in the entire economy was rated as to a less extent factor influencing attitude towards financial risk management.

4.6 Types of risks and risk identification process

The respondents were asked to rate the extent to which their companies focuses on the types of risks in the risk identification process using a scale of 1-5 where 1 is to a very great extent and 5 is to no extent.

The scores of ‘great extent’ have been taken to present a variable which had an impact to a very little extent (V.L.E) and less extent (L.E) (equivalent to mean score of 0 to 2.5 on the continuous Likert scale ;($0 \leq V.L.E/L.E < 2.4$). The scores of ‘to a moderate extent’ have been taken to represent a variable that had an impact to a moderate extent (M.E.) (equivalent to a mean score of 2.5 to 3.4 on the continuous Likert scale: $2.5 \leq M.E. < 3.4$). The score of ‘great extent’ have been taken to represent a variable which had an impact to a great extent (G.E.) (equivalent to a mean score of 3.5 to 5.0 on a continuous Likert scale; $3.5 \leq G.E. < 5.0$). A standard deviation of >1.5 implies a significant difference on the impact of the variable among respondents.

Table 4.5: Risk identification

Risk identification	Mean	Standard Deviation
Interest rate risks	4.1957	1.15802
Transaction risks	3.9783	1.41146
Liquidity risks	3.4348	1.50404
Political risks	2.0870	1.71076
Market risks	4.5217	1.06173
Price risk exposure	2.1522	1.56910
Foreign exchange risks	3.2391	1.76567
Technology risks	3.6087	1.42673

Source: Author, 2013

The respondents were asked to rate the extent to which the companies focused on the types of risks in the risk identification process. The risk identification was rated as follows: Interest rate risks (mean of 4.1957) and Market risks (mean of 4.5217) were rated to less extent the companies focuses on the types of risks in the risk identification process. Transaction risks (mean of 3.9783); Technology risks (mean of 3.6087) were rated to a less extent the companies focuses on the types of risks in the risk identification process. Liquidity risks (mean of 3.4348) and Foreign exchange risks (mean of 3.2391) were rated to a moderate extent the companies focuses on the types of risks in the risk identification process. Political risks (mean of 2.0870) and Price risk exposure (2.1522) were rated to a great extent that the companies focuses on the types of risks in the risk identification process.

4.7 Means of creating awareness on financial risks management

The respondents were asked to rate through what means they were made aware of financial risks facing them in the companies using a scale of 1-4 where 1= Mean not used, 2= least used, 3= moderately used and 4= most used.

Table 4.6: Means of creating awareness on financial risks management

Creating awareness through	Mean	Standard Deviation
Regular meetings	4.2957	.87072
Regular trainings	3.5348	.92939
One on one basis	2.1087	.75962

Source: Author, 2013

The study found out the means of being made aware of financial risks in the companies. The respondents indicated the following as the means: Regular meetings (mean of 4.2957) it was rated as mostly used means of creating awareness on financial risks management in the companies to the staff members. Regular trainings (mean of 3.5348) it was rated as a means that is moderately used as a means of creating awareness on financial risks management in the companies to the staff members. One on one basis (mean of 2.1087) it was rated as the least used means of creating awareness on financial risks management in the companies to the staff members.

4.8 Risk monitoring practices

The respondents were asked to rate the risk monitoring practices that apply in financial management in their companies using a scale of 1-5 where 1= not effective, 2= Least effective, 3= slightly effective, 4= effective and 5= very effective.

The scores of 'not effective' have been taken to present a variable which had an impact to a not effective (N.E) and Least effective (L.E) (equivalent to mean score of 0 to 2.5 on the continuous Likert scale ;($0 \leq N.E/L.E < 2.4$). The scores of 'slightly effective' have been taken to represent a variable that had an impact to a slightly effective (S.E.) (equivalent to a mean score of 2.5 to 3.4 on the continuous Likert scale: $2.5 \leq S.E. < 3.4$). The score of 'effective' have been taken to represent a variable which had an impact to a effective (E.) and very effective (V.E) equivalent to a mean score of 3.5 to 5.0 on a

continuous Likert scale; $3.5 \leq V.E/E < 5.0$). A standard deviation of >1.5 implies a significant difference on the impact of the variable among respondents.

Table 4.7: Risk monitoring practices

Risk Monitoring	Mean	Standard Deviation
The credit limits for customers are strongly monitored and adhered to	3.6304	.67355
The companies regularly (e.g. weekly) reviews the debtors' aging	2.1913	.73181
The companies regularly (e.g. weekly) assesses its working capital	2.5682	.78335
The companies monitors the world oil prices through petroleum products price assessment platforms such as Platts	3.7174	.74471
The companies monitors the foreign currency prices very regularly to determine the best time to deal in foreign currency	4.2783	.97575
Other risk monitoring practices, please specify	2.0304	.67355

Source: Author, 2013

The study found out that risk monitoring practices that applied in financial risk management as follows: The credit limits for customers are strongly monitored and adhered to (mean of 3.6304) indicating that it was a slightly effective risk monitoring practice. The companies regularly (e.g. weekly) reviews the debtors' aging (mean of 2.1913) indicating that it was least effective in monitoring risks in the companies. The companies regularly (e.g. weekly) assesses its working capital (mean of 2.5682) also indicating least effective that it was least effective in monitoring risks in the companies. The companies monitors the world oil prices through petroleum products price assessment platforms such as Platts (mean of 3.7174) indicating that it was effective also the companies monitors the foreign currency prices very regularly to determine the best time to deal in foreign currency (mean of 4.2783) indicating that it was effective in monitoring risk while other risk monitoring practices (mean of 2.0304) indicating that it was least effective in monitoring risk practices.

4.9 Risk Management Technique

The respondents were asked to rate the extent to which the following financial risk management techniques affect the financial performance of the financial performance of the oil companies they worked in. The respondents used a scale of 1-5 where 1= not effective, 2= Least effective, 3= slightly effective, 4= effective and 5= very effective.

The scores of 'not effective' have been taken to present a variable which had an impact to a not effective (N.E) and Least effective (L.E) (equivalent to mean score of 0 to 2.5 on the continuous Likert scale ;($0 \leq \text{N.E/L.E} < 2.4$). The scores of 'slightly effective' have been taken to represent a variable that had an impact to a slightly effective (S.E.) (equivalent to a mean score of 2.5 to 3.4 on the continuous Likert scale: $2.5 \leq \text{S.E.} < 3.4$). The score of 'effective' have been taken to represent a variable which had an impact to a effective (E.) and very effective (V.E) equivalent to a mean score of 3.5 to 5.0 on a continuous Likert scale; $3.5 \leq \text{V.E/E} < 5.0$). A standard deviation of >1.5 implies a significant difference on the impact of the variable among respondents.

Table 4.8: Risk Management Technique

Risk Management technique	Mean	Standard Deviation
Commodity price hedging	1.1957	1.85802
Having strict credit policies	4.2391	1.16866
There are set credit limits for customers	3.8261	1.22572
The companies regularly appraises debtors using the 5C's	4.0652	1.33020
Factoring forex fluctuations in the cost model as part of finance costs	4.0217	1.57289
Margin transaction hedging	2.0870	1.71076
Forecasting exposures to exchange rate risk	3.5435	1.43022
Use of Forwards & Futures to reduce exposure for foreign exchange fluctuations.	3.5435	1.43022
Price risk management	3.4348	1.50404
Information sharing between the department implementing hedging and supply chain management and processes	3.7609	1.45268

The companies has fully constituted and functional financial management teams that carry out financial management process	3.6957	1.53599
Emphasis in periodic sale review of oil supply procedures	3.8043	1.33378

Source: Author, 2013

From the findings the risk management techniques were identified as follows: Commodity price hedging (mean of 2.1957) Margin transaction hedging (mean of 2.0870) and indicating that they were least effective in financial risk management techniques that affect the financial performance of the financial performance of the oil companies they worked in. On slightly effective, there are set credit limits for customers (mean of 3.8261), Forecasting exposures to exchange rate risk (mean of 3.5435), Use of Forwards & Futures to reduce exposure for foreign exchange fluctuations (mean of 3.5435), Price risk management (mean of 3.4348), Information sharing between the department implementing hedging and supply chain management and processes (mean of 3.7609), The companies has fully constituted and functional financial management teams that carry out financial management process (mean of 3.6957) and Emphasis in periodic sale review of oil supply procedures (mean of 3.8043) were indicated as slightly effective in financial risk management techniques that affect the financial performance of the financial performance of the oil companies they worked in. On effective risk management techniques, having strict credit policies (mean of 4.2391), the companies regularly appraises debtors using the 5C's (mean of 4.0652) and factoring forex fluctuations in the cost model as part of finance costs (mean of 4.0217).

Financial risk management is function of four aspects i.e. understanding risk and risk management, risk identification, risk analysis and assessment , risk monitoring Size of the companies *and* Capital structure

4.10 Data Analysis- Advance (Inferential Analyses)

Under the advance analysis, correlation analysis was first used to measure the degree of association between different variables under consideration. While the regression analysis was used to determine the effect of financial risk management on financial performance of oil these companies.

Table 4.9: Pearson Correlation Coefficients

	Financial performance	Understanding risk and risk management	Risk identification	risk analysis and assessment	risk monitoring	Size of the companies	Capital structure
Financial performance	1.000						
Understanding risk and risk management	.536	1.000					
Risk identification	.752	.118	1.000				
Risk analysis and assessment	.467	.128	.247	1.000			
Risk monitoring	.460	.126	.345	.234	1.0000		
Size of the companies	0.910	-0.158	-0.134	-0.433	0.429	1.000	
Capital structure	-0.373	-0.108	0.270	0.505	-0.429	-0.373	1.000

A multivariate regression model was applied to determine the relative importance of each of the four variables with respect to the status of financial performance in respective oil companies.

The regression model was as follows:

$$y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + e$$

Where:

Y = Financial performance represented by ROA

β_0 = Constant Term

β_1 = Beta coefficients

X_1 = Understanding risk and risk management

X_2 = Risk identification

X_3 = Risk analysis and assessment

X_4 = Risk monitoring

X_5 = Size of the companies represented by a ratio of Turnover to Total Assets

X_6 = Capital structure represented by the Debt-Equity Ratio

ϵ = Constant error

Strength of the model

Analysis in table 4.10 shows that the coefficient of determination (the percentage variation in the dependent variable being explained by the changes in the independent variables) R^2 equals 0.843, that is, risk Identification, risk analysis and assessment, risk Monitoring, Risk monitoring , Size of the companies *and* Capital structure explain 84.3 percent of financial performance leaving only 15.7 percent unexplained. The P- value of 0.000 (Less than 0.05) implies that the model of financial performance is significant at the 5 percent significance

Table 4.10: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.918(a)	.843	.805	.51038	.843	1.242	4	36	.001

Source, Researcher (2011)

Predictors: (*Constant*), understanding risk, risk identification, risk analysis and assessment and risk monitoring, Size of the companies *and* Capital structure

Dependent Variable: *financial performance*

Table 4.11 ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	.852	4	.213	1.242	0.001
Residual	6.173	36	.171		
Total	7.024	40			

Predictors: (*Constant*),), understanding risk and risk management, risk identification, risk analysis and assessment , risk monitoring, Size of the companies *and* Capital structure

Dependent Variable: *financial performance*

ANOVA findings (P- value of 0.001) in table 4.11 shows that there is correlation between the predictors variables (*understanding risk and risk management, risk identification, risk analysis and assessment, risk monitoring, Size of the companies and Capital structure*) and response variable (*financial performance*)

Table 4.11: Coefficients of regression equation

		Unstandardized		Standardized	t	Sig.
		Coefficients		Coefficients		
		B	Std. Error	Beta		
(Constant)		.260	.460		0.565	.231
Understanding risk	X ₁	.131	.048	.254	2.729	.001
Risk Identification	X ₂	.170	.045	-.300	3.778	.000
Risk analysis and Assessment	X ₃	.051	.023	.113	2.217	.002
Risk monitoring	X ₄	.048	.022	.093	2.182	.000
Size of the companies	X ₅	0.075	0.066	1.124	0.270	-0.061
Capital structure	X ₆	-0.031	0.020	-1.496	0.145	-0.072

Dependent Variable: Financial performance

The established multiple linear regression equation becomes:

$$Y = 0.260 + 0.131X_1 + 0.170X_2 + 0.051X_3 + 0.048X_4 + 0.075 X_5 + 0.031 X_6 + e$$

Where

Constant = 0.260, shows that if understanding risk, risk identification, risk analysis and assessment and risk monitoring were all rated as zero, financial performance would be 0.260

X₁= 0.131, shows that one unit change in understanding risk results in 0.131 units increase in Financial performance

X₂= 0.170, shows that one unit change in risk identification results in 0.170 units increase in financial performance

X₃= 0.051, shows that one unit change in risk analysis and assessment results in 0.051 units increase in Financial performance

$X_4 = 0.048$, shows that one unit change in risk monitoring results in 0.048 units increase in financial Performance.

$X_5 = 0.075$ shows that one unit change in Size of the companies results in 0.075 units increase in financial Performance

$X_6 = 0.031$ shows that one unit change in Capital structure results in 0.031 units increase in financial Performance

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

The objective of the study was to determine the effect of financial risk management techniques on financial performance of Oil Companies in Kenya. From the study findings the parties involved in the formulation of risk management policies, the respondents indicated that executive management was effectively involved as showed by the mean obtained in the study (mean of 3.6043).

From the study the major roles of financial risk management was identified as enhancing financial strength (mean of 4.9130), implementing and ensuring security (mean of 4.5217) in the companies. The study found out the major factors that influence the organisations attitude towards financial management and was rated and the major factors were Regulatory requirements (mean of 4.0652) and Industry Competition (mean of 4.0217). Study also identified types of risks in the risk identification process, among them is interest rate risks (mean of 4.1957) as the major risk as indicated by the respondents. Communication to the staff of the companies was mainly through organized regular meetings (mean of 4.2957) as indicated by the majority of the respondents. The risk monitoring practices that was most effective as indicated by the majority of the respondents was that the companies monitors the foreign currency prices very regularly to determine the best time to deal in foreign currency (mean of 4.2783). The risk management technique that was most effective as indicated by the respondents was having strict credit policies (mean of 4.2391) and companies regularly appraises debtors using the 5C's (mean of 4.0652) and factoring forex fluctuations in the cost model as part of finance costs (mean of 4.0217).

5.2 Conclusion

From the findings of the study, 1 unit change in Financial Risk Management (comprising of Understanding Risk, Risk Identification, Risk Analysis and Assessment & Risk Monitoring) results in 0.40 units increase in Financial Performance of Oil Companies. It can therefore be concluded that Financial Risk Management positively affects the

Financial performance of Oil Companies in Kenya. It can also be concluded that the respondents are gradually embracing financial risk management techniques as a tool for boosting the financial performance of Oil Companies in Kenya. This is supported by the high number of respondents who indicated that they have a financial risk management system in their companies which is encouraging despite having a small minority who did not reckon with financial risk management. The study found out that regular meetings and training of employees on the financial risk management it would enhance their knowledge and skills with the same. There is a need to look at other aspects such as strategic management and evaluation of financial risk management on the financial performance of companies in Kenya.

5.3 Recommendations

Based on the study findings, it is recommended that the oil companies should involve executive management risk management policies in the process of financial risk management on financial performance of oil companies. Training should be organized for staff so that they learn more about the concept of financial risk management on financial performance. Effective communication with employees to make them aware of the financial risks management in the companies is highly recommended as it will help them understand the way around financial management. The study also recommends that risk management techniques should be emphasized and made more effective in the companies.

5.4 Recommendation for Further Research

This study focused on the effect of financial risk management on financial performance of oil companies in Kenya. The study recommends that similar research should be replicated in other companies which have implemented financial risk management on financial performance so as to establish whether there is consistency on the effects of financial risk management on financial performance of oil companies in Kenya. The researches will greatly benefit oil companies, government and academicians who will be provided with information regarding the effect of financial risk management on financial performance in the oil industry.

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