

**EFFECT OF GOVERNMENT REGULATIONS ON SUPPLY
CHAIN PERFORMANCE OF OIL MARKETING COMPANIES
IN KENYA**

By:

MWINYI SALIM ATHMAN

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

2012

DECLARATION

This project is my original work and has not been presented for a degree in any other university.

Date

Mwinyi Salim Athman.

D61/60347/2010

The research project has been submitted for examinations with my approval as the university supervisor.

Signed . . . y M ^ Date . J . ? M ? .

Stephen Odock

School of Business

University of Nairobi

ACKNOWLEDGEMENTS

First and for most, I thank the Almighty God for the strength, good health, sound mind, and resources that have enabled me to undertake postgraduate studies.

Secondly, I wish to express my Special thanks to my supervisor, Mr. Stephen Odock for his encouragement and guidance throughout the research.

It's also my pleasure to express my sincere gratitude to the various oil companies that provided me with the data and information that was essential for my research.

And finally I would like to appreciate the support of my fellow classmates, with whom we shared great times as well as knowledge.

DEDICATION

I would like to dedicate this project to my beloved family and friends for giving me support throughout my Education. Thank you my dears.

ABSTRACT

Supply chain management as the delivery of enhanced customer and economic value through synchronized management of the flow of physical goods and associated information from sourcing to consumption, though, achieving the real potential of supply chain management require integration not only of these entities within the organization, but also of the external partners.

The purpose of this research project was to provide a qualitative and quantitative analysis of the effect of government regulations on the supply chain performance of oil marketing companies in Kenya. The study is based on a survey of 50 Kenyan oil marketing firms with respondents mainly from supply and procurement departments.

The findings clearly indicate that government regulations affect the supply chain performance of oil marketing companies in Kenya. The study recommends that oil marketing firms should investment in supply chain management strategies. The study also suggests that ERC should recognize macroeconomic factors affecting oil firms when formulating oil prices.

The study provides an insight into understanding the SCM practices, the benefits of effective SCM and the hindering factors.

TABLE OF CONTENTS

DECLARATION.....	a
ACKNOWLEDGEMENTS.....	U
DEDICATION.....	iii
ABSTRACT.....	iv
TABLE OF CONTENTS.....	v
LIST OF ABBREVIATIONS.....	vii
CHAPTER ONE: INTRODUCTION.....	1
1.1 BACKGROUND OF THE STUDY.....	1
1.1.1 supply chain management.....	2
1.1.2 petroleum industry in Kenya.....	3
1.1.3 government involvement in the oil industry operations.....	5
1.2 RESEARCH PROBLEM.....	6
1.3 OBJECTIVES OF THE STUDY.....	8
1.4 VALUE OF THE STUDY.....	9
CHAPTER TWO: LITERATURE REVIEW.....	10
2.1 INTRODUCTION.....	10
2.2 SUPPLY CHAIN AND SUPPLY CHAIN MANAGEMENT.....	10
2.3 SUPPLY CHAIN MANAGEMENT PRACTICES.....	12
2.4 PREVIOUS STUDIES ON SCM IN KENYA.....	15
2.5 BENEFITS OF EFFECTIVE SCM PRACTICES.....	16
2.6 CHALLENGES OF IMPLEMENTING SCM PRACTICES.....	17
2.7 CONCEPTUAL FRAMEWORK OF THE STUDY.....	19
CHAPTER THREE: RESEARCH METHODOLOGY.....	21
3.1 INTRODUCTION.....	21
3.2 RESEARCH DESIGN.....	21
3.3 POPULATION.....	21

3.4 DATA COLLECTION.....	22
3.5 DATA ANALYSIS.....	22
CHAPTER FOUR: DATA ANALYSIS, FINDINGS AND DISCUSSIONS.....	23
4.1 INTRODUCTION.....	23
4.2 COMPANY CHARACTERISTIC.....	23
4.2.1 Nature of the firm.....	23
4.2.2 Employees gender in relation to the years served in the firm.....	24
4.3 GOVERNMENT REGULATONS AND SUPPLY CAHIN PERFORMANCE.....	25
4.3.1 Price control and supply chain performance.....	26
4.3.2 Open tender system and supply chain performance.....	27
4.3.3 Bond guarantee and supply chain performance.....	28
4.4 SUPPLY CHAIN MANAGEMENT PRACTICES.....	29
4.5 FACTORS USED IN DECIDING TO CHANGE SCM STRATEGIES.....	30
4.6 MEASURES TO IMPROVE SCM PRACTICES.....	32
4.7 CHALLENGES IN THE IMPLEMENTATION AND EFFECTIVE USE OF SCM PRACTICES. ..	33
CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS.....	36
5.1 INTRODUCTION.....	36
5.2 SUMMARY.....	36
5.3 CONCLUSION.....	37
5.3 RECOMMENDATIONS.....	38
5.4 LIMITATIONS OF THE STUDY.....	39
5.5 SUGGESTIONS FOR FURTHER STUDIES.....	40
REFERENCES.....	41
APPENDICES.....	45
APPENDIX I: INTRODUCTION LETTER TO THE RESPONDENTS.....	45
APPENDIX II: QUESTIONNAIRE.....	46
APPENDIX III: LIST OF COMPANIES TO BE STUDIED.....	51

LIST OF ABBREVIATIONS

ERC - Energy Regulatory Commission

KPC - Kenya Pipeline Company

KPRL - Kenya Petroleum Refineries Limited

MOE - Ministry of Energy

OMC - Oil Marketing Companies

OTS - Open Tender System

SC - Supply Chain

SCM - Supply Chain Management

CHAPTER ONE: INTRODUCTION

1.1 Background of the study

A company's competitive position depends upon its ability to understand changes in demand and supply and respond appropriately. Supply chain management techniques and practices are the mechanisms that can allow the company to respond to these environmental changes. Changes in trade, government regulations, the spread and modernization of transport infrastructure and the intensification of competition have elevated the importance of supply chain management to new levels (Joel, 2010).

Increase in competition both in the local and export markets have put more pressure on managers to develop various market strategies in creating and maintaining customer's loyalty. New government regulations on the other hand limit the operations of oil marketing companies. Ships for instance take long to offload goods thus attracting some additional charges (demurrage charges) and reduce the delivery speed. SCM had been recognized as one of the alternative strategies to gain higher competitive advantage, other than to achieve organizational performance. Furthermore business environment is characterized by unpredictability and changeability. With the growth of inter-network competition, individual organization may no longer compete solely as independent organization but must do as a supply chain. Companies in the same network require efficient SCM in order to optimize their collective performance (Joel, 2010).

1.1.1 Supply Chain Management

The institute of Supply Management (2009) defines supply chain management as the identification, acquisition, access, positioning and management of resources and related capabilities an organization needs or potentially needs in the attainment of its strategic objectives.

Mentzer et al (2001) defined supply chain management as a management philosophy which comprises of a system approach to viewing the supply chain as a whole and managing the total flow of goods inventory from the supplier to the ultimate consumers; a strategic orientation towards cooperative efforts to synchronize and converge intra-firm and inter firm operational and strategic capabilities into a unified whole and a customer focus to create unique and individualized sources of customer value, leading to customer satisfaction.

SCM can also be defined as the integration and management of supply chain organizations and activities through cooperative organizational relationships, effective business process, and a high level of information sharing to create high performing value systems that provide member organizations sustainable competitive advantage (Handfield, 2002).

Many factors are driving an emphasis on supply chain management. The cost and availability of information resources between entities in the supply chain allow easy linkages that eliminate time delays in the network; the level of competition in the market and increased government regulations requires organization to be fast, agile and flexible; customer expectations and requirements are becoming much more demanding; the ability

of an organization's supply chain to react rapidly to major disruptions in both supply and downstream product or services will lessen the impact on lost sales. As demands increase, organization and their suppliers must be responsive or face the prospect of losing market share (Chopra and Meindl, 2001).

Competition today is no longer between firms; it is between the supply chains of those firms. The companies that configure the best supply chains will be the market winners and gain competitive advantage (Collin, 2004). Implementing effective SCM is not an easy task; it requires coordination between departments within an organization as well as between partners within the supply chain. Changes in the external environment like changes in prices and regulations lead to organizations to adopt more flexible supply chain practices. Investment on employees training and development is also fundamental factor to be considered for effective SCM.

1.1.2 Petroleum Industry in Kenya

Kenya is a net importer of petroleum products spending about sh.225 billion annually and petroleum industry accounts for more than 40% of the country's customs revenues. It also provides investment and job opportunities to Kenyan citizens. Following these benefits the government has taken several measures to upgrade its storage, transportation and clearing facilities through its agents (Kenya pipeline, Kenya petroleum refineries and Kenya revenue authority).

The institutional structure of petroleum industry comprises the Ministry of Energy, the Energy Regulatory Commission (ERC), Kenya Pipeline Company (KPC), Kenya Petroleum Refineries Limited (KPRL) and Multinational Independent Oil Marketing

Companies that include a State Oil Company, the National Oil Corporation of Kenya (NOCK). The Ministry of Energy provides the policy leadership, while ERC provides regulatory stewardship of the sub-sector. KPC is a state corporation fully owned by government under the MOE. Its overall objective is to provide the economy with the most efficient, reliable, safe and least cost means of transporting petroleum products from Mombasa to the hinterland. Specifically, it runs a 450kms 14 inch pipeline from Mombasa to Nairobi and manages open access Kipevu Oil Storages Facilities and other common storage depots in the inland. KPRL is a limited company that runs a single skimming refinery in Mombasa. Approximately 85.3 per cent of market share control is by major oil companies, that is Shell, Total, Kenol Kobil and oil libya. The major oil companies are vertically integrated with a stake of 51.4 per cent of the 1,153 retail outlets, the remaining are controlled by new entrants and independent owners (PIEA, 2006)

Kenya's petroleum products are supplied from refined imported crude oil by Kenya Petroleum Refineries Limited (KPRL) and direct importation of refined products. The importation of both crude and refined products is coordinated by the Ministry of Energy through an Open Tender System (OTS). Prior to the OTS, the Ministry of Energy (MOE) allocates the base load based on the historical market share of licensed importers. The OTS winner allocates refined product based on calculated cargo participation. The cargo participation allocation is calculated by the KPRL in two months advance, taking into consideration the existing stock of the licensed importers. Data indicates that importation of crude is dominated b\ major oil companies. The other source of Kenya's petroleum

products is imported refined products. Seventy per cent of the imported products are conducted through OTS. The remaining 30 per cent is left to the discretion of licensed importers (Petroleum insight 3rd quarter July - September, 2010)

The oil industry in Kenya witnessed significant government participation before the industry was liberalized in 1994. Consequently the role of the private sector was minimal. However the industry currently boasts over 50 oil importing and marketing companies. These firms are involved in the entire business activities along the supply chain from procurement of both crude and refined oil, refining, marketing and ownership of fuel stations and private depots (Petroleum Insight - Magazine of the petroleum institute of East Africa 1st Quarter, 2007).

1.1.3 Government Involvement in the Oil Industry Operations

In 2006, the energy Act no. 12 was enacted which created the ERC mandated to regulate petroleum and renewable energy sectors. The functions of ERC included regulating the importation, transportation, refining, storage and sale of petroleum products, (Abraham 2011). Section 98(1) required petroleum business operators to comply with the relevant Kenya Standard and in the absence of such standard any international standard approved by the Commission from time to time on environment, health and safety in consultation with the relevant authorities and in conformity with the relevant statute. Therefore before oil was offloaded it had to pass through inspection and test by government agencies including SGS Ltd and Intertek Ltd. This reduced the delivery speed and supply chain flexibility. In addition it increased the operational costs in terms of inspection charges.

A rule required that 30 per cent of petroleum be imported in crude form was also being faulted as part of the challenges of oil marketing supply chains. Though this regulation had been under contention due to inefficiencies by KPRL, it was a clear strategy to ensure the Mombasa refinery that was owned by the Government and Indian company Essar was not rendered useless. Another challenge was that of open tender system, According to industry analysts, it was through the tendering system that oil dealers at the lower end of the supply chain make money. Open tender system was administered by Ministry of Energy through a competitive tender process and the winning company was mandated to import on behalf of other players. The issuance of the tenders to smaller dealers who later have to sell their allocations to bigger oil companies increases costs in the sense that the number of levels in the supply chain became more.

Government involvement in the logistics and operations of oil marketing companies was another major setback. When oil was imported in bulk, KPC could not move products fast enough to create rooms for imports. The clogging was worsened by the fact that KPC could not allow oil companies access products unless authorization from financiers and the Kenya Revenue Authority.

1.2 Research Problem

The fierce competition in global markets, increasingly shorter product life cycles, and increasingly higher customer expectations with respect to product capability and reliability, delivery lead times, flexibility, and quality service had all led firms to focus on

supply chain management. SCM had become a potentially valuable way of securing competitive advantage, since competition was no longer between organizations but among supply chains (Malhotra and El Sawy, 2004).

Government regulations measures had various implications on the oil industry. Firstly the introduction of upfront tax led to major companies to exit the market with the argument that this affected their cash flow forcing some to take up bank loans in order to pay for the tax. Though this improved the Kenya Revenue Authority the efficiency to collect the tax it did hurt the economy through lost jobs (Petroleum Insight journal, 2006).

Secondly, the formation of a government owned company had never saved the situation as the company joined the rest in their mode of operations and with the aggressive acquisition of some oil outlets it may end up with the same monopoly that was being avoided. Thirdly the batching and tender system had opened up the old business malpractice of hoarding where a seller does not release the stock to the market but waits until the demand upshots the supply causing the prices to sky rocket and hence making super profit (Petroleum Insight journal, 2006).

Further, the reintroduction of price control in 2010 has also greatly affected the supply chain performance in terms of inventory holding costs, since oil marketers held their stocks in anticipation of changes of prices.

Onyango (2011) did a study on supply chain management practices in the cement industry; (Moenga 2011) did a study on the challenges of SCM in the tea industry; Ndereva (2010) did a research paper to establish the responsive strategies adopted by

Oilibya (k) Ltd to cope up with changes affecting the oil industry and to establish the challenges faced while implementing the response strategies; Mukasa (2010) studied the impact of supply chain management practices on the performance of Safaricom Limited; Gwako (2008) studied supply chain performance measurement in Kenya Airways.

The impact of the discussed government regulations would be the focus of this study. The research questions of this study included the following; to what extent does price control affects supply chain performance of oil marketing companies? To what extent does open tender system affects supply chain performance of oil marketing companies? To what extent does advance payment of duty and bond guarantee affects supply chain performance of oil marketing companies?

1.3 Objectives of the study

The objectives of the study were:-

- i. To determine the effect of price control on the supply chain performance of oil marketing companies.
- ii. To determine the effect of open tender system on the supply chain performance of oil marketing companies.
- iii. To determine the effect of advance payment of taxes and bond guarantee on the supply chain performance of oil marketing companies.
- iv. To investigate the challenges faced by oil marketing firms in practicing effective Supply Chain Management

1.4 Value of the study

Firms were facing stiff competition and a lot of uncertainties which required skills on supply chain management to mitigate the challenges. SCM spurs the organization to rapidly adapt to changes in the external environment like changes in government regulations, thereby fostering a fluid and flexible organization, an essential characteristic for survival and growth in today's ever changing business environment. It would also help to sensitize companies in Kenya on the importance of SCM. Companies would gain from the document and analysis of the SCM practices adopted, this would help them to evaluate their current structures and practices and plan for the future.

To academicians and other researchers the Findings would serve as a useful reference for the purpose of discussion as well as further research in the same field. In addition, policy makers stand to benefit from the issues and insights that would be raised in this study. This study would also add to the existing body of knowledge on the concept of SCM. It would enhance and give clear relationships between SCM and operational performance. The research study would be significant to the Government as it would be able to understand and appreciate the effects of its regulation on the supply chain management of oil marketing companies and seek effective ways through policies and legislation to alleviate the negative effect of these regulations.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

In this chapter, literature which is related to and consistent with the objectives of the study was comprehensively surveyed and reviewed. Important theoretical and practical problems were brought out; relevant literature on the aspects pertaining management of supply chain in the petroleum sector was discussed.

2.2 Supply Chain and Supply Chain Management

A well implemented supply chain strategy results in value creation for any organization. There had been an increasing emphasis on SCM as a vehicle through which firms could achieve competitive advantage in markets (Collin, 2003). A supply chain could be defined as a network of supplier, manufacturing, assembly, distribution and logistics facilities that perform the functions of procurement of materials, transformation of these materials into intermediate and finished products, and the distribution of these products to customers.

(Mentzer, 2001) defined supply chain as a set of three or more entities (organizations or individuals) directly involved in the upstream and downstream flows of products, services, finances, and information from a source to a customer. They further identified three types of supply chain based on the degree of complexity: a direct supply chain; extended supply chain and ultimate supply chain. Direct supply chain consists of a focal

firm, its suppliers and customers. The extended supply chain involved suppliers' suppliers and customers" customers. The ultimate supply chain included all the organizations that were involved in all flows of products, services, finance and information from the ultimate suppliers to the ultimate customers.

(Lalonde, 2004) defined supply-chain management as the delivery of enhanced customer and economic value through synchronized management of the flow of physical goods and associated information from sourcing to consumption, though, achieving the real potential of supply-chain management required integration not only of these entities within the organization, but also of the external partners. The latter include the suppliers, distributors, carriers, customers, and even the ultimate consumers. The goal of the extended enterprise is to do a better job of serving the ultimate consumer, superior service leads to increased market share. Increased share, in turn, brings with it competitive advantages such as lower warehousing and transportation costs, reduced inventory levels, less waste, and lower transaction costs. The customer is the key to both quantifying and communicating the supply chain's value.

Council of supply chain management professionals (2006) defined supply chain management as the planning and management of all activities involved in sourcing and procurement, conversion, and all logistics management activities. It also included coordination and collaboration with channel partners, which could be suppliers, intermediaries, third party service providers, and customers. **In** essence, supply chain management integrates supply and demand management **within** and across **comDanies**.



The above definitions emphasize the following characteristics of supply chain: Supply chains are networks. The network concept implies some co-ordination of processes and relationships; Supply chain consists of processes which could be defined as specific ordering of work activities across time and space with a beginning and an end, and clearly identified inputs and outputs; Supply chains had linkages which facilitate the coordination of processes and relationships; Supply chain linkages were upstream and downstream. Upstream refers to the relationship between an enterprise and its suppliers and supplier's supplier. Downstream refers to the relationship between an enterprise and its clients and client's client.

2.3 Supply Chain Management Practices

The objective of SCM was not only related to improving the performance of an individual company, but also the whole supply chain (Mentzer, 2001). Firms engage in a number of SCM practices. Supplier and customer relationship involved a set of firm's activities in managing its relationship with customers and suppliers to improve customer's satisfaction and synchronize supply chain activities with supplier's capability to deliver superior products to consumers. SCM suggests that firms need to integrate with their suppliers and customers to achieve financial and growth objectives, (Tan, 2001). Coordinating operational activities through joint planning with suppliers also results in inventory reduction, smoothing production, improve product quality and lead time reductions (Ansari, 1999). The ability to build close relationship with customers will bring companies into a lasting competitive edge (Bowersox, 1999)

A company's internal operations are the basis for developing a competitive advantage before embarking into external integrations. Poor internal operations can lead to failure in coordinating with external partners. SCM emphasizes the importance of both effectiveness and efficiency of firm's internal operations on its performance (Hanfield and Nicholas, 1999). Information sharing is an important aspect in achieving seamless integration in a supply chain (Lee, 2002). Poor information sharing between partners in a SC will result in poor coordination that will lead to many problems such as high inventory level and inaccurate forecast (Lee and Whang, 2000). Information sharing can bring many benefits both to suppliers and buyers such as inventory reduction and reduced manufacturing costs (Huang, 2004).

Successful implementation of SCM concept largely depends on human assets of organizations (Bowersox, 2000). (Lee and Whang, 2000) contend that information visibility throughout a SC will not bring significant impact if companies do not have capabilities to utilize information in effective ways. Hence companies need to consider the skills requirements and education when integrating their value - adding activities with their partners (Gattorna and Clark, 2003)

Information technology is highly regarded as a major enabler in achieving effective SCM. As a supply chains spans many organizations in delivering products to customers both upstream and downstream and many functional areas within a company, the implementation of IT allows companies to increase communication and coordination of

various value adding activities with their partners and between functions within their own operations (Simchi, 2000). In addition advance development of the internet technology offers significant opportunities for cost reduction, increasing flexibility, increasing response time and improving customer services (Lancioni, 2000)

Part of developing a supply chain strategy includes evaluating opportunities to outsource areas that are not your core competency. If someone else can do it cheaper, it may be worth outsourcing not only to drive down costs, but also to focus more resources on the core competencies of an organization. Outsourcing allows organizations to take advantage of strengths within the supply market. In the end, the practice of outsourcing should results in the widening of business opportunities for small firms and higher profit to the larger organizations practising it (Susan, 2005)

There have been various definitions of SCM practices as observed from the above paragraphs. (Lietal. 2005) defined SCM practices as the set of activities that organizations undertake to promote effective management of supply chains. SCM practices are defined by (Donlon, 1996) as practices that include supplier partnership, outsourcing, cycle-time compression, continuous process flow and information technology sharing. (Min and Mentzer, 2004) identified SCM practices as agreed vision and goals, information sharing, risks and awards sharing, cooperation, integration of process, long term relationship and agreed supply chain leadership.

Traders need transparency. clarity and predictability in order to transport their goods as quickly and efficiently as possible from origin to destination. The complexity that is

reflected in a multitude of regulations applying to the same transaction, and the uncertainty resulting from differences in interpretation and administration add cost to an international trade transaction and can reduce the competitiveness of a particular export or investment destination. Consequently, there is a strong demand for standardization, harmonization and mutual cross-border recognition. (David and Stephen, 2001)

2.4 Previous studies on SCM in Kenya

Wabwoba (2011) did a research on the impact of oil price regulation on the financial performance of NOCK. It was observed that when the international crude oil prices were rising, oil marketing companies quickly passed on these increased costs to consumers but took long to pass on cost reduction benefits to consumers when international oil prices were on a downward spiral. Hence the government through its agency the ERC came up with a way of regulating the fuel prices by setting the maximum prices which the oil marketers are to charge. The ERC in addition developed a concept paper enumerating the petroleum supply chain logistics and their cost implications on downstream retail prices (ERC, 2011).

Joel (2010) did a survey research to establish the challenges facing SCM in the oil marketing companies in Kenya and also to determine the extent to which the oil marketing companies in Kenya are adopting best practices to manage challenges in the SCM. His findings showed myriad challenges facing the SCM including high transportation costs, poor road network, challenges in the pipeline transporting network, and capacity constraints of KPC among others.

(Mukiri, 2007) carried out a survey of green supply chain management practices by manufacturing firms in Kenya. He argues that in order for economies to embrace new environment responsible values, beliefs and behaviours, there is strong need to green the entire supply chain. She concludes that most manufacturing firms are supportive of green change because of the benefits accrued.

2.5 Benefits of effective SCM Practices

Effective SCM enables suppliers to share valuable information throughout the chain, this information includes stock position with KPC and other depots, forecasts on vessels expectations, demand and transportation. Through sharing of information the firms become more efficient and as a result this will reduce the cost of production and distribution rendering them to have competitive advantages over other firms (Chopra and Meindl, 2001). It also assists oil marketing companies to comply with the industry regulations.

Supply chain management will improve productivity and efficiency in a firm in a number of ways, it improves the firm's processes on quality control and inventory control, and this in turn improves on the productivity and efficiency of the firm. Increased efficiency can be seen in terms of the reduction in the cost of goods sold by the firm and SC flexibility. This is achieved through reducing the cost of goods sold whereby a firm will source the less costly raw materials (Chopra and Meindl, 2001). SC efficiency also assists oil marketing companies to clear their goods within the stipulated time to avoid penalties and fines.

Supply chain management will also reduce the transport charges of a firm, the shipment and transportation charges are shared by firms and as a result these charges are reduced and this constitutes to the reduction in the cost of goods sold and final price of goods. When there is sharing of transport charges there is a reduction in transport errors that occur between firms, this chain management ensures that the delivery of goods is streamlined and therefore the delivery time of goods is reduced, this will in turn increase consumer loyalty. SCM reduce the issues of bad debts in that the payment terms across the firms is well organized and defined, this ensures that a firm does not accumulate bad debts because the payment terms between firms is well defined and followed by the firms in the supply chain (Chopra and Meindl, 2001).

SCM also spurs the organization to rapidly adapt to changes in the external environment like changes in government regulations thereby fostering a fluid and flexible organization, essential characteristics for survival and growth in today's ever changing business environment. SCM enhances the chances of the organization to attain world-class performance status. This is because it spurs the organization to aim for constant and continuous improvement on a global scale (Chopra and Meindl, 2001).

2.6 Challenges of implementing SCM practices

Supply chain management in the petroleum industry contains various challenges, specifically in the logistics area, that are not present in most other industries. These logistical challenges are a major influence on the cost of oil and its derivatives. Implementing SCM is not an easy task. The managers who decided to do so will most

likely to face at least these challenges as been categorized into several categories (Handfield and Nichols, 1999) i.e. information systems, inventory management, and in establishing trust between SC members. In the implementation of information systems, problems occur when appropriate information is not available to the people who need it. Sometimes, the information is available but the SC members are reluctant to share it due to lack of trust and the fear that the information will be revealed to competitors.

For inventory management, although it has been shown to be improving, the need for expediting late shipments never seems to disappear entirely. There are always delays in shipments for various reasons; slowdown because of customs crossing international borders, adverse weather patterns, poor communication and even simple human error are always inevitable. Customers are currently demanding improvements in delivery, lead times, cost and product performance. If they do not receive these improvements, they move on to new suppliers. Today's customers are demanding faster fulfillment, better quality and better performing products for the same price they paid months ago. This tremendous growth in customers' demands means that the SC must provide more than just to maintain its business.

Increase in globalization led to two impacts on the SC. Firstly, SC are now more likely than ever to be global. Having a global SC creates many benefits however; it also adds stress to the chain because facilities within the chain are farther apart, making coordination much more difficult. Secondly, increase in competition, makes SC performance a key to maintaining and growing sales while also putting more strain on SC and thus forcing them to make their trade-offs even more precisely.

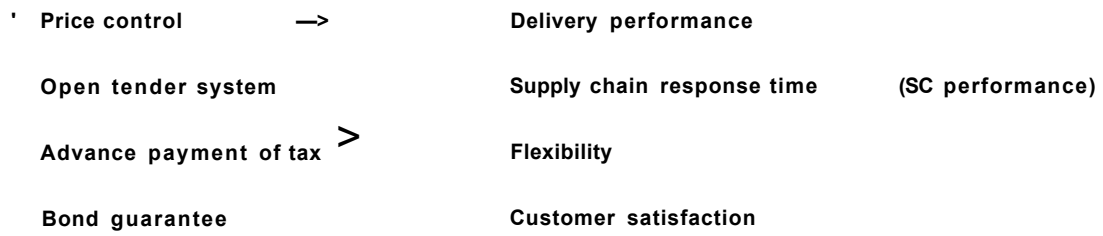
Despite the great challenges in the petroleum industry's supply chain, opportunities for improvements and cost savings do exist along the supply chain. One major area for improvement and cost savings lies in the logistics function. Companies in the petroleum industry have become increasingly reliant on the services of third-party logistics companies to manage their supply chains. Companies in the petroleum industry took the outsourcing idea a step further to collaborate with competitors and found shared solutions to their supply chain challenges.

2.7 Conceptual framework of the study

The study will compare government regulations against supply chain performance metrics as the basis for the development of a theoretical relationship between government regulations and supply chain performance. This study's results should help oil marketing companies to identify key variables of interest when implementing strategies designed to combat the potentially negative risk exposure created by a supply chain disruption.

One way to enhance organizational performance is through the effective implementation of supply chain management strategies. Close partnership with suppliers has been shown to have minimized supply chain disruption risk. One possible tool to assist organizations or networks in their quest for flexibility is the implementation and use of an effective strategy such as a comprehensive contingency planning process. Government regulations involve price control and setting by ERC, advance payment of taxes, bank guarantee of transit goods and mandatory to import crude. All these regulations form part of the

challenges affecting the supply chain performance of oil marketing firms. Below is a summary of the conceptual framework of this study.



CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the research design of the study. It further explains the target population, data collection methods and data analysis techniques used in the study.

3.2 Research Design

The study was conducted using an exploratory survey research design. The objective of the survey was to explore and gain deeper understanding of the challenges faced by oil marketing companies as a result of the introduction of several regulations. Survey method is suitable for distribution across a wide geographical area and to a large number of organizations. Surveys provide quick, inexpensive, efficient and accurate means of assessing information about the population (Zickmund, 2003)

3.3 Population

The population of interest in this study comprises of all the oil marketing companies registered by the Kenya Revenue Authority as at December, 2011. The total population comprises of 50 oil marketing companies (Refer to appendix III). Since the number is small, census of all the oil marketing companies was undertaken.

3.4 Data Collection

Primary data was collected using a self administered questionnaire through drop and pick-later method. The questionnaire is divided into two parts. The first part seeks company's information, while the second part seeks to explore the effect of government regulations on the supply chain performance and to determine the best supply chain management practices. The research focused on the supply chain function and therefore senior employees in the procurement and supply chain departments were the respondents used.

3.5 Data Analysis

The data collected was first thoroughly edited and checked for completeness and comprehensibility. Descriptive statistics techniques of mean and standard deviation was used to analyze the effects of price control, open tender system, bond guarantee for transit goods and advance payment of taxes for local products on supply chain performance and the challenges faced by oil marketing companies in implementing supply chain management strategies. Descriptive statistics are recommended when the objective is to describe and discuss a data set more generally and conveniently.

CHAPTER FOUR: DATA ANALYSIS, FINDINGS AND DISCUSSION

4.1 Introduction

This chapter contains the summaries of data findings in descriptive and narrative form for analysis alongside interpretations by use of mean scores and percentages. The data analysis was based on the research objectives and questionnaire items which were analyzed using statistical tools like pie charts, distribution tables and graphs and results of the analysis presented.

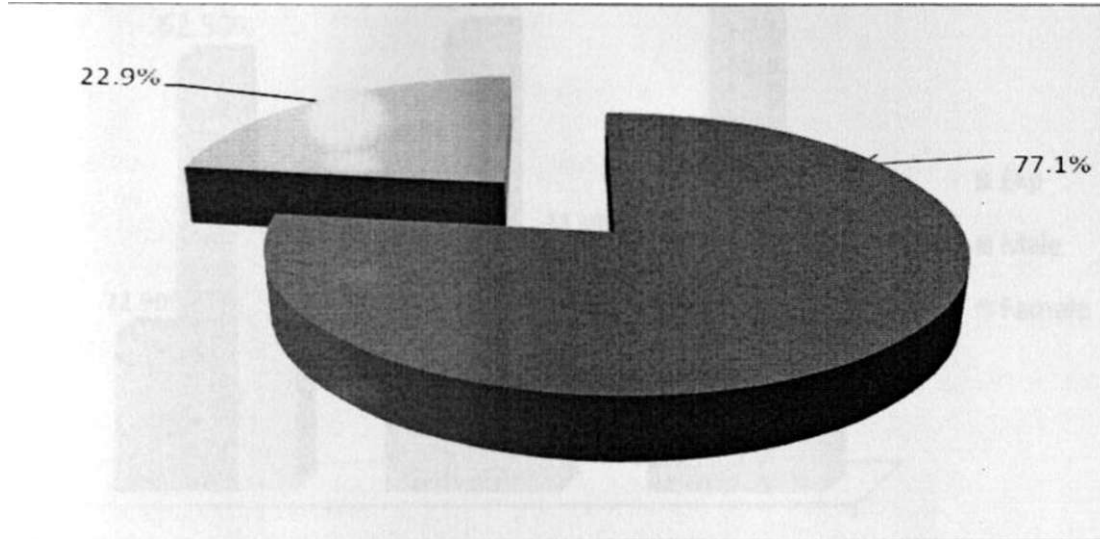
4.2 Company characteristic

A total of 37 questionnaires were collected back from the initial target population of 50 and this represented a response rate of 74%.

4.2.1 Nature of the firm

The companies were classified in two types as either local or multinational company and respondents were expected to tick on either local or multinational. 77.1% of the companies were local in nature whereas 22.9% were multinational in nature. The locals tend to have more branches than the multinational. 58% of local companies had branches between 6-10 while 48% of multinational companies had branches between 0-5. This indicates how government regulations affect foreign investment.

Chart 4.1: Nature of the firm

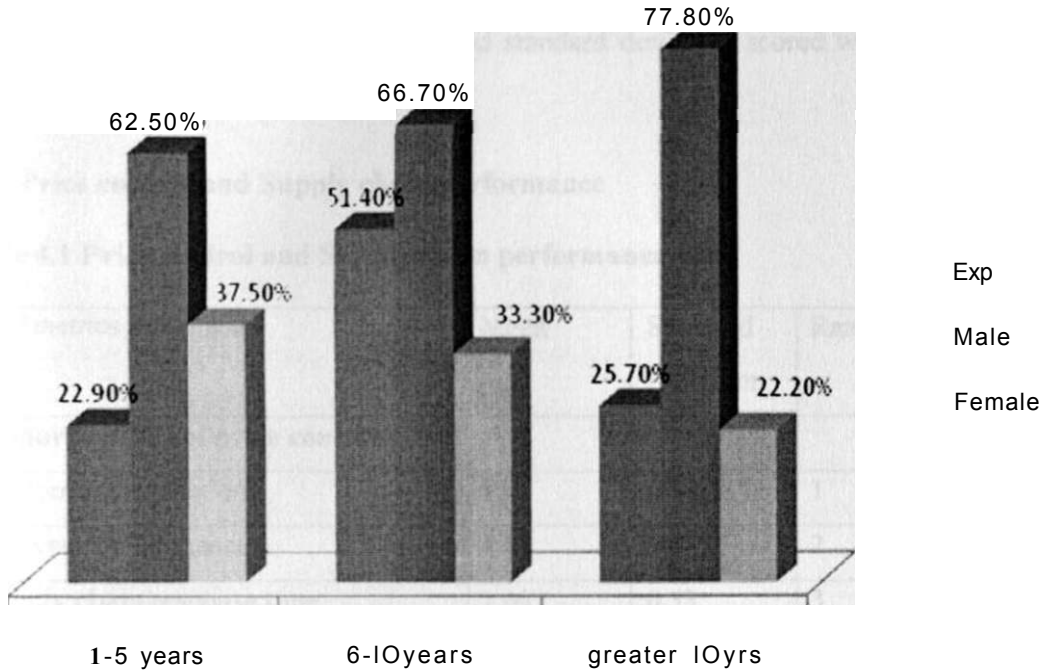


4.2.2 Employee's gender in relation to the years served in the firm.

The respondents from the survey were asked to indicate the number of years that they have served in their respective firms and they were given three options that is 1-5 years, 6-10 years and greater than 10 years, this was aligned with their genders where they indicate either a male or female. Respondents responded by ticking on either one of the options. From the response it was evident that 51.4% of the respondents had served in their respective oil firm for a period of 6-10 years. Out of these 66.7% were male and 33.3% were female. This was followed by 25.7% which was for those who had served for a period greater than 10 years and out of these, 77.8% were male and 22.2% female.

Lastly were those who served for a period of less than a year and their percentage indicator was 22.9% among them 62.5% were male and 37.5% were female.

Graph 4.2: Employees's gender and years served in the firm.



From the analysis it was evident that most employees were male and a greater number of them had served for a period of between 6 to 10 years. This means that they are familiar with their firms Supply chain Management systems

4.3 Government regulations and Supply Chain performance

The respondents from the surveyed oil marketing firms were asked to indicate the extent to which price control, open tender system and bond guarantee for transit goods and advance payment of taxes for local products affect the supply chain performance. And if yes to what extent was the effect and how was the supply chain managed.

A total, of six metrics were subjected to ranking according to the extent of the three effects. A likert scale was used with 3 representing great extent, 2 moderate and 1 to no extent and respondents expressed their opinions by ticking on either great extent, a moderate and to no extent. The mean and standard deviation scored were tabulated as follows.

4.3.1 Price control and Supply chain performance

Table 4.1 Price control and Supply chain performance

SCP metrics and effects	Mean	Standard Deviation	Rank
Factor1: effect of price control			
Customer satisfaction	1.9	0.26	1
Delivery performance	1.57	0.27	2
Supply chain response time	1.46	0.33	3
Order to deliver lead time	1.46	0.30	3
Transportation cost	1.15	0.35	5
Flexibility	1.18	0.34	6

Source: Research Data

Among the SCP metrics ranked in table 4.1 shows that customer satisfaction is ranked first. This is because it had the highest scored indicator with a mean score of 1.9. The use of customer satisfaction metrics in oil marketing firms has led to most firms to keep strong partnership with their suppliers so that customers can get quality product at an affordable rate. Next ranked supply chain performance metric affected by price control is the delivery performance with a mean score of 1.57. Delivery performance is affected by price control in that when goods are not delivered on time, and the world oil prices

changes suddenly, the supplier will also change the prices immediately thus making the customer not willing to add additional cost. Supply chain response time and order to delivery lead time had the same mean of 1.46 and thus ranked in the third position. The least ranked supply chain performance metric affected by price control is flexibility, and transportation cost. According to respondents these metrics had the least means of 1.18 and 1.15 respectively. This means that most firms are in close contact with suppliers and customers.

4.3.2 Open Tender System and Supply chain performance

Table 4.2 Open Tender System and Supply chain performance

Factor 2: effect by open tender system	Mean	Standard deviation	Rank
Customer satisfaction	2.06	0.53	1
Delivery performance	2.03	0.25	2
Supply chain response time	1.91	0.25	4
Order to deliver lead time	1.66	0.26	5
Transportation cost	2.0	0.32	3
Flexibility	1.34	0.31	6

Source: Research Data

In terms of open tender system, customer satisfaction is mostly affected with a mean score of 2.06. This indicates that customers are not satisfied with either their suppliers who are given the tender to supply them with the product or the external consultants. It is important for firms in the supply chain to at least benchmark and letting tenders to be competitively won. The least affected by open tender system is order to deliver lead time and flexibility with mean scores of 1.66 and 1.34 respectively. This is because most

customers prefer to allocate their own means of transportation than the supplier's, as it is lesser cheaper and more convenient for them. Also it shows that suppliers have a **JIT** system which ensures that the product is acquired when needed.

4.3.3 Bond guarantee and Supply chain performance

Table 4.3 Bond guarantee and Supply chain performance

Factor 3: effect by bond guarantee	Mean	Standard deviation	Rank
Customer satisfaction	1.97	0.24	1
Delivery performance	1.97	0.24	1
Supply chain response time	1.34	0.31	5
Order to deliver lead time	1.51	0.29	4
Transportation cost	1.84	0.26	3
Flexibility	1.31	0.31	6

Source: Research Data

The effect on SCP metrics by bond guarantee for transit goods and advance payment of taxes for local products shows that customer satisfaction and delivery performance are highly ranked with a mean of 1.97. This indicates that suppliers are not satisfied with the government regulation on advance payment of taxes for local products this is because their liquidity is greatly affected and may cause delay due to huge amounts of taxes. The least affected is flexibility with mean score of 1.31. Flexibility is not affected by bond guarantee and advance payment because the bond value and advance taxes are known in advance.

4.4 Supply Chain Management practices

Supply Chain Management has become a very prominent concern for companies as they strive for better quality and higher customer satisfaction (Mentzer, 2000; Chopra and Meindle, 2001). SCM practices enhance the chances of an organization attaining world-class performance status. This is because it spurs the organization to aim for constant and continuous improvement on a global scale.

This section discusses the various practices undertaken by players within the supply chain. Six practices were subjected to ranking on a likert scale, with the most used practices scoring (5) points, whereas those least used scored (1) point. The mean and standard deviation were computed as shown in table 4.4.1.

Table 4.4: SCM practices

	SCM Practices	Mean	Standard deviation
1	Close partnership with suppliers	3.37	1.33
2	Close partnership with customers	3.37	1.33
3	JIT supply	2.93	1.59
4	E- Procurement	2.56	1.4
5	Supply chain benchmarking	1.85	1.2
6	Use of external consultants	1.85	1.2

Source: Research Data

Among the practices ranked above, it shows that the practices of keeping close partnership with suppliers and close partnership with consumers are the most used practices because they had the highest mean score indicator of 3.37 each. It is important

to keep closer relationship with suppliers and customers because their involvement helps to improve customer's satisfaction and synchronize supply chain activities with supplier's capability to deliver superior products to consumers. Their relationship also helps firms to integrate with their suppliers and customers to achieve financial and growth objectives. Coordinating operational activities through joint planning with suppliers also results in inventory reduction, smoothing production, improve product quality and lead time reductions. Also, the ability to build close relationship with customers will bring companies into a lasting competitive edge.

The next ranked practice is in the use of JIT supply systems with a mean score indicator of 2.93. This implies that there are no errors in the payment process meaning that the companies has an efficient system in place that ensures prompt payment with no errors through their correct suppliers.

Last in the list was supply chain benchmarking and use of external consultants with mean scores of 1.85 each. This shows that the companies have well laid down procedure for procurement and they only procure items when they are needed. It also signifies that the firms have specific suppliers where they obtain their products thus no need of using external consultants. Therefore, making the suppliers' list unchanged until it is reviewed.

4.5 Factors used in deciding to change SCM strategies

The respondents from the oil marketing firms were asked whether their organizations embraced a focused strategy approach towards supply chain management in terms of price control by ERC. advance payment of taxes, insufficient storage facilities and

compulsory requirement to import crude. And if they had, they were expected to state if there is need to change the SCM strategies. 92.6% of the respondents believed that their organizations had embraced supply chain management practices in one way or the other. 7.4% believed their organization had not embraced SCM practices.

Further, where firms had embraced SCM practices, respondents were asked to indicate if there is need to change the SCM strategies in use in relation to price control, advance payment, storage facilities and importation of crude oil. Respondent's responded by ranking the four factors identified. This was done by using a likert scale with 5 representing very important, 4 important, 3 least important and 2 not important. The results are shown in table 4.5.

Table 4.5 Factors needed to change the SCM strategies

Factors	Mean	Standard deviation	Rank
Price control by energy regulatory commission	4.26	0.594	1
Advance payment of taxes	3.07	1.238	2
Insufficient storage facilities with Kenya pipeline	1.96	0.808	3
Compulsory requirement to import crude	1.96	0.324	3

Source: Research Data

According to the analysis in Table 4.5 the respondents were of the opinion that it was very important to change the current SCM strategies in terms of price control by energy regulatory commission. This was evident because, it had the highest mean of 4.26 than

other factors, and thus ranked number one. The second factor was advance payment of taxes. Respondents felt this factor is least important in deciding to change the strategy of SCM. This was followed by insufficient storage facilities with Kenya pipeline and compulsory requirement to import crude each ranked at number three and four respectively with the least means.

4.6 Measures to improve SCM practices

Supply chain management is a system that incorporates various practices undertaken by critical players within the supply network, namely: suppliers, the organization itself, and the customers. SCM is important because it enhances the chances of an organization attaining world-class performance status.

This section discusses the various measures agreed or disagreed by players within the supply chain. The respondents responded by ranking the measures to be undertaken and a likert type of scale was used, with the strongly agreed scored (5) points, (4) for agreeing, (3) neutral, (2) disagree and strongly disagree scored (1) point. The mean and standard deviation were computed as shown in the table 4.6.

Table 4.6 Measures to improve SCM practices

Measures in supporting SCM	Mean	Standard deviation	Rank
Improved of K.RA samba system	2.52	1.282	1
More inter-country regional agreement	1.83	0.853	3
Better infrastructure	2.11	1.219	2
Improved government policies	1.21	0.657	4
Closer cooperation between SC partners	0.86	0.183	5

Source: Research Data

The analysis of table 4.6 shows that most of the respondents strongly agreed with the improvement of K.RA system as a good measure in supporting SCM. This was evident because it was the highest ranked with a mean of 2.52. Better infrastructure was ranked second, where respondents agree with the measure in supporting SCM. Third ranked was more inter-country regional agreement, where respondents felt the measure as neutral. In the fourth and fifth position was improved government policies and closer cooperation between SC partners, where respondents disagree and strongly disagree respectively.

4.7 Challenges in the implementation and effective use of SCM practices

Successful implementation of SCM needs to be associated with thorough understanding of the concept itself. Its implementation is also seen as being closely dependent upon the ability to create, manage and reshape relationship between individuals, organizations and networks within the supply chain. To identify the challenges associated with the implementation of SCM practices the respondents were asked to rank the six identified factors. A likert type of scale was used with the highest impact scoring five (strongly

agree) and the least scoring one (strongly disagree).The mean and standard deviation of each factor was computed and summarized in the table below.

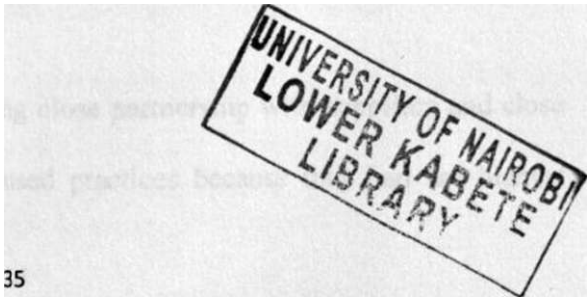
Table 4.7 below shows the analysis of ranking of various challenges to supply chain management in oil marketing firms. Most of the respondents felt that price control by government agent (ERC) posed the greatest challenge hence ranking the highest with a mean of 4. Complex clearing procedure and bank guarantee of transit goods were also among the highest ranked challenges with a mean score of 3.85 each. These are closely followed by mandatory requirement to discharge fuel at Kenya Pipeline Company and compliance to green supply chain management having a mean score of 3.78 and 3.74 respectively. Similarly respondents least rated deadlines to clear goods with a mean score of 1.96.

Table 4.7: Challenges of Supply Chain Management

	Challenges	Mean	Standard deviation	Rank
1	Price control by government agent (ERC)	4	1.074	1
2	Complex clearing procedures	3.85	1.167	2
3	Mandatory to discharge fuel at Kenya pipeline company	3.78	1.086	4
4	Bank guarantee of transit goods	3.85	1.167	2
5	Compliance to green supply chain management	3.74	1.228	5
6	Deadlines to clear goods	1.96	0.808	6

Source: Research data

This analysis shows the distribution of the various challenges in implementation and use of supply chain management practices in oil marketing firms. It is important for the firm to note that successful implementation of SCM has been credited with helping to cut cost, increase technological innovation, increase profitability and productivity, reduce risk and improve organization competitiveness. The ultimate success of firms will depend on its managerial ability to integrate and coordinate the supply chain members.



CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter summarizes and draws conclusions and recommendations on the findings of the main objectives of the study which was to establish the effect of government regulations on supply chain performance of oil marketing companies in Kenya.

5.2 Summary

This study sought to explore the effect of government regulations on the supply chain management of oil marketing companies, SCM practices in Kenyan oil marketing firms, the potential benefits derived from the effective implementation and use of SCM practices as well as the challenges encountered in the implementation and use of SCM practices.

A total of 37 questionnaires were collected back from the initial target population of 50 and this represented a response rate of 74%. 77.1% of the companies were local whereas 22.9% were multinational. The locals tend to have more branches than the multinational. 58% of local companies had branches between 6-10 while 48% of multinational companies had branches between 0-5.

It was observed that the practices of keeping close partnership with suppliers and close partnership with consumers are the most used practices because they had the highest

mean score indicator of 3.37 each. It is important to keep closer relationship with Supplier and customer because their involvement helps to improve customer's satisfaction and synchronize supply chain activities with supplier's capability to deliver superior products to consumers.

5.3 Conclusions

It was established that the requirement for upfront payment of taxes and bond guarantee for export goods had impacted greatly on the supply chain flexibility of oil marketing companies, this coupled with the fact that taxes consume a huge portion of the oil marketer's gross revenues resulted in low revenue levels for the oil marketers. Many multinational companies like Mobil and BP closed their operations in Kenya due to such conditions.

Given that taxes are to be paid on the oil imported even before income from sales are realized, the oil markers have to operate overdrafts to cover the costs of procurement and other daily operations. This increases the overhead costs for the marketers. The demurrage charges levied on the marketers by the transporters as a result of the delays in offloading were found to increase the final price charged to the consumer. This was as a result of the open tender system.

Open tender system has also brought problems in the industry. In decreeing that one **company import products 011 behalf of the industry, the Government indirectly is** regulating an otherwise free industry. Most of the middle tier oil companies that win the tenders to import only manage to fulfill the obligation with the help of financial institutions through collateral financing arrangements. Due to this fact, an importer

cannot release the products to the market until all the oil marketing companies with a share in the consignment make payments and the financier allows for the products to be released. The complexities of the collateral financing arrangements greatly affect supply chain management of oil marketing companies.

It is also evident that the fluctuations in the crude oil prices cause a huge unpredictability in fuel prices of the products sold by the marketing companies. Marketers are concerned that the formula for setting price caps by ERC does not cover all operating costs, infrastructure costs and the negative effects of system inefficiencies. Industry leaders believe that the price controls will make the oil business unviable and unprofitable.

The findings of the study are consistent with the findings of Joel (2010). His findings showed myriad challenges facing the SCM including high transportation costs, poor road network, challenges in the pipeline network and government involvement in the oil industry. Findings from Abraham (2011) confirms that oil marketing firms like all the other modern firms are faced with the ever environmental conscious consumer and government regulations

5.4 Recommendations

The study sought to determine the effect of price control, upfront payment of taxes, bond guarantee on transit goods and open tender system on the supply chain performance of oil marketing companies. From this analysis, it was realized that all these factors affects one or more of the supply chain metrics.

Given that the tax is paid up front, the oil marketing companies are faced with a major task of having to plan and negotiate for overdrafts which increase the firm's overhead costs. It is also evident that the fluctuations in the crude oil prices cause a huge unpredictability in fuel prices of the products sold by the marketing companies.

The operating environment has become very challenging with interest rates on bank loans and overdraft facilities reaching record high, compounded by the high inflation rate and the weakening of the Ken\`a shilling against major world currencies. It is therefore essential that the price formula by ERC ought to recognize the impact of these macroeconomic factors, especially the cost of financing the working capital requirements and the inflation on costs, to allow for sustainable operations in the industry. This study confirms that oil marketing firms like all the other modern firms are faced with the ever increasing government regulations. These firms should therefore realize that all efforts including investment in the implementation and use of the SCM strategies need to be geared towards gaining and maintaining competitiveness in the global market place.

5.5 Limitations of the study

Due to time and costs constraints it was not possible to undertake a comprehensive study of the entire population of oil marketing companies operating in the country. Another study can therefore be carried out on the population to possible cover a larger group of the oil marketing firms.

Another problem faced in the course of the study was the reluctance by the firm to provide information on matters relevant to the study due to the company's confidentiality policy.

The SCM concept was not well understood by all which led to complications as to who was best fitted to fill the questionnaire. There were also general problems associated with questionnaire based research like misunderstandings of the questions.

5.6 Suggestions for further studies

This survey sought to establish the effect of government regulations on supply chain performance. Further research could be done on other issues related to supply chain management to improve on these findings. These include the following studies: a detailed study on the challenges of the open tender system in the oil industry in Kenya. A research survey can also be undertaken to study the operations of ERC and the distribution system of oil marketing companies in Kenya.

REFERENCES

- Abraham (2011) 'The impact of Green supply chain on performance of oil marketing firms in Kenya.' *Unpublished MBA project*, University of Nairobi.
- Ayugi. P. (2007) A study on the effectiveness and efficiency of the supply chain in Wrigley Co. EA, *Unpublished MBA project*, university of Nairobi.
- Bowersox, D.J., Closs, D.J. & Stank, T.P. (1999). 21st Century Logistics: Making Supply Chain.
- Chopra, S. & Meindl P. (2004). Supply chain management strategy, planning and operation. Second edition. Pearson Prentice - Hall. Upper Saddle River.
- Chopra, S. & Sodhi, M.S (2004). Managing risk to avoid supply chain break down. MIT Sloan Management Review, vol 46.
- Cooper, M.C, Lambert, D.M, Pagh. J.D. (1997). Supply chain management: more than a name for logistics. *The international journal of logistics management*. Vol 8 No I, pp. 1-14.
- Collins. C. J., & Clark, K. D. (2003). Strategic Human Resource Practices, Top Management Team Social Networks, and Firm Performance: the Role of Human Resource Practices in Creating Organizational Competitive Advantage. *Academy of Management Journal*, 46(6), 740-751.
- Drucker P.F (1999) Management challenges of the 21st century. New york: Harper Business, 1999.

Fang, S., Lin, S. (2006), Green Supply Chain Management as Competitive advantage; A perspective of Intellectual Capital available.

Fisher, M. (1997). What is the right supply chain for your product. Harvard business review, chain with customer demand, The Educational and Resource Foundation of APICS.

Gattoma & Clark (2003). Education and Skills training Requirements in supply.

Happek, S. & Meloro, Linda & Oliver, J."Up and Running: Helping supply chain technology do its job"

Irwin, H. *Designing and Managing the Supply Chain: concepts, strategies and case studies*, IL/McGraw-Hill, New York, NY.

Joel (2010). 'The challenges facing supply chain management in the oil marketing companies in Kenya.' *Unpublished MBA project, University of Nairobi, 2010.*

La Londe, B. & James M. (1994), Emerging Logistics Strategies: Blueprints for the Next Century, *International Journal of Physical Distribution And Logistics Management*, Vol. 24, No. 7, pp. 35-47.

Lancioni, R., Smith, M., and Oliva ,T.,(2000), The role of internet in Supply Chain Management. *Industrial Marketing Management*, 29 , 57-65.

Lee, H. (2002). Aligning Supply Chain Strategies with product Uncertainties,

California Management Review, Vol. 44 No.3, pp. 105-19.

Lee, H., Padmanabhan, V. & Whang, S. (1997). Information Distortion in a Supply Chain: the Bullwhip Effect. *Management Science*, 43, (4), 546-558

Mentzer, J., DeWitt, W., Keebler, J.S., Min, S., Nix, N.W., Smith, C.D. &

Zacharia, Z.G. (2001). What is supply chain management, in Mentzer, J.T. (Ed.), *Supply Chain Management*, Sage, Thousand Oaks, CA, pp. 1-25.

Michael, T., Jeen-Su, L., Mark, A. (2005). The impact of SCM capabilities on business performance. *Supply chain management an international journal*.

Mukasa.V. (2010) 'The impact of supply chain management practices on performance. The case of Safaricom Limited'. *Unpublished MBA project*, University of Nairobi. 2009.

Monczka, R., Robert T., and Handfield, R. (2002) *Purchasing and Supply Chain Management*, 2nd ed., South-Western, Cincinnati, OH, 2002.

Njau, N (2010) The impact of value chain management strategy on performance of a company: A case of Major oil marketing firms in Kenya, *Unpublished MBA project*, university of Nairobi.

Onyango.A.O 'Supply chain management practices and performance in cement industry in Kenya.' *Unpublished MBA project*, University of Nairobi, 2011.

PIEA, (2006). Petroleum insight. Journal of the petroleum institute of East Africa, Nairobi. Oakland Media service, Nairobi Kenya.

PIEA, (2005), Insight magazine quarterly published bulletin of the institute of Economic affairs (May 2005) Issue No.58.

Simchi-Levi, D., Kaminsky, P. Simchi-Levi, E. (2000). ISM Glossary of Key Supply Management Terms, Fifth Edition, Institute for Supply Management.

Wabobwa.M (2011) "The impact of price regulation on the financial performance of NOCK'. *Unpublished MBA project*, University of Nairobi.

APPENDICES

Appendix I: Introduction Letter to the Respondents

July 2012

The Human Resource Manager

Dear Sir/Madam

RE: MBA RESEARCH PROJECT TO COLLECT DATA

I am a student at the University of Nairobi taking a masters degree in operation management. Pursuant to the pre- request course work, I am carrying out a research on supply chain management under high government regulations a survey study of oil marketing companies. The study will involve use of questionnaires administered to the members of management.

I kindly seek authority in conducting the research in your organization. Your assistance will be highly valued and appreciated.

Yours faithfully,

Mwinyi Salim Athman

Reg No: D61/60347/10

Appendix II: Questionnaire

Section A: Background Information

1. Name of Company

2. Name of respondent

3. Indicate nature of the organization. Please tick as appropriate.

Multinational • Local company •

4. Indicate below how many years you served at your company.

Less than 1 yr	1-5	6-10	Greater than 10yrs

5. How many branches do you have?

0 - 5 •

6 - 10 •

>10 n

Section B: Supply chain performance and government regulations

6. Kindly indicate to what extent the following supply chain performance metrics are affected by price control.

Great extent A moderate To no extent

• • •

a) Customer satisfaction

b) Delivery performance

• • •

c) Supply chain response time

• • •

d) Order to deliver lead time

• • •

• • •

e) Transportation cost

• • •

f) Flexibility

Others(please specify)

7. Kindly indicate to what extent the following supply chain performance metrics are affected by the open tender system.

Great extent A moderate To no extent

• • •

a) Customer satisfaction

b) Delivery performance

• • •

• • •

c) Supply chain response time

d) Order to deliver lead time

• • •

e) Transportation cost

• • •

0 Flexibility

• • •

Others.....(Please specify)

8. Kindly indicate to what extent the following supply chain performance metrics are affected by bond guarantee for transit goods and advance payment of taxes for local products.

	Great extent	A moderate	To no extent
a) Customer satisfaction	•	•	•
b) Delivery performance	•	•	•
c) Supply chain response time	•	•	•
d) Order to deliver lead time	•	•	•
e) Transportation costs	•	•	•
f) Flexibility			

Others.....(Please specify)

9. How do you manage your supply chain? Tick all that apply.

- a) Close partnership with suppliers •
- b) Close partnership with customers •
- c) JIT supply •
- d) F. - Procurement •
- e) Supply chain bench marking •

- f) Use of external consultants •

Others, please specify

10. State the importance of the following factors in deciding the need to change the supply chain management strategies in your organization. Where 5 - very important, 4 - important, 3 - least important, 2 - not important.

- a) Price control by Energy Regulatory Commission •
- b) Advance payment of taxes •
- c) Insufficient storage facilities with Kenya Pipeline •
- d) Compulsory requirement to import crude •

11. Kindly tick appropriately to indicate the level to which you agree or disagree with the following measures in supporting supply chain management in the oil industry.

Strongly Disagree Disagree Neutral Agree Strongh
Agree

- Improved of KRA samba system
- More inter-country regional agreements
- Better infrastructure e.g.. road, storage
- Improved government policies
- Closer cooperation between SC partners

12. Kindly tick appropriately to indicate the level to which you agree or disagree with the following statements as regards to the challenges in the effective management of supply chains in your firm

[]	Challenges	Strongly agree	Disagree	Strongly disagree	Disagree	Strongly disagree
b 1	Price control by government agent (ERC)					
2	Complex clearing procedures					
1 3	Bank guarantee of transit goods					
j r -	Mandatory to discharge fuel at Kenya Pipeline Company					
5	Compliance to Green Supply Chain Management					
r	Deadlines to clear goods					

Appendix III: List of companies to be studied

1	TA OIL (K) LTD	P.O BOX 64900 00620	NAIROBI
2	KUBIL PETROLEUM (K) LTD	PO BOX 30061	NAIROBI
3	SHELL		
4	TOTAL KENYA LIMITED	P.O BOX 30322 00100	NAIROBI
5	KENYA OIL LIMITED	P.O BOX 44202	NAIROBI
6	NATIONAL OIL KENYA LIMITED	PO BOX 58567	NAIROBI
7	ENGEN KENYA LIMITED	P.O BOX 10797	NAIROBI
8	GAPC O(K) LIMITED	P O BOX 40908	NAIROBI
9	MAFVJTA LIMITED		
10	PETRO OIL (K) LTD	P O BOX 90462-80100	MOMBASA
11	KAMKIS TRADING LTD	P.O Box 9545 - 00300	NAIROBI
12	DALBIT PETROLEUM (K) LTD	P O BOX 1931 -00200	NAIROBI
13	MOIL	P.O Box 3508	KJSUMU
14	METRO	P.O Box 35198-00200	NAIROBI
15	HASHI ENERGY (K) LTD	P.O BOX 10795	NAIROBI
16	MASS PETROLEUM	P O BOX 76337-00508	NAIROBI
17	GALANA OIL (K) LTD	P.O BOX 11672-00100	NAIROBI
18	ADD AX	P.O Box 12403-00100	NAIROBI
19	FOSSIL FUELS LTD	PO BOX 41961-00100	NAIROBI
20	OILCOM(K) LIMITED	P O BOX 10370	NAIROBI
21	GLOBAL PETROLEUM	P.O BOX 30621-00100	NAIROBI
22	Mogas Kenya Limited	P O Box 27696-00506	NAIROBI
23	BAKRI	PO Box 19095-00501	NAIROBI
24	GULF ENERGY	P.O Box 61872-00200	NAIROBI
25	OILCITY	P O Box 9222-00100	NAIROBI
26	ROYAL ENERGY (K) LTD	P O Box 90148-80100	MOMBASA
27	RIVA	P O BOX 16299-20100	NAIROBI
28	Jade Petroleum Limited	PO Box 34725.00100	NAIROBI
29	MULOIL (K) LTD	P O BOX 41391-00100	NAIROBI
30	Rna Petroleum Dealers limited	PO BOX 16299-20100	NAIROBI
31	HARF.D		
32	Trojan International LTD	P O BOX 100339-00100	NAIROBI
33	PREMIUM	P O Box 56672-00100	NAIROBI
34	AL-LEYL PETROLEUM LIMITED	P.O.BOX 1173-80100	MOMBASA
35	Binoda Oil LTD	P.O Box 101537-00101	NAIROBI

36	I RANWAY TRADERS LTD	P O Box 56022- 00200	NAIROBI
• V?	Tosha Petroleum LTD	POBox 28433-00100	NAIROBI
1 3»	NAFTON PETROLEUM LIMITED	P.O BOX 101664 - 00101	NAIROBI
39	K.EROKA PETROLEUM LIMITED	P O BOX 8034 - 00300	NAIROBI
, 40	PJ PETROLEUM EQUIPMENT LIMITED	P O BOX 74502 - 00200	NAIROBI
1 4*	OLYMPIC PETROLEUM LIMITED	P.O BOX 24457-00100	NAIROBI
1 42	SAMHAR PETROLEUM PRODUCTS CO LTD	POBOX 10046-00101	NAIROBI
4?	AINUSHAMSI ENERGY LIMITED	P.O BOX 5134 - 00506	
' U	FAST ENERGY LIMITED	P.O. BOX 22712 - 00400	NAIROBI
15	TOPAZ PETROLEUM LIMITED	P O. BOX 16236 -00100	NAIROBI
«>	ESSAR PETROLEUM (East Africa) 1 id	PO Box 45742-00100	
J?	REGNOL OIL KENYA LTD	P.O. BOX 77883 - 00622 JUJA RD	
1 «8	EAST URICAGASOIL LTD	P O BOX 3378-80100	
49	ONE PETROLEUM LIMITED	P O B O X 90147 80100.	
50	Millenium Dealers Limited	P.O Box 27549-00506	