

**VALUE CHAIN PERFORMANCE AND THE PROFITABILITY OF  
INDEGENOUS PETROLEUM MARKETING FIRMS IN KENYA**

**BY**

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## DECLARATION

I Abdi Ali Abdi declare that this Research Proposal is my original work and has not been presented to any University or institution for the award of any academic qualification.

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This research proposal has been presented for examination with our approval as the University supervisor.

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Thanks to the Almighty God for with Him, everything is possible. To all, May God bless the work of your hands.

## **DEDICATION**

This research paper is dedicated to my parents; Ali Abdi Haji Sheiqow and Ladhan Yussuf Noorow, my brothers and Sisters and to my friends for their encouragement, advice and support that they have accorded me during my studies.

## **ABSTRACT**

Value chain performance can lead to improvement in the profitability of an organization. The main aim of this study was to establish the impact of value chain performance and the profitability of indigenous petroleum marketing firms in Kenya. The study adopted a descriptive research design in conducting a survey of indigenous petroleum marketing firms in Kenya. Data was collected from 29 firms based in Nairobi through questionnaires. The data was analyzed using Statistical Packages for Social Sciences and was presented in tables. The findings indicate that most of the indigenous petroleum marketing firms in Kenya have applied the value chain concept for a period of less than five years; they have managed to achieve reduction in transport costs, minimization of material costs, reduction in distribution costs, and reduction in inventory handling costs. Due to the adoption of the value chain, most of the indigenous petroleum marketing firms in Kenya have managed to improve delivery time; improve delivery performance; reduce lead time as well as improve information accuracy. The study recommended that it will be significant for the companies to effectively manage the four items above in order to maximize the profitability of their value chains.

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## **LIST OF ABBREVIATIONS**

1. ERC – Energy Regulatory Commission
2. IODs – Independent Oil Dealers
3. KPC – Kenya Pipeline Corporation
4. KRA – Kenya Revenue Authority
5. KPRL – Kenya Petroleum Refinery Limited
6. LOCs – Local Oil Companies
7. MOCs – Multinational Oil companies
8. OTS – Open Tender System
9. PIEA – Petroleum Institute of East Africa
10. SCM – Supply Chain management



# CHAPTER ONE: INTRODUCTION

## 1.1 Background of the Study

Supply chain management primarily involves value chain management which contains elements that guarantee a fast information flow between each of the member elements (Monczka, Trent, Handfield, 1998). Supply Chain Management is meant to increase company and supply chain competitiveness through better coordination of value added activities. By managing resources of the entire chain, overall costs can be reduced and customer service levels increased. This may focus on cross-functional process integration within the firm, forward integration with first-tier customers, backward integration with first-tier suppliers, or some combination of the three. For instance, planning between a consumer-packaged goods company and a retailer can improve forecast accuracy and align promotional activities. Better planning may result in lower inventory levels, reduced time to market, improved product availability, and customer satisfaction (Prahalad and Hamel, 1990).

Ramsay (2005) noted that complexity is one major reason why these efforts are slowed or often difficult to implement. Different departments, and different suppliers and customers, are involved and must work together cooperatively to manage the value chain successfully. Therefore, companies typically follow a three-stage evolutionary path from supply chain to value chain management (Walters and Lancaster, 2000). Value chain management is based on an intergrated framework in which processes and management concepts to manage the value chain are included. Prahalad and Hamel (1990) noted that the value chain is structured according to the company's key functions sales, distribution,

production and procurement; it also includes dedicated negotiation and collaboration interfaces with suppliers and customers. The focus of value chain management should be on the most profitable businesses, while less profitable businesses receive lower priority as they compete for internal resources. Such concepts are well known on a business unit level (Porter, 1985). The challenge is to introduce these concepts into strategic decision making, tactical planning and day to day operations. Applying this value chain management framework in a holistic and consistent way, the company becomes more agile and better able to take advantage of the most promising business opportunities on an ongoing basis (Schulz et al, 2006). Therefore Schulz et al (2007) concluded that, value chain management focuses on optimizing volumes and values based on cross-functional management concepts and integrated decision making throughout the value chain.

### **1.1.1 Value Chain Performance**

Value is any activity that increases the market form or function of the product or service; and in today's business climate, there is a need to maximize the value of every process in a business (Jacoby, 2005). Value chain performance represents the concept of managing an organization with regard to the activities, resources and strategies of other organizations upon which it must rely in order to develop, produce and market goods and services. Value is measured by total revenue, a reflection of the price a firm's product commands and the units it can sell. A firm is profitable if the value it commands exceeds the costs involved in creating the product (Porter, 1985).

The Value Chain concept was developed and popularized in 1985 by Michael Porter. This was his seminal work on the implementation of competitive strategy to achieve

superior business performance. Porter defined value as the amount buyers are willing to pay for what a firm provides, and he conceived the value chain as the combination of nine generic value added activities operating within a firm activities that work together to provide value to customers. He linked up the value chains between firms to form what he called a Value System (Porter, 1985).

On the other hand, Gereffi (1999) laid out four key structures that shaped value chain concept which include input-output, geographic, governance, and institutional. According to Porter (1985), Value chain analysis investigates the sequence of activities required to bring a product or service from conception and procurement through production and distribution to the final customer. The analysis can be done for individual firms, for clusters of firms whose value chains are interlinked – referred to as value systems by Porter and usually involving suppliers, distributors, sellers and customers. Value configuration analysis is then linked to the analysis of the structural determinants of both industry attractiveness and alternative competitive strategies.

The activities work together to provide value to customers (Porter, 1985). In Porter's Value Chain model, he linked up the value chains between firms to form what he called a Value System (Feller, Shunk and Callarman, 2006). The primary focus in value chains is on the benefits that accrue to customers, the interdependent processes that generate value and the resulting demand and funds flows that are created (Porter, 1985). A move up the value chain through innovations is now viewed as a crucial strategy to firms' competitiveness. This strategy is consistent with the general thesis that upgrading the

value chain of a firm by producing better products, increasing business efficiency, and entering into more skill-intensive industries is a necessary and important strategy for ensuring sustainable competitive advantage (Porter, 1990). Encouraging higher value added activities and innovations have become central to strategies of various firms as well as various policies aimed at increasing Research and Development (Hout and Ghemawat, 2010).

### **1.1.2 Firm Profitability**

Profitable growth appears to be the recipe to a better performance whereas the idea of growing first to secure future profits should be taken with some caution (Davidsson et al, 2009). However, the causal relationship tends to be in the other way round, from growth to profitability (Coad, 2007). Although Cowling (2004) suggested a cumulative causality where growth drives profitability and profitability facilitates further growth, and so on. Therefore, it is clear that the relationship between firm growth and profitability is considerably more complex than conventionally assumed (Davidsson et. al, 2009). But Feller et.al (2006) put in perspective that effective value chains generate profits.

Performance of products and services are visible sides of competition, however, it is the diverse and deep set of competencies that make this successful. This implies that companies compete as much in the product and service markets as they do on developing competencies (Feller, Shunk and Callarman, 2006). Superior or core competencies allow managers to create higher perceived value and achieve a lower cost structure to enhance profitability (Prahalad and Hamel, 1990). A firm's capabilities are by their nature intangible, and are captured in a firm's routines, procedures, and processes. Competitive

advantage therefore requires different positioning strategies through strategically choosing a different mix of value chain activities in order to deliver a unique value at a competitive price (Porter, 1998). Activities are therefore the basic units of competitive advantage.

### **1.1.3 The Petroleum Value Chain**

The petroleum value chain encompasses exploration and production of oil and gas, transportation and storage, refining and marketing of oil, processing and marketing of gas, as well as related activities such as oilfield services and equipment and petrochemicals. Together, these processes transform underlying petroleum resources into useable end-products valued by industrial and private customers. Along the value chain activities are inherently inter-linked, and such linkages might occur within or across individual firms, and within or across national boundaries (Taylor, 1999).

Sturgeon (2007) stated that Integration along the value chain – whether horizontally or vertically – has often been used to generate incremental value. The benefits from economies of scale from horizontal integration in most activities of the value chain are widely acknowledged, particularly with respect to exploration and production activities, where scale helps industry participants to access better funding, to diversify investment and development risk, and to serve as long-term insurance to partners such as host governments. Maloni and Bentoni (1997) observed that as a country strategy, there are natural resource limits in encouraging exploration and production activities, as well as issues of appropriate depletion strategy. In other segments of the value chain, however, some countries have successfully managed to attract substantial investment beyond their

domestic requirements. Vertical integration at the country level, in the sense of deliberate industrial policies to guide or encourage diversification along the value chain, has been pursued with mixed success by some countries to diversify price or demand risks to the economy, to capture a larger share of value-adding processes, or simply to respond to changing domestic and international demand (Fasse et al, 2009).

Broadly, three potential sources of social value creation from petroleum operations can be identified: (i) exogenous context and conditions; (ii) the companies participating in the sector, including their operational and strategic set-up, priorities and capabilities; and (iii) the sector's organization and institutional properties (Walters and Lancaster, 2000).

#### **1.14 Indigenous Petroleum Marketing Firms in Kenya**

The petroleum industry in Kenya was liberalized in October 1994 as part of the World Bank motivated Structural Adjusted Programs in the energy sector. There are four major players in the industry which include the Kenya Petroleum Refinery Limited, the Kenya Pipeline Company Limited, the National Oil Corporation of Kenya and the group of oil marketers and retailers operating throughout the country (PIEA, 2000).

The Kenya Petroleum Refinery Limited is a processing refinery, which means that it does not own the crude petroleum that it handles, but rather refines crude petroleum for marketers and retailers at a fee, who subsequently distribute and sell refined products in the country or export them. However, after liberalization in 1994, the marketers and retailers now have a choice between refining crude petroleum at the Kenya Petroleum Refinery Limited and importing finished products (PIEA, 2000).

Before liberalization in 1994 multinational oil companies dominated the marketing of petroleum products (Bhagavan, 1999). The liberalization of the sector was expected to allow more players into the market (Bhagavan, 1999) and the assumption was that more firms in the market are likely to make the market more price competitive. The lifting of price and supply controls was expected to attract new investors (PIEA, 2001). Even after licensing a number of local firms to operate in the market, very few firms are in operation. Kenya, for instance, has licensed over fifty firms to start petroleum marketing enterprises but only less than fifteen are in operation (PIEA, 2000). Local entrepreneurship in the petroleum marketing has taken root, and it's possible to compete effectively with the companies from developed countries which have been in the market for almost a century (PIEA, 2001).

Multinational oil companies have also developed through mergers especially in times of crisis (PIEA, 2001). According to the PIEA (2001) this is still happening up to date and is what has enabled them to gain control of the market by increasing their capital and some of the big oil companies from developing countries have also had to merge. According to Bhagavan (1999), joint ventures between multinationals and indigenous private entrepreneurs are lacking. Further he observed that there was no evidence of those who have worked as senior executives either in the ministry of energy or multinationals becoming entrepreneurs. Lack of vertical integration will still remain a barrier to indigenous oil companies' growth, (Bhagavan, 1999); however, multinationals are not only vertically integrated, but have also diversified into similar products along their line

of operation. They have interests from extraction, transportation, refining, and retailing. This is what has helped them remain dominant in the market (Bhagavan, 1999).

## **1.2 Research Problem**

In today's fast-changing competitive environment, successful companies increasingly do not just add value, to their products. Organizations break down the distinction between products and services and combine them into activity-based offerings from which customers can create value for themselves (Porter, 1985). But as potential offerings grow more complex, so do the relationships necessary to create them. As a result, a company's strategic task becomes the ongoing reconfiguration and integration of its competencies and customers (Humphrey and Schmitz, 2002).

This study intends to investigate the relationship between value chain performance and profitability of indigenous petroleum marketing firms in Kenya. Several studies have been conducted on value chain management. World Bank (2006) in its research the petroleum value chain, concluded that, the petroleum value chain encompasses exploration and production of oil and gas, transportation and storage, refining and marketing of oil, processing and marketing of gas, as well as related activities such as oilfield services and equipment and petro chemicals. Together, these processes transform underlying petroleum resources into useable end-products valued by industrial and private customers. In Kenya, Kambewa (2007) conducted a study on enhancing value-added production in the Nile Perch value chain. The study showed vivid interaction between socio economic business environments (market access, infrastructure and resources, institutions) and elements of the value chain; value added production, network



structure and governance forms. Mohapatra (2010) the supply and distribution Manager for Indian Oil Corporation Limited, in his research concluded that customer perspective is the most vital. Most publications have focused on regulation and policy matters while others have focused on sector-wide performance. Since liberalization, indigenous oil marketing companies have expanded and increased in number despite the numerous challenges in the industry.

Although several studies have been done on the concept of value chain, none has been on the relationship between value chain performance and firm profitability. In addition, the contexts of indigenous petroleum marketing firms with the African setting particularly Kenya are limited. This study therefore seeks to answer the following research question: what is the relationship between value chain performance and firm profitability in Kenya?

### **1.3 Research Objective**

The objective of this research was to investigate the relationship between value chain performance and the profitability of indigenous petroleum firms in Kenya

### **1.4 Value of the Study**

The recent development in petroleum industry has witnessed the decline in market share of MNC's while the indigenous firms have been growing steadily. Due to the foregoing, the findings of this study will be useful to Stakeholders in the sector to make informed investment decisions as well as new entrants in the market. The Government and other policy makers will also use the findings to develop appropriate and enabling regulation for the sector.

Researchers can also use the findings and recommendations of this study to conduct further investigations on value chain performance and profitability in the indigenous petroleum firms in Kenya.

Organizations will use the research outcome to enable organizations to understand better the value chain performance in relation with firm profitability.

Professional Associations, the research will also assist professional associations in the approach of guiding, training and counseling its members on issues related to value chain processes.

The study will assist regulators like ERC and KRA to understand better why errant companies behave as they do thereby be able to influence their conduct positively leading to full compliance by companies, finally the study will assist the Academicians by providing results and statistics for their academic work and reference thereby contributing to the body of knowledge.

## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1 Introduction**

A selected review of literature on Value Chain Management and the relationship with performance of an organization is reviewed in this chapter. Literature on value chain activities are examined in relation to profitability of firms in petroleum companies. Nelson (1991) observed that understanding how firms differ is a central challenge for both the theory and the practice of supply chain and value management. The dynamic economic and institutional setting and changes in the dominant competitive logic of firms is of particular interest since it determines a firm's profitability (Prahalad and Hamel, 1994).

### **2.2 Value Chain**

An alternative form of value creation is a prerequisite for expressing and exploring how firms differ in a competitive sense. The value chain models are long-linked technologies where value is created by transforming inputs into products. The product is the medium for transferring value between the firm and its customers. Raw materials and intermediate products are typically transported to the production facility that transforms the inputs into products which are shipped to customers (Thompson, 1967).

However, enterprise value chains must develop and support a broader sustainability perspective to ensure that its consumer, business, supply chain, community and environmental relationships and interactions remain viable. Value chains must carefully balance sustainability dimensions to guarantee long-term viability of the firm itself, its employees, and the global resource base in addition to the consumer base (Fasse et al, 2009).

Ramsay (2005) noted that complexity is one major reason why these efforts are slowed or often difficult to implement. Different departments, and different suppliers and customers, are involved and must work together cooperatively to manage the value chain successfully. Therefore, companies typically follow a three-stage evolutionary path from supply chain to value chain management (Walters and Lancaster, 2000).

The first stage is characterized by internal management of a company function such as sales, marketing, production, logistics and procurement. This focus on function can reflect the best result in a single area but not necessarily the best result for the entire value chain (Gereffi et al, 2005). Lambert et al (1998) provided an example that, in procurement, long-term purchasing contracts can lead to high inventories and additional logistics costs if contracted raw material volumes will not be fully used in production because there is a lack of demand for finished products.

In the second stage, supply chain can be optimized by more integrated decision making. Stadler (2004) stated that supply chain management as a concept is widely discussed in theory and applied in practice. The core idea of supply chain management is to manage integrated flows of material and information within the company but also between and among companies in order to minimize inventories and achieve optimum utilization of production resources. Therefore, the objective of supply chain management is to minimize the supply chain costs, to deliver a defined service level and to meet customer demand. Supply chain management focuses therefore on integrating decision making on production and distribution volumes. Volume and specifically price decisions in sales and

procurement are often not in scope and considered as given. Without an integrated approach however, costs minimize in supply chain management do not automatically produce the best profits for the company (Walters and Rainbird, 2004).

The third step in the evolution of managing the value chain optimization. Optimization means integrating all volumes and value decisions to maximize profits across the entire value chain from sales to procurement. An optimized value chain is a milestone for a company because it means managing profitability, volume flows and services in a future-oriented manner (Mascarenahs et al, 2004). Development practitioners make extensive use of the value chain concept for the design of market-driven rural development projects and strategies. It is also widely used by researchers, as shown by the increasing number of publications (Fasse et al, 2009).

According to Van den Berg et al (2009) value chain analysis can be viewed in an arrow or broad sense. In the narrow meaning, a value chain focuses on a single firm and includes the conception and design stage; the acquisition of inputs; production, marketing and distribution activities; and the performance of after sale services. The broad approach to value chains looks across enterprises at the range of activities implemented by various actors to bring a raw material to the final product. The broad value chain approach starts from the production system of the raw materials used to produce a product. It also includes linkages with other actors engaged in activities such as trading, assembling, processing and providing business development services such as credit and market

information. The broad approach also comprises all backward and forward linkages, up to the level in which the raw material produced is linked (Van den Berg et al 2009).

### **2.3 Value Chain Model**

The value chain concept can analyze and describe a company's source of competitive advantage. To generate added value, the company has to know how to add value to a customer's value chain and how to control costs. Cost management is based on the effectiveness of the business process and on limiting the bargaining power of the suppliers (Porter, 1998). The value chain requires a comparison of all the skills and resources the firm uses to perform each activity. It is most useful for comparing relative cost position (Porter, 2001). Porter (1985) identified five generic primary activity categories of the value chain as follows: Inbound logistics: Activities associated with receiving, storing, and disseminating inputs to the product. Operations: Activities associated with transforming inputs into the final product form. Outbound logistics: Activities associated with collecting, storing, and physically distributing the product to buyers. Marketing and sales: Activities associated with providing a means by which buyers can purchase the product and inducing them to do so. Service: Activities associated with providing service to enhance or maintain the value of the product.

### **2.4 Value Chain Performance**

Value chain performance can be used to understand the nature of ties between local firms and global markets, and to analyze links in global trade and production. Wheeler and McKague (2002) stated that it provides insights into the way producers – firms, regions or countries – are connected with global markets, which influences their ability to gain from participating in the global economy. Furthermore, it helps to explain the distribution

of benefits, particularly income, to actors that are participating in the global economy. This allows identification of policies, which can be implemented to enable producers to increase their share of the gains that globalization can result in (Kaplinsky and Morris, 2002).

Gibbon et al (2008) observed that one of the main advantages of value chain performance is that it provides insight into the mode of insertion of producers in global value chains. To understand the value of this potential of a value chain, it needs to be taken into account that currently, the gains of globalization are not distributed equally. Gereffi et al (2005) stated that there is a disparity between global economic integration and the extent to which people and countries actually benefit from globalization. An important explanation for this fact is found in the inappropriate insertion of firms, regions and countries in global value chains. This is the case when a producer specializes in particular links in the value chain that are subject to intense competition, resulting in a decline in terms of trade. When producers fail to insert themselves in an appropriate way into global markets, this may lead to a “race to the bottom”, in which they enter a path of immiserizing growth locking them into ever greater competition and reducing incomes (Ling et al, 2004).

Another advantage of value chain performance is that it addresses the nature and determinants of competitiveness, and shows that the determinants of income distribution are dynamic. This implies that competitiveness at a single point in time may not provide for sustained economic growth. Value chains allow for a systemic focus and analysis,

which is better suited to the dynamic nature of value creation and goes beyond the focus on a single firm or sector in an economy (Lazzarini et al, 2001).

Supply Chain Management is meant to increase company and supply chain competitiveness through better coordination of value added activities. By managing resources of the entire chain, overall costs can be reduced and customer service levels increased. This may focus on cross-functional process integration within the firm, forward integration with first-tier customers, backward integration with first-tier suppliers, or some combination of the three. For instance, planning between a consumer-packaged goods company and a retailer can improve forecast accuracy and align promotional activities. Better planning may result in lower inventory levels, reduced time to market, improved product availability, and customer satisfaction (Markman and Gartner, 2002).

SCM has the potential to enhance a company's financial performance. Thus, effective SCM drives costs down and reduces inventory levels, improved throughput, and waste elimination are perhaps the most visible areas for cost savings. Additional costs savings arise from joint productivity and problem-solving efforts, improved quality, and better-coordinated logistics activities. While well-designed supply chains can increase revenues by creating satisfied and loyal customers (Kendrick, 1984). SCM encourages companies to react with agility to changing consumer concerns, demands, and preferences, while responsiveness is key in today's turbulent market environments. Collaboration can reduce time to market for new products, improve product availability through more responsive



delivery systems, and provide customers with unique products and services. Supply chain management ability to simultaneously increase revenues and lower costs creates an ideal formula for competitive success (Spence, 1986).

A basic tenet of modern competitive strategy literature according to Porter (1980, 1990) is that there is need to look at the larger value chain and actors in order to evaluate the potential of an industry and understand effective competitive strategies. Suppliers and buyers, and not only focusing upstream arguments. Shepherd, (1983) stated that it is also relevant to consider downstream and that competitors affect both how much value is created and who gets what share of the value created by the value system.

The petroleum industry has recently seen mega-mergers where some of the largest firms in the global economy have joined forces to become even bigger. Mohanty and Dhalla (2010) provided an example of Chevron's recent acquisition of Texaco. In the immediate aftermath, several arguments and interpretations have been advanced. One argument for the Texaco-acquisition is size and competitive response: "The last two years have produced industry mammoths such as ExxonMobil and BP Amoco, now known as BP. Smaller companies like Chevron and Texaco face the risk of losing out on oil projects and investor interest if they stay small." Note that both Chevron and Texaco are large companies by any standard. Another line of argument refers to the potential of complementary assets: "Texaco has good assets and Chevron has the management to turn them around". A variant of the same argument is access to particularly attractive and synergistic assets: "The merger would give the combined company the greatest number

of leases to oil reservoirs far below the waters of the Gulf of Mexico. Chevron Texaco would also become an even more powerful presence in the deep-water offshore areas of Brazil and West Africa” (Mohapatra et al, 2000).

Simplifying a great deal, these interpretations suggest two basic arguments: a cost argument and a relationship argument. These are potentially interrelated arguments in that good relationships (with owners of prospective acreage) gives access to the best acreage, where best is synonymous with acreage with the lowest unit costs<sup>4</sup>. The arguments are, however, slightly different in that they imply access to proven petroleum resources as opposed to access to acreage with potential (Sheperd, 2000).

## **2.5 Value Chain Performance Measurement**

Many firms have been observed to evaluate performance, primarily on the basis of cost and efficiency. This has resulted in most measures focusing on financial data such as return on investment, return on sales, price variances, sales per employees, productivity and profit per unit production.

Measuring, controlling and compressing time improve quality, reduce costs, improve responsiveness to customer orders, enhance delivery, increase productivity, increase market share and increase profits. While Sturgeon (2002) noted that firms utilize their suppliers' processes, technologies, and capabilities to enhance competitive advantage. Taylor (1999) also observed that coordination of manufacturing, logistics, materials, distribution and transportation functions within organizations enhances performance. According to Uzzi (1997) firms reduce their supply base so they can more effectively

manage relationships with strategic suppliers. Firms combine logistics management and purchasing management to the supply chain to create a sustainable competitive advantage. Integrated Supply Chain Management gives several advantages for industries industry, such as improved delivery performance, reduction of lead time, and reduction of Inventory improved flexibility, efficiency and utility, improved capacity realization and improved asset usage Schulz et al, 2007).

Effectively measuring and managing of value chain performance is a complex and difficult task. If performance measurement is to lead to long-term and continuous performance improvement, then different stages of the performance measurement and management process such as design of measurement system, their implementation, and identification of appropriate measures to be used are to be successfully implemented. Organizational support in terms of knowledge sharing, leadership, structure and learning is immensely required for successful implementation (Markman and Gartner, 2002).

### **2.5.1 Classification of Value Chain Performance Measures**

Classification of value chain performance measures are financial measures which are of two kinds of cost in a supply chain system such as fixed and variable costs. The objective of financial measure performance is to maximize the revenue and minimize the cost. Financial measures include the cost to purchase, manufacture, distribute etc., cost of waste returns, obsolescence and productivity. Also non-financial measures include time, quality and flexibility. Other qualitative measures of value chain performance include customer satisfaction which means the customer should be satisfied with the product or service which are received.

There are three elements of customer satisfaction such as pre-transaction satisfaction, transaction satisfaction and post transaction satisfaction (Ploetner and Ehret, 2006). also included is information and material flow integration which mean the extent to which all functions within the value chain communicate information and transport materials. Saunders (1995) stated that the information sharing or flow refers to the extent to which critical and proprietary information is communicated in the value chain process. There are some elements of quality of information sharing such as the accuracy, timeliness, adequacy and credibility of information exchanged.

Rindfleisch and Heide (1997) conceptually classified the performance of the operations into two broad categories of cost performance and non- cost performance which have further divisions. Kendrick (1984) argue that measuring, controlling and compressing time shall improve quality, reduce costs, improve responsiveness to customer orders, enhance delivery, increase productivity, increase market share and increase profits. Flexibility (to measure the ability to deal with the dynamic nature of the business) is a performance apart, since it is an ability to change something (for example, the production volume or mix) in relation to all the three performance cost, time and quality ( American Productivity Center, 1981).

## **2.6 Firm's Profitability**

Value added is created at different stages and by different actors throughout the value chain. Value added may be related to quality, costs, delivery times, delivery flexibility, innovativeness, etc. The size of value added is decided by the willingness of the end customer to pay. Opportunities for a company to add value depends on a number of

factors, such as market characteristics (size and diversity of markets) and technological capabilities of the actors. Moreover, market information on product and process requirements is key to be able to produce the right value for the right market. This leads to firm's profitability (Porter, 1985).

According to Kaplinsky (2000) profitability can be divided into five major categories: trade rents (coming from production scarcities or trade policies), technological rents (related to asymmetric command over technologies), organizational rents (related to management skills), relational rents (related to inter-firm networks, clusters and alliances), and branding rents (derived from brand name prominence). Access to high income yielding activities, with high added value, requires participation in global value chains aiming at markets demanding products with high added value (Kaplinsky, (2000) as discussed before, these global value chains are often linked through long-term relationship. For commodities, however, with low profitability, the terms of trade with Western countries are in a downwards spiral of decline (Fitter and Kaplinsky,2001; Kaplinsky and Morris, 2002).

Oliva (2005) Business marketing often depends heavily on a company's sales force and the capabilities of individual salespeople. Unfortunately, some in business still confuse the respective roles of the marketing and sales functions. Though highly complementary, they are distinctly different. Business marketing manages the understanding, creation, and delivery of value. Sales interpret that value for individual customers, ensures that customers receive the value they purchase, and translates customer needs in ways that

allow the firm to improve the value of its offerings (Porter, 1985). Marketing provides direct support for the selling process with such as competitive intelligence, pricing information, sales aids, channel programs, training, and technical support. Marketing sets the stage so salespeople can build profitable relationships, overcome obstacles, and close transactions.

Enhanced supply chain competitiveness should translate into greater profitability for members up and down the chain. Entrepreneurial firms always take full advantage of improved performance and profitability made possible via supply chain management. Small firms achieving asset utilization efficiencies and revenue generating benefits is often attributed to supply chain management. On the other hand, supply chain issues appear a feasible culprit at times of declining in profitability. Thus purchasing is one of the key drivers influencing the survival and growth of manufacturing firms (Spann, 1974).

### **2.6.1 Firm Profitability Measurements**

A significant problem in the measurement of performance outcomes of firm is to reach consensus on suitable measures of performance. While a range of financial and non-financial indicators have been suggested as measures of performance, prior research has tended to focus on variables for which information has been easy to gather. Reviews of the literature by Markman and Gartner (2002) found possible indicators of performance which include assets, employment, market share, physical output, profits and sales. Several researchers suggest growth as the most important performance measure in small firms, with growth being a more accurate and easily accessible performance indicator

than accounting measures, and therefore superior to indicators of financial performance. Gereffi et al (2005) suggested that performance is multidimensional in nature and as such multiple measures of performance should be considered. The relationship between the different measures of performance can be complex in nature with growing firms not necessarily performing better when financial performance is taken into account. Firms may also trade off performance along different dimensions, choosing for instance, to trade-off long term growth for short term profitability. Markman and Gartner (2002) noted that start-up and high technology firms may grow significantly in employment and assets before any significant sales are made. As a result, growth in employment and assets should also be considered as performance measures. Employment has been considered an alternative measure for performance and with the public interest in new employment there are arguments that employment growth is an important dimension to capture. Measuring performance by employment growth can be problematic though, since this measure can be affected by productivity changes, replacement of employees with capital investments and outsourcing of activities. As a result, a firm can grow significantly in output without any increase in employment.

Growth in assets is another useful performance measure that has been considered however measuring growth in terms of assets can be difficult from an accounting perspective. Service firms for example may have considerable intangible assets which may not be reflected in the firms' balance sheet. Other problems include differences in capital intensity ratios across industries. (Markman and Gartner, 2002)

Gereffi et al (2005) discussed the various performance measures and suggested that if only one indicator had to be chosen as a measure of firm growth, then the preferred measure of growth should be sales. Sales figures are relatively easy to obtain and reflect both short term and long-term changes in the firm .Other arguments for using sales growth are based on the growth process being driven by demand for the firm's products and services. Increasing sales will allow growth along other dimensions such as employees and assets. Sales though, may not always the best measure of performance.

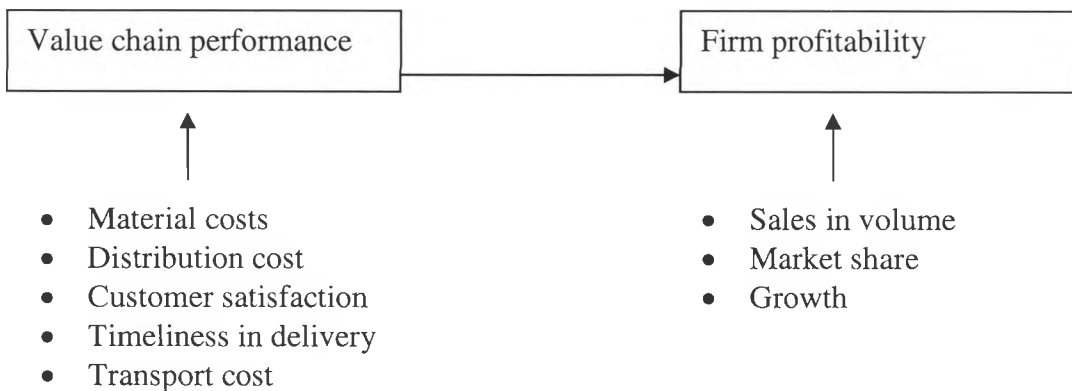
Profitability is another important measure of performance that must be considered as it is unlikely that firm growth can be sustained without profits being available for reinvestment in the firm. Growth along this dimension can be considered in terms of net profit margins or return on assets. Alternative views are given by Miller (1984) who point out that while profits are an important indicator of success, the relationship of profits to size is only evident in aggregate of firms or over long periods for individual firms. Davidsson et al, (2009) suggested that composite measures using multiple indicators should be considered given that no universally superior growth indicator seems to exist. Humphrey (2003) suggested using the same explanatory model on several growth measures, since different dimensions of growth are aspects of the same underlying dimension of growth and tend to be correlated. Using multiple measures may therefore better capture the underlying processes of growth. They also point out that as there seems to be no universal measure of growth, the use of multiple measures might give a better overall picture of the relationships and a way to test the robustness of any theoretical model to misspecifications in the dependent variable. Banker et al (1989) also noted that



many studies neglect the issue of growth over time, with most empirical research based on size differences between two points in time. This approach is considered problematic since it ignores the development of the firm between the two time periods. Given that growth may be subject to stochastic variation, Bailey (1986) suggests that the regularity or irregularity of growth over time is an important topic of investigation. Emerging businesses often do not exhibit monotonic sales growth and that single year sales or growth may not capture aberrations representing the true health of the organization. Using growth averages such as summary statistics may not capture complex growth patterns across time and may not accurately represent the firms' current performance. When using sales growth as a measure of performance, researchers often assume that faster growth is desirable. But the notion that faster growth indicates better performance than slower growth may not be universally true. Fast growing firms have excessive strains on resources which can lead to underperformance and in some cases bankruptcy (Cowling (2004). The relationship between performance measures such as sales growth and profitability over time is therefore an important area of investigation. The relationship between these measures suggests that there is an identifiable growth profit trade-off, where in order to finance growth, the firm must forego profits. Banker et al (1989) investigated this relationship between growth and profitability and found little evidence of the growth versus profit trade-off. He suggested that there is potential for a cumulative type effect whereby profits engender growth and growth.

## 2.7 Conceptual framework

Humphrey (2003) identified a continuum of value chain creation relations as a continuum which ranges from vertical integration at one end to a total arm's length relationship at the other. In between lay networks value chain, where member firms are characterized by complementary competencies and skills; and quasi-hierarchy, where a powerful partner, usually an international buyer, dominates the value chain. While a networks value chain typically denotes horizontal or non-dominant production relations among suppliers of a given product, a quasi-hierarchy is defined by the asymmetrical power existing between local producers and international buyers. Gibbon et al (2008) also observed that a firm may specialize in one or more value chain activities and outsource the rest. They argued that a thorough value chain analysis can facilitate outsourcing decisions and that a firm's strengths and weaknesses in each activity in terms of cost and ability to differentiate need to be analyzed to arrive at outsourcing decisions. Value chain performance is critical in determining the profitability of indigenous petroleum firms.



*Diagrammatic illustration of Conceptual framework (Primary data)*

## CHAPTER THREE: RESEARCH METHODOLOGY

### 3.0 Introduction

This chapter discussed research design, data sources, and data collection instruments and techniques of analysis. Sources of data included collection of both quantitative and qualitative data through literature review and interviews.

### 3.1 Research Design

The type of research design used was a census survey since it intended to identify the value chain performance and profitability in the indigenous petroleum firms in Kenya. Primary data will be collected during the study.

### 3.2 Population

There are a total of 51 oil marketers in Kenya categorized as Multinational oil Companies (MOCS), Local Oil Companies/Indigenous Companies (LOCs), and Independent Oil Dealers. (KPC website), which use the Kenya Pipeline Corporation (KPC) facilities to transport their products. Out of these 40 are indigenous companies with a market share of 31.9% (PIEA, 2011).

<b>Overall Market Shares (including exports)</b>	
<b>January to December 2011</b>	
<b>Company</b>	<b>Market Share %</b>
KENOLKOBIL	21.2
TOTAL	19.5
SHELL	14.4
LIBYAOIL	7.9
GAPCO	4.1
ENGEN	1
INDIGINEOUS	31.9
<b>Total</b>	<b>100</b>

Source: PIEA 2011

### **3.3 Sample Design**

The study used purposeful sampling. Therefore, only 40 indigenous petroleum companies were selected for the purposes of this study.

### **3.4 Data Collection**

This research used questionnaires to collect data. The questionnaire (see Appendix 11) was distributed and later collected from the respondents after completion. Follow up by use of e-mails and telephone calls as well as personal visits were applicable. Written questionnaires were administered directly to respondents' to determine the value chain performance and profitability in the indigenous petroleum firms in Kenya. Closed and open-ended questions enabled the respondents to express their views.

### **3.5 Data Analysis**

The collected data was presented in form of tables where appropriate. Tables helped in visual display and showed the obtained data. Descriptive statistics was used in the analysis through calculation of mean, standard deviation and percentages to measure and compare the results.

A 5 point Likert scales ranging from 5-very small extent to 1-very great extent was used. This is a psychometric response scale primarily used in questionnaires to obtain participant's preferences or degree of agreement with a statement or set of statements. Likert scales are non-comparative scaling technique and are one-dimensional (only measure a single trait) in nature. Respondents are asked to indicate their level of agreement with a given statement by way of an ordinal scale (Mogey, 1999).

## **CHAPTER FOUR: DATA ANALYSIS, FINDINGS AND DISCUSSIONS**

### **4.1 Response Rate**

This chapter presents the analysis of the data collected on value chain performance and the profitability of indigenous petroleum marketing firms in Kenya. Data was collected from a total of 29 respondents out of the targeted figure of 40 respondents. This translated to a response rate of 72.5% which the researcher considered as sufficient and representative enough for this study.

### **4.2 Demographic information.**

The researcher sought information on various aspects concerning the demographic information of the indigenous petroleum marketing firms in Kenya that participated in the study. The findings are presented and explained below.

#### **4.2.1 Nature of Business**

The nature of a business plays a very important role in the value chain profitability of an organization. The company can play the role of a parent company such as subsidiary, companies and others. Companies with subsidiaries are likely to have higher profitability due to their ability to reach a wider market for their oil products. They also have in possession enough resources which can be utilized to market the company. The study sought to establish the nature of business for indigenous petroleum marketing firms in Kenya. The results from data analysis are presented in the table 4.1 below.

**Table 4.1: Nature of Business**

<b>Nature of Business</b>	<b>Frequency</b>	<b>Percent</b>
Others	1	3.4
Subsidiary companies	2	6.9
Parent company Others	26	89.7
Total	29	100.0

It is evident from the findings tabulated above that majority of the indigenous petroleum marketing firms in Kenya (represented by 89.7%) were parent companies. This is therefore an indication that most of these companies do not have subsidiaries hence less sophisticated value chains. Their profitability is also not expected to be as high as those with subsidiaries.

#### **4.2.2 Market sector**

There are various sectors that indigenous petroleum companies may belong, such as manufacturing and distribution. The sector may affect the profitability of a company depending on the costs involved in doing business. For instance in manufacturing, the initial costs are higher hence may take time to complete the payback period. The researcher wanted to find out the market sector to which indigenous petroleum marketing firms in Kenya belong. Table 4.2 below illustrates the findings.

**Table 4.2: Market sector**

	<b>Frequency</b>	<b>Percent</b>
Manufacturing	14	48.3
Supply chain	11	37.9
Distribution	4	13.8
Total	29	100.0

From the findings in Table 4.2, it can be observed from the results in the table above that 48.3% of the indigenous petroleum marketing firms in Kenya belong to the manufacturing sector. This therefore implies that they are engaged in some processing and production activities that may have required high initial outlays.

### 4.2.3 Branch Network

The number of branches that a company has can determine the level of its value chain profitability. The effects can be both negative and positive depending on how the value chain is managed. For instance through the economies of scale, a company with a wider branch network can be able to save so much on some costs thus maximizing its profitability. The study aimed at establishing whether indigenous petroleum marketing firms in Kenya have branches. The findings are presented in table 4.3 below.

**Table 4.3: Number of branches**

Nature of Branches	Frequency	Percent
1-5 Stations	15	51.7
6 - 10 Stations	11	37.9
16 - 20 Stations	2	6.9
21 and above stations	1	3.4
<b>Total</b>	29	100.0

Looking at the data analysis results above, it is evident that 51.7% of the indigenous petroleum marketing firms in Kenya have less than 5 branches. This probably confirms the results in table 4.1 where most of the indigenous petroleum marketing firms in Kenya indicated that they were parent companies with no branch network. It is therefore possible that all the 51.7% represent those with a single branch hence a less sophisticated value chain. When an organization has a large branch network, the activities that need to

be performed also increase due to the expansive nature of the organization. This makes the value chain of the organization more complicated.

#### 4.2.4 Application of the value chain concept

On the application of the value chain concept by indigenous petroleum marketing firms in Kenya, the research established that all the companies that participated in the study are very much aware of the value chain concept and are applying the same in their day to day supply chain activities.

#### 4.2.5 Duration companies have applied value chain concept

The duration the firm has been applying value chain concept may be very paramount in determining the profitability of the value chain. Those companies that have applied the concept for long or over a long period of time are likely to have better results. Table 4.4 below shows the findings on the duration indigenous petroleum marketing firms in Kenya have applied the value chain concept.

**Table 4.4 The duration the firm has been applying value chain concept**

	<b>Frequency</b>	<b>Percent</b>
0 - 5 years	11	37.9
5 - 10 years	10	34.5
10 - 25 years	8	27.6
<b>Total</b>	29	100.0

The findings as tabulated above confirm that most of the indigenous petroleum marketing firms in Kenya have applied the value chain concept for a period of less than five years. The reason for this is that most of them are still new in the market and have been in existence for an equivalent duration.



### 4.3 Value Chain Performance

There were several measures of value chain performance that the study was considering.

This can be either cost related, lead time etc. The respondents were asked to indicate the extent to which their firms has improved the value chain performance in relation to the firm profitability and to give their rating on the same using a five point Likert scale where

1=Very great extent, 2= Great extent, 3=Medium extent, 4=Small extent and 5=Very small extent. The results are presented in Table 4.5 below.

**Table 4.5: Value Chain Performance Measures**

Cost	N	Mean	STD Deviation
Reduction in production costs	29	2.86	1.274
Reduction in manufacturing costs	29	2.66	1.233
Increase in product variety	29	2.24	1.215
Reduction in obsolescence	29	2.55	1.152
Improved output per unit (productivity)	29	2.21	1.114
Improve customer satisfaction	29	2.1	1.113
Increase in the volume of sales by employees	29	2.1	1.081
Lead time reduction	29	2.28	1.066
Enhancement of responsiveness to customer order	29	1.97	1.052
Improved delivery performance	29	2.1	1.047
Improvement to product and service quality	29	2.17	1.037
Increase the market share	29	2.03	1.017
Minimization of material costs	29	2.21	0.978
Improvement to firms product and process flexibility	29	2.21	0.978
Improved returns on sales	29	2.17	0.966
Increase in returns on firms investment	29	2.14	0.953
Reduction in inventory costs	29	2.24	0.912
Proper management of price variations	29	2.38	0.903
Reduction in distribution cost	29	2.14	0.875
Enhanced capacity utilization	29	2.41	0.867
Improved information accuracy	29	2.07	0.842
Improved delivery time	27	1.78	0.751
Asset use	29	2.14	0.743
Reduced transport costs	29	2.1	0.724

There are various costs that organizations can manage effectively in order to achieve profitability in the value chain. This study sought to establish the views of the respondents on four types of costs. The results are presented in figure 4.5 above. The researcher confirmed as tabulated above that indigenous petroleum marketing firms in Kenya have managed to achieve reduction in transport costs, minimization of material costs, reduction in distribution costs and reduction in inventory handling costs.

Application of some aspects of the value chain concept is likely to cause positive changes to lead time management in the organization's supply chain. Good lead time management may impact positively on the profitability of the company. The researcher sought to find out from the indigenous petroleum marketing firms in Kenya whether they have achieved any of the following benefits that are related to lead time. The findings are presented in table 4.5 above.

The findings in the table 4.5 above indicate that all the five aspects of lead time had a mean of approximately 2. This implies that most of the indigenous petroleum marketing firms in Kenya agreed that they have managed to achieve the above mentioned benefits due to adoption of the value chain concept. Customer satisfaction may translate to increased sales that can improve the profitability of an organization. If an organization increases its product variety customers are able to enjoy access to a variety of products. The researcher sought to establish how application of the value chain concept can affect customer satisfaction. The findings are presented in table 4.5 above.

The findings in the table above confirm that application of the value chain concept leads to Increase in product variety, improves customer satisfaction, improvement to product

and service quality and enhancement of responsiveness to customer order. There are various measures that can be used to determine the profitability of a value chain. The study sought to establish whether the various measures are as a result of value chain application among indigenous petroleum marketing companies in Kenya. The results are illustrated in table 4.5 above.

It can be observed that value chain application among indigenous petroleum marketing companies in Kenya leads to increase in returns on firms investment, improved returns on sales, proper management of price variations, increase in the volume of sales by employees, improved output per unit (productivity), increase the market share and enhanced capacity utilization.

The mean score is 2.86 which is an indication that the response agreed was moderate extent therefore the firms have seen improvements to the reduction of obsolescence costs, manufacturing cost and lead time etc. This is an indication that most of the improvement are to customer satisfactions and this is in line with Stank (1999), De Toni and Tonchia (2001).

#### 4.4 Relationship between Value Chain Performance and Firm Profitability

**Table 4.6: Regression Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics		
					R Square Change	F Change	df
1	.250 <sup>a</sup>	.625	.534	1.361	.034	.209	4

Predictors: (Constant), Reduction in production costs, Improvement to product and service quality, reduced transport costs, Increase in returns on firm's investment.

R Square in the table above shows how the variation in the profitability of indigenous petroleum firms in Kenya varies with value chain performance based on the following variables: reduction in production costs, improvement in products and service quality, reduction in transportation costs and increase in returns on investment. From the table, the value of R Square is .625. This implies that a variation of 62.5% in the level of profitability of indigenous petroleum firms in Kenya varies with variations in reduction in production costs, improvement in products and service quality, reduction in transportation costs and increase in returns on investment.

**Table 4.7: Coefficients**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	2.467	.924		2.671	.003
Reduced transport costs	.154	.395	.087	.390	.000
Increase in returns on firms investment	.223	.357	.017	.065	.039
Improvement to product and service quality	.103	.299	-.083	-.344	.014
Reduction in production costs	.134	.225	.133	.594	.008

**Dependent Variable: Pretax profit**

The regression equation established from the table above is  $Y = 2.467 + 0.154x_1 + 0.223x_2 + 0.103x_3 + 0.134x_4$ . The equation implies that the profitability of indigenous

petroleum firms in Kenya will be at 2.467 when holding the four analyzed value chain performance variables constant. The equation also indicates that a unit change in reduction in production costs, improvement in products and service quality, reduction in transportation costs and increase in returns on investment will lead to a change of 0.154, 0.223, 0.103 and 0.134 in the profitability of indigenous petroleum firms in Kenya respectively.

# CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

## 5.1 Introduction

This chapter presents a summary of the findings from the study; the conclusions and the recommendations made by the researcher based on the findings as well as suggestions for further study. The aim of this study was to ascertain the value chain performance and the profitability of indigenous petroleum marketing firms in Kenya. The study had one objective which was to investigate the relationship between value chain performance and the profitability of indigenous petroleum firms in Kenya.

## 5.2 Summary of Findings

The study established that most indigenous petroleum marketing firms in Kenya are parent companies an indication that most of these companies do not have subsidiaries hence less sophisticated value chains. The study also established that most indigenous petroleum marketing firms in Kenya belong to the manufacturing sector an indication that they are engaged in some processing and production activities that may have required high initial outlays. Concerning the branch network, the study found out that most indigenous petroleum marketing firms in Kenya have less than 5 branches.

Further, the study established that most of the indigenous petroleum marketing firms in Kenya have applied the value chain concept for a period of less than five years this is because most of the firms are new in the market and have been in existence for an equivalent duration. Concerning value chain performance the study established that indigenous petroleum marketing firms in Kenya have managed to achieve reduction in

transport costs, minimization of material costs, reduction in distribution costs, and reduction in inventory handling costs.

It was also from the study that most of the indigenous petroleum marketing firms in Kenya have managed to achieve the following benefits due to adoption of the value chain concept: improved delivery time; improved delivery performance; improvement in the firms' product and process flexibility; reduction in lead time and improved information accuracy.

### **5.3 Conclusion**

From the study findings, it is clear that most of the indigenous petroleum marketing firms in Kenya have applied the value chain concept for a period of less than five years, they have managed to achieve reduction in transport costs, minimization of material costs, reduction in distribution costs, and reduction in inventory handling costs. Due to the adoption of the value chain, most of the indigenous petroleum marketing firms in Kenya have managed to improve delivery time; improve delivery performance; reduce lead time as well as improve information accuracy. The study found a significant relationship between pretax profit and the other independent variables: Reduced transport costs; Increase in returns on firms investment; Improvement to product and service and Reduction in production costs.

### **5.4 Recommendations**

There are indications that Reduced transport costs; Increase in returns on firms investment; Improvement to product and service and Reduction in production costs account for more than 60% of the profitability of indigenous petroleum companies. It will

be significant for the companies to effectively manage these four items in order to maximize the profitability of their value chains.

There are number firms that have applied the value chain concept but are yet to realize the benefits. There is need for the firms to do best practice benchmarking in the industry in order to achieve the best out of value chain concept.

### **5.5 Suggestions for Further Research**

There is need to conduct a study that will involve all petroleum marketing firms in Kenya and compare the findings. In this way, more light will be shed on the subject.

A comparative study can also be conducted to establish similarities and differences between Kenya and another country. This will bring more understanding on this issue.-

This same study can also be replicated after some time to find out whether the findings will still remain the same or there will be major shifts in the observations that have been made in this study.



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# APPENDIX 1

## QUESTIONNAIRE

**Dear Respondent,**

This questionnaire seeks to establish the **value chain performance and profitability of indigenous petroleum marketing firms in Kenya**. You have been selected to participate in this study because we believe you will provide the information we need. The information you provide will be used for purely academic purposes and will be treated with utmost confidentiality.

Thank you for your time and cooperation.

### SECTION A: GENERAL INFORMATION

Please tick the appropriate response for the questions below:

1. When was your company incorporated? .....
2. Please indicate the nature of your business  
Parent company [ ] subsidiary companies [ ] others  
specify.....
3. What is your market sector(s)?  
Manufacturing [ ] Supply chain [ ] Distribution [ ] others  
specify.....
4. How many branches do you operate in the country? .....
5. How many staff do you employ on the following basis?  
Full time basis..... Part-time basis.....
6. Does your firm apply value chain concept in day to day operations?

Code	1	2
	Yes	No

7. For how long has your organization been existence?

Code	1	2	3	4
No.	0 – 5 yrs	5 – 10 yrs	10 – 25 yrs	Over 25 yrs
Tick				

Please indicate by ticking in the appropriate box to the extent to which you agree with the statement below.

### SECTION B: VALUE CHAIN PERFORMANCE

8. To what extent has your firm achieved the following to it is management of the value chain:

**Scale: 1-Very great extent, 2- Great extent, 3-Medium extent, 4-Small extent, 5-Very small extent**

Value Chain Performance Measures	1	2	3	4	5
Reduced transport costs					
Minimize material costs					
Increase in Product variety					
Improve Customer satisfaction					
Reduced in Distribution cost					
Improve Timeliness in delivery					
Increase in Returns on firms investment					
Improved returns on sales					
Proper management of price variations					
Increase in the volume of sales by employees					
Improved output per unit(productivity)					
Improvement to product and service quality					
Enhancement of responsiveness to customer order					
Increase the market share					

	Improved delivery performance					
	Reduction to lead time					
	Reduction to inventory costs					
	Improvement to firms product and process flexibility					
	Enhanced capacity utilization					
	Improved asset usage					
	Improved to information accuracy					
	Reduction to manufacturing costs					
	Reduction to cost obsolesce					
	Reduced in Production Cost					

**SECTION C: FIRM PROFITABILITY**

9. To what extent has your firm experienced improvement to the following areas after improving the value chain?

<b>FIRM PROFITABILITY MEASURES</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
Sales (Volume)					
Market Share (%)					
Growth Scale (Ratio)					
Pretax profit					
Return on investment					