EFFECT OF PROCUREMENT RISK DRIVERS ON THE PERFORMANCE OF OIL MARKETING COMPANIES IN KENYA

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ABSTRACT

Procurement risk drivers are typically a key aspect of every organization. They are the risks associated with the supply chains. It may range from natural calamity in some part of the world from which organization procures raw material for production activities to the strike of transporters due to which you can't supply your finished goods to the market. The purpose of the study was to examine the influence of Procurement risk drivers on the performance among Oil Marketing Companies in Kenya with an aim of making recommendations on mitigating supply chain risk factors. The study aimed at establishing how transportation and delivery and geo-politics influence the Procurement risk drivers among Oil Marketing Companies. To achieve this, the study reviewed both theoretical and empirical literature and proposed the research methodology that addressed the gaps identified in literature as well as answer the stipulated research questions. This research study adopted a descriptive research design approach. This method is preferred because it allows an in-depth study of the subject. To gather data, structured questionnaire used to collect data from 159 respondents. Once collected, data was analysed using descriptive and inferential statistics. Quantitative data was analysed using multiple regression analysis. The qualitative data generated was analysed by use of Statistical Package of Social Sciences (SPSS) version 22. The response rate of the study was 75%. The findings of the study indicated that transportation and delivery and geo-politics have a positive relationship with Procurement risk drivers among Oil Marketing Companies. Finally, the study recommended that companies in the Oil Marketing Companies should embrace procurement risk drivers so as to improve Performance and further researches should to be carried out in other institutions to find out if the same results can be obtained.

Key Words: Procurement risk drivers, transportation and delivery, geo-politics

INTRODUCTION

Supply chains have grown more global and interconnected; as a result, they have increased their exposure to shocks and increased the frequency of disruptions. Supply chain speed only exacerbates the problem. Even minor missteps and miscalculations can have major consequences as their influences spread throughout complex supply chain networks (Woods, 2013). As compliance mandates, suppliers and information flows multiply, supply chains are becoming more complex, costly and vulnerable. Organizations are finding it increasingly difficult to respond to these challenges, especially with conventional supply chain strategies and designs.

Oil industry being a multimillion industry, the capital is quite an intensive investment, with a very complex supply chain which has grown more global and interconnected; as a result, they have increased their exposure to shocks and increased the frequency of disruptions. Supply chain speed only exacerbates the problem. Even minor missteps and miscalculations can have major consequences as their influences spread like viruses throughout complex supply chain networks (Togar, Alan & Wright, 2014).

An organisation will always face challenges in responding to challenges, especially with conventional supply chain strategies and designs, since most of the organisation have viewed
themselves as entities that exist independently from others and indeed need to compete in order to survive, there is almost tendency to operate exclusive in driving much of corporate strategy. However, such philosophy can be self-defeating if it leads to unwilling to cooperate in order to complete, behind this seemingly paradoxical concept is the idea of supply chain integration and management (Sunil & Meindl, 2013).

According to Rajendra (2011) in a study done focusing on the oil industry, the inventory handling systems were not up to date and could not be classified as 70% reliable thus impacting negatively on the distribution to the final consumer. Unreliability in the supply chain management system used by petroleum players was found to be literally expensive and impacted poorly and directly on the company bottom line result and its competitiveness in the long run.

In a supply-chain, an organization will link to its suppliers upstream and to its distributors downstream in order to serve its customers. Usually, materials, information, capital, labour, technology, financial assets and other resources flow through the supply-chain. Since the goal of the firm is to maximize profits, the firm must maximize benefits and minimize costs along the supply-chain. The firm must weigh the benefits versus the cost of each decision it makes along its supply-chain (Mathew & Mee, 2017).

**Procurement Risk Drivers**

The oil industry has generally experienced significant changes in past decades globally; these changes are as a result of both external and internal forces. External forces are triggered by the global forces, internally, the oil industry has found ways of cutting down the cost of finding, producing and supplying oil products (Choy, 2011). It is not about small scale improvements but an entirely different way of doing business with a primary emphasis on distribution flexibility and quick response to the changing markets.

However, there is a need for a systemic approach to evaluate and study distribution in oil industry. Companies such as, British petroleum (BP) company has already moved for fast evolution after Gulf Mexico crisis to shake up the organization’s distribution network. They have announced plans to reorganize (reconfigure) the company’s critical exploration and production business and to establish a global distribution division with broad auditing and rule setting powers. The BP Company is going to make sure it is among the best in the world at managing distribution risk going forward.

Regional refined products trade in East Africa is worth USD 15 billion annually, where Kenya has dominated in the region with a share of 80%, EAC collectively was able to import around USD 10 billion worth of refined products in 2012, with the upcoming growing re-export hubs like Uganda and Rwanda. East Africa performs relatively better than the sub-Saharan African average, the East Africa compares well with Middle East and North Africa region, but is below other developing regions such as Latin America and East Asia/Pacific a weak point is poor distribution management and infrastructure, reflecting the overloaded capacity of ports and roads (Noor, 2011).

According to the Kenyan National Bureau of Statistics survey, the oil industry is showing great potential with 20% possible growth. The transport sector (distribution) is the largest consumer of petroleum products at approximately 60% of the total volume followed by manufacturing 16% commercial establishment 11% household use 9% and agriculture 4%. The domestic demand of various petroleum fuels on average stands at 2.5 million tons per year (KIPPRA, 2010).

All of it imported from the Gulf region either as crude oil for processing in Kenya Petroleum Refineries Limited or as refined petroleum products. The petroleum industry has been dodged
with a lot of issues affecting their petroleum industry. Inadequate storage facilities, poor risk management for instance volatility in distribution cost, capacity constraints leading to delay of clearing the products at the depot resulting to long leads times, supplier relationship issues, rise of the price per barrel and increase role of trade and speculators are all signs of an inefficient distribution according to Okogu (2011).

**Statement of the Problem**

Supply chains are very complex, with many parallel physical and information flows occurring in order to ensure that products are delivered in the right quantities, to the right place in a cost-effective manner. Consequently, some authors have suggested that supply networks may be a more accurate term than supply chains (Axsater, 2015). It has also been suggested that the drive towards more efficient supply chains during recent years has resulted in the supply chains becoming more vulnerable to disruption and prone to challenges (Angulo, 2013).

According to a report by Delloite (2014) in Kenya, out of a sample of 30 companies in the oil industry, only 11 had a clear supply chain risk policy. Among many other reasons cited, this resulted to losses amounting to over 13 Million at Shell BP in the (FY) 2013/2014. In a customer satisfaction survey of 2012 and 2013, carried out by m/s House of Procurement Consultants, it was visibly notable that the percentage index had been decreasing that is, 52% and 43% respectively (Shale & Rahma, 2014). Shell BP faces a major challenge in controlling the overall operating cost because of the constant increase of sourcing cost due to lack of supply chain risk policy; this is evident by Shell BP posting a decrease in profit prior to tax of Sh1.2 billion compared to Sh1.8 billion noted in the previous year according to a Shell BP 2011 annual report.

The Kenyan oil industry has been dodged with a lot of issues affecting distribution Performance (KIPPRA, 2010) Inadequate storage facilities, poor risk management for instance volatility in the transportation cost, capacity constraints leading to delay of clearing the products at the depot resulting too long lead times, supplier relationships issues, rise in the prices of oil per barrel, and increased role of traders and speculators are all signs of an inefficient distribution (Mukasa, 2018).

The oil industry in Kenya contributes over 20% of the GNP, (KIPPRA, 2010) the transport sector is the largest consumer of petroleum products at approximately 60% of the total volume, followed by manufacturing 16%, commercial establishment 11%, household use 19% and agriculture 4%. The domestic demands for various petroleum fuels on average stands at 2.5 million tonnes year all of it imported from the gulf region, either as crude oil for processing at the Kenya petroleum refineries limited or as refined petroleum products (KIPPRA, 2010).

Despite the importance of the oil industry in daily life and the operational challenges it experiences, the topic regarding the influence of PROCUREMENT RISK DRIVERSon the performance of Oil Marketing Companies has received very little attention in operations and supply chain management literature. Although some discussion on challenges affecting oil industry supply chain management can be found in literature evidenced by several studies, the basis of most of the literature is in single organizations and in developed countries (Noor, 2011).

Applying the knowledge gained from a single company perspective from developed countries to a supply chain management context in less developed countries like Kenya, may be limited. This is because it may not reflect a supply chain management orientation in the oil industry in less developed countries. Therefore, this study is intended to bridge the
knowledge gap and seeks to determine the influence of procurement risk drivers on the performance of Oil Marketing Companies in Kenya.

**Specific Objectives**

i. To establish the influence of transportation and delivery on the performance among Oil Marketing Companies in Kenya.

ii. To assess the influence of geo-politics on performance among Oil Marketing Companies in Kenya.

**LITERATURE REVIEW**

**Theoretical Review**

**The Logistics Theory**

Mentzer (1988) was the proponent of the logistics theory. He defined logistics as the planning, organization and control of all activities in the material flow, from raw material until final consumption and reverse flows of the manufactured product, with the aim of satisfying the customer’s and other interest party’s needs and wishes i.e., to provide a good customer service, low cost, low tied-up capital and small environmental consequences (David & Robert, 2013). Logistics in the oil sector is also defined as those activities that relate to receiving the right product or service in the right quantity, in the right quality, in the right place, at the right time, delivering to the right customer, and doing this at the right cost.

In most of the cases logistics is seen from the perspective of an operative way of transporting or moving materials from one warehouse to another or producing service. The credibility of this operation is based on how good is the design of the system that leads to this kind of logistics. Logistics systems encompass operative responsibilities, which include administration, operation and purchase and constructive duties as well as detailed design (Cousens, Szwejczewski & Sweeney, 2018).

Logistics management in the oil sector is that part of procurement management that plans, implements, and controls the efficient, effective forward and reverses flow and storage of goods, services, and related information between the point of origin and the point of consumption in order to meet customer’s requirements. Logistics management activities in the oil sector typically include inbound and outbound transportation management, fleet management, warehousing, materials handling, order fulfilment, logistics network design, inventory management, supply or demand planning, and management of third party logistics services providers (Chang, 2015).

To varying degrees, the logistics function also includes sourcing and procurement, production planning and scheduling, packaging and assembly, and customer service. It is involved in all levels of planning and execution strategic, operational, and tactical. Logistics management is an integrating function which coordinates and optimizes all logistics activities, as well as integrates logistics activities with other functions, including marketing, sales, manufacturing, and information technology in the oil sector (Eskola, 2014). This theory is linked to transportation and delivery variable.

**Partnership Theory**

In supply chain, the common model through which theorists study the relationship between supplier and buyer is known as the partnership theory. In its basic nature, the partnership model depicts the buyer and supplier as partners with a common interest which is customer satisfaction (Woods, 2013). Partnership is a business relationship based on mutual trust openness, shared risks and rewards that enables an organisation gain competitive advantage leading in the company achieving a Performance that’s far much greater than the firm would
have achieved when operating as single entities. This model requires efficient information exchange between the buyer and supplier which is a critical element of any partnership (Whan & Teawon, 2014). In this study the partnership is between international, regional and local entities.

The theory further states that any partnership is always based on value and present for each other. The solid and long term relationship simply implies continuous improvement of the organization performance. Suppliers must provide better services that are of high quality than his competition at a price reasonable and still achieve goals to remain in business. Partnership model according to Hughes (2010), increases company efficiency through way of cooperative; both parties obtain prices of petroleum products which leads to price reduction and therefore increasing the market share profit margin as well. This leads to a company gaining a competitive edge and efficiency. This is particularly useful when geo-politics destabilise partners in different parts of the world.

The character which forms the perceived attributes of partnership include the following; high frequency of both formal and informal communication, cooperative attitude, trusting relations are built, problem solving that is win negotiation style, long term business agreement, open sharing of information and there is always vendor certification and defect prevention approach. Motivation factors, environment of operation, strength of operation and duration of operation vary in different partnership formed. However, there is never an ideal relationship that is recommended (Haakansson, & Ford, 2011).

There are three types of partnership; which is the most used. Companies recognize each other as partners, all the activities are coordinated, and planned is short term. Only one division within the organization is involved. The second type is partnership which basically integrates activities rather than coordinating as in the case for type 1. There are multiple division and entails a long term horizon. The last type of partnership is the partnership which is not used frequently. Companies share high operational integration and each views the others as an extension of their firm (Gordon, 2013). This theory is linked to geo-politics variable.

**Empirical Review**

**Transportation and Delivery and Performance of Oil Marketing Companies**

Gyongyi and Karen (2011) conducted a study on the influence of transportation and delivery risk factors in the oil industry on economic growth Performance in Nigeria. The study employed a multiple regression analysis to capture the influence of transportation and delivery risks on GDP. The study established that there has been high transport costs, neglect of the people, abandonment of the oil sectors and a reasonable contribution to GDP, though with variation in the trend. It was also found that corruption in the Nigerian nation may have contributed immensely to the poor contribution of the oil sector to the economic growth of Nigeria.

This study however limited itself on the influence the of oil industry in the economic Performance of Nigeria, more variables could still be included in the model and also more sophisticated econometric methods could be employed in determining the influence of oil industry in the economic Performance of Nigeria. This study is highly related to the current one since it has come with various challenges facing the oil industry as it is a case in the current study which looks into factors affecting the effective supply chain management practices in the distribution of consumable products in the oil industry in Kenya.

On the other hand, Lalwani, Disney and Naim (2015) indicates that transportation and distribution are two sectors of industry which should also be mentioned regarding safety issues applied in oil industry. Recorded incidents provide important information regarding
hazardous events for example like oil spills, which usually are caused at terminals or by vessels’ leakage. These are damaging the environment and may even cause human losses. Also, these accidents are damaging the reputation of companies which usually have to deal with extra costs of oil recovery and compensations. Sometimes vessels and crews are faced with piracy which is not a random failure event. This study however limited itself on the influence the of oil industry in the economic performance, more variables could still be included in the model and also more sophisticated econometric methods could be employed in determining the influence of oil industry in the economic performance.

**Geo-politics and Performance of Oil Marketing Companies**

According to Winckler (2014), digging into history, we detect 32 geopolitical events that have occurred in places which are sensible to the petroleum market. The world wars belong to this group. During the First World War, the internal combustion engine played a crucial role for the first time in warfare, and with it, cars, tanks, airplanes and ships propelled by oil. The Russian Revolution of 1917 occurred as a consequence of the War. During the Second World War, reliance on oil was even more crucial. In the Pacific War, one of Japan’s key objectives was to seize the oil reserves of Southeast Asia as the shortage of liquid fuel was their Achilles’ heel.

According to Bregman (2012), for their part, American submarines’ main target was the shipping to Japan. Oil tankers were their favourite. By the time the war ended, the Allies had put them out of action, either by sinking or damaging, some 95 percent of Japan’s total wartime steel merchant shipping. On the other hand, the war in Europe consisted to a great extent, in Germans seeking to impede the American supply of oil to England and the German attempts to capture the oil fields of the Caucasus.

According to Rogers (2016), the third group consists of the episodes that have occurred during the 21st Century. It starts with the September 11th Terrorist Attack in New York and the subsequent War in Afghanistan. We also include the Iraq War and the U.S. occupation of Iraq, with the subsequent Iraqi insurgence against occupation, which endangered the infrastructure in that important oil exporting country.

According to Lander (2015), in Venezuela the oil workers’ strike of April 2002 that temporary removed Hugo Chavez from power, and the general strike at the end of the same year that brought Venezuelan oil production to a sudden stop in the country with the largest oil reserve in the world. Next, we consider two geopolitical events in Nigeria: the violence in the Niger Delta and the operations of the Movement for the Emancipation of the Niger Delta 3 that have permanently attacked oil facilities in the Niger Delta. Although Niger Delta 3 called for ceasefire in January 2009, violence still continues.

According to Bregman (2012), three events within the context of the so-called Arab Spring: the overthrows of Ben Ali in Tunisia, Hosni Mubarak in Egypt and Muammar Gaddafi in Libya. These geopolitical events are measured as dummy variables that are equal to one during the period in which the event occurred, and zero otherwise.
Conceptual Framework

Transportation and Delivery
- Multi Modal System
- Vehicle Scheduling and Routing
- Vehicle Tracking and Tracing

Geo-Politics
- International Economic & Political Stability
- Regional Economic & Political Stability
- Local Economic & Political Stability

Performance of Oil marketing firms
- Company Margins

Figure1: Conceptual Framework

Transportation and Delivery

Transportation is infrastructure that means; roads, seaports, airports, rail and canal. All these exist along nodes and links of transportation network. The transportation and infrastructure focus on operational and policy issues within transportation and infrastructure areas that affect logistics operation (Reitner, Werner & Wolfgang, 2012).

Transport system is the most important economic activity among the component of business logistic system. Transportation plays a connective role among the several steps that result in the conversation of resources into useful goods in the name of them ultimate consumer. It is the planning of all their functions and sub-functions into a system of goods movement in order to minimize cost maximize service to the customers that constitutes the concept of business logistics.

The role that transportation plays in logistics system is more complex than carrying goods for the proprietors. Its complexity can take effect only through highly quality management. By means of well-handled transport system, goods could be sent to the right place at right time in order to satisfy customers’ demands. It brings efficacy, and also it builds a bridge between producers and consumers. Therefore, transportation is the base of efficiency and economy in business logistics and expands other function of logistics system. In addition, a good transport system performing in logistics activities brings benefits not only to service quality but also to company competitiveness (Lalwani, Disney & Naim, 2015).

Since the transportation links allows the flow of goods between the various fixed points from the points of production to the points of consumption, Oil Marketing Companies may face various challenges that may results from the failure of the transport system which may further negatively affecting the distribution network. Gyongyi and Karen (2011) on the other hand noted that inexpensive, high quality transportation also encourages an indirect from of competition by asking goods available to a market that normally could not withstand the high cost of transportation.

The transportation and marketing of petroleum liquids involve many distinct operations, each of which represents a potential source of evaporation loss. There losses may include loading losses which are the primary source of evaporation emission from rail tank car, tank truck and marine vessel operations. Loading losses occur as organic vapours in “empty cargo tanks are displaced to the atmosphere by the liquid being loaded in to the tanks. Ballasting loses on the
other hand are major source of evaporative emissions associated with the unloading of petroleum liquids at marine terminals (Mwanzia, 2014). It is common practise to load several cargo tank compartments with sea water after the cargo has been unloaded.

Geo-Politics

After the Egyptian dictator Gamal Nasser turned to the Soviet block for weapons, there were worries about the possibility of closing the Canal to the Western oil and naval traffic. In fact, by February, 1956, the State Department had talks with the companies for cooperation in the event the canal was closed to oil tanker traffic, and by April, 1956, the Standard Oil of New Jersey was studying alternatives to move oil westward if indeed the canal was shut. After the Canal Nationalization, the Suez Crisis continues with the Israel, Britain and France’s response with an invasion to Egypt looking for deposing Nasser out of power (Podeh & Winckler, 2014).

Fed by Nasser’s desire of revenge, the conflict resumed eleven years later when Israel displaced the Egyptian by destroying their entire Air Force in the Six-Day War. Jordan, Syria and the oil producing countries of Algeria, Iraq, Kuwait and Saudi Arabia contributed to the Arab Coalition forces. After the War, Israel significantly expanded its territory. A few years later, in an at-temp to recover those territories, an Arab coalition launched a surprise attack on the Israeli-occupied territories, starting the Yom Kippur War. Shortly after both the Six-Day and the Yom Kippur War, the Arabs declared oil embargoes against the United States and other Western countries (Bregman, 2012).

In the late 1960s, a Civil War broke out in oil rich Nigeria. During the conflict, control over oil production in the Niger Delta was vital. There were several clashes and many oil facilities were damaged, having a considerable influence on Nigerian oil production (Uche, 2018,). In the second half of the 1970s, conflicts in the Middle East continued but in Iran and among Arab countries. In January 1979, the Iranian Revolution installed an Islamic regime in Iran. Demonstrations intensified since October 1978; the unrest extended to the oil areas bringing oil production down by 4.8 million barrels per day (Hamilton, 2013).

Shortly after, the 20th century’s longest conventional war began, the Iran-Iraq War, which lasted eight years. During that war, oil facilities, dams, petrochemical plants, terminals, tankers and oil refineries were targets from both sides, reducing the capacity of both countries to export oil. At its lowest point, exports fell by 4.5 million b/d (Karsh, 2012). Shortly after the Iran-Iraq War, due to its inability to pay the debt with Kuwait to finance the war, the Kuwaiti overproduction of oil that was bringing oil prices down and the accusation to Kuwait of stealing Iraqi petroleum, Iraq invaded Kuwait (Gause, 2015). In response, after some failed negotiations, a military coalition led by the United States casted out the Iraqi forces stationed in Kuwait (Al-Ajmi, 2013).

Performance of Oil Marketing Companies

The performance is major determined by supply chain risk management. Supply chain risk management in the oil sector refers to the extended supply chain’s activities in meeting end-customer requirements, including product availability, on-time delivery, and all the necessary inventory and capacity in the distribution to deliver that Performance in a responsive manner. Supply chain risk management crosses company boundaries since it includes raw materials, components, work-in-progress as well as finished products, and distribution through various channels to the end customer. It also crosses traditional functional organization lines such as procurement, manufacturing, distribution, marketing and sales, and research and development (Oyuke & Shale, 2014).
A supply chain risk management evaluation system represents a formal, systematic approach to monitor and evaluate the performance of the distribution. It should however be noted that it is often difficult to develop measures that direct behaviour or activity exactly as intended. Some firms rely on measures that do not support long term distribution performance. Over time, the workplace’s view of distribution performance measurement has become more humane and do not view employees as highly reliable, predictable machines, and exaggerated types of monitoring and control methods have fallen out of favour, and replaced by a focus on a measuring a business’ supply chain risk management rather than that of the individual (Hopp & Spearman, 2013).

A supply chain risk management measurement system plays an important role in managing a firm’s business as it provides the information necessary for decision making and actions. Monitoring and improvement of a supply chain risk management of a supply chain has become an increasingly complex task. A complex supply chain risk management system includes many management processes. These would include identifying measures, defining targets, planning, communication, monitoring, reporting and feedback. Supply chain risk management measurement is critical for companies to improve supply chains’ effectiveness and efficiency (Mwenda, 2012).

From a management perspective, supply chain risk management and metrics have an important role to play in setting objectives, evaluating performance, and determining future courses of actions by providing the necessary information of management feedback. These processes are currently in many information systems and these solutions measure and monitor key performance indicators which are crucial for optimizing supply chain risk management. They have however failed to represent them in a balanced framework. Harps (2015) observe that many companies have not succeeded in maximizing their supply chain’s potential because they have often failed to develop the performance measures and metrics needed to fully integrate their supply chain risk management to maximize effectiveness and efficiency.

RESEARCH METHODOLOGY

This study used descriptive research design. Target populations of 53 licensed Oil Marketing Companies in Kenya that are in three tiers were used for this study as registered by Petroleum Institute of East Africa (2019) directory. The unit of analysis was the individual 53 Oil Marketing Companies and the unit of observation was the total of 159 respondents, comprising of head of procurement, head of finance and head of marketing department from all the registered Oil Marketing Companies. The study employed a census approach to collect data from the respondents hence no sampling techniques will be used. The sample size was all 159 respondents. The study collected both primary and secondary data, where primary data will be collected using a questionnaire. The study used both quantitative and qualitative tools of data analysis. Descriptive statistics such as frequency distributions and percentages will be used to summarize basic features of the data in the study (Neuman, 2010). The Statistical Package for Social Sciences (SPSS) version 22.0 was used to perform the analysis of quantitative data. Qualitative data was presented in prose. A regression model was developed to present the relationship (Dunn, 2010). In this research, the performance was the dependent variable while procurement risk drivers were the independent variable.

DATA ANALYSIS AND PRESENTATION

A total of 159 questionnaires were distributed to employees. Out of the population covered, 119 were responsive representing a response rate of 75%. This was above the 50% which is considered adequate in descriptive statistics according to (Mugenda & Mugenda, 2012).
Descriptive Statistics

Transportation and Delivery

The first objective of the study was to assess the influence of transportation and delivery on the performance among Oil marketing Companies in Kenya. The respondents were asked to indicate to what extent transportation and delivery influenced the performance among Oil marketing Companies in Kenya. Results indicated that majority of the respondents 33% agreed that it was to a very great extent, 19% said that it was to a great extent, 30% said it was moderate, while little extent was 11% and not all was at 7% respectively.

Figure 1: Transportation and Delivery

The respondents were also asked to comment on statements regarding transportation and delivery influence on the performance among Oil marketing Companies. The responses were rated on a likert scale and the results presented in table 4.6 below, and was rated on a 5 point Likert scale ranging from; 1 = strongly disagree to 5 = strongly agree. The scores of ‘strongly disagree’ and ‘disagree’ have been taken to represent a statement not agreed upon, equivalent to mean score of 0 to 2.5. The score of ‘neutral’ has been taken to represent a statement agreed upon, equivalent to a mean score of 2.6 to 3.4. The score of ‘agree’ and ‘strongly agree’ have been taken to represent a statement highly agreed upon equivalent to a mean score of 3.5 to 5.

Results indicated that majority of the respondents as indicated by a mean of 4.2 agreed on the statement that multi modal system plays a significant influence in prices of petroleum products. The variations in the responses were shown by a standard deviation of 1.0. Results indicated that majority of the respondents as indicated by a mean of 3.6 agreed on the statement that vehicle scheduling and routing plays a significant influence in prices of petroleum products. The variations in the responses was shown by a standard deviation of 1.3 Results indicated that majority of the respondents as indicated by a mean of 3.6 agreed on the statement that vehicle tracking and tracing plays a significant influence in prices of petroleum products. The variations in the responses was shown by a standard deviation of 1.3.

Results indicated that majority of the respondents as indicated by a mean of 3.3 agreed on the statement that multi modal system plays a significant influence in reducing storage and distribution expenses. The variations in the responses were shown by a standard deviation of 1.3. Results indicated that majority of the respondents as indicated by a mean of 4.2 agreed
on the statement that vehicle scheduling and routing play a significant influence in reducing storage and distribution expenses. The variations in the responses were shown by a standard deviation of 0.9. Results indicated that majority of the respondents as indicated by a mean of 3.8 agreed on the statement that vehicle tracking and tracing plays a significant influence in reducing storage and distribution expenses. The variations in the responses was shown by a standard deviation of 0.6.

Results indicated that majority of the respondents as indicated by a mean of 4.1 agreed on the statement that multi modal system plays a significant influence in prices of petroleum products. The variations in the responses were shown by a standard deviation of 0.6. Results indicated that majority of the respondents as indicated by a mean of 3.9 agreed on the statement that vehicle tracking and tracing plays a significant influence in prices of petroleum products. The variations in the responses was shown by a standard deviation of 0.6. The average result for statements on transportation and delivery was 3.8 while the standard deviation was 1.4. The findings agree with Odundo (2012) that transportation and delivery when sourcing can be expensive and time consuming which means it requires a clear strategy.

**Table 1: Transportation and delivery**

<table>
<thead>
<tr>
<th>Statements</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
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<tr>
<td>Multi modal system plays a significant influence in prices of petroleum products</td>
<td>119</td>
<td>4.2</td>
<td>1.0</td>
</tr>
<tr>
<td>Vehicle scheduling and routing plays a significant influence in prices of petroleum products</td>
<td>119</td>
<td>3.6</td>
<td>1.3</td>
</tr>
<tr>
<td>Vehicle tracking and tracing plays a significant influence in prices of petroleum products</td>
<td>119</td>
<td>3.8</td>
<td>1.3</td>
</tr>
<tr>
<td>Multi modal system plays a significant influence in prices of petroleum products</td>
<td>119</td>
<td>3.3</td>
<td>1.4</td>
</tr>
<tr>
<td>Vehicle scheduling and routing plays a significant influence in prices of petroleum products</td>
<td>119</td>
<td>4.2</td>
<td>0.9</td>
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<tr>
<td>Vehicle tracking and tracing plays a significant influence in prices of petroleum products</td>
<td>119</td>
<td>3.8</td>
<td>0.6</td>
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<tr>
<td>Multi modal system plays a significant influence in prices of petroleum products</td>
<td>119</td>
<td>3.6</td>
<td>1.3</td>
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<tr>
<td>Vehicle scheduling and routing plays a significant influence in prices of petroleum products</td>
<td>119</td>
<td>4.1</td>
<td>3.9</td>
</tr>
<tr>
<td>Vehicle tracking and tracing plays a significant influence in prices of petroleum products</td>
<td>119</td>
<td>3.9</td>
<td>1.1</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td>119</td>
<td>3.8</td>
<td>1.4</td>
</tr>
</tbody>
</table>

**Geo-politics**

There was also need to establish how geo-politics influenced the PERFORMANCE among Oil Marketting Companies in Kenya as the third objective. The respondents were asked to comment on extent of geo-politics influence the PERFORMANCE among Oil Marketting Companies in Kenya. Results indicated that majority of the respondents 48% agreed that it was to a very great extent, 45% said that it was to a great extent, 2% said it was moderate, little extent was 2% and not all at 3%.
The respondents were also asked to comment on statements regarding: geo-politics influence the performance of Oil marketing Companies in Kenya. Results indicated that majority of the respondents as shown by a mean of 4.0 agreed on the statement that international economic and political stability plays a significant influence in prices of petroleum products. The standard deviation for the results responses was 1.1. Results indicated that majority of the respondents as shown by a mean of 4.4 agreed on the statement that regional economic and political stability plays a significant influence in prices of petroleum products. The standard deviation for the results responses was 1.3. Results indicated that majority of the respondents as shown by a mean of 3.4 agreed on the statement that local economic and political stability plays a significant influence in prices of petroleum products. The standard deviation for the results responses was .8.

Results indicated that majority of the respondents as shown by a mean of 3.4 agreed on the statement that international economic and political stability plays a significant influence in reducing storage and distribution expenses. The standard deviation for the results responses was 1.3. Results indicated that majority of the respondents as shown by a mean of 3.7 agreed on the statement that regional economic and political stability plays a significant influence in reducing storage and distribution expenses. The standard deviation for the results responses was .7. Results indicated that majority of the respondents as shown by a mean of 2.8 agreed on the statement that local economic and political stability plays a significant influence in reducing storage and distribution expenses. The standard deviation for the results responses was .7.

Results indicated that majority of the respondents as shown by a mean of 3.2 agreed on the statement that international economic and political stability plays a significant influence in prices of petroleum products. The standard deviation for the results responses was 1.2. Results indicated that majority of the respondents as shown by a mean of 3.4 agreed on the statement that regional economic and political stability plays a significant influence in prices of petroleum products. The standard deviation for the results responses was 1.2. Results indicated that majority of the respondents as shown by a mean of 3.6 agreed on the statement that local economic and political stability plays a significant influence in prices of petroleum products.

The standard deviation for the results responses was 1.3. The average for all the responses was 3.6 and a standard deviation of 1.2. These findings imply that through geo-politics,
companies can improve competitive positioning, gain entry to new dynamic, technology driven markets (Noor, Guyo & Amuhaya, 2013).

Table 2: Geo-politics

<table>
<thead>
<tr>
<th>Statements</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>International economic and political stability plays a significant influence in prices of petroleum products</td>
<td>119</td>
<td>4.0</td>
<td>1.1</td>
</tr>
<tr>
<td>Regional economic and political stability plays a significant influence in prices of petroleum products</td>
<td>119</td>
<td>3.4</td>
<td>1.3</td>
</tr>
<tr>
<td>Local economic and political stability plays a significant influence in prices of petroleum products</td>
<td>119</td>
<td>3.7</td>
<td>0.7</td>
</tr>
<tr>
<td>International economic and political stability plays a significant influence in prices of petroleum products</td>
<td>119</td>
<td>2.8</td>
<td>1.3</td>
</tr>
<tr>
<td>Regional economic and political stability plays a significant influence in prices of petroleum products</td>
<td>119</td>
<td>3.2</td>
<td>1.2</td>
</tr>
<tr>
<td>Local economic and political stability plays a significant influence in prices of petroleum products</td>
<td>119</td>
<td>3.4</td>
<td>1.2</td>
</tr>
<tr>
<td>Average</td>
<td>119</td>
<td>3.6</td>
<td>1.1</td>
</tr>
</tbody>
</table>

Correlation Analysis

Correlation analysis was used to determine both the significance and degree of association of the variables and also predict the level of variation in the dependent variable caused by the independent variables. The correlation technique is used to analyze the degree of association between two variables. The results of the correlation analysis are summarized in Table 4.9

Table 3: Summary of Correlations

<table>
<thead>
<tr>
<th>Transportation and Delivery</th>
<th>Geo-politics</th>
<th>Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transportation and Delivery</td>
<td>Pearson Correlation</td>
<td>1.0</td>
</tr>
<tr>
<td>Geo-politics</td>
<td>Pearson Correlation</td>
<td>.368**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.000</td>
</tr>
<tr>
<td>Performance</td>
<td>Pearson Correlation</td>
<td>.479**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.0</td>
</tr>
</tbody>
</table>

**Correlation is significant at the 0.05 level (2-tailed).

The correlation summary shown in Table 3 indicates that the associations between each of the independent variables and the dependent variable were all significant at the 95% confidence level. The correlation analysis to determine the influence of Procurement risk drivers on the performance among Oil Marketing Companies in Kenya, Pearson Correlation Coefficient computed and tested at 5% significance level.

The results indicate that there is a positive relationship (r=0.479) between transportation and delivery and the performance of Oil marketing Companies in Kenya. In addition, the
researcher found the relationship to be statistically significant at 5% level (p=0.000, <0.05). The correlation analysis to determine the relationship between transportation and delivery and the performance among Oil marketing Companies in Kenya, Pearson Correlation Coefficient computed and tested at 5% significance level.

The correlation analysis to determine the relationship between geo-politics and the performance among Oil marketing Companies, Pearson Correlation Coefficient computed and tested at 5% significance level. The results indicate that there is a positive relationship (r=0.628) value for geo-politics and the performance among Oil marketing Companies. In addition, the researcher found the relationship to be statistically significant at 5% level (p=0.000, <0.05). Hence, it is evident that all the independent variables could explain the changes in the performance among Oil marketing Companies on the basis of the correlation analysis.

**Regression Analysis**

In this study multivariate regression analysis was used to determine the significance of the relationship between the dependent variable and all the independent variables pooled together. Regression analysis was conducted to find the proportion in the dependent variable (the performance of Oil marketing Companies) which can be predicted from the independent variables (transportation and delivery, inbound cost fluctuations and geo-politics).

Table 4 presents the regression coefficient of independent variables against dependent variable. The results of regression analysis revealed there is a significant positive relationship between dependent variable (the performance of Oil marketing Companies and the independent variables (transportation and delivery, inbound cost fluctuations and geo-politics).

The independent variables reported R value of .775 indicating that there is perfect relationship between dependent variable and independent variables. R square value of 0.6 means that 60% of the corresponding variation in the performance among Oil marketing Companies can be explained or predicted by transportation and delivery, inbound cost fluctuations and geo-politics, which indicated that the model fitted the study data. The results of regression analysis revealed that there was a significant positive relationship between dependent variable and independent variable at (β = 0.309), p=0.002 <0.05).

**Table 4: Model Summary**

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.775*</td>
<td>.60</td>
<td>.586</td>
<td>.16769</td>
</tr>
</tbody>
</table>

a) Predictors: (Constant), Transportation and Delivery, Inbound Cost Fluctuations and Geo-politics
b) Dependent Variable: The PERFORMANCE among Oil Marketing Companies

**Table 5: ANOVA**

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>4</td>
<td>1.202</td>
<td>42.749</td>
<td>.000*</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>114</td>
<td>0.028</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>8.014</td>
<td>118</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a) Predictors: (Constant), Transportation and Delivery, Inbound Cost Fluctuations and Geo-politics
b) Dependent Variable: The performance among Oil Marketing Companies
The significance value is 0.000 which is less than 0.05 thus the model is statistically significant in predicting how transportation and delivery, inbound cost fluctuations and geo-politics influence the performance among Oil Marketing Companies in Kenya. The F critical at 5% level of significance was 26.80. Since F calculated which can be noted from the ANOVA table above is 42.749 which is greater than the F critical (value = 26.80), this shows that the overall model was significant. The study therefore establishes that; transportation and delivery, inbound cost fluctuations and geo-politics were all important factors influencing the performance among Oil Marketing Companies. These results agree with Asaari and Razak (2010) results which indicated a positive and significant influence of procurement risk drivers on the performance among Oil Marketing Companies in South Africa.

Table 6: Coefficients of Determination

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>2.44</td>
<td>0.198</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Transportation and Delivery</td>
<td>0.146</td>
<td>0.045</td>
<td>0.214</td>
</tr>
<tr>
<td></td>
<td>Geo-politics</td>
<td>0.11</td>
<td>0.024</td>
<td>0.334</td>
</tr>
</tbody>
</table>

a) Predictors: (Constant), Transportation and Delivery, Inbound Cost Fluctuations and Geo-politics
b) Dependent Variable: The performance among Oil Marketing Companies

\[
Y = 2.44 + 0.146X_1 + 0.11X_2
\]

The regression equation above has established that taking all factors into account (transportation and delivery, inbound cost fluctuations and geo-politics) constant at zero, the performance among Oil marketing Companies will be an index of 2.44.

The findings presented also shows that taking all other independent variables at zero, a unit increase in transportation and delivery will lead to a 0.146 increase in the performance among Oil marketing Companies. The P-value was 0.00 which is less than 0.05 and thus the relationship was significant.

In addition, the study found that a unit increase in geo-politics will lead to a 0.11 increase in the performance of Oil marketing Companies. The P-value was 0.00 and thus the relationship was significant. The findings of the study show that, transportation and delivery contributed most to the performance among Oil Marketing Companies in Kenya.

Conclusion of the Study

Based on the study findings, the study concludes that the performance among Oil Marketing Companies can be improved by transportation and delivery and geo-politics. First, in regard to transportation and delivery, the regression coefficients of the study show that it has a significant influence of 0.146 on the performance among Oil Marketing Companies. This implies that increasing levels of transportation and delivery by a unit would increase the levels of the performance among Oil Marketing Companies by 0.146. This shows that transportation and delivery has a positive influence on the performance among Oil Marketing Companies.

With regard to geo-politics, the regression coefficients of the study show that it has a significant influence of 0.11 on the performance among Oil Marketing Companies. This
implies that increasing levels of geo-politics by a unit would increase the levels of Performance of the companies in the Oil Marketing Companies by 0.11. This shows that geo-politics have a positive influence on the performance among Oil Marketing Companies.

**Recommendations of the Study**

**Transportation and Delivery**

To ensure that companies in the Oil Marketing Companies have better Performance they should focus more on using their transportation and delivery practices so as to ensure that multimodal policies are clear and ensure that there is consistency of delivery in goods supplied. In the same regard, they should involve suppliers early enough to enable them to come up with transportation and delivery systems that drives the company towards scheduling and routing.

**Geo-politics**

In relation to geo-politics, the organizations should align their goals with their vendors so as to have a more improved working relationship characterized by joint planning and systems integration so as to navigate international, regional and local instabilities. If companies in the Oil Marketing Companies embrace geo-politics among its suppliers, then there will be prices of petroleum products and timing of delivery will improve. The study recommends that procurement staff in companies in the Oil Marketing Companies should ensure that they strictly follow procurement procedures to ensure that goods supplied are of the right quality, in the right quantity, at the right time, to the right place from the right source. This will aim at satisfaction of customers in terms of cost, quality, and timeliness of the delivered product or service, minimizing administrative operating costs.

**Areas for Further Research**

The study is a milestone for further research in the field of the performance of Oil Marketing Companies in Africa and particularly in Kenya. The findings demonstrated the important Procurement risk drivers the performance of Oil Marketing Companies to include; transportation and delivery, inbound cost fluctuations and geo-politics. The current study obtained an R\(^2\) of 60% and should therefore be expanded further in future in order to include other Procurement risk drivers that may as well have a positive significance to the performance of Oil Marketing Companies. Existing literature indicates that as a future avenue of research, there is need to undertake similar research in other institutions in Kenya and other countries in order to establish whether the explored Procurement risk drivers herein can be generalized to affect Performance in other institutions.

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