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**INFLUENCE OF LOGISTICS OUTSOURCING ON PROJECT PERFORMANCE IN THE OIL AND GAS INDUSTRY IN  
KENYA**

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## INFLUENCE OF LOGISTICS OUTSOURCING ON PROJECT PERFORMANCE IN THE OIL AND GAS INDUSTRY IN KENYA

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### ABSTRACT

*Studies reveal that there are many benefits resulting from using logistics outsourcing strategy in the oil and gas industry and in the same way, challenges are faced by both oil and gas companies and logistics service providers in executing business contracts. The most outstanding benefit is that, companies outsource their logistics activities to restructure their distribution networks and achieve competitive advantage. Solutions are pursued to create an environment for the oil and gas industry and the third party logistics services providers to achieve a common goal. Importance is pegged on outsourcing full or part of logistics activities to logistics service providers in order to attain competitive advantage. Logistics outsourcing strategy plays an important role in the business especially in minimizing operating costs and spreading risk between the parties engaged in business contracts. Therefore it is necessary for company managers to check their strategies to make sure that logistics activities are in place. This study was set to examine the relationship between logistics outsourcing and oil and gas project performance in Kenya. Literature was reviewed with emphasis on the relationship between the variables, theoretical literature and empirical literature. The unit of analysis was all managing directors of the 71 registered oil and gas players who gave the information on Oil and Gas Project performance and logistics outsourcing. Data was generated by means of questionnaires to oil and gas players on the variables. Responses were statistically analyzed using descriptive statistics, product moment correlation and regression analysis. Data was presented using charts, tables and figures. The study found that there was positive correlation coefficient between Oil and Gas projects and Transportation Outsourcing. The study found weak positive correlation between Oil and Gas projects and Inventory Management Outsourcing.*

**Key Words:** Transport, Inventory Management, Outsourcing, Project Performance

## INTRODUCTION

According to Sink and Langley (1997), outsourcing is a business strategy that a company gives its inner non-core activities to external service providers to facilitate company control over their resources and share risks. Additionally, Mohiuddin and Su (2013b) defines the term outsourcing as acquiring of components or services from outside sources rather than producing in-house. The principal company only focuses on core matters necessary to survival and growth. This strategy encompasses outsourcing and relocating to low cost suppliers from advanced firms in order to lower entire costs of production by realizing benefits from competitive factors of production and gain more profits.

Several firms have changed to logistics outsourcing as business strategy to restructure their dissemination network and gain competitive advantage. In addition to that, logistics outsourcing can also be defined as the use of third party logistics provider in full or part of the organization's logistics activities. This strategy has been applied by many firms for long time now and it is therefore noted that firms which has embraced outsourcing as the number one strategy have accessed cheaper inputs from specialized firms eventually leading to restructuring of production (Mohiuddin & Su, 2013a).

The strategy has progressively become an effective means of minimizing logistics costs. Data shows that almost 60% of 500 progressive companies use a third party logistics provider to perform their in-house activities. In the era of business reforms, many firms adopted outsourcing strategy to forge away in altering business operations and retain core activities to achieve competitive advantage. Firms that restructure their supply chain network have fundamentally involved the reconfiguration of their logistics activities which involves transportation, storage, forwarding, warehousing and value

addition services like packaging and labeling (Barret, 1982; Cooper & Kaplan, 1991).

Guasch and Kogan (2001) defined strategic outsourcing as an inventiveness to build competitive advantage from original suppliers involved in product manufacturing, sharing of supplier technology and supplier assistance in product development, service and process improvements. In line with the above, Strategic outsourcing can also be described as a way to obtain capabilities without investments and the principal objectives are to lessen uncertainty and improve flexibilities (Levy, 1995; Weidenbaum, 2005; Hofmann & Belin, 2011). It is worth noted that, firms which embraces this strategy reap numerous benefits from competitive advantages in form of reduced-costs-increased value factors of production and business networking and thereby helping them to join a fresh market in the take-off stage of the industry (Mohiuddin & Su, 2013b). In relation to above, there is a need to build a very sophisticated supply chain that can create smooth flow of information, goods and services from inbound and outbound for the purposes of achieving high customer service delivery resulting into high performance results (Sitek & Wikarek, 2012). The main objective of supply chain management (SCM) is to stimulate sales, minimize costs and take full advantage of business assets by refining collaboration and communication between all the actors creating the supply chain (Chopra & Meindl, 2009). This gives a clear description of real business gains as results of interdependence amongst firms characterized by increased trade in transitional goods or services and technical know-how as well as production network (Mohiuddin & Su, 2013a).The supply chain management is a decision process that not only integrates all of its participants but also helps to coordinate the basic flows: products/services, information and funds (Hofmann & Belin, 2011; Sitek & Wikarek, 2012;

Zhou et al., 2013). Changes in the global economy and the increasing globalization lead to the widespread use of IT tools, which enables continuous, real time communication between the supply chain links (Lee et al., 2012). One major objective is to analyze the impact of logistics outsourcing strategy and assign it to specialized companies (Sitek & Wikarek, 2012). This trend is assisted to the advancement of logistics outsourced operators known as 3PL. The term 3PL refers to the use of external companies and organizations to carry out logistic functions that can involve the entire logistics process or its selected features (De Boer et al., 2006; Kenyon & Meixell, 2011). The company offers and provides 3PL services using its own means of transport, warehouses, equipment and other necessary resources, and acts as a “third party” between a producer and a customer (Mello et al, 2008). The resulting model with the supply chain logistics services outsourced to a specialized 3LP companies is shown in Figure 1. This kind of cooperation is frequently referred to as the logistics alliance .

According to Quélin and Duhamel (2003) argued that for the past 20 years, outsourcing of logistics activities has been one of the most used services in many companies. Companies that used this new strategy of using third party logistics scored greater logistics performances instead of sourcing them from within. According to Shepherd (2011) and Freytag et al. (2012), the decision made by oil and gas companies on whether to outsource logistics activities or not, depend on make or buy decisions.

A study by Kojima (2010) reported that Globalization forces together with institutional and structural reforms that are developing in Africa pledge for a fast-tracked economic improvement and opportunities in the continent. With its aggressive tracking of economic and political integration, East Africa is one of the regions with such gigantic development potential (Golooba-

Mutebi, 2003; Kenyon & Meixell, 2011; Ahimbisibwe et al., 2012).

The institutional structure of Oil and Gas industry comprises the Ministry of Energy, the Energy Regulatory Commission (ERC), Kenya Pipeline Company (KPC), Kenya Petroleum Refineries Limited (KPRL) and Multinational Independent Oil Marketing Companies that include a State Oil Company, the National Oil Corporation of Kenya (NOK) (MOE, 2015). The Ministry of Energy provides the policy leadership, while ERC provides regulatory stewardship of the sub-sector. The KPC is a State Corporation fully owned by government under the MOE. Its overall objective is to provide the economy with the most efficient, reliable, safe and least cost means of transporting Oil and Gas products from Mombasa to the hinterland. Specifically, it runs a 450kms 14 inch pipeline from Mombasa to Nairobi and manages open access Kipevu Oil Storages Facilities and other common storage depots in the inland. KRPL is limited company that runs a single skimming refinery in Mombasa.

### **Statement of the problem**

Kenya’s oil industry contributes over 20% of the GNP;(KNBS,2011)The transport sector is the largest consumer of petroleum products at approximately 60% of the total volume followed by manufacturing 16%,commercial establishment 11%,households use 9% and agriculture 4%(KNBS,2011).The domestic demand for various petroleum fuels on average stands at 2.5 million tons per year(PIEA,2011)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(PIEA,2011).

According to a study done focusing on the petroleum industry by a research firm consumer insight, Kenya pipeline company limited supply management system was found to be inept

therefore making products handling systems not up to date and cannot be classified as 70% reliable thus impacting negatively on distribution to the final consumers (consumer insight, 2009). The Kenyan petroleum industry have been dodged with a lot of issues affecting their performance (PIEA, 2011).

Inadequate storage facilities, poor risk management for instance volatility in transportation costs, capacity constraints leading to delays of clearing the products at the depots resulting too long lead times, supplier relationship issues, weak exchange rates, slump in the value of the shilling against the dollar, rise in prices of oil per barrel, and increased role of traders and speculators are all signs of an inefficient distribution (Economic Survey, 2011).

Long lead times and other distribution inefficiencies continue to erode consumer satisfaction ultimately impacting negatively on Kenya's economic growth as stipulated in the vision 2030 (PWC, 2011). Unreliability in the supply chain management system used by a company like KPC is expensive, and its impact affects the way its customers are served. Hence it impacts negatively and directly on the company's cash flows and its competitiveness in the long.

### **Research Objectives**

The general objective of the study was to establish the influence of logistics outsourcing on project performance in the oil and gas industry in Kenya. The specific objectives were:

- To determine how transportation Outsourcing affects project performance in the oil and gas industry in Kenya.
- To establish how Inventory Management Outsourcing affects project performance in the oil and gas industry in Kenya.

## **LITERATURE REVIEW**

### **Theoretical Review**

#### **Systems Theory**

Ludwig von Bertalanffy made seminal contribution to the development of systems theory specifically during the 1950s. Bertalanffy's contributions to the methodology of science were mostly from physics and biology perspective. For example, in his paper published in the 1950s—while he was a professor in the University of Ottawa—Bertalanffy analyses the open system view of equilibrium of living organisms in contrast to the close systems. His researches before the 1950s were mostly from biology perspective, which led to development of organism system theory. After the 1950s, his research was mostly around the methodology development of science, which led to the development of general system theory.

Bertalanffy challenged classical modeling, which were based on mathematical view of the systems, and argued that these open systems are affected by the time factor. Therefore, a dynamic view of systems is required for understanding these open systems (Sarjoughian and

Zeigler, 1995; Lowaon, 2003). Gripsrud, Jahre and Persson (2006) explore the historical background of application of systems theory in supply chain management and specifically in the context of logistics. They argue that the neoclassical economic theories were dominant during period of 1950s-1970s. During this period, the focus was one "total cost" and "trade-offs". However, since the 1970s systems theory has become the dominant theory for explaining the domain and functioning of organizational supply chain. The post 1970s era itself witnesses a shift of focus. While the balance of cost-service as well as trade-offs were the center of attention until 1985, the focus of the theory was shift around 1985 to describe efficiencies and the

role of processes. This latter period continues to date.

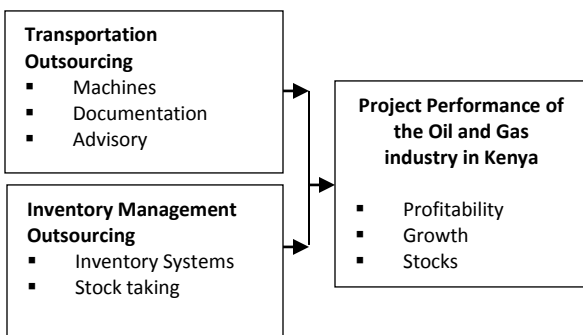
**Lead time Theory**

Lead time Theory The theory states that in circumstances where the market is dominated by poorly performing organizations, there is need for the company to develop more responsive order fulfillment processes (Woepfel, 2001).The theory further proposes that there is no need of higher quality products, a more advanced product, or a cheaper product. Lead can be an important competitive advantage tool when stock is not held in advance(Woepfel, 2001).

Many non-profit making organizations where the customers are directly involved do make to order businesses (Newbold,1998). The theory further states that you can't store a finished product ahead of time; thus lead time is of critical importance to any organization. Lead time is very important in customer perception of the organization performance (Newbold, 1998).

The lead time has a direct impact on the business in situations where there is a make to order. When an organization has a shorter lead time than its competitors in a market constrained make to order environment then there is always a significant commercial advantage (Woepfel, 2001). (Ketchen and Hult, 2007).

**Conceptual Framework**



**Independent Variables**

**Dependent Variable**

**Figure 1: Conceptual Framework**

**Transportation Outsourcing**

The transportation and infrastructure focuses on operational and policy issues within transportation and infrastructure areas that affect logistics operation (Chopra & Meindle, 2007). Transport system is the most important economic activity among the components of business logistics systems. Transportation plays a connective role among the several steps that result in the conversion of resources into useful goods in the name of the ultimate consumer. It is the planning of all these 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 (Chang, 2008).

Transportation plays a connective role among the several steps that result in the conversion of resources into useful goods in the name of the ultimate consumer. It is the planning of all these 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 (Chang, 1998). 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 functions 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 (Cooper et al., 1997).

### **Inventory Management Outsourcing**

According to the survey responses, inventory management is the biggest challenge they face with a 36 percent of responses. Inventory management entails “holding inventory to meet customer needs while keeping inventory costs at a reasonable level to produce a profit for the firm” (Mercado 2007).

The inventory surplus in the industry is approximately \$10 billion which shows the need of best practices in inventory management, redeployment and disposition (Heath 2005). It is estimated that the average book value of surplus inventory of major integrated oil companies was \$817 million. The annual cost to carry that surplus inventory is 25% from which 17-18% is the cost of money. Therefore, with a hard cost of 7-8% annually it results in \$57 million expense per year (Heath 2005).

One of the reasons for this inventory surplus is that oil and gas companies hold higher safety stock of materials and maintenance, repair and operations (MRO) products because a stock-out will oblige them to shut down operations incurring a significant costs. In addition, firms may not completely trust the delivery reliability of their suppliers. Consequently, inventory and inventory carrying costs are a substantial, poorly controlled expense.

### **Performance of the Oil and Gas industry**

Fernandez (2002) stated that the financial performance of a firm can be examined through its annual account reports, where information about growth, investments, 17 earnings and costs, among others are listed. In order to link these data with financial performance, indexes-ratios based in balance sheets are used, considering that a company's value resides in its balance sheet.

The concept of profitability is based on the comparison of the cash outflows required for implementing a strategic alternative with the cash inflows that this alternative is expected to generate

(Michael, 2013). Pandey (2006) included profitability in relation to sales and profitability in relation to investment. According to Athanasoglou et al (2008), PAT has been widely used as a measure of financial performance.

Though different factors have been used by other researchers such as: shareholders' equity; liquid assets to assets; fixed assets to total assets; total borrowed funds to total assets; per capita Gross Domestic Product (GDP), the cost to-income ratio and customer satisfaction.

High growth situations are desirable since growth is consistently related to profit under wide variety of circumstances (Capon, Farley, & Hoenig, 2012). Growth is a vital indicator of a flourishing firm. Firms grow in order to achieve their objectives, including increasing sales, maximising profits or increasing market share. Gilbert et al. (2006) suggested how and where questions are important in the context of the growth of a firm. They suggest that there are many factors like characteristics of the managers, access to resources like finance and manpower which affect the growth of the firm and differentiate it from a non-growing firm.

Market share also, is often associated with profitability and thus many firms seek to increase their sales relative to their competitors. Zagare (2011) while coming up with the game theory, suggested that while there may be uncertainty regarding the expectations and actions of a firm's rivals, a rational firm is expected to overcome uncertainty by forming competitive conjectures, subjective probability estimates of rivals' expectations and behavior.

### **Empirical Review**

#### **Transportation Outsourcing**

Gist (2013) conducted a study on the impact of the oil industry on economic growth performance in Nigeria. The study employed a multiple regression analysis to capture the influence of OREV on GDP

and also determine the trend effect, that the effect of time as a variable. The study established that there has been environmental degradation, neglect of the people, abandonment of the agricultural and manufacturing 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 whereby allegations abound where retired military officers and some influential politicians are offered oil licenses to lift and export crude oil and the proceeds are reflected in the private pockets of such people only. This study however limited itself on the impact 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 impact 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 distribution of oil and gas products in Kenya Pipeline Company. On the other hand, Salavasidis (2012) indicates that transportation and distribution are two sectors of industry which should also be mentioned regarding safety issues applied in oil and gas 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. Also, terrorists could target pipelines and vessel as the potentially flammable material enables huge explosions. In

these occasions safety problems are caused by criminal.

### **Inventory Management Outsourcing**

A study by ERC (2015) reveals that the central aim of inventory management in the oil and gas industry is to have the right products in the right quantities, at the right place, at the right moment and at minimal cost, effectively translating in to customer satisfaction. Customer satisfaction is dependent on the flexibility of the Supply Chain Management, i.e. its ability to respond to changes in demand. Flexibility is often imperfect because of long lead times, uncertainties, and unforeseen.

In his study Arntzen (2006) noted that in Kenya's competitive oil and gas sector, being able to achieve a high degree of customer satisfaction is critical. What a firm selects as its distribution approach, can contribute either positively or negatively to this outcome, e.g. Business may be lost through cancelled orders, and the company's reputation may be severely damaged. Company's should therefore have effective distribution management systems to achieve high customer satisfaction. The oil and gas players including (KPC) Kenya Pipeline Co., the leading oil and gas products distributor in Kenya, have some challenges and successes, all related to the way they handle & manage their major inventory at their disposal and how it impacts on customer satisfaction.

According to a study done focusing on the oil and gas industry by a research firm Consumer Insight (2009), the inventory handling systems were not up to date and could not be classified as 70% reliable thus impacting negatively on distribution to the final consumers. Unreliability in the supply chain management systems used by oil and gas players was found to be literally expensive and impacted poorly & directly on the company's bottom line



results and its competitiveness in the long run (Nyikal, 2005)

### **RESEARCH METHODOLOGY**

Descriptive design was the most appropriate design for the study. This enabled the researcher to collect original data from the population and this saved time and resources. The study targeted the 71 registered oil and gas companies licensed for Import, export and wholesale of oil and gas Products However, the target population was all the Project Managers and the Operations directors (total=142). A questionnaire was designed to collect information and it contained open ended and closed ended questions. The sample frame of this study was respondents who formed the sample size. The respondents were expected to provide reliable information. Primary data on the factors affecting effective distribution in the oil and gas industry was collected. Secondary data was obtained from relevant literature review from dissertations, journals, magazines and the internet. Pilot study was conducted on fourteen respondents from the target population that is reported but not including in the final sample; this represents 10% of the total population. Validity was assessed based on the responses from the pilot test. To further reduce the threat to content validity, expert opinion was sought from the research supervisor for appropriateness. Data was analyzed using both descriptive and inferential statistics.

### **DATA ANALYSIS, RESULTS AND DISCUSSION**

The respondents comprised of the 142 Project Managers and the Operations directors in the 71 registered oil and gas companies licensed for

Import. The response rate was 93% of the total sample size and the non-response was 7%. The study sought to establish the age of the respondents in order to determine if the age corresponded with computer literacy. Majority (58%) of the respondents who were students was in the age category of 15-20 years, 20% both teachers and students were in the age category of 21-25 years, 18% of the teachers were in the age category of 25- 30 years and 4% of the teachers were in the age category of above 31 years. The study sought to establish the education level held by the teachers in order to ascertain if they were equipped with relevant knowledge and skills to understand Oil and Gas projects. From the study findings, majority (49%) of the respondents were university graduates followed by 25% who had post graduate education level and 15% who had college education level.

### **Transportation Outsourcing**

From the study result, transportation Outsourcing improved Oil and Gas projects performance by a mean of 4.231, Oil and Gas projects costs reduction with a mean of 4.205 and Oil and Gas projects resources utilization with a mean of 3.897. On other hand the respondent support on conflict of interest reduction and meeting performance indicators with a mean of 3.872 while the meeting organizations objectives by a mean of 3.821. Further respondent on uniform project systems and increase number of projects completed on time were supported by a mean of 3.744, increases number of orders by a mean of 3.6667 and finally reduction on number of complaints by a mean of 3.615.

**Table 1: Transportation Outsourcing**

Indicators	Mean	Std. Deviation
Improves Oil and Gas projects performance	4.231	.777
Reduces Oil and Gas projects costs	4.205	.801
Utilized Oil and Gas projects Resources	3.897	.754
Reduces Conflict of interest	3.818	.656
Meeting performance indicators	3.872	.767
Meeting organizations objectives	3.821	.796
Uniform project systems	3.746	.880
Increases number of projects completed on time	3.744	.966
Increases number of orders	3.667	.898
Reduces number of complaints	3.615	.935

**Inventory Management Outsourcing**

This sought to get from the respondents on the effect of Inventory Management Outsourcing on effective Oil and Gas Projects industry in Kenya. From the table 2 below, reduction of costs in supplier selection was highly supported by a mean score of 4.1026 while reduction in conflict of interest and improvement of performance was

seconded by a mean of 4.0769. However, effective selection of suppliers was found to moderately reduce the number of complains with a mean of 3.4872. Therefore, the supplier selection practice generally improves the operational efficiency of the firm through reduction of employee conflict of interest with the suppliers.

**Table 2: Inventory Management Outsourcing**

Indicators	Mean	Std. Deviation
Reduces costs	4.103	.718
Reduces Conflict of interest	4.077	.839
Improves performance	4.077	.774
Meeting organizations objectives	3.923	.739
Meeting performance indicators	3.872	.615
Uniform procurement systems	3.718	.857
Resources are utilized	3.692	.950
Increases number of projects completed on time	3.564	.754
Increases number of orders	3.513	.885
Reduces number of complaints	3.488	.942

### Performance of Oil and Gas projects

This sought to get from the respondents on the performance of Oil and Gas Projects.

The findings indicate that most respondents acknowledge that the firms level of competitive advantage of the company had improved as a result of project implementation with a mean of 3.744, getting value for money on projects implemented by a mean of 3.641 and mean score of 3.615 on reduction number of complaints received from customers. The study further revealed that

corporate social responsibility was part of the projects, stakeholders involved during project implementation and environmental factors consideration had mean score of 3.539. However, the Ken Gen Company considers to a moderate extent green procurement as project implementation and quality projects are achieved at the long run by a mean of 3.4872. The organization had clear policies on projects by a mean of 3.4615 and mean of 3.4359 on project completion on time.

**Table 3: Performance of Oil and Gas Projects**

Indicators	Mean	Std. Deviation
Competitive advantage of the company is enhanced	3.744	.849
Organization gets value for money on projects implemented	3.641	1.088
Reduced number of complaints are received from customers	3.615	.847
Corporate Social Responsibility are part of the projects	3.539	.854
Key stakeholders are involved during project implementation	3.539	.756
Environmental factors are considered	3.539	.962
KenGen considers green procurement in project implementation	3.487	.757
Quality projects are achieved at the long run	3.487	.855
Organization has clear policies on projects	3.462	.854
Projects are completed on time	3.434	.912

### SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

The study established that Transportation Outsourcing improved performance of the Oil and Gas projects. Lysons and Farrington (2010) argued that Transportation Outsourcing as an aspect of planning in the process of the project implementation strategy formulation which clearly revealed that retail chains used Transportation Outsourcing which assisted in the costs reduction and proper resources utilization. The study further revealed that proper management of Transportation Outsourcing at a great extent resulted to increase number of orders and reduced number of complaints.

The study found that Inventory Management Outsourcing increased the success of Oil and Gas projects. The study showed that Inventory Management Outsourcing had influenced on the improvement of performance of Oil and Gas projects and enabled in meeting objectives which emphasize that Inventory Management Outsourcing was an essential strategic issue imperative for Oil and Gas projects. The study also showed that well utilization of organization resources resulted in improvement in Oil and Gas project implementations.

## Conclusion

From the finding, the study concludes that Oil and Gas Project implementation was affected by Transportation Outsourcing, Inventory Management Outsourcing, Warehouse Outsourcing and customer service. The study found out that industry was facing challenges in product management which lead to not achieving its objectives. On other hand, the organization was faced by conflict of interest.

## Recommendations

The study established that product management affect during the implementation of Oil and Gas projects, therefore they needed to be checked in a more appropriate for a successful implementation of the project. The resources needed to be more utilized to enable more development and less wastage in the company. The study also

recommended the company stakeholders involved during Oil and Gas projects. Oil and Gas Projects also needed to handle on the issue of conflict of interest from the management and the outsiders when dealing with the private brands and project implementation section.

## Suggestions for Further Research

The results of this study can be further utilized to suggest several directions for future research. A field study can focus on investigating on product management and Oil and Gas project implementation in other sectors in Kenya. Finally, more research on this area is needed because this study has investigated a subset of the variables found to be important determinants. Other variables that may affect Oil and Gas projects need be investigated. Further research can examine these possibilities and the extent of their influence.

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