

**The Impact of Logistics Outsourcing On the Oil and Gas Industry Performance:  
A Case Study of the Nigerian Market**

**Khaled EL Sakty+ and Chukwuneke Okorie\***

+ Arab Academy for Science and technology and Maritime Transport  
[Khaled.sakty@aast.edu](mailto:Khaled.sakty@aast.edu)

\* PLYMOUTH UNIVERSITY  
[chukwuneke.okorie@plymouth.ac.uk](mailto:chukwuneke.okorie@plymouth.ac.uk)

## **ABSTRACT**

This paper investigates perspectives and trends in the outsourcing of logistics functions by Nigerian oil and gas firms in order to further comprehend the impact of deploying 3PLs on performance, particularly with regard to cost-savings and user-firm's satisfaction. The research participants are mainly top management staff consisting of managers and supervisors in charge of areas of logistics, supply chain and procurement. A total of seven (7) oil and gas firms listed in the directory of oil companies in Nigeria took part in the study. The study adopted a quantitative approach, gathering data through the administration of an online questionnaire survey, and resultant data consequently analysed. Findings show that oil companies in Nigeria mainly outsource in order gain cost-savings (through price-reduction) in procuring logistics operations, financial stability and opportunity to use the expertise and skills of 3PLs. Results indicate that outsourcing of logistics has a significant impact on overall firm's performance, with particular relation to the level of improved productivity, organisational effectiveness and acquisition of new customers. However, given hesitation by some stakeholders, 3PLs in the Nigerian market are expected to improve upon their current services in order to attract more patronage. On the whole, firms outsourcing services showed optimism that using 3PLs will continue to generate a positive impact on the performance of their organisations.

**Keywords:** Outsourcing, Logistics Service Providers, Oil and Gas firms, Performance

## 1.0 Introduction

Logistics functions were considered as unimportant functions as a result they were assigned and relegated to the purchasing and physical distribution departments, but today they are being developed as a result of strategic partnerships all over the world (Van Weele, 2009). Although, logistics activities have increasingly become very important in today's world of business, and they have attracted interests from practitioners and the academia who have constantly and consistently reviewed them as avenue for cost reduction and customer satisfaction (Bolumole et al., 2007). The emergence and engagement of 3PLs dates back to the '80s and by the year 1998, it had grown to over US\$40 billion industry (Simchi-Levi et al., 2003), with over US\$140 billion spent globally in 2006 (Transport Intelligence, 2006). Three key historic developmental phases of 3PLs are identified, first being offering of basic services covering warehousing and transportation in the early '80s; the second was the year 1990 marked by the entrance of popular participants as such UPS, DHL, TNT and FedEx, while the third evolved later in the '1990s with extension to offerings as such management, finance, IT etc (Berglund et al., 1999). Fuller et al. (1993) joins others to point that the major driver for continuous 3PLs usage is customers' requirements.

A number of researchers have conducted several studies to investigate the adoption of 3PLs operations by firms in Europe, US, Australia, New Zealand, Singapore, Malaysia, Saudi Arabia, China and Ghana. With regard to Nigeria however, there is need to give further attention to this area of study. In US, Lieb et al. (1993) conducted a study to compare the outsourcing practices amongst US and European manufacturers by testing the level of commitment, budget allocated and the utilisation of 3PLs and found a higher level of commitment amongst European users. From the Australian perspective, Dapiran et al. (1996) carried out a study to compare manufacturing firms in Australia and US on the extent to which they have adopted the use of logistics service providers (LSPs). Similarly, Bhatnagar et al. (1999) reviewed the use of logistics service providers in Singapore and found that most companies that have adopted the strategy

were very pleased with the service providers. Sohail and Sohal (2003) also reported the use of 3PLs by various firms in Malaysia, covering the decision-making processes for selecting a logistics partner, and the overall potential benefits. In the years 2003 and 2004, a survey carried out by Lieb and Bentz (2005) focused on the use of 3PL by big manufacturers in the United States of America showing that in 2004, over 80% of the responding firms have adopted logistics outsourcing. In Sub-Saharan Africa, Austin et al (2004) carried out a study particularly in Ghana to investigate the adoption of 3PL services as well as the level of satisfaction derived from these providers by the user firms. This empirical study found out that over 80% of 3PL had a significant influence on their organisations. In New Zealand, Zhang (2009) studied the use of 3PLs amongst firms from a user perspective and reported the prospects of the outsourcing strategy.

Studies on outsourcing and the use of 3PLs in Nigeria are growing, covering areas of healthcare management (Ogungbemi, 2010) and impact on performance in the fast food industry (Akinbola, 2012), while others investigated the influence of 3PLs on firms in manufacturing sector (Akweshola and Elegbede, 2013) and implications on employment trends (Adegbami et al., 2014). With Nigeria being one of the biggest oil producers in the world, and the growth of the outsourcing trend, there is a stronger need for systematic empirical investigations on the use of 3PLs by oil and gas firms in Nigeria. Through this study, we contribute to the literature to enhance understanding in this area.

## **2.0 Logistics in Perspective**

Logistics encompasses the processes of planning, implementing and managing the movement and storage of raw materials, work-in-progress inventory, finished goods and the associated information from the point of origin to the point of consumption (Rushton and Walker, 2007). According to the Council of Supply Chain Management Professionals (CSCMP), logistics is that part of the supply chain process that

plans, implements, and controls the efficient, effective flow and storage of goods, services, and related information from the point-of-origin to the point-of-consumption in order to meet customers' requirements (CSCMP, 1998). Logistics also include the management of upstream and downstream relationships with suppliers and customers to deliver superior customer value at less cost to the supply chain as a whole (Christopher, 1998). The major elements that drive a company's supply chain capabilities depend largely on logistical activities. The relationship between logistics and cost as well as customer satisfaction and its influence on firms' competitiveness dictate that companies handle their logistics functions efficiently in order to reach their full potential as a way of competitive advantage (Somuyuwa et al, 2016).

### **3.0 Third Party Logistics Providers (3PLs)**

From observation, 3PL organisations first showed signs of significant growth in the 1980s as organisations outsource logistics functions to focus more on their own core business (Harps, 2004).

A major organisation linked with the development of logistics services is Federal Express (FedEx), with their overnight delivery service, changed the way in which business transactions such as business-to-business (B2B) and business-to-customer (B2C) were carried out.

Additionally, efficient-consumer-response (ECR) techniques created more efficient shipments to increase cost savings. As other organisations saw the benefits of FedEx's strategy, the volume of 3PL companies began to increase. This invariably led to increased competition between 3PL service providers; thereby generating even better cost reduction for the businesses that used these providers. Since the 1980s, the 3PL market had evolved into an international arena providing global coverage for businesses and consumers. In the United States, the 3PL market grew at a rate of 7.4% in 2013, reporting gross revenue of \$157.2 billion (Berman, 2015). Globally, the 3PL market revenue was valued at \$733.69 Billion in

2014, with estimation of \$1029.47 Billion by 2022, growing at 4.4% from 2015 to 2022 (Global Market Insights, 2016).

Until the early 2000s, logistics outsourcing was still an emerging concept. Different names have been used to define the practice, such as contract logistics, logistics service providers, integrated service provider and third party logistics (Rushton and Walker, 2007). The worldwide trend in globalisation has compelled a number of businesses to engage the services of 3PL providers to invest more energy into their core competencies (Cheong, 2003). Hence, companies consider third party logistics service providers as a strategic tool for reducing operational cost and attain excellent performance (Liu, 2008). Nowadays, the focus of 3PLs has moved to a strategic level for development. 3PLs began to render value added services and supply chain solutions by supporting logistics operations of user organisations (Rushton, 2007). Value-added services are unique functions that firms can work out together in order to increase their effectiveness and efficiency (Okorie et al., 2015; Bowersox and Closs, 1996). The range of value-added services goes across many different business stimulating activities. According to Bowersox and Closs (1996), business that specialise in rendering value-added services focuses on the following areas: customer, promotion, manufacturing, time, and basic service, while Okorie et al. (2015) further reiterated the attributes of value-adding services as extras, add-ons and complimentary in nature.

#### **4.0 Emerging Issues in Logistics Service Provision**

##### **4.1 Logistics alliances and partnerships**

Bagchi and Virum (1996) explained that a logistics alliance reveals a close and extensive relationship between a customer and a supplier beyond service offerings. Hence, the parties in a logistics relationship ideally consider each other as partners and collaborate in understanding and defining the customer's logistics needs. On the other hand, Virum (1993) was of the opinion that the primary significance of these

relationships were for information sharing. Both parties participate in the design and development of logistics solutions as well as measuring performance. In the early 1990s, an initial survey was performed across Europe and showed that alliances were fairly limited in scope and size. However, this eventually changed as value-added activities began to feature (Van Laarhoven et al., 2000). Hence, achieving this partnership between service providers and service-user firms remains a key area of study for researchers in this field.

#### **4.2 Extent of use and user-firms' commitment to logistics service providers**

A comparative analysis of American and European manufacturers using 3PLs reported that firms in Europe allocate more of their logistics budget towards logistics service relationships than American organisations (Lieb et al., 1993). Similarly, a study conducted by Bhatnagar et al. (1999) in Singapore revealed that the majority of 3PL users were very satisfied with their 3PLs and felt that this positively influenced their organisation. A number of these organisations reported using 3PLs for a number of years, and cited cost reduction and improved customer service as the primary benefits attained. Sohail and Sohal (2003) suggested that the extensive use of 3PLs coupled with a higher level of commitment will create the opportunities for user firms to be ready to spend on logistics outsourcing. In connection with geographical coverage, Lieb and Bentz (2005) hold that firms that use 3PLs in Australia for domestic purpose have been found to be more than those that use it for international purpose. Although, Sohail and Sohal (2003) argued that in places such as the US, Europe, Malaysia and Singapore, a number of organisations use 3PLs for national and international purposes.

In Ghana, Sohail and Al-Abdali (2005) undertook a study to determine the level of commitment of firms using 3PLs. The result of the study revealed that a number of users had “moderate” commitment. Similarly, Dapiran et al. (1996) investigated the trend of using 3PLs by large firms in Australia as

compared to American firms, showing that over 20% of Australian organisations considered their commitment as “continuous”. In the same vein, Bhatnagar et al. (1999) investigated Singaporean firms, with an overall indication of moderate to extensive commitment to 3PLs partnership. On the other hand, a comparison of the position of European and US users of 3PLs revealed that European users were considerably more committed to their 3PL providers than the US users (Lieb, 1992; Lieb and Randall, 1996).

### **4.3 Budget allocation**

In spite of slight increases in the percentage of firms outsourcing logistics, logistics outsourcing expenditures have risen significantly as firms outsourcing logistics increased their expenditures significantly. For example, BMW Manufacturing initially outsourced the basic delivery of parts to the production line, and in 2002 it used TNT to provide movement of goods from suppliers to the plant, inbound logistics, and material control (Harps, 2004). In a study conducted by Dapiran et al. (1996) to determine the budget allocated for logistics service providers, findings showed that 25% of Australian organisations allocated budget of more than 50% of their logistics budget to 3PL service providers. In the same vein, Capgemini and Langley’s (2009) research revealed the breakdown of the total logistics budget allocated to 3PLs in the year 2009 as follows: Europe (over 60%), Asia Pacific (over 60%), and Latin America (below 20%). This is comparatively higher than that of the previous year report depicting a slight increase in the expenditures on 3PL services.

### **4.4 Duration and renewal of 3PL contracts**

From a theoretical perspective, Loeff (1997) argued that long term outsourcing makes the outsourcer know their suppliers, develop a more effective knowledge of supplier working procedures, and regularly evaluate supplier performance. However, the questions that are constantly being asked is how long should



these relationship be between the outsourcer and the supplier. Lacity et al. (1996) found out that longer-term relationship (of approximately 9+ years) where outsourcers choose to hand over all their logistics functions had much more difficulty as a result of ill-defined contracts, and inflexible arrangements – therefore making changing the process very challenging. With improved confidence and trust in their providers, users extend their relationship further on the 3PL continuum, thereby shifting from a tactical to a more strategic relationship (Harps, 2004). As revealed in a survey carried out by Bhatnagar et al (1999), 84% of Singaporean firms had been using 3PLs for a period of over 3 years meaning that quite a significant number of Singaporean firms were involved in long term contract with their 3PL providers. Similarly, Zhang (2009) survey in New Zealand showed that 82% of users had their contracts with 3PL providers for a period ranging from 1 to 3 years. In the same vein, Sohail and Al-Abdali (2005) study of Saudi Arabian firms showed that over 60% of participants had their contracts with their 3PLs on a long term basis for at least 1 to 3 years. On renewal of contract, a survey conducted by Lieb and Bentz (2005) required users to rank, on a scale of 1 to 3, the most significant criteria to determine whether to renew 3PL's contracts. Findings pointed to a trend of contract renewal rate that was quite high. Renewal decisions were found to be made at a corporate level instead of the middle management or operating levels. In addition, the study suggested that decisions were generally made by a committee rather than by an individual.

#### **4.5 Firms' outsourcing motivation and In-house logistics option**

The decisions organisations make on whether or not to outsource can be very delicate and intricate as functions of most organisations are integrated (Chen, 2012). A number of organisations use outsourcing for several reasons; according to Li et al. (2006) some of the factors motivating companies to outsource their logistics functions are: the need to reduce the costs and the overall price of the products by looking for suppliers who have better functions and lower cost structures; the need to focus on core activities; the

need to have access to world class capabilities and facilities; the need to have longer-term flexibility; the acceleration of reengineering advantages; the need to increase sections and functions (evolution and change in the organisation); the need to have access to new services; the need to create increase in liquidity; and the need to have a perfect to the best experiments and to achieve new skills.

Considering the In-house logistics option on the other hand, a number of factors have influenced most organisations to perform their supply chain functions using their own resources. As logistics managers try to justify the performance of supply chain functions in-house, Venkatesan (1992) identified several reasons why most companies are reluctant in outsourcing their functions such as filling idle capacity on machinery, keeping jobs, sustaining relationship with trade unions, increasing responsibilities, fear of losing authority and the need to have robust salary. There is also the issue that external service providers may not be able to serve customers better than in-house providers. For instance, Maltz (1994) undertook a survey and found that the quality of service provided is the major factor influencing the performance of 3PL functions in-house.

#### **4.6 Selection of 3PL criteria and 3PL value delivery**

Selecting a logistics service provider is undoubtedly a crucial step in forming a successful business relationship. Delving into an outsourcing arrangement without suitable research or having an insight of the demands of what it entails often lead to the failure of most outsourcing relationships (Vanhaverbeke, 2002). In making a decision to use the services of a 3PL provider, firms consider a number of factors (Murray, 2015). These factors as identified by Bolumole et al. (2007) are cost, reliability of delivery and quality whereas Oke et al (2009) identified political factors, physical and cultural proximity, cost, reliability and political factors to be the basic criteria used for supplier selection for developing nations. In developing countries, however, low cost has been the primary driver for choosing 3PL providers. Although, Goddard and Ajami (2008) acknowledged that the criteria are based on strategic problems and

the implications of supplier selection are significant. Hence, other selection criteria should be factored in, due to the availability of low cost suppliers (Oke et al., 2009). This has been a concern to a number of companies and organisations and to scholars also for more than a decade (Monczka and Guinipero, 1984). Howbeit, Hsu et al (2006) noted that there has not been a clear cut agreement in research on which selection criteria are of major importance.

In line with value expectation and delivery, the logistics function outsourced is based on organisational needs and strategies per time. Different companies may outsource different functions based on what is required per time. According to Bhatnagar et al. (1999), the services a number of firms usually outsource include 'warehousing, transportation, shipping, custom clearance, mail handling, inventory management and fleet management' whereas a later survey carried out by Lieb and Bentz (2005, p.5-15) found transportation and warehousing to be the most frequently outsourced logistics services. On value delivered by 3PLs, the study reported that 42% of the users were of the view that value continued to increase over time while 46% held that it remained unchanged. Similarly, 12% of users were of the view that the value reduced insignificantly over time, with 88% of the total participants indicating that the value delivered by 3PLs remained unchanged over time thereby explaining the high contract renewal rate in the 3PL industry.

#### **4.7 Impact of 3PLs on user firms' performance**

According to Mulama (2012), logistics outsourcing tends to be very attractive to company executives because it improves some dimensions of organisational performance. Therefore, outsourcers who can manage the process may improve their organisational results and derive a greater level of satisfaction (Gilley et al., 2004). In a study undertaken by Elmuti (2003), the relationship between outsourcing practices and the performance of firms in the US was investigated and further determined the outsourcing strategies adopted by various firms and their organisational performance. The organisational performance

variables investigated were: Productivity; Organisational effectiveness; Service Quality, Customer experience and Cash flow. In the same vein, Khaki and Rasidi (2012) carried out a study to determine the relationship between the organisational functions of firms and outsourcing and the study discovered that outsourcing can contribute to a better financial and non-financial performance as well as improved services.

#### **4.8 Future prospects of using 3PL services**

The future prospects of 3PL services focuses on its effective utilisation and management by user firms in terms of level of satisfaction derived and the current performance of 3PL service providers (Chen, 2012). However, a number of studies revealed that firms that engage the services of logistics service providers were very satisfied with their level of performance. Studies carried out by Sohail and Sohal (2003) in Malaysia; Millen et al (1997) in Australia; Sohail et al (2005) in Saudi Arabia; Sahay and Mohan (2006) in India; Bhatnagar et al (1999) in Singapore; as well as Lieb and Bentz (2005) in USA revealed that the satisfaction rate of 3PL usage is extremely high. Therefore, many firms are of the view that outsourcing to 3PLs would increase substantially or moderately in the future given the opportunity (Chen, 2012).

### **5.0 Methodology**

An explorative research methodology was adopted in this research by deploying a well structured questionnaire for data collection. A total number of 450 top management staff was chosen as the sample for this study. The focus was on top management because they are involved at the decision making level of the companies. Using various directories, participants were randomly chosen and the designed questionnaire was administered to the different categories of the Nigerian oil companies. Data gathering was designed to understand outsourcing issues and challenges in the Nigerian oil industry and to reach

possible solutions. The survey achieved a response rate of 35 per cent. The questionnaire consists of two sections as follows:

Section 1: provided detailed demographic information of the respondents

Section 2: addressed organisational information of the oil and gas industries in Nigeria as well as focused on questions about logistics outsourcing trend with regards to peculiar functions outsourced

Data collection was mainly on a 5-point Likert-type scale questionnaire. The collated data was analysed using the statistical analysis software package (SPSS).

## **6.0 The Nigerian Logistics Market**

Although the Nigerian economy is currently experience turbulence, Adeyemo (2015) holds that it is reputed to be Africa's largest economy with an estimated rebased GDP of about \$650 billion US dollars, and has continued to portray tremendous growth in the past 10 years with a year on year GDP growth of approximately 6.5% annually. Similarly, the World Economic Database (2013) indicated that Nigeria is also adjudged to be one of the main oil producers in the African continent. In the same vein, Adeyemo (2015) argued that Nigeria's economic growth is one of the highest in Africa and the fastest growing of the top five African economies with a population of approximately 175 million people (excluding rural areas) and with more than 50 % below 19 years of age, the future also appears to be promising for the country with the availability of human capital. On this note, PricewaterhouseCoopers (2013) asserts that a number of organisations moving to West Africa have seen Nigeria as providing investment opportunities because of its large market compared to others in the sub-region such as Ghana, Liberia, and Senegal. As highlighted by Adeyemo (2015), doing business in Nigeria is not without challenges especially concerning the logistics of managing the movement of resources such as food, raw materials, finished products, and energy and petroleum products from the manufacturers to the consumers. The study identified impediments to logistics, with implications to potential investors in the Nigerian market

and they include poor infrastructure, corruption and inconsistencies of fiscal policies, insecurity and militancy as well as financial systems and foreign exchange risk. Despite these logistical challenges, PricewaterhouseCoopers (2013) reported that Nigeria is able to maintain its position as a leader for overseas investment in the region, which will eventually result in productive relationships with transport and logistics service providers.

## **7.0 Results and Discussion**

### **7.1 A Cross-section of Nigerian major oil and gas firms**

NNPC, Nigerian National Petroleum Corporation, is a government owned organisation that coordinates and manages Nigeria's oil and gas interests and wealth.

Table 1 shows six of the major foreign oil and gas firms that have ventures with Nigerian National Petroleum Corporation (NNPC, 2016).

.....Insert Table 1.approximately here .....

The amounts of oil produced, measured in barrel per day (bpd), are shown in Table 1. It gives an insight into the quantities of oil produced, and an idea of the capacities of the different firms. Shell is at the top in terms production volume. There are many other foreign oil service companies, with indigenous firms, all being at different tiers in the Nigerian oil supply chain.

### **7.2 Respondents attributes**

An important caveat relevant for this section is that it serves to highlight the attributes of those working in the Nigerian oil sector, and helps to shape some aspects of employment ethical perception in this sector.

The results showed that most of the respondents were highly educated: 10% held a diploma, 50% held a

bachelor's degree; 20% held a master's degree and 10% held a PhD qualification. Findings showed that the respondents were 30 years and above, with the least age being 30 and the highest age being 67. Of all the respondents, 10% were staff of Shell Petroleum Development Company; 5% were staff of Agip Nigeria Limited; 15% were staff of Chevron Nigeria Limited; 20% were staff of Mobil Nigeria Unlimited; 15% were staff of LNG; 10% were staff of Addax Petroleum Limited and 25% were drawn from Esso Exploration Nigerian Limited.

### **7.3 Firms' extent of involvement in logistics outsourcing**

To gain insight into the trend of logistics outsourcing in Nigerian oil firms, data was drawn on the extent to which the respondents' firms are engaged in outsourcing activities with 3PLs. Table 2 presents data from respondents in connection to giving their opinions on if their firms was 'involved in outsourcing to a large extent'.

.....Insert Table 2 Approximately here .....

There is an inclination that most of the oil and gas companies are to a very large extent involved in outsourcing of their logistics functions. The results show that 62.5% strongly agreed that their companies are involved in outsourcing of logistics services to a large extent. Another 30.6% chose the 'agree' option and 2.8% 'strongly disagree' that their companies are involved in logistics outsourcing practice.

### **7.4 Outsourcing motivation**

There are reasons which motivate companies to outsource their logistics function. Findings showed that 63.0% of participants indicated that their firms outsource very often in order to lower cost. While 57.5% are of the opinion that their firms outsource very often to improve operational efficiency, 46.6% indicated that greater flexibility is the key motivation. Another 47.2% indicated that outsourcing is practiced in

order to focus on firm's core business, 60.3% opined outsourcing to be geared towards improving customer experience, 39.7% held that outsourcing supports the improvement of firm's expertise and access to new markets. The target of outsourcing to improve inventory reduction received a 60.3% approval, while 58.3% held that a key motivation is to strengthen competitive advantage. Based on these findings, it can be deduced that cost reduction and customer satisfaction are the major reasons why companies decide to outsource their logistics functions.

### **7.5 Anti-outsourcing motivation**

Findings showed that a number of companies are not inclined to the logistics outsourcing practice.

Figure 1 supports the analysis of reasons and arguments for in-house logistics and against outsourcing to 3PLs.

.....Insert Figure 1 Approximately here .....

Field data from 80% of the respondents indicated that major reason why companies do not outsource to 3PLs is because of better in-house operations cost-savings as compared to higher costs for engaging 3PLs. As opined by 70% of participants, the need for special transportation routing was the second major reason for not outsourcing to 3PLs. While this particular result seems contrary to popular perceptions, given that 3PLs are generally known for handling specialised transportation and routing, it raises a curiosity as to the capacity of Nigerian based 3PLs to handle specialised transportation and routing for oil and gas firms. Another reason that is worth highlighting is that some firms will opt for in-house logistics operations in order to leverage the opportunity for advertisement. Advertisement was projected by Okorie et al. (2015) as one of logistics value-adding services (VAS). Of the research participants, 26.67% were of the opinion that in-house operation offers opportunities for advertising their brand on own-vehicles, which would be lost if outsourced to 3PLs.



## 7.6 3PL selection criteria and satisfaction level

Analysis of information on selection criteria of 3PLs is important for both service-user firms and the providers of logistics services in the Nigerian oil and gas industry. Figure 2 shows how respondents scored the different criteria which are considered as being very important in the selection of 3PLs.

.....Insert Figure 2 Approximately here .....

Findings, as displayed in Figure 2, give an indication of the dynamism in the opinions of stakeholders on selection criteria of 3PLs. Price emerged to be the first very important criteria in the selection process, hence can be linked with the quest for cost-saving opportunities by firms. The second and third very important criteria in order are financial stability and expertise-and-skills respectively. These reiterate the need to factor in how outsourcing will boost a firm's finance in the equations and also deploy 3PL's services when their expertise and skills will yield better results.

Selection criteria consideration is connected to the level satisfaction of 3PLs user-firms. Investigation particularly on the level of satisfaction and value delivered by 3PLs, resulted in 79.45% of user-company respondents who held that value delivered by 3PLs to user firms *increases* over time. There is a 9.59% indication that *value remains constant* over time and another 4.11% held that *value decreases* over time. Hence, it could be deduced that a greater number of logistics service providers deliver expected value to their service user-firms, with the tendency for increase in satisfaction and value-delivery over time.

## 8.0 Implication on Organisational Performance

The perception of many logistics experts is that logistics outsourcing has significant impact in boosting organisational performance. This perception was tested based on Nigerian oil and gas firms representatives' opinions, and findings are presented in Table 3.

.....Insert Table 3 Approximately here .....

Results show that logistics outsourcing generally have a considerable impact on oil and gas firm's organisational performance. For instance, logistics outsourcing is considered to have the *most significant* implication for the acquisition of new customers, based on ranking by 80.56% of all respondents. The second and third aspects that are impacted by outsourcing at a *most significant* level are organisational effectiveness and improved productivity, having received such ranking by 73.24% and 66.2% of respondents respectively. Based on these findings therefore, there is a pointer that logistics outsourcing by Nigerian oil and firms has a greater impact on overall organisational performance, supporting improvements in productivity and effective organisation, and consequently leading to the potential acquisition of new customers.

While acknowledging that gain in efficiency and productivity improves customer service and lowers cost (Somuyuwa, 2016), it is pertinent to ensure that logistics outsourcing decisions and processes are well planned to minimise unnecessary mistakes and achieve the set customer satisfaction level (Greaver, 1999; Lynch, 2000). Where organisations do not plan to avoid both strategic and operational mistakes in logistics outsourcing decisions, they risk compromising customer loyalty and market share.

It is important to take the holistic-view approach when making logistics outsourcing decisions in the oil and gas industry, giving good attention to key issues which include type of partnership, contracts, duration and budget. Having considered these issues, with a well aligned outsourcing motivation, resources will be better managed in delivering excellent customer service and quick response to the market, which as supported by Cook (2002) and Stevenson (2007) can support attracting and retaining of customers.

## **9.0 Conclusion**

This paper aimed at reporting study on the influence of logistics outsourcing practices on oil and gas companies in Nigeria. Findings showed that outsourcing of logistics functions contribute immensely to oil

and gas companies' ability to reduce cost and improve customer satisfaction. Although need to focus on core business area has often been referred to as the main reason why companies outsource, that does not appear to be a core reason for outsourcing among Nigerian oil and gas firms. The core reasons for outsourcing have clear connection to boosting organisation's finance, with price being the first and financial stability coming second. Logistics outsourcing has become a more and more strategic initiative, requiring detailed consideration and having the potential for significant implications on organisational performance.

While logistics outsourcing was found to be supportive in achieving the goals of Nigerian oil and gas firms, it is important to highlight that there are also negative experiences, signaling that outsourcing is not always the best option for all firms. Hence, the in-house logistics option would be preferable in such circumstances.

### **9.1 Further studies**

We believe that findings in this study are generalisable to some extent. However given limitation, it is recommended that studies be carried out in other areas of the oil sectors to investigate the use of third party logistics and its implications on organisational performance. It will also be beneficial to carry out further studies from the perspectives of service providers or suppliers.

## **10. Reference**

- Adegbami, A., Makinde, O., & Shiyabade, B. (2014). Human resources outsource in nigeria: exploiting organisation's 'vital tools'. *International Journal of Humanities and Social Science*, 4(13), 135-141.
- Ihugba, O. A., Odii, A., & Njoku, A. C. (2013). Challenges and prospects of entrepreneurship in Nigeria. *Academic Journal of Interdisciplinary Studies*, 2(5), 25.
- Akewushola, S., & Elegbede, W. (2013). Outsourcing strategy and organizational performance: empirical evidence from Nigeria manufacturing sector. *European Scientific Journal*, ESJ, 9(19).
- Akinbola, O. A. (2012). *Effects of Outsourcing Strategies on the Organizational Performance of Fast Foods Industry in Lagos State* (Doctoral dissertation, Covenant University).

Sohail, M. S., Austin, N. K., & Rushdi, M. (2004). The use of third-party logistics services: evidence from a sub Sahara African nation. *International Journal of Logistics: Research and Applications*, 7(1), 45-57.

Bagchi, P. K., & Virum, H. (1996). European logistics alliances: a management model. *The International Journal of Logistics Management*, 7(1), 93-108.

Berglund, M., van Laarhoven, P., Sharman, G., & Wandel, S. (1999). Third-party logistics: is there a future?. *The International Journal of Logistics Management*, 10(1), 59-70.

Bhatnagar, R., Sohal, A. S., & Millen, R. (1999). Third party logistics services: a Singapore perspective. *International Journal of Physical Distribution & Logistics Management*, 29(9), 569-587.

Bolumole, Y. A., Frankel, R., & Naslund, D. (2007). Developing a theoretical framework for logistics outsourcing. *Transportation journal*, 35-54.

Bowersox, D. J., & Closs, D. J. (1996). *Logistical management: the integrated supply chain process*. McGraw-Hill College.

Capgemini Consulting and Langley, J. (2009) The State of Logistics Outsourcing. Available at [http://www.capgemini.com/m/at/tl/third\\_party\\_logistics\\_2009.pdf](http://www.capgemini.com/m/at/tl/third_party_logistics_2009.pdf) (Accessed 14 November, 2015).

Chen, Y. C. (2002). An application of fuzzy set theory to the external performance evaluation of distribution centers in logistics. *Soft Computing*, 6(1), 64-70.

Christopher, M. (2016). *Logistics & supply chain management*. Pearson UK.

Cook, S. (2010). *Customer care excellence: How to create an effective customer focus*. Kogan page publishers.

CSCMP (1998) Supply Chain Management, available at: <http://cscmp.org/aboutcscmp/definitions.asp> (Accessed 15 October 2015)

Dapiran, P., Lieb, R., Millen, R., & Sohal, A. (1996). Third party logistics services usage by large Australian firms. *International Journal of Physical Distribution & Logistics Management*, 26(10), 36-45.

Elmuti, D. (2003). The perceived impact of outsourcing on organizational performance. *American Journal of business*, 18(2), 33-42.

Gilley, K. M., Greer, C. R., & Rasheed, A. A. (2004). Human resource outsourcing and organizational performance in manufacturing firms. *Journal of business research*, 57(3), 232-240.

Global Market Insights (2016) Third Party Logistics (3PL) Market Size to reach \$1,029.47 bn by 2022, available at: <https://www.gminsights.com/pressrelease/third-party-logistics-3pl-market>

(Accessed 2 July 2016)

Goddard, J.G. and Ajami, R.A (2008) Outsourcing: Which Way forward?, An Essay, *Journal of Asia-Pacific Business*, Vol.9, No 2. pp. 105-120

Greaver, M. F. (1999). *Strategic outsourcing: a structured approach to outsourcing decisions and initiatives*. Amacom Books.

HARPS, L. H. (2004). FROM TACTICAL TO STRATEGIC: THE 3PLCONTINUUM. *Inbound Logistics*.

Hsu, C. C., Kannan, V. R., Keong Leong, G., & Tan, K. C. (2006). Supplier selection construct: instrument development and validation. *The International Journal of Logistics Management*, 17(2), 213-239.

Khaki, A., & Rashidi, S. (2012). Outsourcing and its impact on operational objectives and performance: a study of Iranian telecommunication industries. *Management Science Letters*, 2(1), 235-244.

Lacity, M. C., Willcocks, L. P., & Feeny, D. F. (1996). The value of selective IT sourcing. *Sloan management review*, 37, 13-25.

Lieb, R. C. (1992). The use of third-party logistics services by large American. *Journal of Business Logistics*, 13(2), 29.

Lieb, R., & Bentz, B. A. (2005). The North American third party logistics industry in 2004: the provider CEO perspective. *International Journal of Physical Distribution & Logistics Management*, 35(8), 595-611.

Lieb, R. C., & Randall, H. L. (1996). A comparison of the use of third-party logistics services by large American manufacturers, 1991, 1994, and 1995. *Journal of Business Logistics*, 17(1), 305.

Looff, L. A. D., & De Loff, L. A. (1996). *Information systems outsourcing decision making: a managerial approach*. IGI Publishing.

Lynch, C. F. (2000). *Logistics outsourcing: a management guide*.

Maltz, A. B. (1994). The relative importance of cost and quality in the outsourcing of warehousing. *Journal of business Logistics*, 15(2), 45.





Mello, J. E., Stank, T. P., & Esper, T. L. (2008). A model of logistics outsourcing strategy. *Transportation Journal*, 47(4), 5.

Millen, R., Sohal, A., Dapiran, P., Lieb, R., & Van Wassenhove, L. N. (1997). Benchmarking Australian firms' usage of contract logistics services: a comparison with American and Western European practice. *Benchmarking for Quality Management & Technology*, 4(1), 34-46.

- Monczka, R. M., & Giunipero, L. C. (1984). International purchasing: characteristics and implementation. *Journal of Purchasing and Materials Management*, 20(3), 2-9.
- Mulama, O. A. (2012). Logistics outsourcing practices and performance of large manufacturing firms in Nairobi, Kenya. *School of Business University of Nairobi*.
- NNPC (2016) Nigerian National Petroleum Corporation Joint Venture Operations, Available at <<http://www.nnpcgroup.com/NNPCBusiness/UpstreamVentures.aspx> > Accessed on 06 July, 2016.
- Ogungbemi, Y. O. (2010). Growth In Outsourcing Facilities Management Services: United Kingdom And Nigeria.
- Oke, A., Maltz, A., & Erik Christiansen, P. (2009). Criteria for sourcing from developing countries. *Strategic Outsourcing: An International Journal*, 2(2), 145-164.
- Okorie, C., Tipi, N., & Hubbard, N. (2016). Analysis of the potential contribution of value-adding services (VAS) to the competitive logistics strategy of ports. *Maritime Economics & Logistics*, 18(2), 158-173.
- Rushton, A. (2007). *International logistics and supply chain outsourcing: from local to global*. Kogan Page Publishers.
- Sahay, B. S., & Mohan, R. (2006). 3PL practices: an Indian perspective. *International Journal of Physical Distribution & Logistics Management*, 36(9), 666-689.
- Simchi-Levi, D., Kaminsky, P., Simchi-Levi, E., & Shankar, R. (2008). *Designing and managing the supply chain: concepts, strategies and case studies*. Tata McGraw-Hill Education.
- Sadiq Sohail, M., & Saad Al-Abdali, O. (2005). The usage of third party logistics in Saudi Arabia: current position and future prospects. *International Journal of Physical Distribution & Logistics Management*, 35(9), 637-653.
- Sohail, M. S., & Sohal, A. S. (2003). The use of third party logistics services: a Malaysian perspective. *Technovation*, 23(5), 401-408.
- Somuyuwa, A. O; Odepidan O. M. and Dosunmu V. A. (2016) Analysis of Outsourcing Logistics Service and Customer Satisfaction in Manufacturing Companies in South Western Nigeria, *European Journal of Logistics, Purchasing and Supply Management*, Vol. 4, No. 1, pp. 1-10
- Stevenson, W. J., Hojati, M., & Cao, J. (2007). *Operations management* (Vol. 8). Boston: McGraw-Hill/Irwin.
- Transport Intelligence (2006) Global Supply Chain Intelligence Portal, Available at: <http://www.transportintelligence.com> (Accessed 15 November 2015)
- Tyworth, J. E., Joseph, I. C. and John, C. L. (1991). *Traffic Management: Planning, Management and Control*, Prospects Heights III, Waveland Press.
- Van Weele, A. J. (2009). *Purchasing and supply chain management: Analysis, strategy, planning and practice*. Cengage Learning EMEA.

- Vanhaverbeke, W., Duysters, G., & Noorderhaven, N. (2002). External technology sourcing through alliances or acquisitions: An analysis of the application-specific integrated circuits industry. *Organization Science*, 13(6), 714-733.
- Van Laarhoven, P., Berglund, M., & Peters, M. (2000). Third-party logistics in Europe—five years later. *International Journal of Physical Distribution & Logistics Management*, 30(5), 425-442.
- Venkatesan, R. (1992). Strategic sourcing: To make or not to make. *Harvard Business Review*, 70(6), 98-107.
- Virum, H. (1993). Third party logistics development in Europe. *The Logistics and Transportation Review*, 29(4), 355-362.
- Fund, I. M. (2017). World economic outlook database. *World Econ Finance Survey*.
- Wyatt, J. (2013) Evaluating Potential 3PL Logistics Providers and What You Should be Looking for  
Available at:  
[http://www.supplychain247.com/article/evaluating\\_potential\\_3pl\\_logistics\\_providers\\_and\\_what\\_you\\_should\\_be\\_looking\\_for](http://www.supplychain247.com/article/evaluating_potential_3pl_logistics_providers_and_what_you_should_be_looking_for)
- Zhang, Y. (2009). The usage of third party logistics in New Zealand. *Unpublished Master's Thesis*. Massey University Albany, New Zealand.

Table 1. Cross-section of Nigerian Major Oil Producers

<b>Nigerian Major Oil Producers</b>	<b>Barrels per day (bpd)</b>
Shell 	899,000 bpd (in 1997)
Chevron Nigeria Limited (CNL) 	400,000 bpd
Mobil Producing Nigeria Unlimited <b>Mobil</b>	632,000 bpd (in 1997)
Nigerian Agip Oil Company Limited 	150,000 bpd
Elf Petroleum Nigeria Limited (EPNL) <b>elf</b>	125,000 bpd (in 1997)
Texaco Overseas Petroleum Company of Nigeria Unlimited 	60,000 bpd

Source: Collated based on data from NNPC (2016)

Table 2: Extent of logistics outsourcing involvement

<b>Options</b>	<b>Responses %</b>	<b>Valid %</b>	<b>Cumulative %</b>
Strongly Agree	62.5	62.5	62.5
Agree	30.6	30.6	93.1
Neutral	4.1	4.1	97.2
Disagree	0.0	0.0	97.2
Strongly Disagree	2.8	2.8	100.0
Total	100.0	100.0	

Table 3: Impact of logistics outsourcing on organisational performance (%)

<b>(%)</b>	<b>Acquisition of new Customers</b>	<b>Boost Employee Morale</b>	<b>Boost Sales (Profitability)</b>	<b>Reduced Inventory Level</b>	<b>On-time delivery</b>	<b>Extended geographic - reach</b>	<b>Enhanced - customer Experience</b>	<b>Improved Logistics Systems</b>	<b>Quality of Service Delivery</b>	<b>Improved Productivity</b>	<b>Organisational Effectiveness</b>
Most Significant	<b>80.56</b>	<b>45.21</b>	<b>60.27</b>	<b>27.78</b>	<b>43.84</b>	<b>31.94</b>	<b>45.21</b>	<b>37.5</b>	<b>65.75</b>	<b>66.2</b>	<b>73.24</b>
Significant	5.56	<b>42.47</b>	27.4	<b>58.33</b>	<b>43.84</b>	<b>51.39</b>	39.73	<b>47.22</b>	19.18	19.72	12.68
Neutral	0.00	0.00	0.00	1.39	0.00	4.17	2.74	2.78	2.74	1.41	1.41
Insignificant	4.17	4.11	4.11	4.17	0.00	1.39	0.00	5.56	1.37	5.63	4.23
Most Insignificant	9.72	8.22	8.22	8.33	12.33	11.11	12.33	6.94	10.96	7.04	8.45



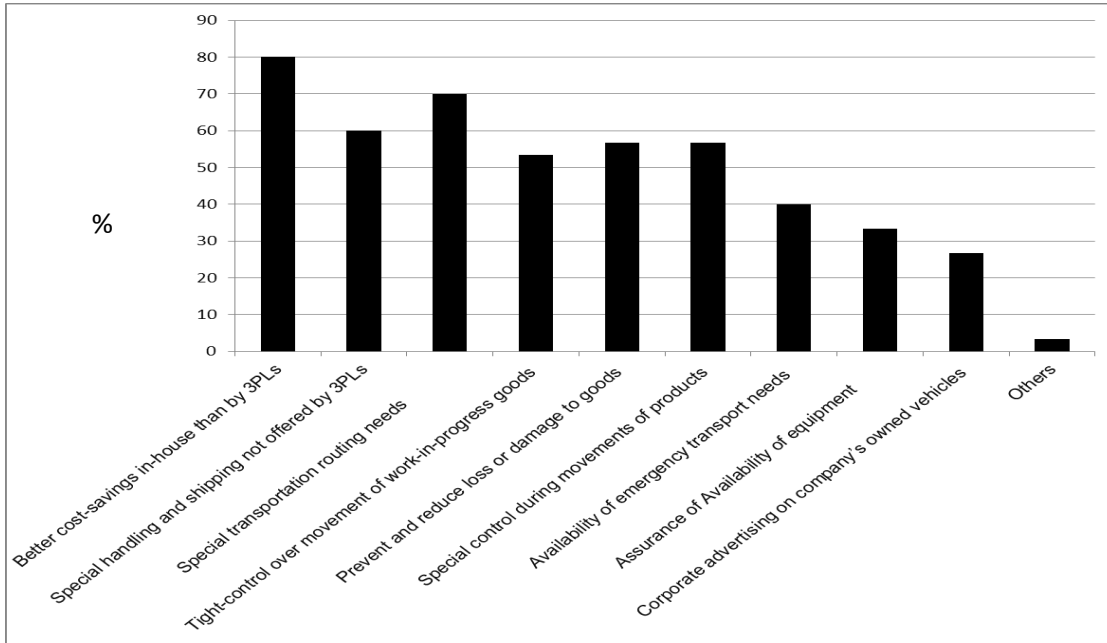


Figure 1: Anti-outsourcing reasons

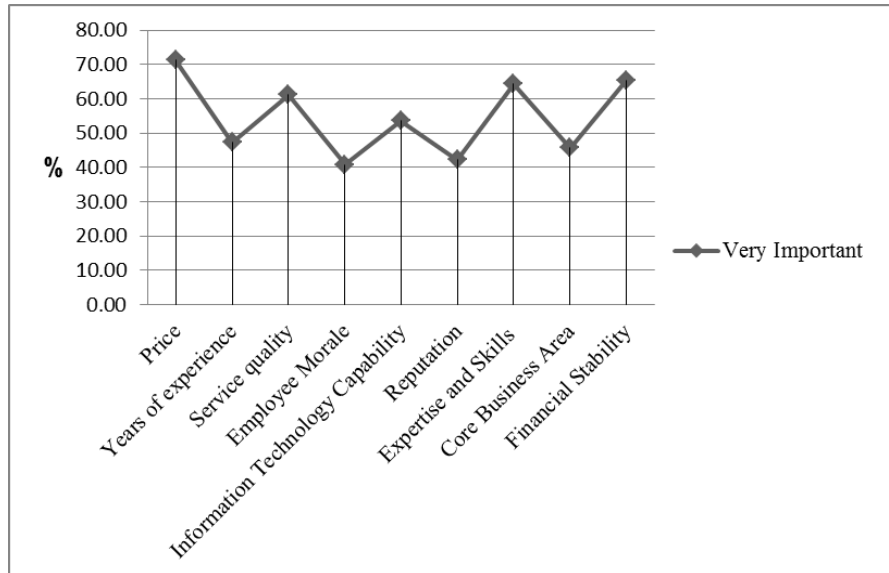


Figure 2: Very important criteria assessment for selecting 3PLs