

# Investigating the Motivation and Challenges of Supplier Development in the Upstream Oil and Gas Industry Aberdeen, UK (A Case of Oil and Gas Firms)

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**Abstract:** The principal purpose of this research was to investigate motivations and challenges of supplier development in the UK upstream oil and gas industry. The need for developing suppliers is indisputable owing to the frequency of disruption in organisations in recent times and the need to gain competitive advantage. The upstream oil and gas industry in Aberdeen is considered because of its enormous involvement in offshore operations. The data sourced through interviews were qualitatively analysed to achieve the research objectives. The findings of the research reveal that very few organisations in the oil and gas industry lay emphasis on supplier development as suppliers are assumed to be competent. Also, a high level of senior management support, increase in communication, suppliers' willingness to be developed, improved information flow across the supplier chain, increased trust and coordinated strategy for implementing supplier development initiatives is necessary to be able to implement supplier development. This has been noted from research findings and interviews of personnel involved in the supply chain of organisations in the upstream oil and gas industry Aberdeen, UK.

**Keywords:** Supply chain, Supplier, selection, development

## I. INTRODUCTION

The millennium business environment is characterised by increasing competition and uncertainty which has shifted competition from being predominantly inter-firm based to supply chain based. As a result, organisations need to re-organise their business operations to gain competitive advantage. Such re-organisation is centred on the supply chain (Ketchen & Hult 2007) with a focus on supplier development. According to Bai and Sarkins (2011), there is an increased consensus amongst practitioners on the relevance of supplier development in organisations operating in a competitive business environment. Although, there are various ways companies can improve operations, supplier development has proven to be an effective way to improve organisations operations across the supply chain. Besides reducing cost, effective supplier development adds value to organizations by improving lead time, product quality, process cycle time and reduces cost ((Benton, Prahinski & Fan, 2020).

In this regard, Wagner (2006) stated that supplier development has become important for attaining competitive

advantage in many industries and improving organisation's performance throughout the supply chain. Similarly, Arroyo-Lopez, Holmen and Boer (2012) stated that supplier development helps to improve firms' product quality and flexibility, cut costs and shorten lead time. Supplier development was a response to one third of project failures in the 90s where companies decided to cut down direct suppliers and maintain cooperative relationships with the remaining, resulting in suppliers' underperformance. Supplier development is "any effort of a buying firm with a supplier to increase the suppliers' performance and/or capabilities to meet the buying firm's short and/or long-term supply needs." (Krause & Ellram 1997 p. 39). Maloni and Beaton (2000) noted that it involves the ability of a buying firm to influence the intentions and the ability of its suppliers. Arroyo-Lopez et al. (2012) stated that supplier development requires the buyer and supplier to commit maximum effort to achieve improved performance.

However, despite its advantages and potential contribution, Wagner (2006) noted that many organisations are without express strategies on how to develop their suppliers as they consider it non beneficial and a waste of resources. Thus, the success of supplier development is not a foregone conclusion. In addition, very few industries seem to be achieving the desired level of success in supplier development (Carr & Kaynak 2007). This raises questions on the motivation and challenges organizations encounter in supplier development, if there is any. Thus this research is focused on finding out from personnel involved in the supply chain of upstream oil and gas companies the motivations and challenges of supplier development.

The purchasing expenditure of organizations on suppliers of goods and services is estimated to be about 60% or more of the firm's revenue (Ghodsypour and O'Brien 2001). According to Chen et al. (2004), selecting and maintaining competent suppliers is important to reducing purchasing costs, improving corporate competitiveness as well as reducing supply chain risk and disruptions.

More so, activities of companies operating in the United Kingdom (UK) upstream oil and gas industry (OGI) are wrapped up in supply networks which need to be properly managed. Hence, actively managing and investing in suppliers' development has attained strategic value for organisation to achieve competitive advantage (Terpend et al. 2008). However, studies by Wagner (2006) on supplier development practices observed that firms are reluctant to develop their suppliers as they do not consider it to be beneficial.

According to Chima (2007), the UK upstream OGI operations involve a chain of supply networks that require effective and efficient management to reduce company costs. Also, for companies in this industry to achieve optimum upstream operations they require machinery and technological tools which are sourced from suppliers. These suppliers need to deliver quality equipment which is cost effective and timely, to enable companies meet demand without disrupting the supply chain order pattern thereby reducing cost and production lead time.

However, Carr and Kaynak (2007) argue that most companies focus on supplier selection rather than development. This is seen in organisations lacking express strategies on supplier development, thereby remaining at an adversarial standpoint. Hence, there is need for findings on the barriers to supplier development and how they can be overcome. In addition, a considerable amount of literature has been published on supplier development in industries like Automobile, Electronic, Telecommunication and Food Distribution (Arumugam et al.2011; Shokri, Nabhani and Hodgson 2010; Humphreys, Li and Chan 2004). However, there have been limited researches on supplier development, especially in the OGI where suppliers are critical to the efficiency of operations.

Based on the dynamic nature of the business environment and from the preceding discussions, it is imperative to understand the way in which businesses have measured up to meet product demand through suppliers. Against this background, the motivation and challenges of supplier development in the OGI Aberdeen, UK are investigated in this study to determine whether the success in other industries is replicated in this industry. This research attempts to discover through personnel involved in the supply chain of organisations in the upstream OGI, the motivations and challenges in developing suppliers and make recommendations for improvement.

The aim of the study is to investigate the motivations and challenges of supplier development in the UK upstream OGI. In order to realise this aim, the following objective is proposed:

- To critically evaluate supplier selection and development.

The OGI in the UK which operates within the United Kingdom Continental Shelf (UKCS), with a focus on

Aberdeen is the target of this study. This industry is divided into the upstream, midstream and downstream sectors. The upstream sector which is the focus of this research involves activities such as the exploration and extraction of oil and gas, the mid stream sector activities involves storage, transportation and distribution to downstream customers and is often embedded in the downstream while the downstream sector involves distribution to customers. However, the upstream activities are dependent on supply and demand of oil and gas which can be affected by national and economic changes (OGUK 2011)

As estimated in 2009, the UK OGI had 107 oil platforms, 181, gas platforms and 383 producing fields (Keynote 2009). The United Kingdom is ranked 10<sup>th</sup> in terms of Global competitiveness as an innovation driven economy (WEF 2011). The OGI has contributed to this ranking in terms of energy security, employment generation, foreign direct investment and taxes to the economy (OGUK 2012) with daily production of 1.8 million barrels of oil equivalent (boe) in 2011, to meet about 73% of the UK's energy demands (OGUK 2012). According to Arnold (2003) Aberdeen is Scotland's third largest city, with North Sea oil at the core of its prosperity. It is the oil and gas base of UK which consists of various stakeholders, ranging from commercial and industrial consumers to government, operators, contractors and suppliers. In over 41 years of existence, the industry has spent over £486 million on production to meet demand (OGUK 2012). In 2011, the industry contributed £40 billion to balance of payment, corporation tax paid of £11.2 billion representing 25% of total corporation tax received by Exchequer in 2011 and subsequently created over 440,000 jobs, contributing an estimated £12 billion pounds to annual revenue (OGUK 2012 and DECC 2012).

However, the United Kingdom Continental Shelf (UKCS), a major source for oil and gas has been on the decline due to depleting reserves, reducing by 2.1% in 2011 from 2010, thereby leading to increased importation (Keynote 2012). Despite this decrease, the UK OGI remains a major source of revenue and economic growth for the United Kingdom (Keynote 2012) as about 41 billion barrels of oil equivalent have been recovered with an estimated 16 billion to still be recovered from the UKCS. Based on the above there is an increased emphasis on seamless operations for oil and gas companies to attain competitive advantage (Sarang, Bhasin, Verma & Joshi, 2012). Therefore, suppliers to contractors operating in the North Sea have a critical role to play in improving organisations' performance as suppliers are important to achieve seamless operations. In order to curb the challenges faced by firms in the oil and gas industry, there is need for increased attention to the supply chain. This attention is focused on cost control strategies aimed at improving overall business performance. Therefore, this suggests the need for supplier development which is geared towards minimising cost and improving purchasing performance.

## II. LITERATURE REVIEW

The oil and gas industry has experienced significant changes in the 21<sup>st</sup> century ranging from increased globalisation, changing business environment, unstable demand and prices to government policies on carbon emission (Arroyo-Lopez et al. 2012). This requires organisations to plan effectively and efficiently to maximise profits. Thus, in order to plan, the way supply chains are managed may be affected in a bid to enhance performance while meeting demand. In this regard supplier development comes to play for effective supply chain management.

According to Chima (2007 p.28), supply chain management is, *“the configuration, coordination and continuous improvement of a sequentially organised set of operations with the goal of providing maximum customer service at the lowest possible cost”*. As a contribution to this definition Duclos et al. (2003) noted that supply chain management involves seamless process of operations. In addition, studies by Chopra and Meindl (2010) noted that the supply chain consists of various stakeholders through which there is a continuous flow of information for effective operations across the supply chain.

Furthermore, Gosling, Purvis and Naim (2009) stated that effective supply chain management is important for improving firms' performance and competitive advantage. This is especially, with the changing and unpredictable business environment characterised by competition amongst firms. They further highlight that supply chain partners; suppliers, carriers, third party logistics companies and information providers need to maintain proper relationship to ensure continuous and seamless flow of operations in order to meet customer demand.

Similarly, studies by Tan (2001) observed that the focal point of supply chain management is how buying firms engage their suppliers' processes, technologies and capabilities for efficient and effective coordination of their supply chain to enhance their competitive advantage. This suggests that suppliers cannot be ignored for effective and efficient supply chain coordination. Therefore, they need to be developed for improved organisational performance to increase firms' competitive advantage in a turbulent business environment most especially in the oil and gas industry where 'the cost of failure' is very high (Sinha et al. 2011).

Upstream activities involve the search for and locating of oil and gas deposits within large scale geographical structures in the UKCS and extracting hydrocarbons from subsurface reservoirs to surface facilities (OGUK 2012). This implies that in order to carry out activities in the UKCS effectively and efficiently there is the need for technical expertise. More so, upstream activities require skill, technology, equipment and services for successful operations which are provided by a wide range of operators, contractors and supplier (OGUK 2012).

In order to attain success in the oil and gas industry there is need for a successful relationship between operators, contractors and suppliers through the adoption of integrative strategies (OGUK 2012). The operators are the oil majors and main investors also referred to as the main oil and gas exploration companies who take up the tasks of finding and developing resources in the UKCS. These oil majors such as Shell, British Petroleum, Exxon Mobil, Total and Conoco Phillips have created economies of scale through joint venture agreements in order to save cost (Keynote 2012). This is supported by Cox (2008) who stated that traditionally the oil and gas industry has focused on cost saving strategies in difficult times, an example of such difficult times being the recent issue of diminishing reserves in the UKCS (Keynote 2012).

Contractors or service providers such as Baker Hughes, Schlumberger, Halliburton and Transocean provide specialist skill, technology and materials required in upstream operations and are the major providers of service (Keynote 2012). Therefore they are at the forefront of activities and are relied upon for successful operation of company activities in the UKCS. This implies that failure by contractors can result in huge losses for operators. According to Sinha et al. (2011), the cost of failure in the oil and gas industry is high with wider implications on the economy. Hence, there is the need to ensure that there are no disruptions or that they are minimised to the barest minimum for efficiency and effectiveness of operations.

Accordingly, Krause et al. (1998) noted that supplier development is any activity that a buying firm initiates to improve suppliers performance, this definition identifies a key attribute of supplier development which is; improving suppliers' performance. However, one limitation of this definition is that it does not consider supplier willingness to implement development activities which is critical in supplier development (Ellegaard, Johansen and Dredger 2003). In an attempt to close this gap, Watts and Hahn cited in Wagner (2006) defined supplier development as a long term cooperative effort between a buying firm and its suppliers to enhance suppliers' capabilities. Although, there have been various definitions of supplier development, this study would adopt the definition by Watts and Hahn in Wagner (2006). This definition considers supplier development as a two way relationship between the buying firm and supplier. Also, it identifies the need for cooperation between buyer and supplier before supplier development.

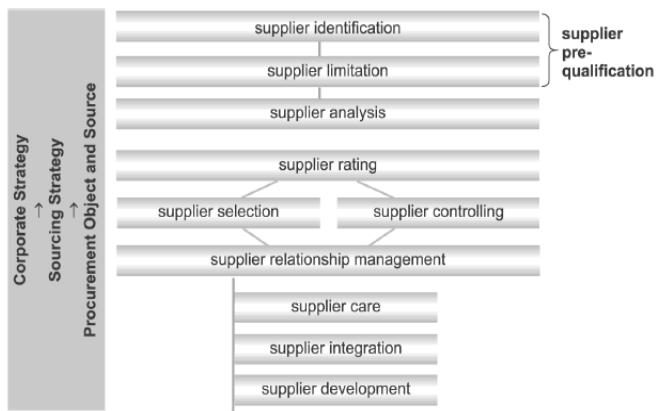


Fig 1. Supplier Management process

Source: Lasch and Janker 2005

Studies by Sanchez- Rodriguez et al. (2005) noted that supplier development involves activities such as supplier conferences, training, evaluation, staff exchange between buying firm and supplier, audit, feedback and knowledge transfer. Furthermore, supplier development cannot be overlooked as it contributes greatly to organisations success. Chan and Kumar (2007) noted that suppliers are the buying firm's external organisation whose activities can affect the entire supply chain network. Also studies by Heberling et al.1992 in Wagner (2006) observed that over 60% of firms budget is spent on purchases from suppliers. This implies that if there are any short comings on the part of suppliers in terms of delivery, quality and meeting up to the buying firms expectations it could affect the buying firm's performance greatly and their ability to meet customers' expectations.

### Theoretical Background

Five different theories have been identified in literature which highlights the unique organisational perspectives on supplier development; goal setting theory, transaction cost theory, social exchange theory, relational view and knowledge based view. Lee and Lings (2008) noted that the theoretical framework aides in better understanding of what is obtainable in the real world. For the purpose of this study only the social exchange theory would be considered as the study seeks to understand how oil and gas companies reconcile the perspectives of the theory in supplier development.

### Social Exchange Theory

This theory recognises that various resources are exchanged in relationships between individuals and organisations Lee and Lings (2008). This is with the expectation of rewards as these resources enhance the competitive advantage of organisations (Barringer and Harrison 2000). Therefore, organisations would want to remain in a relationship for what they would benefit. This position is supported by Griffith et al.(2006) who based on their studies of social exchange theory argued that actions and behaviour of one party in a relationship will lead to a reciprocal action and behaviour by the other party.

Similarly, Liu et al. (2009) noted that the social exchange theory views trust and commitment between the buying firm and its suppliers as important for relationship and business success. Also, Nobar and Setak (2010) stated that, resources committed to supplier development yield benefits of; reduced cost, improved quality and reduced delivery time. Against this backdrop Terpend et al. (2008) and Hessels and Parker (2012) noted that organisations should adopt a strategic perspective such as supplier development to improve supplier capability which will in turn enhance organisational performance.

### The Benefits of Supplier Development

The intended benefits of supplier development as noted by various authors are:

- Improvement in supplier's operations and financial performance which would in turn benefit the purchasing company (Wagner 2006).
- Long term benefits covering development of supplier's tangible and intangible resources (Arroyo-Lopez et al. 2012)
- Improved overall product quality as suppliers are better equipped in terms of knowledge (Hessels and Parker 2012).
- Reductions in the number of backlogs and equipment callbacks.
- Ability for suppliers to respond and accommodate order and demand variations timely without disrupting operations (Azadegan 2011).
- Positive impact on purchasing performance by resulting in improved performance (Wen-Li et al. 2003).

In addition, Arroyo-Lopez et al. (2012) noted that buying firms should consider investing in high involvement supplier development activities and not just view supplier development as a waste of resources. Krause and Ellram (1997) noted that supplier development leads to a reduction of incoming defects, improved on-time delivery performance, shortened cycle time and improved percentage of complete orders received from suppliers as well as positive relationship between operational supplier development, just-in-time practice, and plant performance. However, despite these benefits, companies are still without express strategies on how to develop suppliers (Carr and Kaynak 2007; Wagner 2006).

Krause and Ellram (1997) Studied critical success factors for supplier development from the buyer's perspective. They found that effective two- way communication, top management involvement, teams and purchasing a relatively large percentage of suppliers output are critical to the supplier development effort. Humphreys, Li and Chan (2004) They authors conducted a survey on 142 electronic companies in Hong Kong to examine the role of supplier development in the context of buyer-supplier performance from a buying firm's perspective. Correlation analysis indicates that transaction specific supplier development correlated with

perceived buyer-supplier outcomes. Narasimhan, Mahapatra and Arlbjorn (2008) Examined inter-relationships among relational norms and ensuing supplier performance in organizations in Denmark. They observed that firms must emphasize relations and trust building activities before investing in supplier development initiatives

Shokri, Nabhani and Hodgson (2010) They studied the impact of supplier development in reducing defects in quality for small-medium sized enterprise (SME) into food distribution. It was gathered that supplier development through data and information exchange by any food distribution SME raises problems more promptly. Arroyo- Lopez *et al.*, (2012) Evaluated the effect of supplier development programmes on the supplier's short and long term performance on strategic suppliers of original equipment manufacturers in the automobile industry of Mexico. They discovered that basic and widely used forms of supplier development hardly result in improved operational and financial performance of suppliers while more demanding and less frequently used forms of supplier development may lead to improved supplier performance.

### III. METHODOLOGY

Given that there is limited information available on the motivation and challenges of supplier development in the UK Upstream Oil and Gas sector which could contribute to improved performance, innovation and continuous improvement in the oil and gas sector qualitative method was used. Semi-structured interviews were used to derive senior managers' constructs of supplier development. Participants were selected using purposive sampling. Validity and reliability were achieved by first assessing the plausibility in terms of already existing knowledge on some of the operational issues raised by participants. The population of oil and gas companies in Aberdeen are 20 (Subsea Oil & Gas, 2021). For this study, a sample size of 4 oil and gas companies in Aberdeen, UK have been considered appropriate which represents 20% of the total population. The sample size of four companies was selected based on convenience sampling. This is in order to limit the constraints of time, cost and access to companies which are more associated with a larger population (Ghauri and Gronhaug 2005). The targeted respondents were personnel of supply chain, logistics and procurement department of the different companies from management level upwards. These people have been in the field of purchasing and supply chain in the oil and gas industry for between four to ten years and have been successful in their careers. Thus, they are more likely to offer insights from which understanding of the motivations and challenges in the oil and gas industry Aberdeen can be built upon.

The non-probability sampling has been chosen for this research. This is because it allows the researcher to have a choice of the respondents that can provide necessary information to achieve research aims and objectives. Although

a limitation of this method of sampling is that generalisation cannot be made Saunders, Lewis and Thornhill (2009) for all oil and gas companies. This is because the situation and circumstances in four oil and gas companies as is the case in this study may not be the same across all companies. The sample size is four companies in the upstream oil and gas industry Aberdeen and personnel who work with suppliers in the supply chain have been chosen as respondents to interview questions. The reason for choosing personnel who work with suppliers is to ensure that respondents can add originality and value to the research. Four persons in total were interviewed, one from each of the four oil and gas companies chosen in the upstream oil and gas industry. The personnel interviewed role in their organisation include: Senior contract specialist, Procurement Engineer, and Senior Buyer.

#### *Data Collection Method*

Primary data for this research was gathered through semi structured interviews conducted with personnel involved in supply chain of four companies chosen as sample size. The use of interviews in this research can be linked to observation by authors; Saunders, Lewis and Thornhill (2009) and Jankowicz (2005) who identified interviews as a means of collecting in-depth data to be used for the purpose of a research. The interviews were focused on sourcing for information on supplier development from personnel involved in supply chain of companies in the upstream oil and gas sector in Aberdeen, UK. The researcher adopted face to face, semi-structured interviews for the study and obtained contacts for the respondents through religious institution network obtaining referrals to other industry professionals. All respondents were contacted through email and phone one week prior to the interview to keep them up to date and remind them of the interview date this was accompanied by follow up text messages and calls. The data obtained from the respondents was recorded with the permission of the respondents through the use of an audio recorder with a microphone to ensure data was captured accurately. The reason for the audio recording besides from capturing data was to enable the researcher transcribe the interviews for the purpose of analysis while ensuring confidentiality of the data obtained and anonymity of the respondents as the respondents.

However, secondary data on the other hand was gathered from journals, textbooks, periodicals, magazines, newspapers including organisational and institutional websites to mention a few. For this study, secondary data such as journals from databases; Emerald, Business Source Premier, Science Direct and Keynote, organisational and professional websites; Supply Chain Management, oil and gas UK website, text books, supply chain brochures and magazines as well as the internet.

### IV. DATA ANALYSIS AND RESULTS

The interviews were analysed by transcribing the recordings into writing and observing the pattern, while maintaining anonymity of respondents. According to Bell (2005) after

transcribing data from the audio recorder, content analysis should be employed to make comprehensible inferences from data. This helped with understanding the motivation and challenges of supplier development in the oil and gas industry Aberdeen, UK. More so, the data obtained from the interview of respondents in the oil and gas industry can be termed as qualitative data. For the purpose of this research editing analysis was adopted. According to Tharenou et al. (2007) editing analysis involves re-organising text in order to obtain portions that make meaning and are related to the area of study in order to answer the research aim and objectives. The data gathered from respondents/interviewees during the interview were simplified and re-arranged by the interviewer so that they are easy to comprehend and interpret for the purpose of the study to enable the researcher address the research aim and objectives.

The answers from the respondents to the interview questions provided the researcher with information to address the aim of the research which was to “investigate the motivations and challenges of supplier development in the UK upstream OGI.” The introductory part of the interview was a background inquiry of the interviewee. Questions such as the number of years worked, position occupied by the interviewee in their organisation was asked. The reason for the background inquiry was to ascertain the originality and reliability of data provided by the interviewees. The questions in section A were targeted at obtaining information on the method of supplier selection in the interviewee’s in order to address the first objective of the research of evaluating the supplier selection and development in the OGI. The questions in section B focused on the state of supplier development within the organisation in order to address the second objective of examining the state of supplier development in the OGI. The questions were aimed at determining the problems faced by the organisation with its suppliers, the reasons for the problems and whether the organisation has considered the use of supplier development to help improve its suppliers’ performance.

Table 1 Linking research objectives to interview questions

RESEARCH OBJECTIVE	INTERVIEW QUESTION
To critically evaluate supplier selection and development	SECTION A Q1: How does your organisation select its suppliers? Q2 How has your organisation’s method of selection affected your relationship with suppliers? Q3: After selection does your organisation carry out any further activity with suppliers?
To examine whether supplier development is taking place in the UK oil and gas industry	SECTION B Q1:What are the main challenges that your organisation faces with suppliers? Q2.What do you consider to be the main reasons for supplier problems? Q3.What measures does your organisation adopt to avoid these supplier problems? Q4.Have you considered the use of supplier development to tackle the problems? Q5.If so, what types of supplier development

approach have you adopted? - Is it indirect? Supplier visits, recognition awards or certificates -Is it Direct? Financial support, staff exchange or knowledge sharing Q6.How would you classify the level of supplier development in your organisation?
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*Interview summary*

The data obtained from interviewees are summarised below. However, the data has not been presented word for word for each interviewee but has been transcribed, coded and summarised. This has been done for the purpose of proper understanding and interpretation by linking the interviewees’ responses to the objectives of the study.

Interviews were conducted with supply chain personnel in the United Kingdom Oil and Gas Industry. The average duration of the interviews was 30mins (range 25mins-35mins). The interviewees were four in number, comprised of one female and 3 males. The oil and gas personnel interviewed had an average work experience of 6 years (range 4 years to 9 years). The interviews were semi-structured in nature , face to face with interviewees and guided by an interview protocol developed prior to the commencement of the interviewing process. The interviewees consent was sought and interviews were recorded with an audio recorder comprising of an in built microphone for clarity. The interviews were transcribed verbatim and analysed by transcribing the recordings into writing and observing the pattern, while maintaining anonymity of respondents.

According to Bell (2005) after transcribing data from an audio recorder, content analysis should be employed to make comprehensible inferences from data. Studies by Tharenou et al. (2007) noted that there are two approaches to analysing qualitative data which are; template analysis and editing analysis. For the purpose of this research editing analysis has been adopted. According to Tharenou et al. (2007) editing analysis involves re-organising text in order to obtain portions that make meaning and are related to the area of study in order to answer the research aim and objectives. The editing analysis is a strong inductive approach which helps in proper interpretation for data analysis. This gives the editing analysis an edge over the template which is mostly used for quantitative data analysis. The data gathered from respondents/interviewees during the interview were simplified and re-arranged by the interviewer so that they are easy to comprehend and interpret for the purpose of the study to enable the researcher address the research aim and objectives. Saunders, Lewis and Thornhill (2012) noted that editing involves breaking down qualitative data into parts that can be linked. This implies that analysis will help to reduce data such that the researcher can understand the connection between the various themes.

The information provided by the interviews were based on events in the past or current happenings, so it was recognised that events may be selectively remembered and interpreted

with reference to intervening events and perception at the time of data collection. Also, recognising that the interviewees may be influenced by the desire to provide socially acceptable answers to favour their company. Accordingly, the inherent limitations of the results are acknowledged.

Table 2 Profile of Interviewees

Name	Nature of Company National/ International	Staff strength of firm	Role at time of interview	Number of years of experience
IW	International	85,000	Subsea Management Specialist	9
IX	International	90,000	Procurement Manager	7
IY	International	4,000	Procurement Staff	4
IZ	National	2500	Senior Contract Specialist	5

#### Classification and Selection of Supplier in the United Kingdom Oil and Gas Sector.

The literature reviewed revealed that most organisations in the UK OGI select suppliers through the First Point Assessment Limited (FPAL) database. The interviewees concurred to with this literature excluding one respondent who noted that selection of suppliers was contracted out and done through the classification of suppliers according to how important the product or service they provided is to the company.

*"In the UK which is a mature province, the company uses information from the buying team and First Point Assessment Limited (FPAL) in making the choice of a supplier for products and services required."* (Interviewee IX)

*"Emmhn, usually the company selects its suppliers based on the service required by clients. The company provides services which are in high demand by clients and suppliers are selected based on client requirements. So the job required by a client is usually the first consideration in selecting suppliers. When the job has been considered the FPAL database is used to search for suppliers who can deliver the criteria required by clients."* (Interviewee IZ)

*"Suppliers are chosen based on the company's need and these needs may be client requirements as regards a particular job or the company's own need. Most times the company uses a buy house in selection of suppliers. The suppliers are required to submit price quotes and tenders, which are viewed based on price, past records of lead-time and other benchmarks before a supplier is chosen."* (Interviewee IY)

*The only exception to this was a male interviewee who noted that his company did not follow the FPAL in selecting its suppliers he noted that, in selecting our company suppliers the following are taken into cognisance; the company's annual budget, the suppliers criticality to business operations taking note of the impact of suppliers poor performance on*

*business operations and the previous pattern of failure of suppliers.* (Interviewee IW)

Supplier development after selection was evidenced by the following statements:

*"The organisation sees suppliers as important to its business operations and after selection further activities such as; supplier visits, evaluation, review meetings, technical assistance and training are carried out. The reason for all these activities after selection is to ensure that supplier deliver quality and operations are not disrupted as a result of suppliers' failure to deliver."* (IW, International Company)

*"I would say that there are various indicators of supplier development within the organisation which include; training of suppliers, supplier visits, supplier audits and feedback, supplier review meetings, supplier development programmes aimed at improving suppliers' performance and ability to carry out their operations in an effective and efficient manner. Really, the fact that suppliers are performing well does not exclude the need for development as this would go a long way to enhance suppliers' performance and increase their competence."* (IX, International Company)

*"Most times after the selection of suppliers on FPAL, a tender is sent for approval to obtain management's approval to call for tender from suppliers chosen via FPAL to tender for jobs. Also, a further activity that I can say is carried out with suppliers after selection is involving the audit team to also check out the suppliers' facilities and site and giving feedback to the suppliers on observations and areas for improvement to further confirm that these suppliers can be used by the organisation."* (IY, International Company)

*"Well, within the organisation suppliers are ranked according to how critical they are to the company's activities. Depending on the suppliers' ranking, in terms of whether such suppliers that are critical to the company's business who can greatly impact on the ability to deliver to clients, the company then works with the critical suppliers. Also we have regular business reviews with such suppliers as any issue with such suppliers could impact on the business and also carries out supplier visits. However, for the lower value suppliers the company does not go through such a process as there is a wide choice in the market and such suppliers do not impact greatly on suppliers."* (IZ, National company).

In response to the objective to evaluate supplier selection and development within the organisation, all respondents agreed that suppliers were of great importance to the company's operations and could not be neglected in order to achieve operational success. However, it was noted by the respondents that there was need for more of trust between customers and suppliers to help improve operations and reduce operational cost. Thus, for companies to improve operations, reduce operational costs and implement supplier development there is the need for trust and collaboration as these would help in developing suppliers. The respondents views is in line with

studies by Simatupang and Sridharan 2005, Wang and Kess 2006 and Juttner 2000 as noted in the literature review where they identified that supplier development would require a better relationship to exist between suppliers.

Furthermore, from the research findings it was noted that most organisations suppliers were selected through the first point assessment limited (FPAL) database although one respondent noted that selection of suppliers was contracted out and done through the classification of suppliers according to how important the product or service they provided is to the company. The response from interviews sheds more light on literature reviewed as it was noted that most companies in the oil and gas industry select suppliers through the FPAL database (FPAL 2012). Also classification of suppliers based on how critical to the business as indicated by one of the respondents also throws more light on the use of Kraljic portfolio as identified in literature based on studies by Gelderman and Weele 2005. However, in the view of the respondents the use of FPAL as a means of selecting suppliers had affected having a direct relationship with suppliers and also there have been issues with certain suppliers although these suppliers have been certified by FPAL as competent. These points to the fact that the use of FPAL database as a selection tool for suppliers is not in itself all sufficient and there is the possibility of wrong classification of suppliers and FPAL is not capable of predicting the future performance of suppliers as the record on FPAL is based on past history.

#### V. CONCLUSION

The study set out to investigate the motivations and challenges of supplier development in the UK upstream oil and gas industry with the following objective proposed to; critically evaluate supplier selection and development. To achieve the objective of the study a detailed examination of literature was done and the following themes were identified from literature review to help achieve the research objectives; classification and selection of suppliers, supplier development process, buyer-supplier relationship, types of supplier development, approaches to supplier development, stages of supplier development, challenges and benefits of supplier development. It was observed from literature that there has been limited research on supplier development in the oil and gas industry as more focus has been on the automobile, telecommunications and retail industry.

Data for the research was obtained from primary and secondary sources. Primary data used for the research was obtained through semi structured interviews which were used to gather data to achieve research objectives and interview questions were developed based on literature reviewed. The qualitative research method was adopted in this research. A sample size of four companies in the upstream oil and gas industry of Aberdeen were chosen for this study. A total of four personnel involved in the supply chain management, one personnel from each company was interviewed for the purpose of this study.

On evaluation and selection of suppliers it was observed that three of the case organisations use FPAL as a tool for selecting suppliers while one case organisation selected its suppliers through a buying house. The case organisations classify suppliers according to how critical they are to the business which is closely related to the Kraljic model of categorisation. Thus, suppliers who are critical to the organisations operations are the ones who are considered for development. Also, examination of supplier development in the oil and gas industry indicated that there is not much emphasis on supplier development in the UK oil and gas industry as the assumption is that suppliers are well developed and competent to perform on jobs. Therefore, supplier development is not seen as a major concern amongst organisations.

#### VI. RECOMMENDATIONS

The study investigated the motivations and challenges of supplier development in the upstream oil and gas industry. This has been supported by literature and data obtained from interview of personnel involved in the supply chain of organisations in the upstream oil and gas industry. The following are recommended from the study; Senior management needs to support supplier development initiatives. Organisations need to build trust with suppliers. Organisations need to be able to make suppliers see the benefit to them in supplier development initiatives before implementation. Organisations need to ensure that there is proper communication and information flow across the supply chain. However, the research used only four case organisations in the upstream OGI. Thus, further studies may research more in depth supplier development in the mid stream and downstream sectors of the oil and gas industry. By doing so, a larger sample size would be targeted. In addition, further research could consider investigating the motivation and challenges of supplier development in the oil and gas industry from the suppliers' perspective and compare to the buyers perspectives. This would help organisations to reduce the gap of expectations by the buyer and seller in supplier development which would be identified.

Also, there should be a documented agreement outlining the key aspects of supplier development to ensure proper understanding of both buyer and supplier. Similarly, there should be regular reviews of supplier development initiatives where they are implemented for proper direction with regular progress reports to the suppliers. Finally, supplier development would help reduce costs, improve quality and increase competitive advantage. Hence, it is relevant to organisations in the upstream oil and gas industry in this period of diminishing reserves in the UKCS and economic decline.

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