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Objectives:

1. To evaluate operating models employed by Statoil and Ghana National Petroleum Corporation (GNPC).
2. To examine the reporting framework employed by the selected National Oil Companies.
3. To review the context of the oil & gas Industry in Uganda.

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ROBERT GORDON UNIVERSITY ABERDEEN

A Critical Context analysis of the operating models and reporting framework for a Ugandan National Oil Company

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Aberdeen Business School

MSc Oil and Gas Accounting

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ABSTRACT

This thesis analyses the operating models and reporting framework appropriate for a Ugandan National Oil Company (NOC). Globally NOC's play a significant role in creating value and protecting a nation's hydrocarbon wealth. Given the recent discovery of commercial oil reserves in Uganda, it is important that a Ugandan NOC adopts a suitable model, that will translate the benefits of State participation into sustainable economic development. This study reflects on the corporate strategies as well as the reporting structures adopted by selected NOCs, Statoil and Ghana National Petroleum Corporation (GNPC). A multi-dimensional approach was undertaken through benchmarks from Norway and Ghana. This research assesses the strengths, weaknesses, opportunities and threats in respect to the operating models employed by selected NOCs- Statoil and GNPC. Analysis of reporting framework included the relationship between the selected NOCs with various stakeholders in the oil and gas Industry. Emphasis was on transparency and accountability standards as well as corporate governance practices. This study

relied largely on secondary data from government and company websites, including NOC annual reports and Journal articles. Both qualitative and quantitative methodologies were used in this research, data for the years 2011 to 2014 was utilised. Review of Uganda's oil and gas Industry was discussed and a number of similarities and differences in contextual factors were identified. The main conclusions were: The Norwegian model adopted by Norway is a good benchmark for a country like Uganda. However, due to the differences in the contexts of the oil and gas industry, Uganda could effectively implement the Norwegian model as institutions tasked with various roles in the petroleum industry build their respective capabilities. A Ugandan NOC could participate in Joint venture partnerships with IOC's operating in the country. A number of operating strategies employed by Statoil and GNPC, such as the domestic investment, vertical integration as well as the export focus strategies could be implemented by a Ugandan NOC. In relation to the reporting framework International standards governing the extractive industry such as the Extractive Industry Transparency Initiate (EITI) principles could be adopted as well as the Public interest Accountability Committee (PIAC) established in Ghana. Statoil's internal governance structures such as separation of duties and membership of the BOD from the management of the NOC, present a good benchmark for a Ugandan NOC.

Keywords: National Oil Company, operating models, reporting structures, Uganda, Stake holders, oil and gas industry, Transparency and Accountability.

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Acronyms and Abbreviations

BOD	Board of Directors
BPD	Barrels per Day
CSR	Corporate Social Responsibility
CNOOC	China National Offshore Oil Company
CNPC	China National Petroleum Corporation
DPI	Development and Production International
DPN	Development and Production Norway
DPNA	Development and Production North America
EITI	Extractive Industry Transparency Initiative
E&P	Exploration and Production
GDP	Gross Domestic Product
GHEITI	Ghana Extractive Industry Transparency
GNPC	Ghana National Petroleum Corporation
HSE	Health, Safety and Environment
INOC	Iraq National Oil Company
IOC	International Oil Company
KNPC	Kuwait National Petroleum Corporation
LNOC	Libya National Oil Company
MOEMD	Ministry of Energy and Mineral Development
MOEP	Ministry of Energy and Petroleum
MOFPED	Ministry of Finance Planning and Economic Development
MPE	Ministry of Petroleum and Energy
MPR	Marketing, Processing and Renewable Energy
NCS	Norwegian Continental Shelf
NIOC	National Iranian Oil Company

NOCs	National Oil Companies
NOGP	National oil and Gas Policy
NOK	Norwegian Krone
NPD	Norwegian Petroleum Directorate
OPEC	Oil Producing and Exporting Countries
PA	Production Agreement.
PAU	Petroleum Authority of Uganda
PDVSA	Petróleos de Venezuela S.A.
PEDP	Petroleum Exploration, Development and Production
PEPD	Petroleum Exploration and Production Department
PIAC	Public Interest and Accountability Committee
PRMA	Petroleum Revenue Management Act
PSA	Production Sharing Agreement
SDFI	State Direct Financial Interest
TPD	Technology Projects and Drilling

CHAPTER 1: INTRODUCTION

1.1 Background to the study

The oil and gas industry is a driving force in the development of many oil producing countries, and the level of development is linked to management of the oil resource. State participation in the oil and gas industry of such countries is usually through the National oil companies (NOCs). The major role of a NOC is to control and manage the country's oil and gas resources and ensure that citizens benefit from the oil resource. Al Fattah (2013), describes a NOC as an oil company that has significant shares owned by their parent government, and whose mission is to work towards the interest of their country. One of the most significant trends in the global oil and gas industry is the growing importance of NOCs, since 90% of the world's oil and gas reserves is under the control of NOCs. Most new oil discoveries are also expected to be found in the NOC host countries.(Inkpen and Moffett 2011). In recent years NOCs have expanded in the oil and gas industry and their performance plays a key role in the Industry. Notwithstanding, NOCs generally have challenges of inefficiency, high operating costs, low returns and under investments and this has raised concerns. However it should be noted that governments and politics have impacted on the operations and investment decisions of NOCs (Victor 2009; Al Fattah 2013).

This study on the operating models and reporting framework adopted by national oil companies is therefore a key discussion. The NOC models and strategies represent the company's operations across a range of areas such as business processes, people, locations and business partners (Al Fattah 2013). According to (Gillies 2012), the reporting framework includes reporting and general disclosures standards required of companies operating in the oil and gas Industry, in line with internationally accepted practices. From a corporate governance perspective, Tordo et al. (2011) suggest that adequate oversight and control exercised by the owners is of key importance in reducing information asymmetries and possible rent-seeking attitudes by managers of NOCs.

In the global oil and gas industry roles and objectives of NOCs vary. NOCs play the role of formulating laws and policies as part of government function in managing

the industry, as well as regulate the sector through laws and regulations (Stevens 2008).NOCs may represent governments' interests by participating in Joint venture operations in the oil and gas industry (Pirog 2007).

This study examined the operating model employed by Statoil and Ghana National Petroleum Corporation (GNPC) as well as their reporting frameworks so as to identify suitable models for a Ugandan NOC. The contextual factors in the oil and gas Industry of Ghana and Norway have been analysed. This paper builds a case, suggesting that a Ugandan National Oil Company could adopt certain operating and reporting models employed by the selected National Oil Companies. The contextual factors enabling the use of the models have been evaluated so as to identify similarities with contextual factors in the Ugandan oil and gas Industry, since these affect the choice of models employed by the selected NOCs. The context of the oil and gas industry in Uganda was reviewed, while some of the strengths, weaknesses, opportunities and threats facing the selected NOCs have been discussed.

1.2 Justification for the Study

In the year 2006, the discovery of oil in commercial quantities in Uganda generated activities in the upstream oil and gas industry. A number of policies and regulations have since been enacted, with licenses issued to the International oil companies (IOCs) currently involved in exploration and development activities in the Albertine Graben. Oil production is envisaged to start in the near future. The Petroleum Exploration, Development and Production (PEDP) Act 2013, provides for the establishment of the Uganda National Oil Company, this therefore creates a need for the government to carry out its participating interest in the oil and gas industry through the NOC. This study to examine the operating models and reporting framework, appropriate for a Ugandan NOC is therefore timely.

A number of research studies have been undertaken, including Bategeka, Kizza and Ssewanyana (2009), which examined the management of expectations in Uganda as a result of the recent oil discovery. Shepherd (2013) further analysed Uganda's oil and gas sector and suggested international lessons for success, while Gleb (2011) examined Uganda's institutional governance systems and assessed whether

the country is vulnerable to the resource curse. Tordo (2011) assessed the role of National oil companies in creating value in their respective countries .In other studies on transparency and accountability in the oil and gas industry, Carlitz (2010) analysed the impact and effectiveness of transparency and accountability initiatives; Gillies (2012) studied the case for transparency by National oil companies of resource rich countries in relation to oil revenues.

This study assessed operating models employed by selected NOC's (Statoil and GNPC). It was noted that both Norway and Ghana have separated policy functions as well as regulatory and commercial operations under different institutions. Statoil employs operating strategies such as vertical Integration, domestic and international investments, while GNPC majorly operates in joint venture partnerships with IOC's. The study also noted differences and similarities in the contexts of the oil and gas industry of Uganda and the two countries. In evaluating the reporting framework, both Statoil and GNPC have established adequate reporting structures in relation to stakeholders in the petroleum industry. A number of benchmarks suitable for Uganda were identified. This study could be valuable in informing the Ministry of Energy and Mineral Development (MOEMD) in adopting operating models and reporting frameworks appropriate for a Ugandan National Oil Company, the research would also inform various stakeholders in the accountability sector in Uganda, including civil society organisations and the general public on the role of the NOC in reporting to relevant stakeholders in the petroleum Industry, in relation to governance, accountability and transparency.

1.3 Aim and Objectives

1.3.1 Aim

To critically assess the operating models adopted by selected National Oil Companies and on the basis of available contextual evidence to recommend a suitable model for Uganda.

1.3.2 Objectives:

1. To evaluate operating models employed by Statoil and GNPC and identify contextual factors affecting the use of models.
2. To examine the reporting framework employed by the selected National Oil Companies and their relationship with stakeholders in the oil and gas Industry.
3. To review the context of the oil and gas Industry in Uganda and Identify the appropriate models for the National Oil Company.

1.4 Structure of the Research

This research is structured into five chapters. Chapter one provides an introduction to the study; underlining the background of the study, aims and objectives, and justification of conducting the research. Chapter two presents an analysis of the relevant theoretical and empirical evidence of earlier research regarding the research topic as far as the aim and objectives of the study are concerned. The methodology that was selected to conduct this study is contained in Chapter 3. The chapter indicates the quantitative and qualitative approaches to the study, the methods selected and the reasons for their selection, sample selection, data analysis and interpretation, and it ends with the limitations of secondary research and ethical considerations. Chapter four presents the research findings from data analysed and interpreted. The last chapter of the study is Chapter five, which covers a summary of the research, conclusions and recommendations.

CHAPTER 2: THEORETICAL BACKGROUND AND LITERATURE REVIEW

2.1 Introduction

Literature review is the critical examination of current research that relates to an area of study and of relevant hypothetical ideas; it identifies concepts and theories that have been applied to research and controversies that exist regarding the topic (Bryman and Bell 2015). According to Saunders et al. (2012), literature review provides the foundation on which research is built, and thus helps the researcher generate new ideas from previous research and develop a clear argument on the research topic, thus refining the study.

This chapter presents the theoretical framework of the research and review of relevant previous research. It begins by looking at a broad range of literature on the historical perspective of National Oil Companies (NOCs) and their role in the oil and gas industry, highlighting arguments for their formation. It then proceeds by examining the strategies and operation models employed by selected NOCs and contextual factors which enable their use. The NOCs reporting framework and relationship with stakeholders is also analysed. The chapter ends with a review of empirical studies conducted on the models and reporting frameworks employed by NOCs.

2.2 Historical Perspective– NOCs

The first NOC was formed by the government of Austria- Hungary in 1908. Due to excess production of crude and inadequate product development of oil products at the time, Emperor Franz Joseph approved the building of a topping plant owned and operated by the government. This helped process the crude and further developed end markets for oil products (Tordo 2011; Inkpen and Moffett 2011). Other European countries followed suit by setting up companies to control the domestic markets and pursue upstream operations abroad (Table 1). The United Kingdom set up a NOC in 1914 and France in 1924 (Tordo 2011).Below is information in respect to the formation periods of selected NOC's,

Table 1: Founding Dates of Selected NOCs

Year	Country	Company
1914	United Kingdom	BP
1922	Argentina	YPF
1924	France	CFP
1938	Italy	Agip
1938	Mexico	Pemex
1951	Iran	NIOC
1953	Brazil	Petrobras
1956	India	ONGC
1960	Kuwait	KNPC
1962	Saudi Arabia	Petromin
1965	Algeria	Sonatrach
1967	Iraq	INOC
1970	Libya	LNOC
1971	Nigeria	NNPC
1971	Indonesia	Pertamina
1972	Norway	Statoil
1974	Qatar	QGPC
1974	Malaysia	Petronas
1975	Venezuela	PdVSA
1975	Canada	Petro-Canada
1975	United Kingdom	BNOC
1975	Vietnam	Petrovietnam
1976	Angola	Sonangol
2002	Equatorial	Guinea GEPetrol
2006	Chad	SHT

Source: Bentham and Smith, 1987; Heller, 1980; CEE, 2007; company information.

(Tordo 2011, Pg 17).

2.2.1 Resource Nationalism

Nationalisation of oil companies came at a time when it was perceived that the development of a country's oil sector could not be achieved by private oil companies. The rationale for direct participation was that it could secure national interests in terms of developing the country's economy (Wainberg and Foss 2007).

In 1959, the major African and Arabian oil exporting countries under the Oil Producing and Exporting Countries (OPEC) met in Cairo and one of their recommendations was the creation of NOCs by member countries as a means of ensuring direct state participation within the oil industry (Tordo et al. 2011).

Steven (2008), notes that governments require national champions who can develop hydrocarbon resources and use their control of these resources to achieve the State's wider political objectives globally. And as such, NOCs play the role of national champions. NOCs such as Gazprom, Rosneft, China National Petroleum Corporation (CNPC), Sinopec and Petróleos de Venezuela S.A. (PDVSA) have been groomed as instruments to achieve their government's foreign policy objectives (Tordo et al. 2011).

2.2.2 Resource Control

McPherson (2003) explains that since oil was considered as a commodity of strategic importance and one of the commanding heights of an economy, governments deemed it important to control the oil and gas sector. The legislation and regulation functions were not sufficient to play this role. Therefore direct participation, ownership and operation in the oil and gas industry through the NOC were regarded as key. NOC's play a role in protecting a nation's hydrocarbon wealth by ensuring that resources are produced to maximize the recovery factor. This is termed as pursuing good oilfield practice, the NOC also advises on depletion policy, which is concerned with optimizing hydrocarbon resources (Stevens 2008; Tordo 2011). The energy security control objectives for NOC's are defined in terms of security of oil demand and supply. Security on the demand side implies that a country may not allow one importer to dominate and become critical to the NOC. For example the case of PDVSA, the company recently attempted to direct its oil

sales to other countries in the hope of reducing United States influence on the Venezuelan economy (Pirog 2007).

2.2.3 Sustainable Development

Lahn et al. (2007) define sustainable development in the petroleum sector as an effort by stakeholders to meet current demand without compromising the needs of future generations. To meet these expectations, the sector is expected to plan and establish policies that take social, economic, and environmental issues into account. The principle of sustainable development was therefore developed in order to address the growing concern of a range of socio-economic and environmental issues. In a similar vein, Sani Saidu (2014) observes that countries have a tendency of increasing production of available resources in order to maximise income with little consideration given to long-term repercussions. As a result, the environment and its resources are exploited for current benefits at the expense of future generations. According to Tordo (2011), the Petroleum Sector is crucial in most countries since production or consumption forms a significant share of the domestic economy. There exists strong motives for State involvement in order to secure political and financial returns, and as such, the creation and participation of a NOC in the oil and gas sector is of significance in attaining sustainable economic development

2.3 Uganda's oil and gas industry

Oil discovery in Uganda has resulted in a series of exploration and development activities in the petroleum sector. Shepherd (2013), describes it as Africa's biggest on-shore oil discovery in 20 years, with an estimated reserves of about 3.5 billion barrels. Similarly Aryeetey and Asmah (2011) state that Uganda and Ghana are two of the countries that are currently attracting attention, since the recent oil discoveries in African countries, and as such Uganda will become East-Africa's largest oil producer, and will rank amongst the world's top 50 according to Vandermeer (2011). Uganda has enacted policies governing the Petroleum Industry, such as the National Oil and Gas Policy (NOGP) and the Petroleum Exploration and Development and Production (PEDP) Act 2013. These grant the government permission to participate in exploration and production activities

through the National Oil Company. According to Bategeka, Kizza and Ssewanyana (2009) the country needs to put in place strong institutions and mechanisms that will manage the oil resource for the benefit of the citizens. Uganda's fiscal regime is through a Production Sharing Agreement (PSA) between the government and the International oil companies. Shepherd (2013) observed that in Uganda the role of technocrats may change with the passing of new laws; however the country is set to follow the examples of countries like Norway who have separated responsibility for management of the oil sector between the National oil company, Government and the Petroleum Authority. In reference to the reporting framework, Shepherd (2013), notes that Ghana is one of the countries found compliant with EITI principles, and suggests that Ghana offers a model for Uganda to consider, especially in regard to the Public Interest and Accountability Committee (PIAC). A forum set up to facilitate public debate on oil issues, and to undertake independent assessment of management of oil revenues. In the same light, Gleb (2011) suggests that Uganda needs to improve the current system in its government institutions in relation to governance and accountability, if the country is to avoid the resource curse.

2.4 National Oil Company –Models

A number of countries have different institutional set up in the petroleum industry. Recently the trend has been to transfer the licensing and regulatory powers from the NOC to independent regulatory bodies aiming at a governance structure that separates the policy function of government and the NOC corporate strategy. This institutional structure is commonly referred to as the Norwegian Model (McPherson 2003; Tordo 2011). However, Thuber and Heller (2007) suggest that although the Norwegian model, which refers to the structure where commercial functions are separated from the regulatory functions, is popular in the industry, it may not be applicable to all countries due to the differences in the context of the oil and gas industry. National oil companies take on various forms and categories depending on their level of investments, operational strategies and country of origin. Inkpen and Moffett (2011) suggest three categories for NOCs: level I, II and III. Level I NOCs is made up of smaller companies with usually limited access to capital, skills and

technology in the upstream oil and gas industry. Their purpose is to mainly collect taxes and royalties from international oil companies operating in the industry. Level II NOCs are similar to independent oil companies and they often operate in joint venture partnership in field development and production activities. While NOCs that have grown, expanded and operate outside the boundaries of their countries are in the level III category. Level III NOCs are usually well capitalized with access to technology skills and expertise and have strategic goals of operating like an international oil company since they are publicly traded but with government control.

2.4.1 NOCs - Managing the oil and gas Industry

A National oil company may play a role of managing the oil and gas Industry through formulation of legislations, laws and policies. Khan (1987) states that NOCs may appoint board of directors (BOD) and a management team that posses the technical skill and expertise in the oil and gas industry, the board is entrusted with powers to formulate policies while the management team forms strategies to achieve policy objectives, in that case the NOC is used as an instrument by government to manage the Industry. Tordo et al. (2011) also note that in many countries, the NOC formulates and implements sector policies, and even in countries where a ministry is in charge, the NOC is often involved in decision making since it has an upper hand in regard to resources and technical expertise in the oil and gas industry. Marcel (2006) cautions that sometimes there is only a thin line between the National Oil Companies and government Ministries. For instance the distinction between the National Iran Oil Company (NIOC) and the ministry is blurred. The NOC is the writer and enforcer of the rules, raising the likelihood that decisions are not in the best interest of the public. This may lead to conflict of interest that may affect the efficiency of NOCs.

2.4.2 The NOC as Regulator

Regulation of the oil and gas industry by governments is through the licensing system. This is done to ensure organization in the industry. Regulators role at times overlaps with government and are frequently part of a government ministry. They include independent and certifying authorities, whose quasi-legal role makes them, part regulator and part commercial company. Stevens (2008) observes that the NOC has the possibility of playing an indirect role as advisor and regulator in the hydrocarbon value chain of a country. Some countries have the NOC acting as the regulator and operator at the same time, their role as regulator is to enforce regulations in the oil and gas industry. In the same light Tordo et al. (2011) agree that government's regulations of the industry usually determines the pace of development of the industry and set the domestic oil price to ensure security of hydrocarbon supplies for the domestic market. Government also set regulations in order for the state to obtain ownership of the resources. Other regulations are also put in place to enhance local participation in the industry in terms of employment and provision of goods and services and to enforce petroleum disposal and price controls, and health safety and environment considerations.

2.4.3 NOC as Operator

In the oil and gas industry, operators are usually the same oil and gas companies who invest in the industry. On each licence, one of the companies normally the largest shareholder runs the field on behalf of the partners, and is referred to as the operator. NOCs may act as operators in Joint venture projects in the oil and gas industry. Stevens (2008) suggests that National Oil Companies have both direct role and indirect roles in creating value for a country in the oil and gas industry, as the operator of the value chain, whether alone or in joint ventures with other companies. Of recent, some NOCs have taken more prominent roles as operators in the exploration and production hydrocarbon sectors of their countries mainly due to access to international capital markets, technology and expertise gained over the years (Wainberg and Foss 2007).

2.5 NOC- Operations

National oil companies differ in relation to the degree of operations in the oil and gas industry and for this reason, their classifications vary (Wolf 2009).The operating and business model adapted may be as a financial holding company or as an operator of petroleum assets. They may adopt a commercialized model as opposed to a non-commercialized approach. Wainberg and Foss (2007) state that economic and social factors, including local content and community benefits, affect NOC operations. A NOC may position itself along the value chain through vertical integrations or it may be specialized in upstream or downstream operations. NOCs may operate through domestic investments or operate internationally, they may choose to operate as a domestic market supplier or focus on exports.

2.5.1 Domestic Investments model/Joint Venture Partnerships

Most National oil companies are involved in domestic upstream oil and gas operations within borders of their countries, or usually engage in Joint ventures partnerships with International Oil companies (IOCs) .McPherson (2003) notes that Thirty-four out of 49, or 70% of the oil producing developing countries recently surveyed by the World Bank had adopted joint ventures in one form or another in their upstream sectors. Tordo et al. (2011) suggest that the Joint venture business model is important for a country in the early phases of the oil, the NOC gains by accessing technology, technical expertise and building a competitive advantage in the industry. By partnering with experienced international operators, the NOC is able to accelerate its learning curve and develop its business operations without having to taking high exploration risk.

2.5.2 International Investments

NOCs differ in many respects and employ different operating and business strategies. NOCs could operate within their countries and across borders, and may be involved in both upstream and downstream operations (Al Fattah 2013).

The expansion of scope of business suggests that some NOCs be renamed the International-National Oil Companies (INOCs) because they may operate across the globe, and certainly beyond their national borders (Al Fattah 2013).Asian state-

owned NOCs, most prominently from China and India, are at the forefront of strategic cross-border investments as their governments seek to prepare for long-term energy supply challenges.

2.5.3 Vertical integration

Vertical integration is characteristic of firms that are active in all stages of their supply chain. In the oil and gas industry, vertically integrated firms operate in both upstream and downstream markets. Pirog (2007) suggests that vertical integration permits NOCs in the petroleum industry to capture value addition from production and sale of petroleum products. PDVSA's acquisition of Citgo in the United States provided refining as well as retail marketing outlets for Venezuelan oil. In other cases, national oil companies might be able to gain access to markets otherwise not available to them. Through vertical integration national oil companies are able to mitigate risks and achieve a greater degree of diversification as well as enhance profitability in changing markets. And since oil prices tend to be volatile and profits accrue to different parts of the supply chain the strategy is quite important (Tordo at al. 2011). Below is Table 2 showing selected NOCs with various operational strategies.

Table 2: Selected Types of National oil Companies

Company	Pemex	CNOOC	Statoil	Petrochina	Petrobras
Country	Mexico	China	Norway	China	Brazil
Type of company	Integrated	Upstream only	Integrated	Integrated	Integrated
NOC % country reserves	100%	7%	15%	66%	77%
Significant International Upstream Assets	No	Yes	Yes	No	Yes

Source: Wainberg and Foss, 2007.

2.5.4 Monopoly

A National Oil Company may operate as a monopoly given that government policies determine the level of industrial participation. This model is often used by countries and NOCs that are new to the petroleum sector; the total exclusion of private oil companies (POCs) from participation in petroleum exploration and production activities is rare. In the past, NOCs have been monopolies operating in a protected business environment where States create restrictions intended to protect the NOC from competition and allows it to focus on developing the necessary competence and economies of scale. Saudi Arabia and Mexico, for example, have a State monopoly on upstream equity ownership (Wainberg and Foss 2007; Tordo 2011). In a similar observation, Hartley and Medlock (2007) note that at times, a country may prefer to have a NOC as a monopoly producing petroleum products for the domestic market.

2.5.5 Export/ Import Oriented

Hartley and Medlock (2007) suggest that a National Oil Company could adopt the export oriented model in circumstances where a country has large resource endowments and incurs low costs of investment and production, since oil production is facilitated by the quantity of proved reserves. In contrast, a country with high investment costs and low production, may import its petroleum products in order to meet domestic demand. Appendix (i) shows selected NOCs data indicating their world rankings by oil reserves and percentage of revenues acquired from oil and gas exports and their respective percentage of state ownership.

2.6 Contextual Factors Affecting NOCs

Wainberg and Foss (2007) explain that varying factors affect the oil and gas industry across countries. NOC's exist in different political, social and economic environments which impact their operations and commercial strategies. There are various government policies in regard to licensing contracts, fiscal regimes, depletion policies, regulations on industry participation and local content policies. Other factors include, access to financial capital markets, availability of technology, expertise skills and resource endowments which define the context of a country's oil

and gas industry. This ultimately impacts on the models adapted by a NOC (Tordo 2011; Stevens 2008; Inkpen and Moffett2011).

2.6.1 Licensing and Petroleum Contracts

The terms and conditions of petroleum agreements provide the basis for many technical and commercial decisions by petroleum firms, such as where to invest, how much to invest, and whether or not there are incentives for cost-efficiency. The State may use its licensing system to determine the industry structure. For example, it can decide on the frequency and area coverage of any licensing, set up economic incentives for participation, or imposes conditions such as mandatory involvement of the State. The government can either grant a monopoly right to one party or develop a licensing system to allow the participation of multiple parties (Tordo et al. 2011).

2.6.2 Fiscal /Taxation Regimes

The fiscal regime determines the level of government take and aims to ensure it captures the maximum resource rent. Tordo et al. (2011) affirm that taxation is a critical consideration in the petroleum sector, since it is among the most heavily taxed sectors. It also impacts on a number of aspects such as contractual relationships, the dynamics of supply and demand, and most undoubtedly the financial position of the various parties involved. Taxes such as royalties that are levied on production impact on decisions made by NOCs. The shareholder's main concern is how much profit it makes, hence an operational model that reduces the companies tax burden is preferred (Hertley and Medlock 2007).

2.6.3 Access to International Capital markets

The Oil and gas industry is a highly capital intensive industry, and as such, access to huge amounts of capital for long periods of time is very critical. The success and operational efficiency of companies operating in the industry therefore depends on the access to capital markets, especially for NOCs whose strategy is to investment internationally, expanding beyond its domestic markets (Inkpen and Moffett 2011). According to Pirog (2007), The oil sector is expected to account for $3 trillion of the total $16 trillion needed to meet future project demands for energy infrastructure.

Consequently, the industry is expected to draw on many sources of financial capital. In the past, international oil companies have made abnormal profits. This financial strength puts them in a substantial position to access financial resources from international capital markets. Pirog (2007), further notes that National oil companies on the other hand, are in a weaker position with respect to capital markets. Their relative inefficiency in turning oil into revenues makes them less likely to receive favourable terms from international capital markets.

2.6.4 Access to Technology and Skills Expertise

Historically, international oil companies possess a wide range of skills, expertise and technology that ensures successful participation in major upstream, mid and downstream operations in the oil and gas industry. Most National Oil Companies have limited access to technology, expertise and intellectual property, the skills and technology acquired over the years by NOCs over the years are through joint venture partnerships with IOCs (Inkpen and Moffett, 2011). The level of expertise and technology ultimately affects the operating model adopted by the NOC .

2.6.5 Depletion Policy

In the petroleum industry, the depletion policy refers to government's regulation in respect to the pace of exploration and production activities as well as determining when and who should undertake such operations.(Tordo et al. 2011). The level of oil dependency, immediate revenue needs overall depletion policy and issues such as the legal and competitive environment will affect the choice of models. The role of the NOC in determining the depletion policy will vary between countries. At the very least the government will need to consult the NOC on what is technically feasible to produce both now and in the future. Optimizing the depletion policy is choosing a course of government action that maximizes the return (Stevens 2008).

2.6.6 Resource Endowments

Wainberg and Foss (2007) suggest that large resource endowments generally translate to higher revenues and economies of scale especially when costs of production are low, while mature fields tend to incur higher costs with decreasing production. A NOC of large oil reserves and low investment costs will tend to adapt

an export oriented model. However, in circumstances where the level of proved reserves is small, production may not satisfy domestic demand. In such a case, the NOC will primarily become an importer (Hertley and Medlock, 2007).

Table 3: Resource Endowments of Selected NOCs

No.	Company	Country	Reserves(b/bbls)
1.	Saudi Aramco	Saudi Arabia	265.4
2.	NIOC	Iran	151.2
3.	PDV	Venezuela	297.6
5.	NNPC	Nigeria	37.2
6.	Petronas	Malaysia	5.9
7.	INOC	Iraq	143.1
9.	Statoil	Norway	6.9
10	Petronas	Malaysia	5.9
11.	ONGC	India	5.7

Source: Adapted from PIW (2012) and BP (2012)

2.6.7 Regulations on Industry Participation

Tordo et al. (2011) emphasise that government policies and regulations with respect to the level of competition and participation in the petroleum sector either allows or restricts outside participation. This creates s a monopoly wholly state-owned entity or a perfectly competitive market without any entry regulations. A number of countries have State monopoly companies participating in upstream oil and gas industry and operations by IOCs in the industry is not restricted.

2.6.8 Local content Policy

According to Tordo (2011), local content is measured by the percentage of expenditure on local goods and services to total expenditure on goods and service in the industry. Conversely, NOC employment growth relative to country labour force growth measures the contribution of a NOC to national employment. The contribution of a NOC to a country is one of the value creation indicators which most governments' desire for its citizens. It is therefore expected that a NOC would

embrace the local content policy since implementation of such a strategy would have a positive impact in terms of creating local employment and a skilled work force.

2.7 NOC Reporting Framework

According to Gillies (2012), the Reporting Framework in the oil and gas industry refers to reporting and disclosure mechanisms put in place to ensure that oil and gas companies comply with national and international regulations and contractual obligations in relation to good corporate governance, as well as accountability and transparency practices. Saidu (2014) further states that companies operating in the oil and gas industry are required to account for their activities at the same time expected to practice good governance principles in decision making and implementations of activities.

2.7.1 Stakeholder Theory

A stake in theory is an interest or share in an organization or undertaking. Stakes are differentiated on the basis of interests, rights or ownership (Inkpen and Moffett 2011). The stakeholder theory describes how organisations manage and interact with stakeholders. First, it focuses on the purpose of the firm, which encourages managers to clearly share the value creation objectives of a firm as well as identifying common interests of core stakeholders resulting to outstanding performance by the firm. The theory centers on the responsibilities management has towards stakeholders, this requires that managers understand the business relationships and obligations towards stakeholders (Freeman, Wicks and Parma, 2004).

According to Inkpen and Moffett(2011), there are a number of stakeholders in the oil and gas industry they include;

- Financial stakeholders (Firm shareholders and creditors)
- Business stakeholders (Firm suppliers and customers)
- Internal stakeholders (Firm leadership, management and employees)
- Social Stakeholders (Communities, civil society organisations and environmental interest groups)

In a similar observation, Gillies (2012) suggests that to effectively implement the extractive industry transparency initiative (EITI) principles, government transactions in regard to oil revenue receipts and payments should be overseen by various stakeholders such as government and civil society organizations.

2.7.1.1 NOC Relationship with Stakeholders

According to Inkpen and Moffett (2011) oil is a resource owned by government. Therefore, its exploration, development and production is subject to a variety of priorities different from the stakeholder wealth maximization objective. Stevens (2008), equally notes that NOCs were formed to do more than produce oil or gas for a Nation, since the performance of any company is usually assessed in relation to the objectives set by its owners. In this case, the owner or shareholder of a NOC is the government. Freeman at al. (2010) state that the stakeholder enabling principle explains that corporations shall be managed in the interests of its stakeholders, who are employees, financiers, customers, and communities. On the other hand, the principle of stakeholder recourse states that stakeholders may bring an action against the directors for failure to perform the required duty of care. This concept is further emphasised by Haufer (2010) stating that citizens are able to hold governments and NOCs accountable through EITI, consequently improving the management of natural resources and reducing corruption tendencies. The Reporting Framework therefore requires disclosure of information related to oil revenues. Similarly Gillies (2012) notes that citizens have direct interests in the oil revenues sold by the NOCs, since they transact on their own and on behalf of the state. The crude oil belongs to the nation entirely or in a large part, with the government acting as the public's steward in its management. Given the high stakes and direct impact on public interests, both the NOC and the buying company hold responsibility for regularly disclosing sale data.

2.7.2 Accountability and Transparency

Patton (1992), refers to accountability as a process that involves reporting the control and use of resources, between managers of an organisation and its stakeholders. In the oil and gas industry, accountability seeks to ensure that oil and gas companies abide by set guidelines and procedures in regard to conducting

regular audits and accounting for oil revenues. Mouan (2015) highlights that transparency and accountability are important elements of corporate responsibility, this is especially true for the extractive industries in poor countries where better management of natural resources is achieved through transparency and accountability. This therefore calls for transparency in revenue and financial management to allow citizens to hold the government accountable for their actions and in return builds public trust. For that reason McPherson (2003), suggests that lack of transparency and accountability in NOCs which at times act as the government's cash cow has resulted in the loss of good governance practices with adverse economic consequences, and possibly the main reason for the resource curse.

2.7.2.1 Principal –Agent Theory

According to Laughlin (2003), the Principal-Agent Theory seeks to address problems that arise due to the self-seeking behavior of agents. The theory advocates for developing and refining contracts that emphasise different forms of accountability systems designed to ensure behavioral compliance by the agent. Similarly, Freeman at al. (2010) note that the Agency principle requires that agents must serve the interests of all stakeholders in order to resolves conflicts within the bounds of the other principals. In the study the principal- agent concept was assumed to explain the relationship between NOCs and their stakeholders in regard to transparency and accountability obligations. In the context of the NOC Reporting Framework, the existence of the accountability relationship can be explained in two ways:

1. Between the government and State as (principal) and the NOC (agent); and
2. Between the citizens, represented by civil society organization's (principal) and the NOC (agent).

Therefore, in line with the principal-agent theory, transparency bridges the information gap between managers and owners through the provision of accurate and coherent high quality data that promotes optimal decision-making and, thus, creates value in the organisation's and other stakeholders' best interests (Khan,

2007). In return, it is expected that the stakeholders and principals will be provided with information that will help them form a view on how efficient and effective resources are utilised. In the same vein, Kowalczyk –Hoyer (2011) emphasises that high poverty levels, corruption and risks make transparency and accountability very crucial, if governments are to achieve long term socioeconomic development from oil rents. The study therefore applied the accountability model underpinned by the principal-agent relationship between the NOC and their stakeholders to illustrate the significance and obligations of the National Oil Company in observing good corporate governance and transparency practices while operating in the oil and gas industry.

2.7.3 Governance

According to Saidu (2014) corporate governance is a system that consists of the hierarchical structure of an organization including the decision-making and communication processes, policies and regulations governing sector activities. NOCs are established as a separate legal entity, with Board of Directors and subject to ministerial control and parliamentary accountability. In relation to corporate governance, the independence and composition of the Board varies among NOCs, where few wholly State owned NOCs have independent directors in their Boards. It is further observed by Tordo et al. (2011) that NOCs that are partially owned by the private sector have stronger corporate governance arrangements than NOCs that are totally owned by their governments. In addition, an independent BOD is expected to help protect the NOC from political interference. McPherson (2003) also notes that the performance of NOCs has been undermined by weak management structures whose governance, transparency and accountability procedures are still lacking.

2.7.3.1 Internal Governance

Tordo et al. (2011) describe internal governance as the institutional arrangement with in an organisation, in relation to the structure, functioning and authority of the BOD. This includes the NOC's management processes and oversight roles. The internal governance structures specify the sources of capital, degree of budgetary autonomy as well as company disclosures and transparency standards. Appendix

(ii). However, (McPherson 2003) suggests that at times government systems avoid clarification of NOC's organisational structure. The NOC board of directors is politically constituted without requisite professionalism or independence.

2.7.3.2 External Governance

According to Tord et al.(2011), external governance refers to the reporting structures and relationship of an organisation to its external stakeholders. In the case of NOCs it is through respective government ministries. The structure relates to the relationship between the NOC and the State as its owner, the ownership function of the government is exercised either by the Ministry of Finance or any other centralised authority. Other than reporting to the government, the NOC has a duty to the report to stakeholders such as the Civil Society organisations, environmental activists and the community in general. The proportion of ownership rights and the level of shareholding also influence NOC monitoring systems as well as decision-making processes. Appendix (iii).

2.8 Conclusion

This chapter discussed the theoretical frameworks underpinning NOC operations including their roles and historical perspective. The various NOC models and the reporting framework were also discussed. This was undertaken to demonstrate different operating strategies that NOCs employ depending on the country and the context of the oil and gas industry. The reporting framework highlighted the global standards and practices that companies operating in the oil and gas industry comply to.

CHAPTER 3: RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

This chapter aims to review the methodological approaches that the research will employ. It provides insight and justification for the approach selected to conduct the study. The chapter begins by highlighting different methodological approaches and the research philosophies that underpin them. It then proceeds by presenting a broad view on research methods of data analysis, including data sources and sample selection. The chapter then concludes by looking at the research limitations and ethical considerations.

Kothari et al. (2011) define research methodology as an operational framework in which the various steps taken to conduct research are indicated such that the reasons behind the philosophical assumptions underpinning the research work are clearly understood. While Bryman (2011), defines research design as the overall framework and direction for the collection and analysis of data, he goes on to define research methods as the different research techniques employed while conducting a study.

3.2 Research Paradigm/Philosophy

Bryman and Bell (2015) define a paradigm as a collection of beliefs that dictates the views of researchers in a particular field or discipline by influencing the area of study, methods of data collection analysis and interpretation of research results. According to Collis and Hussey (2003) a research paradigm is a framework that outlines philosophies and assumptions based on people's perceptions about the world and the nature of knowledge, it guides how research should be conducted and, therefore determines the research methodology. This framework is broadly divided into two philosophies; positivism which regards reality as objective, and interpretivism which perceives reality as subjective.

3.2.1 Positivism

Bryman and Bell (2015) describe positivism as an epistemological position advocating that methods of natural science should be applied to the study of social reality. They explain that tested hypotheses are generated by known concepts and knowledge is arrived at by gathering facts in an objective manner. And as such Collis and Hussey (2009), acknowledge that the main drive of positivism is it considers reality as being independent of the world and its main aim is to discover concepts through research. The objectivism philosophy is further described by Bryman (2011) as an ontological stance that suggests that social phenomena is independent of social actors and that social occurrences that confront humans are external facts which are beyond our reach and cannot be influenced people. In this respect therefore, the positivism philosophy was applied during the study in analysing quantitative data on financial performance and statistical data in relation to the contexts of the oil and gas industry of selected National Oil Companies. The data and information regarding financial performance and contextual factors are external facts and as such cannot be influenced by the researcher.

3.2.2 Interprevitism

Kelliher et al.(2011) clarify that interpretivist's believe that reality is socially constructed and not objectively determined. The interpretivism approach underpins the argument that people interpret and perceive events subjectively, forming their own opinion of the world. It supports the value and use of qualitative data while pursuing knowledge. The research paradigm presupposes that every situation is unique and therefore provides value and contextual depth results in research. This study utilises the interpretivism philosophy in the analysis and interpretation of qualitative data in respect to operating models employed by selected NOC's as well as contextual factors affecting operations. Qualitative data in relation to company reporting structures to various stakeholders in the petroleum industry was equally analysed. On a similar note, Saunders et al. (2012) states that since positivists apply a deductive philosophy rather than inductive thinking the interpretation is that interpretivists use qualitative data while positivists make use of quantitative data. In the study therefore the positivism approach was applied in analysing

quantitative data while the interpretivism approach used to analyse qualitative data.

3.3 Quantitative versus Qualitative research

According to Bryman and Bell (2015) quantitative and qualitative researches have diverse epistemological foundations and can be understood as two unique groups of research paradigms. Quantitative research is described by Saunders et al. (2012) as a research methodology that is based on deriving meanings from numbers and consists of collecting standardized data results. Bryman (2011) observes that quantitative research methodology studies relationships between variables which are measured numerically and analysed using a range of statistical techniques. It entails a deductive approach to the relationship between theory and research and incorporates the practices and standards of the scientific model of positivism. On the other hand, Qualitative research is linked with an interpretivism philosophy where the researcher interprets the social meanings of the phenomenon being studied, it takes on an inductive methodology in studying the relationship between theory and research and it emphasises developing theory and the way individuals interpret their social world (Bryman and Bell 2015). According to Saunders et al. (2012),the Triangulation method refers to the use of more than one research method in order to enhance confidence in research findings, it allows the interpretation of two sets of data and consequently leads to comprehensive research results. The study analysed quantitative and qualitative data in respect to the financial performance of the NOCs, including country statistical data, reserve sizes and production volumes. Further evaluation of quantitative data elaborated the oil and gas industry context and therefore underpinned the choice of operating models. A mixed methods research is further described by Creswell and Plano Clark (2007), as a method that involves more than one phase of data collection and analysis; it may use quantitative and qualitative research equally or unequally. The study further analysed qualitative data in respect to the selected NOC internal and external operating environments as well as the NOC relationships with various stakeholders.

This study therefore adopts qualitative and quantitative methodologies in answering these four research questions:

1. What are the operating models and reporting frameworks currently employed by selected National Oil Companies?
2. What are the contextual factors that enable the National Oil Companies adopt specific models?
3. How do the selected National Oil Companies report to the various stakeholders in the petroleum industry
4. Can a Ugandan National Oil Company adopt similar models or is there a preferred model that suits Uganda's peculiar circumstances?

The study utilises assumptions of analysing NOC annual financial statements and assessing financial performances of NOC business segments as well as contextual factors that enable adoption of respective operating strategies. Quantitative data relating to the operational and financial performance was evaluated so as to indicate the company's strengths and weaknesses. Qualitative data relating to NOC relationships with various stakeholders as well as the contextual factors affecting the oil and gas industry represent the internal and external environment in which the NOCs operate. The opportunities and threats faced by the selected NOCs in essence affect the company's ability to adopt their respective operating strategies and models. It is therefore envisaged that the study will use both quantitative and qualitative methods to address questions (1) and (2). Information on the operating strategies and models employed by selected NOCs, contextual factors affecting the different countries, and the Reporting Framework employed by the selected NOCs are of a qualitative nature therefore questions (3) and (4) will be answered using the interpretivisit qualitative approach.

3.4 Data Sources

Saunders et al. (2012) categorise data sources as primary and secondary sources. Data from primary sources are generated by the researcher in the course of conducting the study using techniques that include interviews, questionnaires, observations and measurements. On the other hand, secondary sources include data not yet processed, that is, raw data and published data, both qualitative and

quantitative. This information is usually already in existence and thus adapted by the researcher to develop a research phenomenon.

The researcher recognizes that primary data is useful for conducting research and therefore collection of primary data involved interviews with officials at Ministry of Energy/PEPD-Uganda. However, the majority of the information required for the study already existed in written documents. As described by Bryman (2003) secondary documentation includes recent documents or historic information; in other words, the subject matter exists and it is the information source upon which analysis is done. Data sources included reputable academic journals and articles which contain information pertaining to the Performance of National Oil Companies and operating models as in (Tordo 2011; Stevens 2008; Wainberg and Foss 2007). Annual financial reports of selected NOCs such as Statoil and GNPC obtained from company websites provided data in respect to profits, revenue and costs. A trend analysis, indicating company financial performance was undertaken for a period of 4 years from 2011 to 2014. Information included data on profitability ratios, reserve replacement ratios, oil production figures and reserve sizes which enabled assessment of the operational and financial performance of selected NOCs. Country statistical data from selected countries such as Norway and Ghana provided statistics on Gross Domestic Product (GDP) and economic growth that was used to compare and identify similar and different contexts of the oil and gas industry. Additional sources included reports by industry stakeholders, Non- governmental organisations such as Extractive Industry Transparency Initiative (EITI).

3.4.1 Sample Selection

There are a number of National Oil Companies that operate in the oil and gas industries. National Oil Companies such as Statoil and Ghana National Petroleum Corporation (GNPC) were selected using the researchers own judgment as follows; Statoil represents a NOC from a developed economy. The operating model employed, has enabled the company expand and grow over the years, making it one of the most successful NOCs in the global oil and gas industry. On the other hand, GNPC represents a NOC operating in a developing economy and so was selected because both Ghana and Uganda are developing economies and have

recently discovered oil and gas reserves in commercial quantities. It is expected that these two comparators would provide insights regarding a range of issues for deciding on an appropriate NOC model for Uganda.

3.5 Data Analysis and Interpretation

3.5.1 Context Analysis of Selected NOCs

Data analysis consists of examining, classifying and tabulating, or otherwise re-arranging data into well-defined units with an intention of addressing the purpose of the study (Yin 1994). Context analysis is a method that analyses the internal and external business environments in which a company operates, it considers the strengths, weaknesses, opportunities and threats (SWOT) of a company in order to develop an operating strategy (Sebastian 1999).

The research conducted a context analysis on selected National Oil Companies (Statoil and GNPC). The internal operation business processes and internal Reporting Frameworks were assessed while the external business environments of the respective companies was analysed. This included the Reporting Framework and relationship with external stakeholders in the oil and gas industry. The strengths and weaknesses assessed were in relation to operational and financial performances including the opportunities and challenges facing companies while operating in the oil and gas Industry. The SWOT analysis was undertaken in order to identify the contextual factors that affect operating and reporting models employed by the companies and on this basis identify an appropriate model for a Ugandan NOC.

3.5.2 Comparative Analysis of the Oil and Gas Industry Context

Rajasekar (2006) describes comparative research as a method that involves using the same methods to differentiate more than one situation. The process obtains similar or different conditions in the study and defines it in stages as available information is continuously compared. The operating models as well as the reporting structures adopted by Statoil and GNPC were assessed, so as to provide Uganda with a benchmark on good corporate governance, accountability and transparency practices employed by the companies. From the analysis, similarities

and difference in contexts of the oil and gas industry between Uganda and the two countries were identified.

3.5.3 Evaluation of Operating Models

Evaluation research is defined by Trochim (2006) as the systematic assessment of the worth of an object through empirically-driven feedback. This study evaluated revenue figures and profitability ratios, operating costs, oil production figures, reserve replacement ratios and reserve sizes derived from NOC annual financial reports. The operational and financial performance of the companies was assessed including the reasons for success and challenges faced in the industry. Statistics relating to GDP and economic growth in Uganda, Ghana and Norway were also evaluated so as to identify the contexts of the oil and gas industry of the respective countries. Quantitative data was generated and interpreted using Microsoft Excel. These formed the basis for determining whether a Ugandan NOC could adopt similar operating models.

3.6 Secondary Data

3.6.1 Advantages of Secondary Data

Secondary data saves a lot of time and resources, it is less expensive to collect and large sets of data is analysed in a relatively shorter time. Moreover, the use of secondary data allows the researcher to spend more effort and time analysing and interpreting data(Smith 2006).This study obtained secondary data pertaining to the operations of the selected NOCs as well as their reporting structures from annual reports available on company websites. Consequently, time was saved in analysing and interpreting data. Dale et al. (1988) acknowledge that secondary data facilitates long distances studies; in circumstances whereby a researcher is not able to travel to the various locations, secondary data makes it possible for such studies to be conducted. Comparative research is also possible where need arises to compare data from different countries, as more data is made available on the internet. In the case of this research, secondary data permitted a long distance research since the researcher was not able to travel to the various locations of the

National Oil Companies. It is also enabled comparative research regarding the contextual factors affecting the oil and gas industry between the countries.

3.6.2 Limitations of Secondary Data

The study has utilised secondary data as the main source of information. Bryman (2003) notes that documentary evidence that is subject to changes overtime may compromise the quality of research, since documents such as policies, regulations and model agreements may be revised. During the study caution was taken to ensure that policies and laws governing the oil and gas industry of respective countries were up to date. Current information regarding the operational models employed by the NOCs as well as reporting structures to various stakeholders was obtained. Great care was also taken to ensure that data covered the same time periods. Saunders at al. (2012), suggests that it is not always the case that secondary data sets available from governments databases are of high quality. Therefore, this study, carefully evaluated information regarding the financial performance of the selected NOCs and the gathered data was further supported by information from other researches undertaken, including peer reviewed Journals. Saunders et al. (2012) notes that data collected by individuals may be done with a specific purpose in mind while data from secondary sources may at times not meet the researchers objective. This challenge was mitigated by obtaining journals and articles that have similar topics to the research.

3.7 Ethical Considerations

The research has taken into considerations ethical issues in terms of meeting the required standards of public ethical conduct. The University's reputation and principles were observed. Potential ethical issues in the study pertained to seeking consent from the National Oil Companies in the use of company information in regard to operational, financial performance as well as the reporting frame work. The use of information in respect to NOC relationships with State governments which at times is confidential was a potential ethical issue. During the study no ethical challenges such as confidentiality and seeking approvals or consent arose, since most of the required information was accessed via company websites and in

public libraries. Confidential information from Ministry of Energy and Petroleum Development and the selected National Oil Companies was likewise not required.

3.8 Conclusion

This chapter illustrated the methodology selected for the study, the different research philosophies and research methodologies were discussed including the research design, data sources and analysis techniques. Justifications of the research methods, sample selection, and possible weaknesses of the methods used are presented accordingly. The next chapter covers data presentation, analysis and discussion.

CHAPTER 4: REPORTING, DATA ANALYSIS AND INTERPRETATION

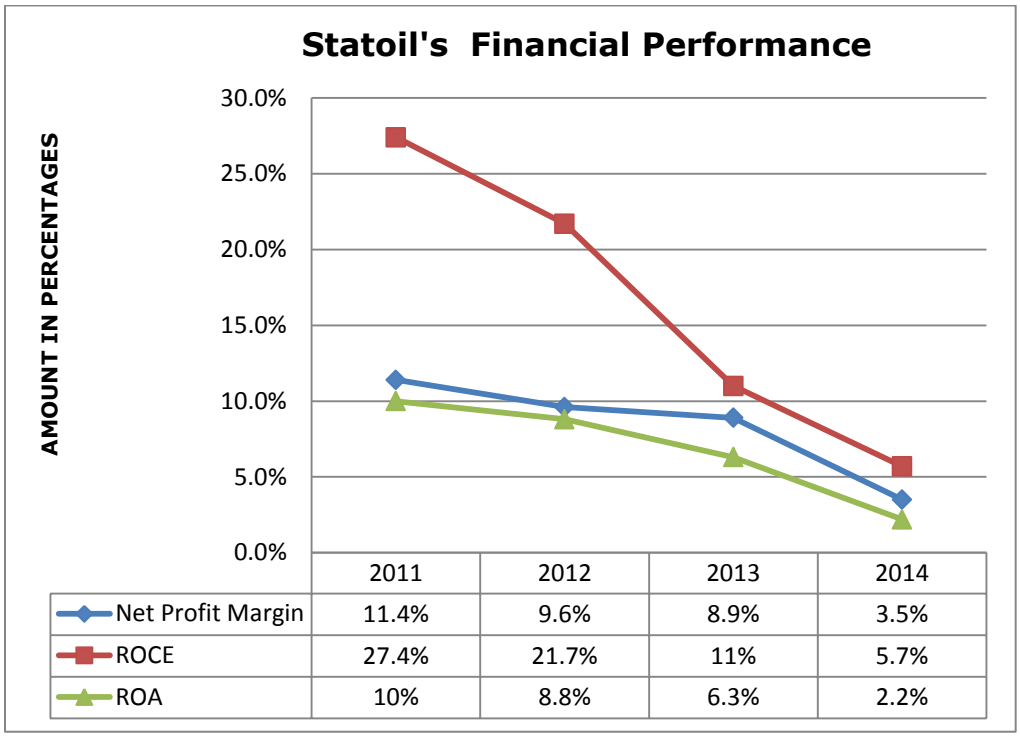
4.1 Introduction

This Chapter presents the operating and reporting models employed by selected National oil companies. A review of the various contextual factors affecting the choice of models adopted by the NOCs was assessed. A context analysis was undertaken by evaluating the strengths, weaknesses, opportunities and threats facing the companies. The chapter concludes with the results of the context analysis on the operating models and reporting frameworks adopted by selected NOCs, overall findings are reviewed and interpreted in the context of existing literature.

4.2 Statoil's Corporate Strategy.

Statoil operates on the Norwegian continental shelf (NCS) and in a number of countries internationally. Austvik (2014) states that the company was formed with the aim of taking care of the government's economic interest and as the most important tool for the development of the oil and gas industry in Norway. The company's corporate strategy is to strengthen, Statoil's competitiveness through high value growth, increased efficiency and competitive shareholder returns. Statoil's corporate strategy articulates the company's strengths and opportunities in terms of growth and further expansion.(Statoil annual Report 2014). Similarly, Wainberg and Foss (2007) observed that compared to its peers, Statoil is found to be efficient and operates at low costs. However the company has a small size of hydrocarbon reserves and has not been able to replace its productions through new discoveries. Statoil aims to achieve value creation and long term growth through its business segments. However, the company's external environment with respect to the uncertainties and risks associated with the global oil and gas industry poses a challenge affecting profitability of the company.

Figure 1: Statoil's financial performance- Profitability ratios



	2011	2012	2013	2014
Net Profit Margin	11.4%	9.6%	8.9%	3.5%
ROCE	27.4%	21.7%	11%	5.7%
ROA	10%	8.8%	6.3%	2.2%

Source: Author's analysis based on Statoil disclosures

Review of Statoil annual reports indicates a decline in financial performance.(Figure 1). Net Profit margin was 8.9% in 2013 and declined to 3.5% in 2014. Return on capital employed (ROCE) was 11% and 5.7% in 2013 and 2014 respectively. While Return on Assets (ROA) equally declined from 6.3% in 2013 to 2.2% in the year 2014 (Figure 3). The decline in the company's financial results for the year 2014 and 2013 were influenced by a fall in global oil prices and increase in company investments. The company's total assets increased from NOK 885.6 billion in 2013 to NOK 986.4 billion in 2014. Statoil has responded to the industrial challenges by enhancing flexibility in company operations including improvement in investment programmes, reducing costs and increasing annual savings.

4.2.1 Statoil's Operating Model.

Norway's oil and gas industry is well known for the model it employs in relation to the management, Regulation and government participation in the industry, referred to as the Norwegian model. The model separates responsibilities between the Ministry of Petroleum and Energy (MPE), Statoil as the NOC and the Norwegian

Petroleum Directorate (NPD) an independent regulator which oversees all participants in the industry. (Thuber 2010).

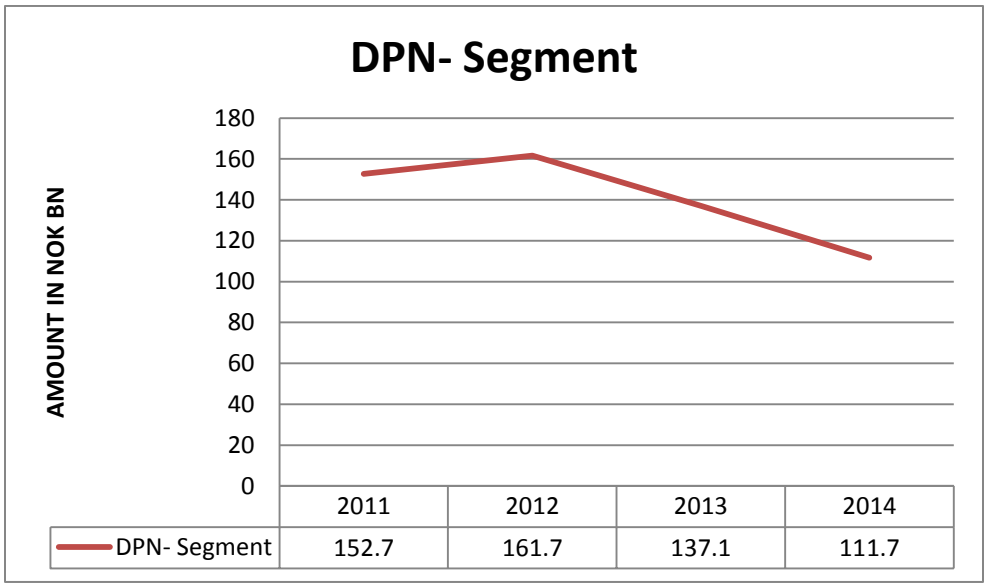
4.2.2 Statoil's Business Operations/Segments

Statoil operates through a combination of business models across the global oil and gas industry, covering both upstream and downstream activities. Company operations are managed through its business segments, such as the Development and Production Norway(DPN),Development and Production International (DPI), Development and Production North America (DPNA),Marketing, Processing and Renewable Energy (MPR) and Technology Projects and Drilling (TPD).(Statoil Annual Report 2014). McPherson (2003) confirms that in terms of commercialization, NOC operations comprise of profit making business units that are highly capitalized and result-oriented in order to achieve growth and expansion.

4.2.2.1 Domestic Investments.

Statoil is a dominant player in the domestic market, where it controls 80 percent of total oil and gas production. Internationally the NOC carries out upstream operations in 40 countries (Tordo 2011). The company is taking out full value potential of the Norwegian continental shelf, where only half of the resources have been produced so far. The Development and Production Norway (DPN) segment involves upstream operations on NCS operating 44 developed fields. In the year 2014 and 2015, the company embarked on a number of projects on the NCS, such as the Gudrun field, Valemon among other projects (Statoil Annual Report 2014). Review of annual reports, however indicates performance challenges faced by the DPN Segment. Financial performance in 2013 and 2014 declined to NOK 137.1 billion and NOK 111.7 billion respectively. As shown in figure 2 below.

Figure 2: Financial performance (profit) of Statoil's DPN- Business Segment



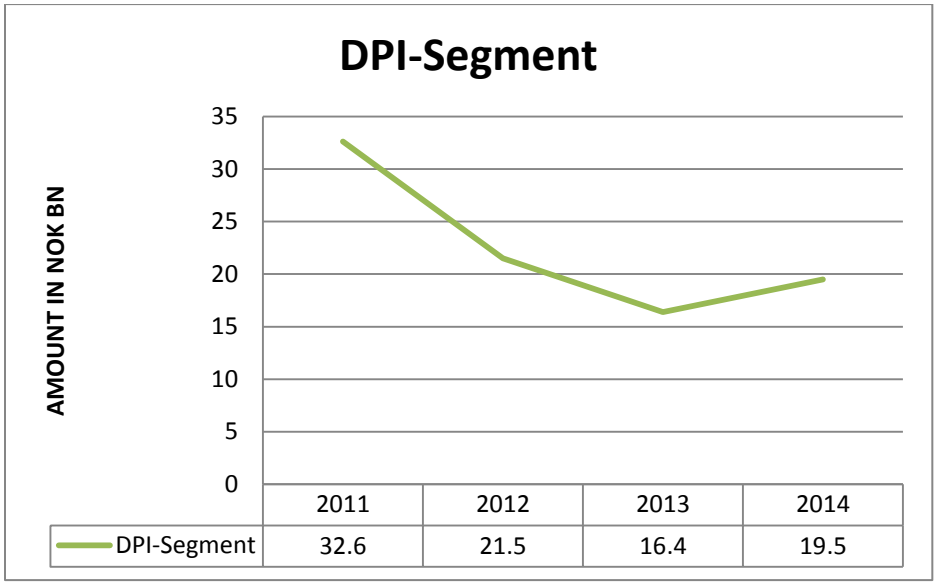
Source: Author's analysis based on Statoil disclosures

4.2.2.2 International Investments

The Development and Production International (DPI) Segment comprises of worldwide upstream activities, which aims to build a large and profitable international production portfolio. Statoil's International Investments are found in North America, South America, sub-Saharan Africa, Middle East, North Africa, Europe and Asia. The company has taken advantage of the available opportunities in the global oil and gas industry by making investments outside its country's borders, the strategy is to enhance growth and further expansion of the company by acquiring additional reserves. Tordo et al. (2011) notes that Internationally Statoil carries out upstream operations in 40 countries, he further notes that like Statoil, the decision to operate in the international upstream business, by NOC's such as Petronas, was driven by the decline of domestic mature oil reserves. In a similar observation, Thuber and Istad (2010) note that as part of Statoil's long-term strategy beyond the maturing Norwegian continental shelf, the company has established significant presence in countries such as Angola ,Azerbaijan and expanding operations in Nigeria. Review of Annual Report 2014 indicates that Statoil operates in joint venture partnerships with various international oil companies for example it is an operator with a 65% share with Exxon Mobil as

partner with 35% share in Zafarani exploration well in Tanzania. The company's net earnings from joint ventures was at NOK 21.bn in 2012 and NOK15.8bn in 2013. A number of mergers and acquisitions were also made by the company, including the merger between Statoil ASA and Norsk Hydro in 2007 which enhanced Statoil's operations in petroleum products. In 2011, Statoil acquired Brigham Exploration Company, underpinning the company's growth strategy and strengthening its US on shore portfolio. In 2012, Statoil Fuel & Retail a leading Scandinavian road transport fuel retailer was acquired, this expanded Statoil's operations in respect to transport fuels and petroleum products across the Scandinavian countries. The DPI is involved in 11 countries, the segment produced 39% of Statoil equity production of oil and gas, in 2013 the company's profits from the DPI segment was NOK 16.4bn and NOK 19.5bn in the year 2014 (Figure 3). Profitability of the oil and gas industry continues to be challenged.

Figure 3: Financial performance of Statoil's DPI- Business Segment.

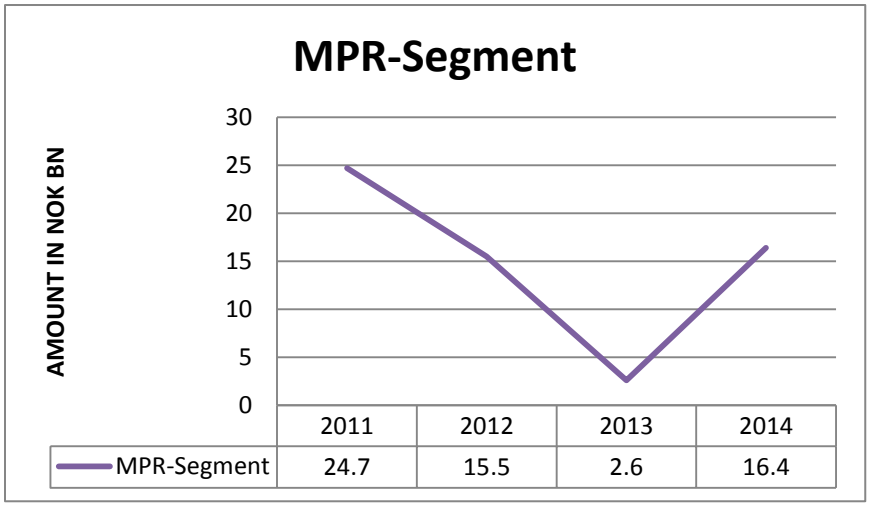


Source: Author's analysis based on Statoil's disclosures

4.2.2.3 Vertical Integration of Operations

Statoil is vertically integrated, through its operations under the Marketing, Processing and Renewable Energy (MPR). It involves marketing, trading and transportation, of oil and natural gas to markets within and abroad. Tordo et al.(2011) observe that the strategy has enabled Statoil achieve a greater degree of diversification and gain access to markets as well as enhance profitability. They further note that, NOC's such as Petrobas are a fully integrated with diversifications into petro- chemicals, fertilizers, power generation and renewable energy. PDVSA is vertically integrated along the petroleum sector value chain. The NOC is involved in petrochemical production as well as power generation. While Petronas is vertically integrated, operating in petrochemicals and maritime shipping. Statoil's MPR operates 2 refineries, 2 gas processing plants, 1 methanol plant and 3 crude oil terminals. Review of Statoil's annual reports indicate that, in 2014 Statoil sold 345billion cubic metres of Norwegian continental shelf(NCS) gas, the company's profits from the MPR segment declined to NOK 2.6 billion in 2013 and then increased to NOK 16.4 billion in 2014.(Figure 6). The European gas markets has been characterized by decreasing demand, this could be one of the reasons for the decline in the MPR business segment performance.

Figure 4: Financial performance (Profits) of Statoil's MPR- business segment.



Source : Author's Analysis based on Statoil's disclosures

4.2.2.5 Technology, Projects and Drilling segment(TPD).

Statoil's TPD business segment aims to provide safe and efficient operations and to deliver on strategic objectives since the industry is characterised by a wide range of unique opportunities. The technology excellence global strategy is responsible for delivering technical expertise to business projects and developing assets for implementing new technology. Therefore the company continously develops and deploys innovative technologies to ensure the company is competitive and able to meet business requirements in the short and long run. Statoil's TPD segment is a major driving force and strength, in respect to enhancing the company's operations in the petroleum industry, as well as taking on opportunities and venturing into technically ambitious projects. Thuber and Istad (2010) observe that Statoil plays an important role in contributing to the development of Norwegian industry and technological capability. The company has a long-term approach to technology development with a strong engineering orientation.

4.3 Ghana – GNPC.

The main organizations in the Ghana upstream oil and gas industry are; the Ministry of Energy and Petroleum (MOEP), Ghana National Petroleum Corporation (GNPC), Petroleum Commission and Ghana National Gas Company Limited. The Ministry of Energy and Petroleum's main function is to formulate, implement and evaluate energy sector policies. The Petroleum Commission is mandated to regulate, manage and harmonize activities in the upstream oil and gas industry in accordance with the Petroleum Commission Act, 2011, while Ghana National Petroleum Corporation (GNPC) is responsible for participating in the Upstream activities in the oil and gas Industry.(Ghana - Ministry of Finance Report-2014).

4.3.1 GNPC Corporate Strategy

The Ghana National Petroleum Corporation (GNPC) was established in 1983 as a state-owned entity to undertake the exploration, development, production and disposal of petroleum in Ghana. The NOC is mainly involved in upstream activities within the country's borders. GNPC exports crude oil produced and therefore is export focused; the company is also responsible for importing the country's oil and petroleum product requirements. At the beginning of operations in 2010, the

company set a strategic goal of becoming an independent operator within seven to fifteen years. In pursuit of this goal the Corporation has adopted an accelerated growth strategy which includes; building capacity, Reserve replacement growth, efficient capitalization and catalyzing local content development. GNPC articulates it goal which indicate the company's strength as well as opportunities available in order to establish its presence in the petroleum industry. The company has an opportunity of building technical capacity in terms of technological advancement, expertise and skill of staff. And since the industry is still in developing stages the company, has an opportunity of applying appropriate technology in respect to replacement of reserves (Olsen 2014).

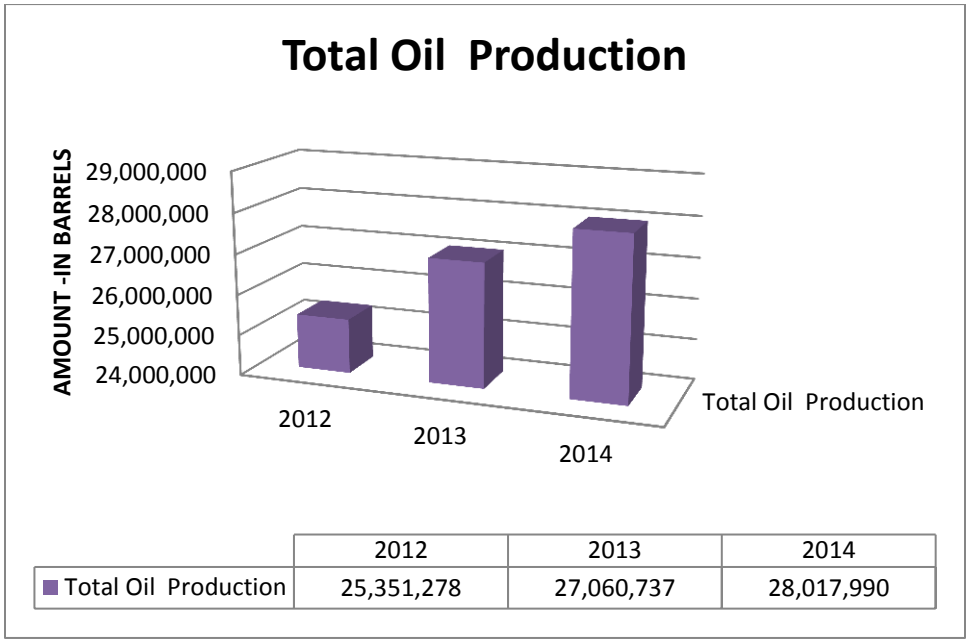
4.3.2 GNPC-Operating Model

Ghana National Petroleum Corporation has adopted a phased approach to achieving full operatorship. The first phase involves entering into joint venture/joint operator arrangements with world class operators to achieve rapid transfer of operating capabilities and thereafter. GNPC will systematically assume full operatorship based on well-defined risk and opportunity assessments. The Participation and commercial interests in joint ventures will be done through incorporated subsidiaries of GNPC. According to Kaleem and Guohua (2015), there is high expectations in the country in regard to benefits from the oil revenues, it's important that the government diversify other industrial sectors of the economy with revenue from the oil sector, petrochemical industry such that more jobs are created for the youth and local manufactured products such as paints, lubricants, insecticides, synthetic and wax, are produced for domestic consumption and to boost the Ghanaian economy.

Analysis of data on Ghana's oil production indicates an opportunity for growth in GNPC's performance. In the year 2012, Jubilee field production averaged 71,997 barrels of oil per day (bopd) yielding a total production of 25,351,278 barrels. For the period January-September 2013, field production averaged 99,685 (bopd), resulting in a total production of 27,060,737 barrels. And for the year 2014, production was 102,630(bopd) with total production of 28, 017,990 barrels of oil.(Figure 5) The above analysis is an indication of GNPC's operating environment, in respect to increase in oil production in the Jubilee field. GNPC's

future therefore looks bright, in terms of its potential to achieve profitability and growth.

Figure 5: Jubilee Field Production

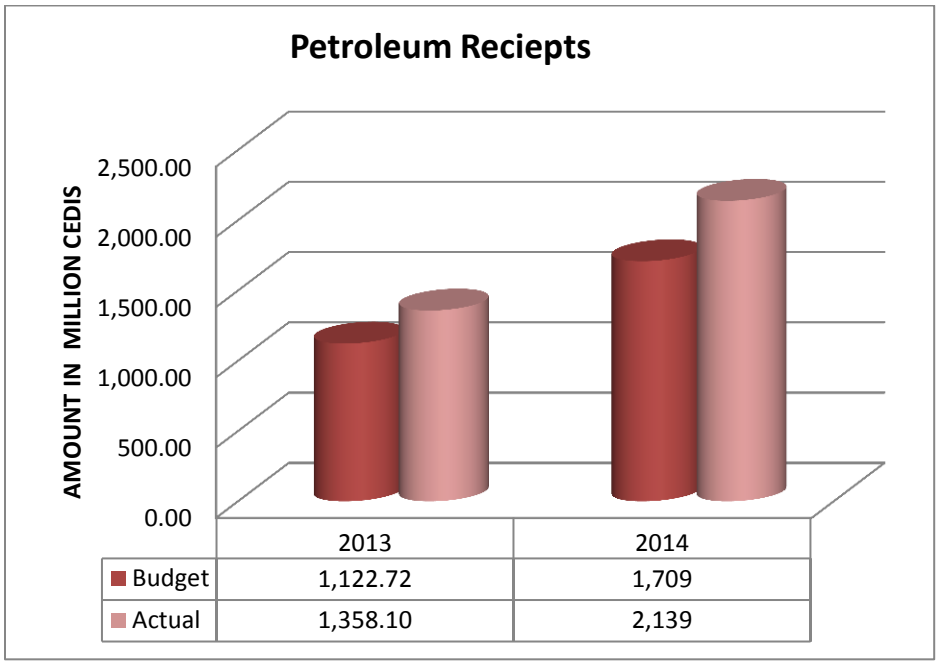


	2012	2013	2014
Total Oil Production	25,351,278	27,060,737	28,017,990

Source: Author's analysis based on GNPC's disclosures

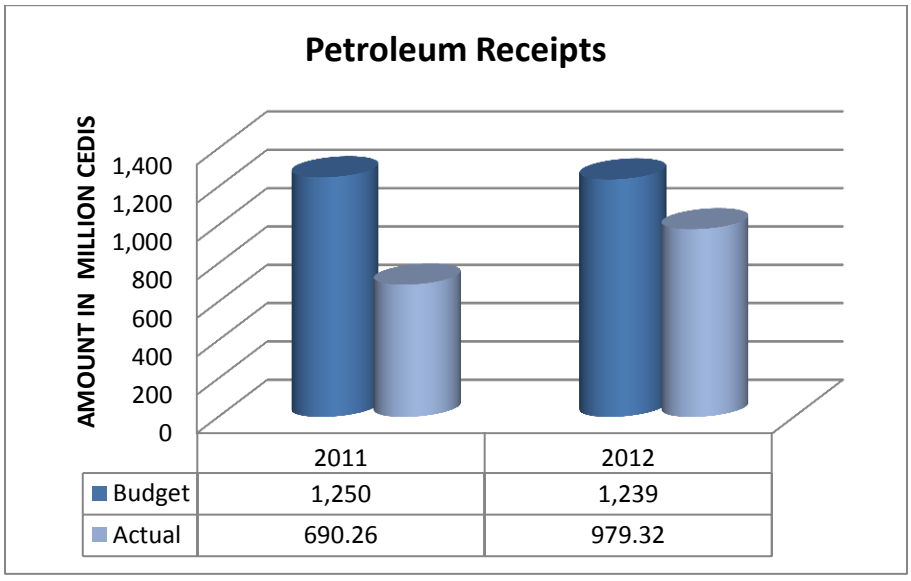
Review of Annual Reports on Petroleum funds, indicate that for the period 2014, total petroleum receipts /proceeds from Jubilee lifting's and other petroleum receipts was GH¢2,139.12 million against budget projections of GH¢1,709 million, indicating good budget performance. In the financial 2013, GNPC lifted 4,977,922 barrels on behalf of the State. The total petroleum receipts amounted to GH¢ 1,358.1million against a budget figure of GH¢1,122.72 million, again the company's actual petroleum receipts was more than budgeted. (Figure 6).In 2012, crude oil lifting's yielded GH¢979.32 million against a budget projection of GH¢ 1,239.32million. While in the year 2011 petroleum receipts totalled to GH¢ 690.26 million against a budget of GH¢ 1,250.78million (Figure 7).The above company data, illustrations arise in the company operational performance over the years, as well as notable performance in terms of budgeted and actual results. This demonstrates the company's operational strength which could facilitate its growth. (Ghana Annual Report on Petroleum Funds 2014).

Figure 6: Petroleum Revenue from crude oil lifting's by GNPC



Source: Author's analysis based on GNPC's disclosures

Figure 7: Petroleum Revenues from crude oil lifting by GNPC



Source: Author's analysis based on GNPC's disclosures

4.3.2.1 GNPC's Business operations

Domestic Investments/Joint Venture Partnerships

GNPC operates in joint partnership with a number of international oil companies on different license blocks. The companies include; Tullow Oil, Kosmos, Andarko, PetroSA, among others. The company's strategy is to participate in joint ventures, equity investment with large to medium size independent companies, such that the company can gain access to technology, technical expertise, research & development and building a competitive advantage in the industry. Tordo et al. (2011) suggests that the Joint venture business model is important for a country in the early phases of the oil. The NOC gains by accessing technology, technical expertise and building a competitive advantage in the industry. By partnering with experienced international operators, the NOC is able to accelerate its learning curve and develop its business operations without having to taking high exploration risk.

The participants on the Jubilee Producing Fields are Tullow Oil (36.5%), Kosmos (23.49%), Ghana National Petroleum Corporation (13.75%), Sabre Oil and Gas (2.81%) 80,000 bpd (Dec 2011) Saltpond Producing Lushann (55%), GNPC (45%) 50-100 bpd. The strategy places GNPC more directly in the role of Operator, with the ability to direct procurement decisions in a manner that achieves national local content aspirations.(Annual Report on Petroleum Funds 2014).

4.3.2.2 GNPC- Exploration and Production Company (Explorco)

GNPC Exploration and Production Company (Explorco) is GNPC's subsidiary focused on exploration and production of hydrocarbons. The subsidiary currently holds commercial stakes in various licenses in Ghana's offshore basins. Operations under Explorco are important in achieving GNPC's strategy. It partners with strategically selected international oil companies to jointly operate a number of the license areas. This is to ensure rapid transfer of operating capabilities to GNPC and, ensure its commercial leadership of the upstream sector in Ghana,(Annual Report on Petroleum Funds 2014-Ghana).The details on GNPC-Explorco's equity participation in Ghana's Contract Areas are shown in Table 3 below.

Table 3: GNPC-Explorco's Equity Participation in Contract Areas.

SRN	Block	Operator	Explorco(%)
1.	Expanded Shallow Water Tano Block Offshore	Camac	25
2.	South Deep Water Tano	AGM	24
3.	Blue Star/Heritage- Keta	Keta Heritage	11.6
4.	Blue Star/Heritage – Tano	Heritage - Tano	8.8
5.	Deep water Cape Three Point West	A-Z Petroleum	4.35

Source: GNPC

4.3.2.3 GNPC Oil and Gas Learning Foundation

The GNPC Oil and Gas Learning Foundation is one of GNPC's subsidiaries set up in 2013, to facilitate training of Ghanaian nationals at tertiary level. The primary objective was to enhance the capacities of Ghanaian enterprises to fully participate in the industry. The institution awards scholarships and grants to support individuals including Educational and Training institutions, in order to achieve national local content aspirations. The company receives funds from GNPC and other sources. It makes donations to institutions, projects, and individuals that support the development of national capacity, including the establishment of the GNPC petroleum training institute (Annual Report on Petroleum Funds 2014-Ghana).Tordo et al. (2011) observe that governments at times used various instruments in implementing local content policies, including simple contractual requirements that favor the use of local goods and services and imposing training obligations.

4.3.2.4 GNPC-Technip Engineering Services

GNPC's strategy of enhancing capacity in regard to skill and expertise in the industry has resulted in the establishment of GNPC-Technip joint venture. This is a venture between GNPC and Technip, a world-class Exploration and Production Engineering company. This is a joint venture aims at advancing GNPC's goal of developing cutting edge expertise in upstream oil and gas engineering services. The partnership will help build GNPC's capabilities in engineering services and project

management, both offshore and onshore. GNPC-Technip Engineering Services designed, manufactured and installed the first subsea jumpers in Ghana. The joint venture has been awarded a number of contracts in both the Jubilee and TEN Fields operations.(Annual Report on Petroleum Funds 2014).

GNPC's subsidiary Tradeco has been set up to carry out the business of trading crude oil and gas. The Business segment is involved in marketing and selling Ghana's crude oil and gas, as well as buying and selling crude oil on its own account. This subsidiary ensures that Ghana retains the value embedded in the trading segment of the value chain and in the long run lead to a fully developed vertical integration operating strategy.

4.4 Uganda's oil and gas industry

Petroleum occurrence was first recorded in Uganda in the early 1920's. There was a period of limited or no activity until 1983 and 1992 when aeromagnetic surveys undertaken identified five sedimentary basins in the country. Currently exploration and development activities are taking place in the Albertine Graben which is sub divided into nine exploration areas (PEPD 2014).

The enabling law governing the petroleum industry in Uganda is the National Oil and Gas Policy (Figure 8). It specifies the roles of institutions that will manage, regulate and participate in the petroleum industry. The role of the Petroleum Authority of Uganda (PAU) is to regulate activities in the industry. The Uganda National Oil Company (NATOIL) represents government's commercial interests in oil and gas operations, while the Petroleum Exploration and Production Department (PEPD) is set to advise government on issues related to policy and resource management.

Figure 8: Laws and Regulations in the Petroleum Industry

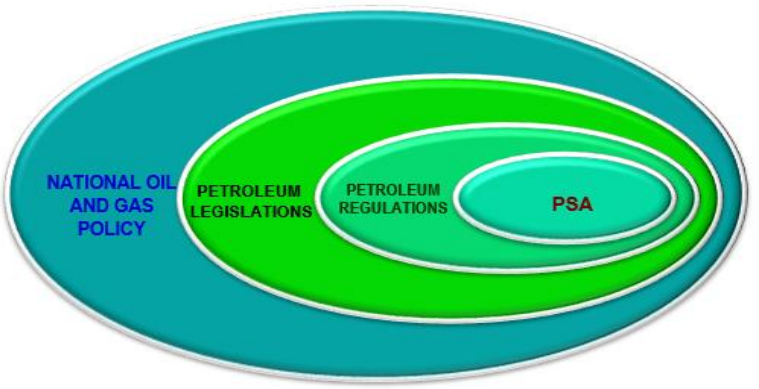


Figure illustrating the key enablers of government petroleum activity in Uganda (Source: PEPD 2014)

In 2006 oil reserves in commercial quantities were discovered in Lake Albert with reserves estimated at 2.5 billion barrels and a production rate of 125,000 to 200,000 bpd. A number of IOC's are actively involved in upstream oil and gas activities in the Albertine Graben (PEPD 2013).

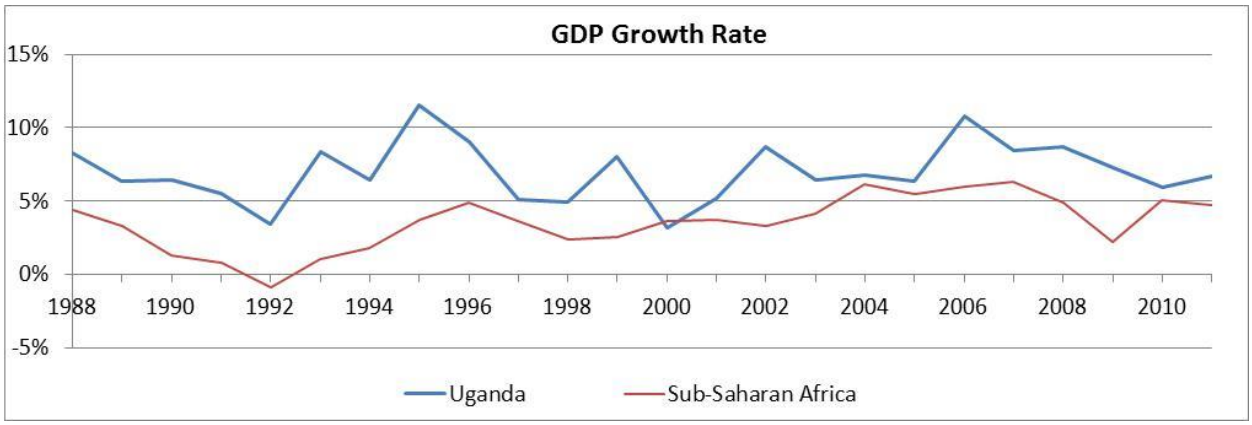
Figure 9: Map of Uganda showing Lake Albert where oil discoveries have been found

Source: PEPD 2013

4.4.1 Economic Factors

The population of Uganda in 2014 was an estimated 35 million people. GDP amounted to $27 billion with a growth rate of 4.7% from 2013 and the industrial sector contributed to 26.3% of the GDP. (Uganda Bureau of Statistics Report - 2014).The Ugandan economy has a long track record of persistent economic growth; the economy grew twice as fast as Sub-Saharan Africa during the period 1990 to 2010 (6.9% versus 3.4 %) (MOEMD 2013). This is highlighted in Figure 10.

Figure 10: GDP growth trend in Uganda over the past years



Source: World Bank- 2011

The main sectors are services, industry and agricultural sectors. These contextual factors imply that a Ugandan NOC could adopt a domestic investment operating strategy, which would result to benefits for the country's economy.

4.4.2 Licensing Policy-Uganda

The 2013 PEDP Act outlines the responsibility of the Minister of Energy with the approval of cabinet to announce the areas open for bidding for a petroleum exploration license. The minister has a duty to receive applications for any petroleum rights, issue, renew and revoke petroleum exploration and production licenses. The Licensing system in Uganda is an open, transparent and an effective process (MOEMD 2013). As such a Ugandan NOC could participate in the upstream oil and gas sector in accordance to the National Oil and Gas Policy and terms of the Product Sharing Agreement. In February 2015 the government of Uganda opened

up six blocks in the Albertine Graben for licensing in the country's first competitive bidding. An estimated 6.5 billion barrels of oil and 500 billion cubic feet of gas have been confirmed from exploration of less than 40% of the Albertine Graben. The area is licensed to three International oil and gas companies Tullow Oil, Total E&P, and CNOOC Uganda Ltd (PEDP 2015). A Ugandan NOC could therefore participate in joint venture partnerships with international oil companies operating in the petroleum industry.

4.4.3 Fiscal Regime - Uganda

Uganda's fiscal regime is through a Product Sharing Agreement (PSA) between the government and international oil companies. The PSA details specific obligations and requirements of the parties to the Agreement. These include work programs and financial obligations, Health, Safety and Environment (HSE) requirements and other reporting obligations. MOEMD (2008). Under the PSA terms, the international oil company bears the exploration risks and costs. While Payment of a signature bonus provides government with a financial benefit irrespective of whether hydrocarbons are discovered. Uganda's oil and gas industry is at developing stages. The PSA regime will therefore enable a Ugandan NOC to incur lower investments costs in the upstream petroleum activities, resulting to higher financial benefits for the company.

4.4.4 Oil Refinery and Pipeline

Uganda has embarked on an oil refinery and pipeline project with a capacity of 60,000 bpd. The oil refinery including crude oil and product storage facilities will be located in Hoima district near Lake Albert. The project development has got two phases with each construction taking 30,000 bpd. In addition, a 205 km long product pipeline to a distribution terminal near Kampala will be constructed. The project is developed under a public-private partnership with the Ugandan government contributing to 40% of the project while the investor contributes to 60% of project equity. (PEPD 2015). In line with the 2008 NOGP objectives, , the government's decision to construct an oil refinery is in line with promoting valuable utilisation of the country's oil and gas resources through in-country refining of crude oil. In the event of the oil refinery construction, Uganda would be in position

to export its crude oil consequently improving its foreign exchange earnings as well as ensuring security of petroleum products supply for the domestic market. This therefore, implies that a Uganda NOC could adopt an export oriented operating strategy. According to PEDP Act (2013), the planned refinery will meet the petroleum product market for Uganda and the neighbouring countries. The project will create jobs for Ugandans and ensure the transfer of technology in the refining and associated industries. Uganda's petroleum products consumption is currently at 27,000 bpd while for East Africa, this is close to 200,000 bpd and is growing at an annual rate of about 7%. This therefore presents an opportunity for Uganda. On a similar note Kagambe (2013) argues that the refinery shall have the first call on daily production volumes and the extra crude oil would be available for export.

4.4.5 Local Content Policy

The 2008 NOGP highlights the importance of developing local content in the oil and gas sector. Implementing this policy will lead to significant investments in the country as well as resulting opportunities in other sectors of the economy. It is necessary to utilise the investments in the petroleum industry to create as much value as possible in the country. This purpose is achieved through the participation of local nationals' shareholding in licenses, provision of goods and services and capacity building in terms of technical expertise. A Ugandan NOC could employ local content strategies by adopting non-commercial objectives, such that the country and economy benefits through enhancement of technical expertise, participation of local suppliers and provision of employment opportunities.

4.4.6 Functions of the National oil Company.

The 2013 PEDP Act states that the NOC shall be wholly owned by the State to manage Uganda's commercial aspects of petroleum activities and the participating interests of the State in the petroleum agreements. It stipulates the functions of the NOC as to handle the State's commercial interests in the petroleum sub-sector as follows:

- To manage State participation in petroleum activities including marketing of the country's share of petroleum received in kind;

- To manage the business aspects of State participation to develop in depth expertise in the oil and gas industry;
- To participate in accordance with the terms of the petroleum agreement, in joint ventures in which it holds an interest on behalf of the State and enhance value to its shareholders;
- The NOC shall explore and propose new upstream, midstream and downstream projects locally and later internationally.

4.5 Comparison of Contextual Factors affecting NOC operations

This section shows the results of a comparison of the contextual factors affecting the oil and gas industry of Norway, Ghana and Uganda, indicating the similarities and differences between the countries. The operating models employed by the respective country NOC's depends on these factors (Table 4). The details in this section were developed evaluating documents, such as Policies and laws governing the oil and gas industry of the respective countries, including publications from the ministries of petroleum from the respective countries, country statistical data, journal articles as well as NOC annual reports.

Table 4: Comparison of Factors affecting Selected NOC Operations

CRITERION	NORWAY	GHANA	UGANDA
Economic Factors	-Gross domestic product (GDP) in 2014, amounted to $512 billion -In 2014 population was estimated at6 million.	-In 2014,Gross domestic product amounted to $38.3 billion Population estimated at 27 million in 2014.	-Gross domestic product in 2014, amounted to $27 billion -Population estimated at 35 million in 2014
Resource Endowments	Estimated oil reserves of 6.9 million barrels, country has operated for about 40 years in the oil & gas industry	Estimated oil reserves 1.8 billion barrels, Oil and gas industry is at developing phase	Estimated Oil reserves 2.5billion barrels, Oil and gas industry is still at preliminary stages.
Access to	-Statoil is listed on New York	Company has limited	Country is a developing

capital, technology and expertise.	and Oslo stock exchanges. -The company owes much of its success to the availability of technology, skill and expertise knowledge in the oil and gas industry.	access to international financial markets, inadequate availability of technology and expertise.	economy, hence limited access to international financial markets, limited availability of technology and expertise.
Licensing system	Statoil operates in joint ventures on the NCS, however in the past, Statoil was a monopoly, controlling marketing and sales of Norwegian oil and gas	The government's regulations and system of licensing contract in Ghana's petroleum industry require all international oil companies operating in the country to partner with GNPC in Joint venture operations.	Uganda's Petroleum PEDP Act (2013), permits government's participating interests in joint venture partnerships between the NOC and the IOCs.
Fiscal Regime	The fiscal regime is a concession system	Fiscal regime is through the Petroleum Agreement (PA) similar to a Production Sharing Agreements	Uganda's fiscal regime is a Production Sharing Agreement
Local Content Policy	During the initial phase of development of the sector, Statoil played an important role in the development of local content. The NOC is now commercially oriented	The Petroleum Local Content and Local Participation Regulation, 2013,stipulate guidelines and systems for maximization of local participation, enhancement of local expertise and employment in the country.	The government of Uganda through the National oil and Gas Policy (NOGP) is in the process of setting policies that will enable the implementation of local content in the upstream petroleum Industry

Source: Ministry and company reports (Statoil and GNPC) 2014

4.5.1 Economic Factors

Norway is situated in proximity to markets in Europe which has aided the growth of the company. The country's GDP amounted to $512 billion, with a growth rate of 2.2% in 2013. The petroleum sector contributed to 23% of the country's GDP.(Central Bureau of statistics –Norway 2014). The above statistics indicate major differences between the Norwegian and Ugandan economies. Statoil owes much of its success to the country's developed industrial sector. The above contextual factors have enabled Statoil's adopt both the domestic as well as international investment operations.

Ghana's GDP amounted to $38.3 billion with the industrial sector contributing to 28% of GDP (Ghana Statistical Service Report- 2014). On the other hand in 2014, Uganda's GDP amounted to $27 billion, with a growth rate of 4.7% in 2013. The industrial sector contributed to 26.3% of the GDP (Uganda Bureau of Statistic Report -2014).The above statistics indicate similarities between the Ghanaian and Ugandan economies. The contextual factors have therefore impacted on GNPC's adoption of the domestic investment model as well as non-commercial objectives for the NOC. Given the similarities in sizes of the Ghanaian and Ugandan economies and the fact that both countries have discovered oil recently, a Ugandan NOC could adopt a domestic investment operating model.

4.5.2 Access to Capital, Technology and Expertise.

Statoil owes much of its success to the availability of international capital, technology, and skill and expertise knowledge in the oil and gas industry. The company's Technolology Project and drilling (TPD) business segment aims to provide safe and efficient project technological excellence. According to Thurber and Istad (2010),Statoil's technology investments helped accelerate the development of the entire Norwegian supply industry in petroleum, turning the North Sea into the world's technology laboratory. The above contextual factors have enabled Statoil adopt an International investments as well as a vertical integrated operating strategy.

Ghana's oil and gas industry is still at developing phase with limited access to financial capital, limited availability of technology, skill and expertise knowledge.

For this reason the GNPC operates in the upstream oil and gas industry within the country's borders. Similarly the Uganda's oil and gas industry is faced with limited access to international capital, technology and expertise. Therefore a Ugandan NOC may not adopt international investment operating strategies in the short run.

4.5.3 Resource endowments

Norway's oil and gas industry operations began way back in the 1960's, the reserves lie in a mature field. (Morten 2011). Oil production in Norway is expected to decline gradually while natural gas production will increase towards the year 2020.In 2014, Statoil sold 642 million barrels of crude oil and condensate, making it a large net crude oil exporter to the European market second to Gazprom (International Energy Agency 2014)

Ghana's offshore Jubilee field has oil reserves estimated at 1.8 billion barrels as well as significant gas deposits, with an output of 120,000 barrels per day.(Ghana Oil and Gas Report -2012). While Uganda's estimated oil reserves is about 3.5 billion barrels with estimated 125,000 barrels per day (bpd) to 200,000 bpd production rate.(MOEMD 2013) Both countries have significant amount of oil reserves , currently GNPC is focusing on exports, the crude oil produced in the country is exported to the international market. Uganda could adopt both an oil export strategy as well as a domestic market supply. Wainberg and Foss (2007) suggests that large resource endowments encourage oil exportation, resulting to higher oil revenues.

4.5.4 Fiscal regime

The taxation regime in Norway is a Concession system, The company's profits is subject to corporate income tax rate of 27% and a special petroleum tax relating to offshore activities in the NCS.(Statoil Annual Reports). Norway's tax system has been stabile over the years enabling adequate planning by international oil companies. McPherson (2003) observes that the fiscal regimes permits a NOC to plan over time and retain adequate earnings, in order to meet company objectives. On the other hand, the fiscal regime in Ghana and Uganda is through the Petroleum Agreement (PA) or Production Sharing Contracts (PSC). Under the PSC terms,

exploration risks and development costs are borne by the International oil companies. The Payment of a signature bonus provide the host government with an upfront financial benefit regardless of the outcome of exploration activities. The NOC therefore, is able to participate in the upstream exploration and production activities, at a relatively lower cost and at the same time maximise benefits.

4.5.5 Licensing System

In the Norway, the ministry of petroleum and Energy has mandatory powers to award and set the terms for production licenses, currently Statoil operates in joint ventures on the NCS, however in the past, Statoil was a monopoly, controlling marketing and sales of Norwegian oil and gas, this changed as Norway had to adapt to the European commission in allowing competition and promoting transparency in its oil and gas industry. In Ghana, government policy grants GNPC the right to undertake exploration, development and production of petroleum over all licensed blocks. In this respect, the licensing policy has enabled GNPC undertake Joint venture partnerships with the international oil companies operating in the country. Similarly Uganda's PEDP Act (2013), permits the government to participate in joint venture partnerships between the NOC and the IOCs.

4.5.6 Local content

Statoil group employs about 22,500 staff of which 72% are Norwegians. In 2014, 21% of employees and 22% of managerial staff were foreign nationals, while 60% of new hires were non-Norwegians. However, Statoil aims at increasing the number of staff and management who are locally recruited to reduce the long-term use of expatriates. (Statoil Annual report 2014). Statoil played an important role in the development of local content, with time; this role was phased out Leis et al. (2012). The NOC is now commercially oriented, and its relationship with the state is increasingly at arm's length. The NOC's corporate sustainability programs are comparable to IOCs (Tordo 2011).

In Ghana, Local content policies include maximizing the use local suppliers, developing national capability through education and transfer of technology. Broni-Bediako and Amorin (2013) note that the discovery of commercial quantities of oil

and gas in 2007 has created high public expectation as to whether the country will benefit from the oil resource. GNPC has therefore adopted both commercial and non-commercial operating model by embracing local content development is one of its strategic objectives. The government of Uganda through the National oil and Gas Policy (NOGP) has set policies that will enable the implementation of local content in the upstream petroleum Industry.

4.6 National Oil Company -Reporting Framework

The reporting framework in the oil and gas industry refers to reporting and disclosure mechanisms put in place to ensure oil and gas companies comply with national and international regulations as well as contractual obligations in respect to governance, accountability and transparency practices (Gillies 2012). According to Saidu (2014) the accountability framework requires countries to put in place measures such that companies operating in the petroleum sector comply with international accounting standards and are held accountable for their operations. Transparency is defined by Kolstad and Wiig (2009) as making available timely and reliable economic, political and social information to all relevant stakeholders while governance is defined as a system that consists of the hierarchical structure organisations, including the decision-making and communication processes, and regulations governing sector activities (Saidu 2014).

4.6.1 Reporting Framework in Uganda

The government of Uganda recognizes the important roles that different stakeholders play in order to achieve transparency and accountability in oil and gas activities. The NOGP (2008) promotes transparency in respect to management of oil revenues. The policy supports disclosure of payments and revenues using simple and easily understood principles in line with accepted national and international financial reporting standards. In this regard, once a number of laws are revised, Uganda will join global transparency bodies such as EITI. (Oil and Gas Management Policy 2012) promotes transparency and accountability in respect to petroleum revenue management, investment and expenditure. In respect to governance structures in Uganda, the overall ownership and control of the Petroleum Fund is under the Ministry of Finance, Planning and Economic Development. The fund will

be managed under the Bank of Uganda while Parliament provides the oversight function. The role of the Auditor General is to audit the Petroleum Fund twice in a financial year and submit reports to parliament. The audits shall include audited and reconciled data on oil revenues, production, sales and prices. In a similar manner the Investment Advisory Committee shall prepare quarterly reports on the operations of the Petroleum Fund in accordance to the legal framework. Reports will be submitted to Auditor General, and subsequently to Parliament and made public in a specified time frame (Oil and Gas Revenue Management Policy 2012).

4.6.1.1 NOC Board of Directors

According to the 2013 PEDP Act, the BODs of the NOC shall be appointed by the President with the approval of Parliament. Their duties shall include submitting annual plans and budgets regarding projects of major significance to the State's participation in petroleum activities and principles relating to the engagement of managers. Additional submissions will include annual reports and annual accounts in relation to the participating interests of the State. The BODs shall also submit to the annual general meeting audited accounts of revenues and expenditure as well as reports containing an overview of the participating interests managed by the company.

4.6.2 Comparison of the Reporting structures in Statoil and GNPC

This section highlights the selected NOC's reporting structures in relation to various stakeholders in the oil and gas Industry. The similarities and differences between the reporting frameworks adopted by the respective NOC's have been identified.(Table 5)The details in this section were developed by evaluating documents, such as policies and regulations governing the oil and gas industry of the respective countries, including publications from the ministries of petroleum from both countries, journal articles as well as NOC annual reports.

Table: 5 NOC Reporting structures – Statoil and GNPC.

CRITERION	STATOIL	GNPC
Internal Stakeholders	- Statoil reports to the Ministry of Petroleum and Energy in relation to government shares in the company. - Statoil has specified roles and responsibilities between the shareholders, BOD and management. - The company's BOD comprises of 11 members, 3 represent the NOC's employees, and 8 are independent members.	- GNPC's reports through the Ministry of Finance. An annual report on the petroleum fund including GNPC's operations is submitted to Parliament by the Minister of Finance. -GNPC has a seven-member BOD appointed by the Ghanaian government. The BOD is made up of one executive member who is the chief executive officer of GNPC, and 6 are non- executive members.
External /Social Stakeholders	- The public in Norway hold 9% of the shares in Statoil, while the government holds 67% of the ownership rights. - The Norwegian government set up a sovereign oil fund and the government pension fund global as a place to store profits from its oil resource and save for future generations	- Ghana's Petroleum Holding Fund was established as a stabilization fund with the objective of sustaining public expenditure capacity during periods of unanticipated revenue shortfalls. -GNPC submits reports to PIAC a body formed by the Ghanaian PRM Act 2011 to monitor and assess oil management issues.
Financial Stakeholders	-Statoil is listed on the Oslo and New York Stock Exchanges. Company reports are available on the stock exchange market.	-GNPC is 100% wholly owned by the state, it reports and receives funding from government.
Transparency and	-The company publishes its financial statements and	-In Ghana, audits of petroleum accounts are undertaken, comprising of internal,

Accountability	information in accordance with International Financial Reporting Standards (IFRS). -Statoil's annual accounts are audited by external auditors.	external annual and special audits. -GNPC's accounts are audited by external auditors. The company submits reports to the PIAC, which are published and made available online and through newspapers.
Extractive Industry Transparency Initiative (EITI)	-Norway actively participates in Extractive Industries Transparency Initiative activities but is not yet compliant to its principles	-The government of Ghana pursues to increase transparency in the extractive industry. The country is compliant to EITI principles. In 2010 the initiative was extended to cover the oil and gas sector
Corporate Social Responsibility (CSR)	-Statoil supports national capacity and local content by undertaking community investments and development of local enterprises. It has encouraged transfer of competence and expertise through work force development and capacity building.	-GNPC undertakes corporate social responsibility either on its own or in collaboration with its partners in the Petroleum industry. -The Technip and GNPC partnership is a form of CSR to Ghanaian citizens, it aims to increase local participation and develop the transfer of technology to Ghana's oil and gas industry.
Environmental Reporting	-Statoil has a strong focus on HSE in line with international standards and regulations. The company ensures safe operations that protect the environment and benefit local communities.	-In accordance with Petroleum Exploration and production Act 2010, GNPC is committed to managing and conducting all its operations safely with minimal impact to the environment and people.

Source: Ministry and company reports (Statoil and GNPC) 2014

4.6.3 Internal Stakeholders

The principles that underpin Statoil's corporate governance principles include equal treatment of all shareholders. This includes providing all shareholders with access

to up to date reliable and relevant information about company activities. As affirmed by Gillies and Heuty (2011), transparency is the degree to which an organization avails information to the public, such that stakeholders are able to assess and have an informed view about decisions made by managers of an organization. Statoil has in place a BOD that is independent of the group's management. This is to avoid any conflicts of interests that may arise between BOD and management. Tordo et al.(2011) note that Statoil's BOD has decision making powers on financial matters related to company budgets and investment plans.. Statoil's BOD endorses the Norwegian code of practice for corporate governance and may issue a separate corporate governance statement and recommendation in case of deviation from the code.

GNPC is a State owned company; The Company's BOD is appointed by the government to supervise company's operations. GNPC's activities are reported through the Ministry of Finance in accordance with the 2011 PRMA, which requires the publication of records of petroleum receipts to the general public. The Ministry of Finance undertakes reconciliations of petroleum receipts and expenditures on a quarterly basis, these clauses have placed Ghana in line with international standards (GHEIT Report 2013).

4.6.4 External /Social Stakeholders

Norway's citizens are stakeholders in operations and transactions in the petroleum industry given that the success or failure of operations in the industry impacts on their livelihood. Statoil therefore has economic responsibilities, with 9% of the shares being held by the general public whilethe government holds 67% of the ownership rights. Thuber and Istad (2010) note that Norway's pension fund serves both as a stabilization fund designed to smoothen economic cycles and insulate government budgets from oil revenue volatility and as a savings fund to build up wealth that will support the population even after petroleum resources have been depleted.

In Ghana public and communities are part of social stakeholders; they hold a stake and have an interest in the operations of the petroleum industry. Gillies (2012)

affirms that citizens have direct interests in oil revenues sold by NOCs. The oil resource belongs to the nation, with the government acting as the public's steward in its management. In light of this, Ghana's Petroleum Holding Fund (PHF) was established by the PRMA as a designated Public Fund Account to receive petroleum receipts due the State from the upstream petroleum sector. A reconciliation report on the Petroleum Holding Fund (PHF) is made on annual basis.

4.6.5 Financial Stakeholders

Thuber et al. (2010), observe that Statoil's listing on the stock exchange provided frequent benchmarking for the company as well as enhanced discipline in the management and control of company operations. The company's annual financial reports are filed on both the Oslo Stock Exchange and New York Stock Exchange. This serves to say that the notion of transparency supports the need for the public to enjoy greater access to information about revenue flows and operations of the petroleum industry (Laughlin 2003).

4.6.6 Transparency and Accountability

The International Organization of Supreme Audit Institutions describes accountability as the responsibility of individuals or organizations entrusted with public resources to be accountable for the fiscal, managerial, and program responsibilities that have been conferred on them and to report to those that have conferred responsibilities (Iyoha and Oyerinde, 2010). Wainberg and Foss (2007) explain that Norway is one the countries that has a well-defined hydrocarbon policy which specifies the roles of respective participants in the upstream and downstream sectors. Norway actively participates in extractive industries and transparency initiative activities but is not yet compliant to its principles. Robinson et al. (2010) assert that increasing accountability in the management of public resources by government is required if the phenomenon of the resource curse is to be avoided. Inkpen and Moffett (2011) observe that not all oil-rich countries are victims of the oil curse; in Norway and Malaysia oil revenues have led to economic development. They further highlight that interesting test cases to watch are Ghana and Uganda who will become oil exporters over the next few years.

The Ghanaian Parliament passed the 2011 Petroleum Revenue Management Act (PRMA) with the aim of providing a framework for the collection, allocation and management of petroleum revenue in a responsible, transparent, accountable and sustainable manner. As observed by Tordo (2011), a country's willingness to allow the NOC demonstrate accountability and transparency is measured by the existence of policies on hydrocarbon sector issues and available specific objectives and roles for the NOCs. It is therefore useful to consider the twin concept of transparency and accountability as concepts that seek to promote unrestricted access to important information regarding the management of public resources entrusted with officials and as such good indicators of good governance (Gillies 2012).

According to Kowalczyk –Hoyer (2011) transparency and accountability are important elements of corporate responsibility. This is especially true for extractive industries where transparency and accountability lead to better management of natural resources. This is particularly critical in poor countries:

> *We need to use transparency in revenue and financial management to allow people to hold government to account and build public trust. Increased transparency will also help to create the right climate for attracting foreign investment and encourage an enterprise culture. Governments need to create this favourable environment, but companies have an interest in promoting transparency too. Transparency should help companies to reduce reputational risks, to address the concerns of shareholders and to help manage risks of long-term investments. And transparency is a positive contribution to development as it increases the likelihood that revenues will be used for poverty reduction (Blair 2003).*

4.6.6.1 The Public Interest and Accountability Committee(PIAC)

The PIAC represents one of GNPC's external stakeholders. The body holds meetings to discuss semi-annual and annual reports the reports with members of the public. Shepherd (2013) observes that Ghana's PIAC is an effective model in monitoring and reporting the management of oil revenues. Similarly Saidu (2014)notes that another important aspect of reporting is the mutual understanding and problem

solving processes between local communities and operators in the petroleum industry. This calls for establishing an effective mechanism for dialogue between local communities and operators to account for the impact of operational activities. It is therefore argued that there must be a structure in place to reconcile any potential misunderstanding between parties. Shepherd (2013) further asserts that Ghana through the PIAC offers an interesting model for ensuring consultation and transparency to function at local levels: "Ghana offers a model for Uganda to consider" (Shepherd 2013 Pg 25).

4.6.6.2 Ghana extractive Industry Transparency Initiative (GHEITI)

The EITI is an international body launched in 2002 that plays an important role in setting the methodology and standards on publication of payments transferred to governments by international companies. The body brings together companies, governments and civil society organisations. In September 2010, the initiative was extended to cover the oil and gas sector. GNPC reports to external stakeholders through GHEITI. Reports are in respect to reconciliations of payments by oil and gas companies, receipts by GNPC and by the government of Ghana.(GHEITI Report 2013). Similarly Haufer (2010) suggests that through EITI citizens are able to hold governments and companies accountable, which ultimately improves the management of natural resources, reduces corruption and mitigates conflicts. When looking at Uganda on the other hand, the country is committed to EITI and is in the process of joining the body. Gillies (2012) argues that financial transfers to and from the government as with other significant revenue streams, oil sale payments and receipts should be fully disclosed by NOCs and reconciled under EITI.

4.6.7 Corporate Social Responsibility (CSR)

Statoil's CSR policy aims to contribute to sustainable development based on core activities in the countries where the company operates. The company makes choices based on interests of the societies as well as organizational goals. The Statoil Corporate and Social Responsibility team is dedicated to responding to community concerns in a timely manner.(Statoil CSR Report - 2014).

The Technip and GNPC partnership aims to increase local participation and develop the transfer of technology to Ghana's oil and gas industry (Section 4.3.2.4).The project has performed middle size subsea engineering projects including refurbishing a 15000 m² fabrication yard in Sekondi naval base. GNPC sponsors the nation's football club (the Black Stars) and has made cash donations to the Ghana Journalists Association(GNPC Report 2014). Minexco Petroleum, in Ghana also works with the local community in collaboration with GNPC. The main aim of this project is to establish petroleum development training facilities which offer opportunities for transferring experience and enabling GNPC develop assets independently (Minexco Petroleum CSR Report- 2014).

4.6.8 Environmental Reporting

In regard to environmental responsibilities, Statoil ensures safe operations that protect the environment and benefit local communities. The company has environmental responsibilities related to waste management, reduction of carbon dioxide and environmental monitoring. Communities and environmental interest groups, and non-governmental organisations (NGO's) hold stakes in the oil and gas industry given the severe impact of oil and gas activities on land, water and air.

Ghana's Petroleum Exploration and Production Act 2010, places the power to regulate petroleum operations on the Minister responsible for petroleum. The government relies on the technical expertise of the GNPC to perform this function (Civil society Report- Ghana 2011). According to Marful-Sau (2009), GNPC is thus put in direct conflict with itself as it champions the enforcement of environmental regulations and at the same time a participant in the industry. Nevertheless, in line with HSE international standards and regulations, all companies operating in the oil and gas industry have a duty in ensuring sound environment practices. A similar observation was made by Stevens (2008) who highlighted that one of the arguments used for the creation of a NOC is that it would look after the national environment in a way that is superior to private oil companies or IOC's.

4.6.9 An analysis of the Strengths, Weaknesses, Opportunities and Threats of Selected NOCs

This section illustrates a SWOT analysis of Statoil and GNPC, in respect to the operating models and reporting frameworks adopted. The respective NOCs possess specific areas of strengths and weaknesses related to the company's internal operating processes, and which result into growth or decline in performance of the company. On the other hand, the opportunities and threats in respect to the external operating environment, affect the performance of NOC in terms of growth and profitability (Table 6). Based on the SWOT analysis of the NOC's, a suitable operating model and reporting frame work for a Ugandan NOC was identified.

Table 6: SWOT Analysis of Selected of NOC's.

	STATOIL	**GNPC**	**Proposal for a Ugandan NOC**
1.	**Operating Strategies**		
Strengths	-Statoil is categorized under Level III NOCs, it is well capitalized with access to technology skills and expertise and has strategic goals, operating like an international oil companies. -Statoil operates through business segments such as the DPN, DPI, DPNA, MPR and TPD. - Statoil is listed on the New York and Oslo	-GNPC operates in Joint venture partnerships with IOC's in the upstream oil and gas industry - Increase in company operational performance over the years, in respect to higher actual petroleum receipts against budgeted figures.	- A Ugandan NOC could operate in Joint Venture Partnerships with International oil companies.

	exchanges; it has access to International financial capital markets. - The company has a long-term approach to technology development with a strong engineering orientation.		
Weaknesses	- Decline in financial performance in the year 2013 and 2014. - Increase in operating costs over the years. - Statoil's Reserve replacement ratio was 1.15 and 0.97 in 2013 and 2014 respectively.	- GNPC is categorized under a Level I NOCs, made up of small companies with limited access to capital, skills and technology in the upstream oil and gas industry.	- Both Uganda and Ghana are developing economies, with limited access to International financial capital, inadequate technology and expertise.
Opportunities	- Developed economy; with adequate infrastructure. The country has the world's largest system of offshore high pressure pipelines. -Gross domestic product in 2014, amounted to $512 billion. - Norway is the third largest oil and gas exporter in the world after Russia and Saudi	-The country's resource endowments and developing oil and gas Industry are an opportunity for GNPC to create sustainable economic development for the country. - Increase in oil production in the Jubilee field is an opportunity for GNPC's to achieve profitability and growth. - The government's licensing policy in Ghana requires IOCs	-Uganda's resource endowments and developing oil and gas Industry are an opportunity for the NOC to create sustainable economic development for the country.

	Arabia, its natural gas production is expected to increase in the near future. - Green oil fields around the world are an opportunity for International Investments for Statoil.	to partner with GNPC in Joint venture operations. - Fiscal regime through the Petroleum Agreement provides host government with revenue through payment of signature bonus.	- Uganda's licensing policy allows the NOC to partner with IOC's in Joint venture operations. - Uganda's Fiscal regime through the PSA similar to Petroleum Agreement provides government with revenue through payment of signature bonuses.
Threats	Norwegian continental e oil is a mature field/ - Declining oil reserves recent fall in the global cted financial of Statoil.	-Ghana is a developing economy; it has inadequate oil and gas infrastructure in the country. -The fall in the global oil prices a threat to the financial performance of the company - The high risks and costs associated with the oil and gas industry.	-The oil and gas industry is highly capital intensive and risky. -The recent fall in the global oil prices.
2.	**Reporting Framework**		
Strengths	-Norway's pension fund which serves both as a stabilization fund. -Statoil has specific responsibilities assigned to BOD and	-Ghana's PHF is a public fund account, designated to receive petroleum receipts due the State from the upstream petroleum sector. -An annual report on GNPC's	- Uganda proposes to set up a Petroleum fund that will be managed and controlled by Bank of Uganda and the Ministry of Finance respectively.

	management - The company publishes its IFRS. Statoil's annual accounts are audited by external auditors. - Statoil has a strong focus on HSE in line with international standards and regulations.	operations is submitted to Parliament. -GNPC's accounts are audited by external auditors and submit reports to the PIAC. -GNPC reports according to EITI principles. - GNPC is committed to managing and conducting its operations safely with minimal impact to the environment.	- A Ugandan NOC could establish internal governance structures similar to Statoil, instituting BOD independent of the company's management, as a means of implementing corporate governance practices and avoiding conflict of interest. - Uganda is committed to EITI, and will comply to its principles, once a number of laws are revised. -A Ugandan NOC could adopt HSE reporting standards as one of its key responsibilities to stakeholders in the petroleum industry. and as such prevent the negative impacts of oil and gas activities on areas surrounding Lake Albert and the National Park.
Weaknesses	-The company does not report in accordance to EITI Principles.	- GNPC BOD is appointed by government ,issues of conflict of interest may arise - GNPC depends on government for its funding.	
Opportunities	-Statoil aims to give local businesses every opportunity to work	-GNPC reports to PIAC, a body formed by the Ghanaian PRM Act 2011 to monitor and	- The PIAC is a good bench mark, which could be adopted by Uganda.

	with the company during all phases of operations; great efforts have therefore been made in engaging local communities in projects and providing economic opportunities.	assess oil management issues. - The company coordinates the National Service Programme among the IOC's and local service companies operating in the petroleum industry. In 2012, an annual scholarship program was launched to benefit education and vocational studies.	-A Ugandan NOC should engage in CSR Projects a as contribution to sustainable development in the country.
Threats	-Norway actively participates in Extractive Industries Transparency Initiative (EITI) activities but is not yet compliant to its principles.	-The appointment of the board of directors by the government may result into unspecified roles between Management and BOD.	

Source: Ministry and company reports (Statoil and GNPC) 2014

4.6.10 CONCLUSION

This chapter presents the operating strategies and the reporting frameworks adopted by selected NOCs (Statoil and GNPC). In line with a context analysis the chapter highlighted the NOCs strengths and weaknesses as well as the opportunities and threats faced. The oil and gas industry context of selected NOCs were examined, this was compared with the context of Uganda's petroleum industry.The NOC reporting structures were assessed, including relationships with internal and external stakeholders in the oil and gas industry. The chapter concludes with a review of the oil and gas industry in Uganda and on this basis has identified operating models that could be adopted by a Ugandan NOC. The next chapter presents a summary of research conclusions and recommendations.

CHAPTER 5: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of Findings

This study has illustrated the critical role played by NOCs in the oil and gas industry. The operating models and reporting frameworks adopted by NOCs greatly impact on its ability to create value and contribute to sustainable development in the country. It is evident that the context of a country's oil and gas industry determines the strategies and operating models employed by the NOC. A number of studies have examined the performance of NOCs including their operating models (Hartley and Medlock 2007; Tordo 2011; Al Fattah 2013; Stevens 2008). Likewise, the study set out to analyse the operating and reporting models appropriate for a Ugandan NOC. The operating models employed by selected NOC's (Statoil and GNPC) were assessed. It was highlighted that Statoil operates under the Norwegian model and the company employs a number of operating strategies including domestic and international investments. When looking at Ghana, this research found that its oil and gas industry has separated policy functions as well as regulatory and commercial operations under different institutions. GNPC predominantly operates in joint venture partnerships with IOC's. The study noted differences and similarities in the contexts of the oil and gas industry of Uganda and the two countries. Statistics indicate similarities between Ghana and Uganda in terms of economic growth, resource endowments and fiscal regimes. At the same time, this study has made evident the existing differences between Norway and Uganda in respect to the level of development in the petroleum industry including access to capital, technology, skill and expertise. In assessing the Reporting framework, both Norway and Ghana are committed to governance, transparency and accountability standards. Statoil and GNPC have established adequate reporting structures in relation to stakeholders in the petroleum industry. A number of benchmarks that Uganda could implement were identified. The reporting structure such as EITI principles adopted by Ghana as well as the PIAC established in Ghana, presents a good model for Uganda. Statoil's internal governance structures such as separation of membership of the BOD from the management of the company present a good standard. The CSR policies adopted

by Norway and Ghana further present a benchmark that a Ugandan NOC could implement.

5.2 Conclusion

The Norwegian model adapted by Norway is a good benchmark for a country like Uganda, given that the NOGP (2008) stipulates the separation of responsibilities between the three institutions tasked to manage, regulate, and represent commercial interests of government in the industry. Similarly Shepherd (2013) states that in recent years Uganda has built up technical knowledge in the Ministry of Energy and further suggests that Uganda is set to follow the Norwegian model.However, due to the differences in the contexts of the oil and gas industry, and as observed by Thuber and Heller (2007), the Norwegian Model is effectively applied in countries where institutions tasked with the management of the industry possess adequate technical capabilities. The presence of technical expertise and skill in administration of the oil sector is key, since it enables the government to spread skills across various institutions. In countries that lack such institutional capacity, a formal regulator or policy maker may be powerless in practice and vulnerable to the NOC. In this case, Uganda could effectively implement the Norwegian model as the NOC, PAU and PEPD build their respective capabilities in terms of technology, skill and expertise. In light of the fact that the PEDP Act (2013) grants government participating interests through a NOC, a Ugandan NOC should participate in joint venture partnerships with international oil companies and adopt an Operator model as a long term strategy.

5.3 Recommendations

In brief, the benefits of a Ugandan NOC participating in the upstream oil and gas industry outweigh the associated risks and costs. The following recommendations are based on results from the study.

5.3.1 NOC- Operating Strategies

A Ugandan NOC could participate in the oil and gas industry through joint venture partnerships. This will not only reduce the costs and risks of operations, but also enable access to technology, skill and expertise from the IOC's. A Ugandan NOC

could adopt operating strategies such as domestic investment, vertical integration, export focus as well as a domestic market supply strategies. Given that the construction of an oil refinery and pipeline is underway and in line with the Petroleum (Refining, conversion Transmission and Midstream Storage) Act 2013, a Ugandan NOC could adopt a vertical integrated strategy undertaking both upstream and downstream operations in the petroleum industry. Adopting such an operating strategy will aid growth and profitability of the company.

5.3.2 Technology and Expertise

The Government should encourage innovations in the oil and gas industry and directly invest in developing technology including providing opportunities for the country's private sector to acquire and develop the skills necessary to participate in the oil and gas industry. A Ugandan NOC could encourage in house research and development projects in collaboration with international oil companies and suppliers. This would enhance efficient operations and competiveness in the oil and gas industry.

5.3.3 Good Governance Practices

The government should improve the institutional reporting frameworks in respect to governance, transparency and accountability. The Oil and Gas Revenue Management Policy (2015) requires high standards of transparency and accountability in respect to the management of oil and gas revenues, in this regard, the government could consider forming an independent body and public forum that debates issues on oil revenue management, similar to Ghana's Public Interest Accountability Committee (PIAC). Uganda could benchmark and improve on aspects of the model depending on the country's perspective.

5.3.4 Extractive Industry Transparency Initiative

The Government should promote the country's involvement in EITI, which seeks to ensure transparency in the payment, receipts, and utilisation of the extractive sector revenues. Uganda should join the EITI and comply with its principles as a step in the direction of enhancing transparency in the management of oil revenues. This will

result in building trust with various stakeholders including local citizens in regard to management of the oil resources.

5.3.5 Capacity Building of Institutions

For the efficient functioning of a Ugandan NOC, the government should continue efforts in building capacity of technocrats and other human resource in terms of expertise and skills required to participate and operate in the oil and gas industry. Enhancing skills and technical expertise will enable the PAU, NOC and PEPD to conduct their specific roles effectively and avoid any conflict of interest. In this way emulate the Norwegian Model, by separating policy, regulatory functions and participatory roles of the respective institutions.

5.3.6 Local Content

The government of Uganda through the NOGP recognizes the need for national participation. Regulations on local Content should be operationalized such that the country benefits from the advantages of Local content, in terms of enhancement of technical skills and expertise, service provision by local suppliers including the creation of employment opportunities for Ugandan Nationals. A Ugandan NOC could implement its nation mission objectives as well as corporate social responsibility (CSR) projects. Through CSR, the NOC could support tertiary and university education including training and skills development in the petroleum sector.

5.3.7 Environmental Reporting

The 2013, Petroleum (Refining, conversion Transmission and Midstream Storage) Act provides for health, safety and environment regulations. The regulations should be enforced by the PAU to ensure sound environment practices by companies operating in the Petroleum industry. This would guard against the severe impacts of oil and gas operations on the environment, given that the Albertine Graben is situated near a National Park. A Ugandan NOC could therefore adopt a reporting framework in respect to HSE such the impact of its operations on the environment are monitored.

Recommendation for further research in the future, include assessing value creation and performance of a Ugandan NOC, with emphasis on the operational, financial performance and achievement of national mission objectives.

APPENDICES

Appendix (i) Oil/Gas Export revenues of selected National oil companies

National oil Company	% State ownership	Oil /Gas % Export Revenues	World Ranking by Oil Reserves
Saudi Aramco	100%	90%	1
Gazprom-Russia	38%	66%	1-Gas
NIOC-Iran	100	80%	2
INOC-Iraq	100%	87%	3
PdVSA- Venezuala	100%	80%	5
NNPC-Nigeria	100%	96%	8
Pemex-Mexico	100%	11%	9
Petro-China	88%	Importer	15
Sonatrach-Algeria	100%	95%	16
Petrobas- Brazil	56%	Importer	18
Petronas Malaysia	100%	4%	22
ONGC India	84%	Importer	26
ENI-Italy	30%		29
Statoil- Norway	80%	47%	29-Gas
Sinopec-China	55%	Importer	31
Rosneft-Russia	100%	66%	34
Kazmunaigas-Kazahstan	100%	60%	35
Norsk Hydro Norway	44%		37-Gas
Sonangol-Angola	100%	90%	38
CNOOC-China	71%	Importer	44

Sources: PIW April 2005, World Bank country data, EIA country profiles, Economist intelligence unit EIA OPEC Revenues.

Appendix (ii) Internal governance in selected NOCs

NOC	Board Structure	Financial Autonomy & Budget Autonomy	Audit Process and Disclosure
CNOOC	11 BOD Members, 5 Independent Members	The BOD has decision making powers on financial matters, but must obtain government approval for certain investments and foreign borrowing. The BOD has decision making powers on budget and investment plans,	Reports filed on relevant stock exchanges.
ENI	9 BOD Members 3 Independent Members	The BOD has decision making powers on financial matters, budgets and investment plans.	Reports filed on relevant stock exchanges
Statoil	10 BOD Members 7 Independent members	The BOD has decision making powers on financial matters, budgets and investment plans. The BOD has decision making powers on financial matters.	Reports filed on relevant stock exchanges
Gazprom	10 BOD Members None are Independent	The BOD has decision making powers on financial matters, budgets and investment plans.	Reports filed on relevant stock exchanges.
ONGC	17 BOD Members 8 Independent	The BOD has decision making powers on financial matters, budgets and investment plans.	External auditors.
PDVSA	10 BOD Members None are Independent.	The Minister of Energy and Petroleum establishes the NOCs overall policies. The BOD has modest decision making powers on financial matters. Dividend policies linked to the government's financial needs.	External auditors. Since 2005 the NOC no longer submits audited financial reports to the SEC. Annual reports are published by the NOC.

Pemex	15 BOD Members None are Independent.	The BOD has modest decision making powers on financial matters, and budget must be approved annually by Congress.	Uses external auditors.
Petrobras	9 BOD Members 2 Independent.	The BOD has decision making powers on financial matters, budget and investment plans, but Congress approves investment budget.	Uses external auditors. The NOC reports according to IFRS. Reports filed on relevant stock exchanges
Petro China	14 BOD Members 5 Independent.	The BOD has decision making powers on budget and investment plans, but must obtain government approval for certain investments and foreign borrowing.	Uses external auditors. Reports filed on relevant stock exchanges.
Rosneft	9 BOD Members 3 Independent.	The BOD has decision making powers on financial matters, budgets and investment plans.	Uses external auditors. Reports filed on relevant stock exchanges
Sonatrach	13 BOD Members None are Independent.	The BOD has decision making powers on financial matters, budgets and investment plan. Budgets are approved by the General Assembly.	Uses internal auditors. Reports according to national accounting guidelines and US GAAP since 2006

Source: Tordo (2011), companies filings, annual reports and websites, reference year 2008.

1. Appendix (iii) External Governance Arrangements for selected NOCs

NOC	Listings	% State ownership	State Ownership Function
CNOOC	Hong kong SAR, China S.E, New york S.E	66%	The state owned Assets Supervision and Administration commission.
ENI	Borsa Italiana, New york S.E	30%	The Ministry of Economy and Finance
Statoil	Oslo S.E, New york S.E	70.83%	The Ministry of Petroleum and Energy(66.8%) and the state pension fund (3.94%)
Gazprom	St Petersburg S.E, London S.E.	50%	The Federal Agency of state property Management
ONGC	Bombay S.E, National S.E of India	84%	The President of India and the Indiana oil corporation and Gas Autonomy
PdVSA	Not Listed	100%	Ministry of Energy and Petroleum
Pemex	Not Listed	100%	Secretaria de Energia
Petro bras	Sao Paulo S.E, New york S.E, Buenos Aires and Madrid S.E	55.7%	The Ministry of Finance
Petro China	Hong Kong SAR, China S.E, New york S.E, Shangai S.E	86.7%	The State owned Assets supervision and Administration commission
Rosneft	London S.E, Moscow Interbank, Russian Trading System	83%	Federal Agency for state property Management
Petronas	Not Listed, subsidiaries listed on Malaysian Bursa	100%	The Ministry of Finance, with some rights to the Prime Minister
Sonatrach	Not Listed	100%	The Ministry of Energy and Minerals

Source: Tordo (2011), companies filings, annual reports and websites, reference year 2008.

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