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**An Empirical Investigation of the Efficiency, Effectiveness and  
Economy of the Nigerian National Petroleum Corporation's  
Management of Nigeria's Upstream Petroleum Sector**

**By**

**Ibraheem Salisu Adam**

**A thesis submitted in partial fulfilment of the requirements of the Robert  
Gordon University for the Degree of Doctor of Philosophy**

**May, 2014**

## **DEDICATION**

**To my parents: Late Muhammad Salisu Adam and Hajiya Fausat Adam;  
and my late uncles: Shehu Aliyu Buddaraini and Alhaji Lawan Adam.  
Thank you all for your love and guidance.**

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## **LIST OF ABBREVIATIONS**

AFE	Authority for Expenditure
AGF	Office of the Auditor General for the Federation
CA	Carry agreement
CAPEX	Capital Expenditure
CBN	Central Bank of Nigeria
CRC	Commercialisation, Re-organisation and Capitalisation
CS	Civil Society
CSUs	Corporate Service Units
DPR	Department of Petroleum Resources
FIML	Full Information Minimisation Likelihood
FMPR	Federal Ministry of Petroleum Resources
GED(s)	Group Executive Director(s)
GMD	Group Managing Director
ICT	Information and Communication Technology
IDSL	Integrated Data Services Limited
JOA	Joint Operating Agreement
JOPCOM	Joint Operating Committee
JQS	Joint Qualification System
JV	Joint Venture
LC	Letter of Credit
LOCs	Local Oil Companies
MAR	Missing at Random
MCA	Modified Carry Agreement
MCAR	Missing Completely at Random

MD	Managing Director
MOCs	Multinational Oil Companies
MOU	Memorandum of Understanding
NA	National Assembly
NAPIMS	National Petroleum Investment Management Services
NCD	Nigerian Content Division
NCDMB	Nigerian Content Development and Monitoring Board
NEITI	Nigerian Extractive Industry Transparency Initiative
NETCO	National Engineering and Technical Company
NIPEX	Nigerian Petroleum Exchange
NMAR	Not Missing at Random
NNOC	Nigerian National Oil Company
NNPC	Nigerian National Petroleum Corporation
NOCs	National Oil Companies
NPDC	Nigerian Petroleum Development Company
NPM	New Public Management
OEL	Oil Exploration Licence
OML	Oil Mining Licence
OPEC	Organisation of Petroleum Exporting Countries
OPEX	Operating Expenditure
OPL	Oil Prospecting Licence
PAF	Professional Accounting Firms
PIB	Petroleum Industry Bill
PIU	Petroleum Inspectorate Unit
PPT	Petroleum Profit Tax



PSC	Production Sharing Contract
PTDF	Petroleum Technology Development Fund
RMAFC	Revenue Mobilisation Allocation and Fiscal Commission
SAP	System Application Products
SBU <sub>s</sub>	Strategic Business Units
SC	Service Contract
SOEs	State Owned Enterprises
SPSS	Statistical Package for Social Sciences
SUB-COM	Sub-Committee
TECOM	Technical Committee
TQM	Total Quality Management
UK	United Kingdom
VfM	Value for Money
3Es	Efficiency, Effectiveness, Economy

## ABSTRACT

This thesis empirically investigates how well the Nigerian National Petroleum Corporation (NNPC) ensures value for money (VfM) in its exploitation of Nigeria's oil resources. This focus on VfM distinguishes the study from other researches carried out on the performance of national oil companies (NOCs) where the common approach in the literature has been to assess performance using the metrics applicable to private oil companies. The rationale for the new approach is that the NNPC is a quasi-public sector organisation and thus its performance should be measured in the same way as that of public sector bodies and state owned enterprises (SOEs). Informed opinions on NNPC's management roles in Nigeria's oil and gas upstream sector were sought from a range of relevant experts in twelve stakeholder groups involved in oil and gas upstream operations. Data were collected through the use of questionnaire and interview surveys, and further subjected to statistical analysis to determine and assess significant differences in views between respondent groups. The empirical results obtained from the questionnaires were used to draw a conclusion on the hypotheses formulated for the study. Furthermore, the findings of the interview survey were used to validate the conclusions drawn. The study revealed that the NNPC was perceived to be deficient in keeping its mandate of adding value to Nigeria's hydrocarbon resources. In specific terms, the respondents were of the view that NNPC has not been able to ensure VfM in its operations because of defects in its organisational structure, administrative system, and accountability. External factors such as political interference, instability and an inappropriate legal framework against which NNPC operates have also been perceived to impede the corporation's performance. The main conclusions were: firstly, it is argued that the use of conventional private sector metrics to evaluate the performance of NOCs makes it difficult to form an appropriate view on their performance. Secondly, NOCs with numerous conflicting roles as is the case with NNPC are unlikely to achieve satisfactory performance. Thirdly, the NNPC lacks the capability required to ensure multinational oil companies' (MOC) conformity with operational provisions and best practice. Finally, the thesis concludes that establishing a standardised performance/benchmarking framework is an essential requirement to ensure value addition, VfM and accountability in Nigeria's oil and gas operations.

**Keywords:** *efficiency, effectiveness, economy, performance, value adding, Value for Money, accountability, oil and gas, petroleum management*

# CHAPTER ONE INTRODUCTION

## 1.1 Background to the Study

Since independence in 1960, the Nigerian State has been greatly concerned with the industrial and socio-economic development of the country; often utilising state ownership of assets as a direct means to accomplish public objectives<sup>1</sup>. The government significantly uses its ownership status to establish its presence in the agriculture, energy services, banking, transportation and telecommunication industries with the aim of promoting industrialisation and improving the welfare of its citizens (Imhonopi and Urim, 2010; Omoleke, 2010).

In tandem with other OPEC members<sup>2</sup>, the control of the oil and gas resources was considered strategic for the economic wellbeing of Nigeria, and key to its development of a welfare society (Nwokeji, 2007). This desire of Nigeria, to participate in the exploitation of its oil and gas resources, led to the emergence of its national oil company in 1971, the NNOC, pursuant to the Petroleum Act of 1969 (Umar, 2005). The NNOC was created to serve both the roles of a public enterprise as well as an implementation agency for government policies relating to the oil and gas (Atsegbua, 1999).

However due to its unsatisfactory performance, in 1977, the NNOC was replaced with the NNPC and assigned the overall responsibility of implementing the government's participation policy<sup>3</sup> (Gboyega et al., 2011). In so doing, the NNPC was designed to serve as a quasi-public sector vehicle to obtain optimal value from the country's hydrocarbon resources for the benefit of the Nigerian people, and indeed all stakeholders (Nwokeji, 2007). In other

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<sup>1</sup> Even before 1960, Public Enterprises otherwise referred to as State Owned Enterprises were created to address socio-economic imbalance that resulted due to market imperfection and capital shortfall, as well as to boost domestic economic activities (Basu, 2007).

<sup>2</sup> Through its Policy Declaration of 1968 (resolution 90), OPEC enjoined its members to create state oil companies as a condition for state participation in the oil and gas industry (Atsegbua, 1999).

<sup>3</sup> The Nigerian Enterprises Promotion Decree was enacted in 1972 to encourage local participation in the Nigerian economy. It specified that certain businesses can only be undertaken by foreigners in partnership with local investors (Atsegbua 1999; Nwokeji, 2007).

words, the NNPC was established as an ultimate device for securing national interest in both the upstream and downstream sector of the oil and gas industry. This has been through the pursuit of both commercial and socio-economic development objectives of the government<sup>4</sup> (Pargendler et al., 2013). In the course of upholding its mandate, the NNPC has undergone different phases of development (Nwokeji, 2007; Makeri, 2009; Okoye, 2010).

Clearly, therefore, sound management of NNPC was a prerequisite condition if the government's desired commerciality goals, and the NNPC's role as vehicle for Nigeria's socio-economic development, were to be achieved. The NNPC has, however, been highly criticised for its performance in this respect (see Umar, 2005; Nwokeji, 2007).

As the NOC of the country; the remit of the NNPC like any other NOCs, centres on managing the country's oil and gas resources particularly those relationships that exist between the country and MOCs relating to oil and gas resources exploitation. Other responsibilities, as stated by the NNPC Act (1977:2) include "exploring and prospecting for, working, winning or otherwise acquiring, possessing and disposing of petroleum" as well as "generally engaging in activities that would enhance the petroleum industry in the overall interest of Nigeria".

In general terms, the NNPC's role includes implementation of government policy objectives, relating oil resources' exploitation through effective participation, investment, and acquisition of technical and managerial skills. And the aim was for the country to derive maximum benefits for the sustenance of economy as well as to meet its social needs (Atsegbua 1999; Nwokeji, 2007; Hosman, 2009).

And, recently, the aspiration of the government relating to its oil resource exploitation were: (a) increase oil reserves to 40 billion barrels by the year

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<sup>4</sup> It is asserted that when besides maximising profit, a company also pursues socio-economic development; it can also be referred to as the pursuit of double bottom line (Pargendler et al., 2013).

2010; (b) achieve zero gas flaring; (c) achieve local content value of 45% by 2006 and 70% by 2010; and (d) achieve domestic self-sufficiency.

From the proceeding analysis, it is generally accepted that the remit of NNPC, as a national oil company, is the promotion of oil resources' exploitation and utilisation for the benefit of the country. As an NOC, as well as a quasi-public sector organisation, it would not be out of place to raise questions on how well it has fared in both its roles, especially from the perspective of VfM (efficiency, effectiveness and economy). Consequently, this study aims to empirically and critically investigate:

1. How well the stakeholders view the efficiency of oil and gas resources exploitation in Nigeria.
2. How well the stakeholders view the effectiveness of oil and gas resources exploitation in Nigeria.
3. How well the stakeholders view the economy of oil and gas resources exploitation in Nigeria.

As stated above, these issues are in line with the VfM concept commonly used by public sector organisations. The concept is concerned with improving the way public sector organisations are managed, based on the concepts of efficiency, effectiveness and economy (Metcalf and Richards, 1990; Andrew and Boyne, 2009).

The VfM concept is associated with a paradigm shift in public sector management from which emerged the new public management (NPM) or new managerialism (Pollitt, 1993; Hood and Peters, 2004). It is involved with phenomenal structural and management changes of public sector organisations, due to the view that public sector organisations in Nigeria were wasteful, corrupt, and low in accountability. This suggests that the public sector organisations failed to pursue and ensure VfM from the resources available (Pollitt, 1993; Pollitt and Bouckaert, 2000).

NPM evolved from a neo-liberal ideology that aligned public sector efficiency to managerial ability and accountability by introducing and adopting business-like management into public sector organisations (Hood and Peters, 2004). The NPM emphasis relates to a cocktail of strategies that include cost reduction and control, devolution of management responsibilities, financial transparency, autonomy, enhanced accountability and quasi-market mechanisms (Ferlie et al., 1996). It also encompasses opening up to competition, citizen satisfaction, strategic planning, performance-oriented management, business-style accounting and reporting - all of which are geared towards ensuring VfM (Pollitt, 1993; Hood and Peters, 2004; Bourgon, 2007).

Generally, it is expected that an organisation will establish a mission statement that should define the purpose of its existence, which in effect will help to determine the strategies to be used in achieving its purpose. This raises a challenge given that the aims, objectives and action plans that are strategically important for fulfilling a public sector organisation's mission (Kaplan and Norton, 1996) are not usually clearly defined and quantifiable (Joyce, 2000). Thus, the efficiency, effectiveness and economy matrix of the VfM concept was developed to address this challenge (Sevic and Rebreovic, 2000; Andrew and Boyne, 2009). In consequence, the NPM managerial reform has been reported to have helped public sector organisations to achieve significant growth, improved skills, capability and management culture (Ferlie et al., 1996; Talbot, 2005).

The forgoing analysis provides a strong argument for pursuing a study that will investigate how well the NNPC has ensured VfM in its mandate of oil resources' exploitation for the benefit of Nigeria. In addition, the NNPC is an ideal organisation for this study considering that it is a quasi-public sector organisation that has undergone several reforms, which supposedly are in line with the NPM approach. Also important is the consideration of the role the NNPC plays as the nexus of the Nigerian oil and gas industry<sup>5</sup> (Ayoade, 2009).

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<sup>5</sup>In 2012, oil accounted for more than 80% of the Nigerian government earnings, 95% of export earnings and 37% of Gross Domestic Product (GDP).

## **1.2 Aims and Objectives**

The aim of this thesis is to empirically and critically investigate how well the NNPC ensures VfM in its utilisation of Nigeria's oil resources. To achieve this aim the more specific objectives are:

1. To critically investigate the factors that add value to Nigerian hydrocarbon resources stated in the mission statement of NNPC.
2. To critically investigate how well the NNPC has efficiently exploited Nigerian oil and gas resources.
3. To critically investigate how well the NNPC has effectively exploited Nigerian oil and gas resources.
4. To critically investigate how well the NNPC has ensured economy in the exploitation of Nigeria's oil and gas resources.

### **1.2.1 Hypothesis**

To systematically address the objectives and questions of the study, and following a critical literature review and engagement with the underpinning theoretical framework, it became expedient to derive five hypotheses (see Section 5.6.2). Accordingly, it was on this basis that the following null hypotheses were tested in the study.

**HO<sub>1</sub>** – NNPC's value adding objectives do not meet the global standard for hydrocarbon value creation.

**HO<sub>2</sub>** –Environmental factors associated with the Nigerian upstream sector have, on balance, not had a positive influence on adding value to hydrocarbon resources.

**HO<sub>3</sub>** – NNPC's management of upstream petroleum activities has not been efficient.

**HO<sub>4</sub>** – NNPC's management of upstream petroleum activities has not been effective.

**HO<sub>5</sub>** – NNPC has not ensured economy in the management of the upstream sector.

### **1.3 Theoretical Framework, Research Methodology and Methods**

Hopper and Powell (1985) posited that a framework is a map used to navigate one's way through the wealth of research. It is based on this that Srivastava and Mock (2000) describe the process of choosing a framework as that of choosing a "formal language" or "semantics" to express the uncertainties in analysing a task. Furthermore, they state that the context and domain of a problem determines the language appropriate for use.

Gray et al. (1996:38) defined the term accountability as "the duty to provide an account or reckoning of those actions for which one is held responsible". In this context, the study adopts the accountability framework which involves the monitoring, evaluation and control of organisational agents to ensure they act in the interest of stakeholders (Keasey and Wright 1993); this underpins the principal-agent theory (Jensen and Meckling, 1976) and the VfM concept (Demirag and Khadaroo, 2011). As well, the framework has a wider scope of application when compared to a decision-usefulness-based framework (Ijiri, 1983), and it is the most utilised basis for analysis of accounting information transmission (Gray et al., 1988).

In addition, according to Sihotang (2003), the accountability framework provides a suitable basis for researching the petroleum industry of developing countries. Given that the focus of this research is on the NNPC and the oil and gas industry, the framework may help in accessing the flow of relevant information by parties involved (Laughlin, 1996). On this premise Russell (2002) reported that the flow of information will be used to access financial accountability of the agent, as well as for process accountability, performance accountability, policy accountability, public accountability and contractual accountability. Furthermore, accountability is known to play a significant role in mitigating agency costs in modern contractual relations and provide an avenue for dissemination of information (Jensen and Meckling 1976; Smith and Warner, 1979).



In order to clarify the philosophical assumptions on the nature of reality and the position to be adopted for seeking knowledge in connection with this research (Gall et al., 1996), the interpretive paradigm was chosen for this study in consistence with the Burrell and Morgan (1979) paradigmatic framework stated in Sections 5.2.1 and 5.6.1. In addition, nominalism, anti-positivism and voluntarism were the positions taken for ontology, epistemology and human nature respectively. The study also adopted Laughlin's (1995) "middle range" idea which advocates the radical change dimension that is suitable for explaining the human involvement in the accountability relationship in the oil and gas industry.

Furthermore, the research data were collected and analysed to arrive at empirical evidence through the mixed methods of questionnaire and semi-structured interviews. The study adopted this mixed approach that was based on the perceptions of relevant stakeholders to strengthen and validate its findings.

#### **1.4 Significance of the Study**

The research is significant for the following reasons:

Firstly, oil and gas is the mainstay of the Nigerian economy in that it contributes over 80% of the country's revenue. Therefore, investigating the efficiency and effectiveness associated with NNPC oil and gas resources exploitation is of particular interest to policy makers, legislators, regulators, and the citizens.

Secondly, because of the potential of accountability standards and practices, the study provides channels of improving operations among stakeholders in the Nigerian oil industry. This may be achieved by promoting acceptable procedures with regards to accounting, auditing, operational and financial disclosures and VfM assessments.

Thirdly, the literature on the performance of NOCs is limited, particularly in the case of the NNPC. Therefore, in this respect, this thesis makes a

contribution to the body of knowledge and contributes to the existing literature, especially with regards to oil producing developing countries.

Finally, with the effort being made by the Nigerian government to privatise the NNPC through the yet-to-be passed PIB, the study makes recommendations that will shift the focus of government towards a structure consistent with the NPM's quasi-market ideologies. It has been argued that the performance of SOEs such as NNPC can be improved without privatising them; by organisational reform, increased competition and political administrative reforms (Chang, 2007).

### **1.5 Structure of the Thesis**

The thesis is organised into eight chapters (as depicted in Figure 1.1). The present chapter briefly explained the governance issues relating to NNPC and the need for the current research. Also discussed in this chapter were the aim, objectives and significance of the study. Furthermore, the chapter referred to the theoretical framework, methodology and methods used in carrying out this research.

Chapter Two contains the literature review on SOEs, also called NOCs. The review includes the motives for creating the NOCs, governance structure, objectives and their roles in the upstream sector. Other issues discussed in the chapter are those that concern NOC's performance and VfM.

Chapter Three examines the state-owned NNPC. The chapter begins with the historical overview of the Nigerian oil and gas industry and the evolution of NNPC. Furthermore, the chapter discusses the duties, powers and organisational structure of NNPC; after which, the corporation's participation arrangements for the upstream sector and its transformation efforts are discussed. Finally, the chapter relates these governance issues to the VfM concept in order to have an understanding of its performance.

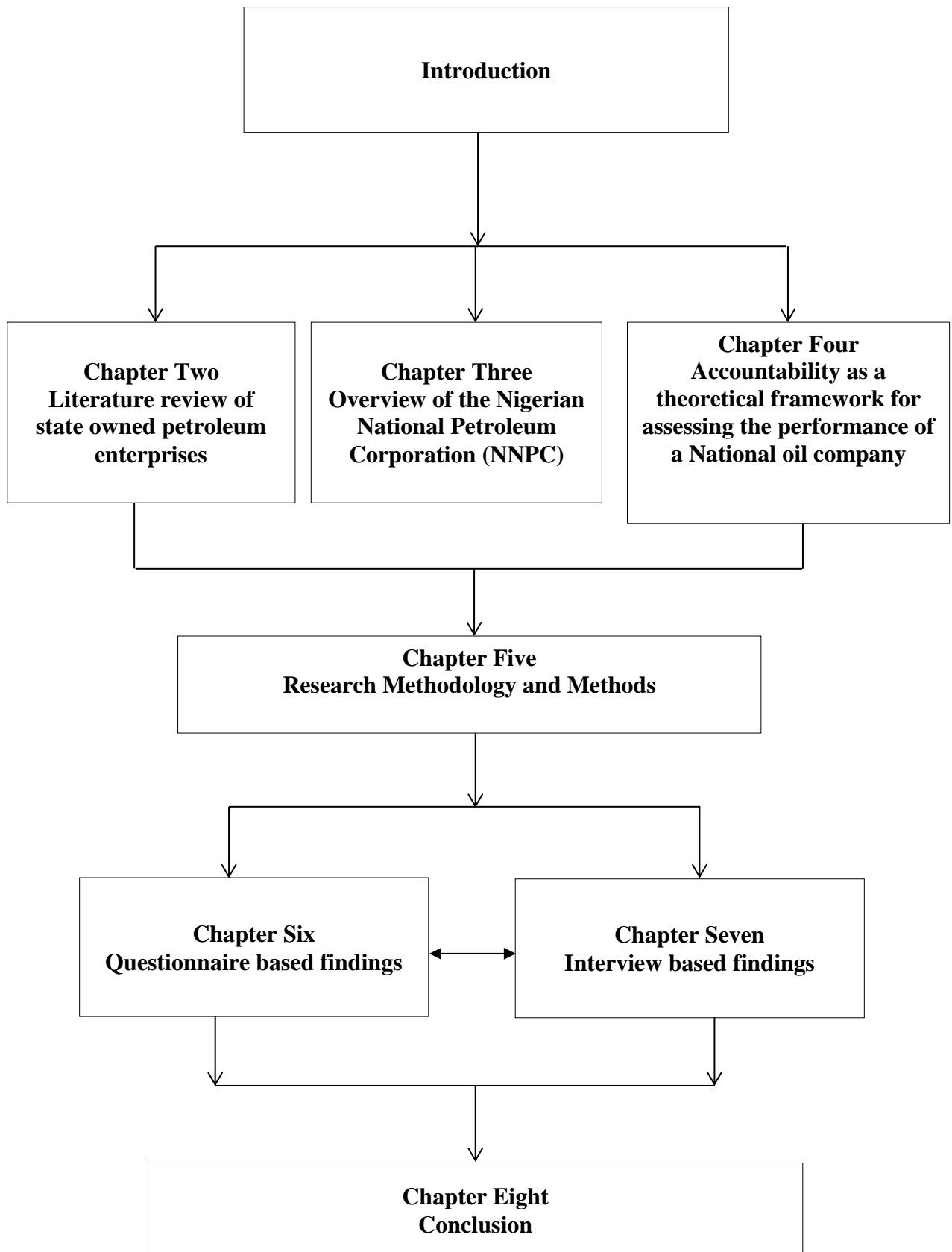
Chapter Four discuss the accountability theoretical framework adopted for the study. Also discussed are the underpinning principal-agent relationship and the

VfM model. The chapter reviews the suitability of the framework for this thesis. Other alternative frameworks that could be used are also discussed, while justification for adopting the accountability framework is provided.

In chapter Five, a methodological review is conducted and, as a result, the philosophical assumptions; the mixed research methods and the instruments (questionnaire and interviews) employed for gathering and analysing data for the study are presented. Also explained in the chapter, are the formulations of the hypotheses tested in the study. Finally, the chapter explains the role of the Statistical Package for Social Science (SPSS) in data management and analysis.

Chapter Six presents the analysis and findings of the questionnaires administered to twelve, relevant stakeholder groups in the Nigerian oil and gas industry. The rationale for the chapter is to find out how well NNPC has performed in the upstream sector, using the VfM concept. In Chapter Seven, the analysis and findings of the follow-up interviews conducted are presented. Finally, Chapter Eight summarises the thesis and suggests the recommendations. Furthermore, conclusions drawn from the study are presented and possible areas for further research are identified.

**Figure 1.1: Thesis Structure**



## **CHAPTER TWO**

### **A REVIEW OF STATE OWNED PETROLEUM ENTERPRISES**

#### **2.1 Introduction**

This chapter aims to review the generic literature on State Owned Petroleum Enterprises otherwise referred to as NOCs. In particular, the review should help to determine if NOCs act as quasi-public sector organisations with the remit to further the good of the societies they represent. If, as suspected that is the case, then the performance of the NOCs can be legitimately assessed using the metrics associated with VfM concepts, such as efficiency, effectiveness and economy (Boyne, 2002).

The sequence of the chapter is as follows. Sections 2.2 to 2.4 discuss the meaning and evolution of SOEs. Other issues discussed include the motives for setting up SOEs, their characteristics, objectives, governance and performance. The discussion in Section 2.5 focuses on NOCs as state enterprises. The section also discusses the nature of NOCs, the governance of NOCs and their dual objective. Section 2.6 concludes.

#### **2.2 The Meaning of State Owned Enterprises**

In a pure free market concept where markets operate costless and friction free, the role of state participation in the economy is assumed not to exist or it is limited to regulation (Estrin et al., 2012). However, market as a powerful mechanism for promoting economic development “often fails to produce the economic dynamism and the social justice that a sustainable economic development requires” (Chang, 2007:6). Thus, there is a role for government to correct the deficiencies of the market through the employment of “state capitalism”. In this respect, usually the government establish public financed organisations to respond to the varying transaction cost and market failures (MacAvoy et al., 1989; Musacchio and Lazzarini, 2012). These public sector organisations have been referred to with various terminologies, but the most

commonly used is state owned enterprise (SOE)<sup>6</sup> (Roper and Schoenberger-Orgard, 2011). Therefore, for the purpose of this study, the SOE is adopted.

The term SOE, as observed in the literature, does not have a globally accepted definition due to the bewildering nature of their composition and differences in ideology, values, circumstances, rationales and period of setting them up (Adeyemo, 2005). However, Mazzolini (1979) describes SOE as a business enterprise, effectively controlled by government, and in which the state owns majority of the equity. Aharoni (1986) refers to SOE as a corporate entity wholly or substantially owned and controlled by government. Similarly, Efange (1987:5) defined public enterprise, in other words SOE, as “an institution or organisation which is owned by the state or in which the state holds a majority interest, whose activities are of a business in nature and which provides services or produce goods and have their own distinct management”.

The SOEs are vital providers of essential public and commercial goods and services. They are important policy tools for both developed and developing countries (Toninelli, 2000), and they have assumed an increasingly significant role in the regional, national and global economy. They represent some of the largest companies and major movers of economic activities in many countries, and are amongst the highest revenue earners, asset owners and strategic industry players in the world (OECD, 2005). There are dominant in the areas of transportation, infrastructure, water, health care and mineral resources (Aharoni, 1986; OECD, 2005). For example, the success of the Indian Railways has been evidenced in literature, as it is the largest non-military employer in the world after Wal-Mart (Tordo et al., 2011).

In practice, there are different SOEs ranging from those whose operation is separate, but not legally distinct from government to those who are incorporated. Nevertheless, as shown in the definitions, the overriding features of an SOE are state ownership and control (Aharoni, 1986).

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<sup>6</sup> In the literature, the public owned organisations have also been referred to as State owned companies, government business enterprise, government link companies, public enterprise and government parastatal (Roper and Schoenberger-Orgard, 2011).

### **2.3 Emergence of SOEs**

To have a clear understanding of the SOE concept, it is important to look back into the history of their emergence. Different reasons have been cited for the evolution of SOEs with the socio-political and economic reasons being the most common. Fernandes (1986) identified the broad reasons for the evolution of SOEs and categorised them into five, namely; (i) inheritance; (ii) historical accident; (iii) nationalisation; (iv) state entrepreneurship; and (v) take over. These points are briefly discussed in the next paragraphs.

In developed countries such as the United Kingdom, the nationalisation of private enterprises prevailed in the 1950s as a result of economic problems caused by the Second World War (Stevens, 2008a). Nationalisation was sought during this period to make the troubled private enterprises more efficient, effective and economical, and to generally provide economic and social benefits (HM Treasury, 2004).

In the developing countries, however, the first SOEs were those inherited from the colonial powers at independence. They were part of the administrative and political legacy inherited and utilised to foster development during the early stage of independence (Ayee, 2008). Simply put, Nellis (1986:11) referred to them as “institutions and pre-dispositions inherited from centralised interventionist colonial regimes”. Closely related to inheritance of SOEs are those enterprises that arose not through deliberated public policy but through unforeseen historical situations. Instances of such were the assets left behind in Algeria by colonial France (Bala, 2006).

Some SOEs originated during the era of nationalisation. Primarily, the reason for nationalisation was for government to control the economy (Stevens, 2008a). During this period strategic industries initially run by foreign business companies were taken over by governments of the home countries, either due to the ideological belief that the foreign companies were agents of imperialism (McPherson, 2004) or under the guise of controlling the vital resources that are used to run the economy (Stevens, 2008a). It is further argued that foreign companies cannot and will not protect the national interests of the home

countries; hence, it was necessary for government to intervene. Government intervention is mostly done by setting up SOEs to maximise revenue; pursue social objectives and protect national interests (Stevens, 2008a; Tordo, et al., 2011). Symbolism, pride and sovereignty are some other reasons presented in the nationalisation argument (Stevens, 2004; Falola and Genova, 2005).

An additional argument for the evolution of SOEs is state entrepreneurship. The government establishes SOEs to kick start economic development when there is capital scarcity and lack of incentive for private sector involvement (Omoleke and Adeopo, 2005). A notable example of such is the establishment of the New Nigerian Development Company Limited by the northern Nigerian government in 1949 (Omoleke, 2010).

Unlike nationalism which entails the takeover of established business, state entrepreneurship involves the creation of state enterprises with the aim of adding value to economic resources (Tordo et al., 2011), and achieve economic linkages and development (Fossum, 1997; Oyejide and Adewuyi, 2011). Most developing countries, in their early stages of independence, felt that state entrepreneurship was a necessary strategy for economic development (Omoleke and Adeopo, 2005). Supporting this point, Adamolekun (1983 cited in Omoleke, 2010:112) remarked that, “to achieve economic objectives, it is obvious that government in the Nigerian polity must assume the role of entrepreneurs”.

Evidence from the literature shows that some SOEs evolved through takeover of private businesses that were in difficulties or on the verge of bankruptcy. In this case, governments’ intervention may be attributed to market failure (Stevens, 2004), or to safe guard employment and sustain economic activities (Omoleke and Adeopo, 2005). This motive is in line with the Keynesian legacy which argues for government intervention to provide social services and economic development (Stevens, 2004; Omoleke and Adeopo, 2005). A typical example of this can be drawn from the takeover of some banks in Nigeria as a result of economic crisis in 2009 (Nworji et al., 2011).



### **2.3.1 The Motives for the Creation of SOEs**

Generally, government interventions in an economy are due to a variety of intertwined reasons that can be placed within socio-economic and political realms. As well, the government intervenes in the economic process by controlling and regulating established private enterprises or by the formation of SOEs that undertake economic activities (Bala, 2006). The motives are discussed below:

(1) Motives for the creation of SOEs are diverse and intertwined, but the most mentioned economic reason for setting up an SOE is the market failure (Stevens, 2008a). Market failures necessitate government's intervention; especially for those in the developing countries who use the SOEs as vehicles for stabilising and sustaining productivity (Stevens, 2004). Also, the SOEs are given the role of promoting industrialisation, growth and economic development (Nunnenkamp, 1986; Stevens, 2004).

Additionally, evidences drawn from Gillis (1980) and Chang (2007) showed that some SOEs were created to mitigate information asymmetry between the home government and their partners, who are mostly foreigners. Another reason, from the economic perspective, is the reluctance of private entrepreneurs to get involved in economic activities in areas of high risk or those of low returns. Also, Venon and Aharoni (1981) advanced that SOEs can be used as agent of industrial policy; where the government intends to kick start a lagging sector of the economy. In a related manner, the SOE can be used to increase national self-sufficiency by import substitution and the promotion and expansion of exports (Nunnenkamp, 1986).

For the purpose of maximising revenue and social welfare in strategic sectors such as transportation, the SOE can be utilised as a monopoly with the aim of the reinvesting abnormal profits derived back into the economy in the form of welfare. The SOE can, as well, be used to prevent the private sector from forming a monopoly in certain strategic sectors (Todaro, 1989; Omoleke and Adeopo, 2005).

A notable motive for setting up SOEs in developed countries is to allow the government control of huge, highly technological and security related projects that are either beyond the means of the private sector, or too risky to entrust with them. This argument is consistent with the tradition of laissez-faire capitalism, where government is mostly restricted to defence, administration, justice and infrastructure (Bala, 2006).

Alternatively, the Keynesian argument prevailed in the developing countries, as SOEs were used to correct the economic system and maintain employment. Especially after independence, the economic justifications for SOEs are often linked to government aims of controlling important enterprises previously owned by foreigners; the acquisition of technological, managerial skills and national capacity building (Oyejide and Adewuyi, 2011; Tordo et al., 2011).

(2) The political motives for the creation of an SOE can be attributed to its use as an instrument for bargaining and soliciting for financial, political or military support in the international sphere (Gidado, 1999; Tordo et al., 2011), and for bilateral trade arrangements (Vernon, 1979). In a situation where a private enterprise is in difficulty or on the verge of bankruptcy, it may be politically necessary for government to intervene in order to save jobs (Aharoni, 1981). In addition, there is evidence that, in some cases, SOEs were created by government for political patronage and vote seeking. They could be used to create and sustain employment in order to achieve social and political objectives (Aharoni, 1986).

(3) The social motives stems from the SOE's pursuit of non-commercial objectives in corporate decision-making. This is often linked to the socialist ideology of state control and ownership of resources (Stevens, 2008a). Herein, the aim is social equity, welfare, national development and stakeholders value maximisation - contrary to the profit maximisation objective of the private enterprise (Aharoni, 1986; Bai and Xu, 2005). It is further argued that irrespective of ideology and level of development, the SOEs are needed in some sectors to get things going (Omoleke, 2010).

Arguments have been advanced for SOEs on the basis of national strategy. It is argued that some strategic sectors of the economy are too important to be left in private hands due to their importance for national security. A notable example of this is the national defence sector (Bala, 2006). Closely related to this argument is the notion of controlling the commanding heights, where it is advanced that certain strategic sectors of the economy are critical for national survival and development. In this case, the SOE is deployed as a 'National Champion' with the aims of creating a strong national industry and retaining high degree of value-added within national territory (Mazzolini, 1979; Venon and Aharoni, 1981). The oil and gas sector is a good example in this respect, especially in oil rich developing countries (Stevens, 2004).

Furthermore, an argument is advanced for SOEs in areas where there is tendency for natural monopoly. In order to prevent a single, private monopoly, the SOE is deployed to moderate price in relation to the cost of production, as well as ensure social equity (Omoleke and Adeopo, 2005). Additionally, it is strategically important to use SOE as an investment instrument in areas where the private enterprises are reluctant to invest in or where exploitation is difficult. A notable case is the British National Oil Corporation whose primary role was to further the national interest in development and utilisation of the United Kingdom's oil and gas resources (Mazzolini, 1979). A similar situation may arise when the capital required to run businesses in a particular strategic sector is beyond the reach of private investors, or when the expected profit is too low and unattractive for private investors (Aharoni, 1986; Omoleke and Adeopo, 2005). The SOEs may be used when a domestic private sector is absent or immature.

Mazzolini (1979) postulates that the SOEs enjoy some special advantages over private enterprises, which include that: the SOEs are less under pressure to pay dividends; the SOEs have preferential access to state finances; they enjoy preferential procurement conditions; they have implicit government backing; and have a quasi-captive market at home.

Despite these varying motives, Hertog (2010) advanced that many existing SOEs do not conform to the reasons presented above. They contribute

insignificantly to revenue generation, employment and national development. They operate inefficiently and are ineffective in carrying out government policies towards achieving national development.

### **2.3.2 The Characteristics of SOEs**

The characteristics of SOEs are greatly influenced by cultural, political and economic factors. For instance, Statoil's celebrated success may be attributed to the environment in which it operates when compared with NNPC's assumed failure due to lack of technology and corruption (Eller et al., 2007; Nwokeji, 2007). In view of this, the following paragraphs will attempt to address the general characteristics of the SOEs.

Aharoni (1986) presented three distinct characteristics of an SOE. Firstly, SOE is distinguished as an entity that is part of the public sector, and therefore must be owned by government. However, they are not in the mould of government entities that provide public services such as the police. Secondly, the SOE is an enterprise, thus it must participate in the production and selling of goods and services. Thirdly, the revenue derived by the SOE should bear some relation to cost. This suggests that an SOE has mixed characteristics. Basically, the SOE combines both commercial and non-commercial features which are economic (private) and social (public) in nature (Hertog, 2010). Hence, these evidently suggest that the SOE must be conceptualised and assessed differently from a solely private company.

Similarly, Gillis (1980) presents three criteria to be met by SOEs: Firstly, government is the principal owner of the enterprise and, therefore, has the ability or capability to exercise control over activities of the board of the enterprise, as well as the power to appoint and remove members of the enterprise's management. Secondly, the enterprise produces goods and services to be sold to the public, or other private and public enterprises. Thirdly, revenue derived by the enterprise should bear some relation to its costs.

According to IFAC (1989), the characteristics of the SOE entails that it: (i) ordinarily operates to meet political or social interest objectives; (ii) is

normally required to operate commercially to make profits or to recoup a substantial proportion of their operating costs; (iii) unless there are not subject to specific legislation, they usually take the same legal form as private sector business enterprises; (iv) owned or controlled by government; (v) sells goods and services to individuals as well as other public sector entities; (vi) have the financial and operating authority to carry on with the business.

Shepherd (1976) presents three distinct types of SOEs, namely: conventional public corporation; financial public enterprise; and social enterprise. It is claimed that conventional public corporations are generally located in heavy industries with high capacity intensity. They are funded from the treasury and have some level of formal autonomy, even though greatly influenced by government policies. On the other hand, the financial public enterprises are public banks, created by government with the sole aim of protecting national sovereignty. The social enterprises are of different ranges and they engage in activities that may require subsidy and they are directly controlled by government.

In a related way, Ramanadham (1984) states the two distinct features of an SOE as “public” and “enterprise”. With regards to its public features, the decision making process of the SOE is mainly led by government. Also, the benefit to be derived from the operation of the SOE, either in form of profit or economic development, belongs to the public. Additionally, being state owned, the SOE is accountable to the public. Regarding the enterprise features, Ramanadham (1984) advanced that the SOE should be run in a business-like manner, where the enterprise is financially viable and prices its product in relation to its cost of production. In sum, the SOE is expected to pursue profit as in market capitalism as well as pursue social welfare, in line with government policies.

In reality, it is difficult to place the degree to which SOEs operate on the basis of their enterprise features and public features. On the one hand, some SOEs align more towards the economic dimensions of profit making, taxation and dividend payment. In this case, decision-making structure is autonomous, and they are exposed to market competition and regulation (Hertog, 2010). A

classic example of this type of SOE is Petrobras of Brazil, which is quoted in the stock market and is funded partly from private sources. On the other hand, some SOEs align more towards the social dimension of state welfare where they are expected to pursue government policy objectives. In such instance, the SOE is mainly dependent on state funding (Bala, 2006).

With respect to the control of SOEs, Omoleke (2010) postulates that the control system depends on certain criteria, namely; (i) the ownership of capital; (ii) the degree of competition in the context within which the SOE operates; (iii) the legal form of the SOE; (iv) the type of activities of the SOE; (v) the origin of the SOE; and (vi) the degree of profit expected from the SOE.

From the legal dimension, Omoleke (2010) stated that SOE are commonly created by statute and they are legal entities who can sue and be sued, and engage in contractual relationships. Based on this view, Aharoni (1986) identified three categories of SOEs. The first category includes those SOEs who are part of government and whose employees are a part of the civil service; they derive their funding through government as appropriated in the state budget. A typical example of these SOEs is a postal agency, such as the Royal Mail in the United Kingdom. The second category of SOEs may derive all or some of their funding from government but differ from the first category because they are specifically established through Acts or statutory laws. The structure and employees of such SOEs are different from those in the civil service. The Nigerian Port Authority fits the description of this kind of SOEs. Finally, the third category involves those SOEs that are registered as companies under the companies Act of their home country and are regulated as such.

### **2.3.3 The Objectives of SOEs**

The objectives of SOEs have always been conflicting as is shown in the motives for creating them. However, Aharoni (1986) postulates three categories of objectives. Firstly, being that the SOEs are governments' tools for achieving national goals; their major objective is to maximise social benefits. Therefore, this infers that social benefits can be taken as a measure for

effectiveness. Secondly, Aharoni stated the SOE's objective of maximising efficiency. Thus, efficiency is suggested as a yard stick for performance. Third, the SOE's are to serve and meet the expectations of different stakeholders.

Regarding the objective of maximising social benefits, it includes provision or maintenance of employment; generation of foreign exchange; an instrument for acquiring new technology; the development of domestic skilled labour and the creation of employment in an untapped area. The objectives that relate to maximising efficiency focus on production and the profit generated thereafter for the benefit of the stakeholders. Simply put, these strands of objectives are value adding or creating, and they are wholly referred to as national interest objectives or national mission (Tordo et al., 2011).

The objective of serving different stakeholders may involve the appointment of the representatives of workers, civil societies and government to the board of the enterprise. This objective may also include the redistribution of wealth and other privileges. Regarding the last objective, Aharoni (1986) asserts that it is subject to abuse as it may lead to favouring a group of stakeholders over others, or used for political patronage.

However, Garner (1984) postulates that there are instances where SOEs are not assigned set objects by governments. In such a case, governments adopt the SOEs and have model objectives set by regional and international agencies such as the African Development Bank and the World Bank.

The various objectives of the SOEs cause problems for the management of the enterprises, as one group of stakeholders may feel decisions are taken in favour of another group of stakeholders. In this respect, Cameron (1992) relates that managements are usually faced with the some problems of conflicting objectives; a lack of monitoring performance measures and compliance to regulations; a lack of accountability, transparency and decision-making autonomy. These problems challenge the management's ability to respond to the dynamic business and social environments. Aharoni (1986) argues that the various objectives of the SOEs may be complementary, independent or contradictory.

Additionally, Aharoni (1981) relates that the various objectives of SOEs may likely cause conflict, given that the SOEs are expected to achieve economic goals and as well pursue various activities in the public interest. As such, conflict may also arise in reconciling the interest of the various stakeholders, for instance, in the areas of profitability, public accountability and consistency with social goals. Another challenge is that the SOEs objectives are usually not explicitly stated thereby making monitoring and measurement of performance difficult.

#### **2.3.4 The Governance of SOEs**

The governance of a corporate body indicates how the body/organisation is owned, managed and controlled. The corporate governance concept is concerned with the right way of controlling the behaviour of managers of an organisation, and it is operated on a good structure of governance that motivates managers to act in the best interest of the shareholders and stakeholders. In essence, good corporate governance is an essential mechanism for taking appropriate financial, budgetary and investment decisions (Tordo et al., 2011). Furthermore, good governance have been reported to significantly correlate to enhanced accountability and transparency (Islam, 2003; Wong, 2004); timeliness and effectiveness (Tordo et al., 2011); low corruption and economic growth (Kaufmann and Bellvar, 2005). However, governance entails an entwined relationship between various parties.

With regards to SOEs, their governance structure is largely determined by government; the legal system and the form of SOE. This is not surprising considering that the SOEs are public owned and established by public legislation to primarily provide goods and services to citizens or clients. The governance structure differs from country to country, but there is general acceptance that the governing structure is arranged in a hierarchical form headed by a government ministry or ministries, while down along the hierarchy are the board of directors and management (Khan, 1987; Bozec et al., 2010). The government, as representative of the public, produce the policy to be pursued; the board serves as decision-makers for the SOE and the management run the day-to-day affairs of the SOE towards achieving policy objectives.



According to Vagliasindi (2008), the governance structure<sup>7</sup> may be of centralised, decentralised or dual arrangements.

In addition, a corporate governance mechanism is needed to help the shareholders and stakeholders control and monitor the affairs of the management. Corporate entities with separated ownership and control are likely to encounter agency problems<sup>8</sup>. This is so as the managers may be inclined to pursue personal objectives that conflict with those of the shareholders and stakeholders (Jensen and Meckling, 1976; Chang, 2007). Therefore, to avoid the destruction of corporate wealth, it is important for the owner of the SOE - which is the public, represented by government - to ensure that the SOEs operate efficiently, effectively and based on sound decision-making structure.

Other arguments posit that the independence of a board reduces agency problems and increases the efficiency and effectiveness of an organisation (Fama and Jensen, 1983; Gailmard and Patty, 2012). However, independence of a board that consists of outside non-expert politicians or insiders who are loyal to management may reduce efficiency and effectiveness of the organisation (Agrawal and Knoeber, 1996). The size of the board can also influence performance. In this respect, Jensen (1986) argued that a big board reduces the flow of communication and coordination and thus provides; managers with the opportunity to pursue activities of personal benefit to themselves.

#### **2.4 The Factors Affecting the Performance of SOEs**

Evidence gathered from the literature suggests that the performance of most SOEs have often been reported negatively, and the successful ones are usually underreported (Chang, 2007; Hertog, 2011). This builds on the erroneous and

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<sup>7</sup>The governance structure refers to the ownership organisation and holding structures of the SOEs. In a centralised structure the SOE is placed under the responsibility of a single Ministry or Agency, while in the decentralised structure responsibility for the SOE lies with several Ministries, Agencies and Offices. The dual arrangement involves responsibility being under two Ministries.

<sup>8</sup> Agency problems are the conflict of interest that arises between the management and shareholders.

implicit assumption on the part of the market that private companies perform better than SOEs.

Furthermore, in assessing the performance of SOEs, there is an obvious lack of consideration for their intersecting objectives, which results in assessing them like private companies. It is therefore worth noting that the problems faced by both large private companies and large SOEs are often similar, and are of the principal-agent form (Chang, 2007). However, since these companies pursue different purposes and their nature of employing resources may differ, the SOE's form of assessment and rendering accountability should not be in relation to their private counterparts (Capalbo and Palumbo, 2013).

One of the most debated reasons for government intervention is market failure. However, the market failure argument has been highly criticised, in that the management of the SOEs are more likely to promote their own interest rather than national interest. The SOE managers may expand production beyond optimal levels for reasons that are not of national interest, but rather for increasing personal income, prestige and political leverage (Nunnenkamp, 1986). Most often this behaviour leads to loss of capital, and reduces the level of efficiency and effectiveness.

In addition, Pirie (1988) listed ten reasons for SOE's failure to achieve its objectives: high production cost, inefficiency, high labour cost, high capital cost, low input, lack of innovation and flexibility, dependent decision-making process, obsolete equipment, external interference and bad cost control. Kamal (2010) stated conflicting objectives, agency issues and lack of transparency as the major problems of SOEs. Considering the listed reasons, the SOEs are unlikely to be efficient and profitable, which are prerequisites for the delivery of social benefits.

Additionally, Aharoni (1986) and Kamal (2010) attributed poor performance of SOEs to their vague and conflicting objectives; their unclear guidance on how to achieve both commercial and non-commercial objectives; their management's lack of autonomy, and deficient structures for monitoring performance and ensuring compliance to regulations. Other reasons given are

staff incompetence, corruption, political interference and patronage (Bienen and Waterbury, 1989; Perotti, 2003).

While postulating the reasons for inefficient use of resources in the developing countries, Belkaoui (1994) mentioned poor production, inadequate education, ill health, ineffective institutions, traditions, customs and cultural attitudes. Likewise, Shirley and Nellis (1991) attributed SOEs poor performance in the developing countries to: (i) mismanagement which results to inefficiencies in the areas of productive capital, control, cost and maintenance of assets which in turn weakens the prospect for achieving social benefits; (ii) ineffective funding structure; inappropriate investments; (iii) government interference in management decision-making processes; (iv) bureaucratic hindrances; (v) inappropriate selection and appointment of management and board members; (vi) frequent replacement of managers; (vii) poor managerial motivation and accountability<sup>9</sup>; (viii) lack of motive to perform as well as lack of benchmark for performance; (ix) insufficient training and development.

Examining the effect of SOE's poor performance as a result of non-commercial objectives, Shirley and Nellis (1991) mentioned budget deficits; overstaffing; subsidising of goods and services; establishing production plants in uneconomic locations, and even keeping such plants opened at a loss<sup>10</sup>. Accordingly, Jackson and Palmer (1992) linked some of SOE's problems to staff's ill-defined tasks and responsibilities; unclear goals and objectives; unclear lines of responsibility and accountability; inadequate information on expended resources and targets achieved, and disproportionate compensation in terms of pay and promotion.

In the African context, Omoleke (2010) outlined some inadequacies that hinder SOEs organisational goals and in effect heaps serious social problems on the public. They include conflicting objectives; excessive control and interference of operational decisions by supervising Ministries; politicisation of

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<sup>9</sup> Since the management and the board are appointed by politicians and in most cases are composed of politicians rather than expert, their loyalty does not lie with SOE but their political godfathers and this greatly affects the efficiency and effectiveness of the SOE.

<sup>10</sup> This is often related to political reasons as the government do not want to close such as to maintain employment and avoid social instability.

employment; poor choice of products and assets; non-optimal choice of location for the enterprises; absence of competitive environment; rigid bureaucracy; corruption and redtapism; inadequate techno-managerial capacity; inadequate and late release of funding. Imhonopi and Urim (2010) attributed SOEs inefficiency to the environment in which they operate.

## **2.5 National oil companies**

The oil and gas industry is arguably the most strategic sector of the world economy, and the NOCs are well positioned within the industry. For instance, it is evident that of the twenty top oil producers in the world, fourteen are NOCs (Chen, 2007). Furthermore, the NOCs dominate the world oil market since they control approximately 77% of the world's crude oil reserves and 73% of overall production (Victor, 2007). In consequence, the relevance of NOCs to the economic, political and social affairs of their respective countries and the world cannot be overemphasised.

The extensive generic discussion from Sections 2.1 to 2.4 that covered SOEs, from evolution to performance, includes the NOCs. However, being that the NOCs operate in the oil and gas sector, which is mainly the most strategic sector of oil rich countries, they have some issues worth discussing that may differ from other SOEs. These issues are discussed in the following sections.

### **2.5.1 The Nature of NOCs**

Unlike other SOEs whose relevance is only mainly for the development of their countries economy, the NOCs relevance extend beyond that to the development of the economies of consuming countries (Pirog, 2007). Also, the performance of NOCs is crucial to the transformation of petroleum reserves to production; thereby, making it relevant to the stability of the world oil and gas market (Tordo et al., 2011).

Oil and gas operation is divided into the upstream, midstream and downstream sectors. The operations of the NOCs within these sectors vary according to the mandate bestowed on them by their respective governments. While some

NOCs operate only in the upstream or downstream sectors, others integrate their operations across the sectors (Wright and Gallun, 2008). An example of such NOC is the NNPC.

There appear to be little consistency in how the NOCs participate and operate in the oil and gas industry; as such, Hartshorn (1993) related that NOCs are as diverse as their different governments. As evident in the literature, the mode of participation and operation of an NOC is designed to suit the socio-political and economic objectives set for the NOC by government (Rodriguez-Padilla, 1991; Hartshorn, 1993; Linde 2000; Mommer, 2000; McPherson, 2004; Stevens, 2004; Wainberg and Foss, 2007; Nwokeji, 2007; Stevens, 2008a; Stevens, 2010; Nolan and Thurber, 2010).

Although NOCs widely vary in form and legal status from country to country (Bentham, 1988; Hartshorn, 1993), they have some certain basic characteristics. Several observations in the literature describe the ideal attributes of the NOCs as separate legal entities that are independent from Civil Service bureaucracy, with an autonomous management and decision-making structure (Khan, 1987). They are responsible to government and their funds are sourced from the treasury mostly after appropriation by the parliament. The financial activities of the NOCs are expected to undergo periodic auditing (Stevens, 2008b). The NOCs are best suited and mostly used in a mixed economic model.

### **2.5.2 The Objectives of NOCs**

As discussed in Section 2.3.3, SOEs often have multiple objectives that are not clear or may conflict with each other. With regards to NOCs, the unclear and diverse objectives are in a large scale given the multidimensional differences in their history, organisation, endowment and the financial, economic and political conditions of their operating environment (Al-Naimi, 2004; Wainberg and Foss, 2007). Notwithstanding, Wainberg and Foss (2007) generally categorised the objectives of NOCs into two groups: (i) effective development of hydrocarbon resources, and (ii) contribution to the overall socio-economic development of the producing country. Table 2.1 depicts some of the

objectives of NOCs drawn from their mission statements and arranged according to the two categories mentioned.

**Table 2.1: Some Objectives of NOCs**

<b>No.</b>	<b>Effective development of hydrocarbon resources</b>
1.	Increase production while replenishing with increased reserves
2.	Attain/maintain petroleum self sufficiency
3.	Modernise productive infrastructure and operations
4.	Increase upstream investments
5.	Reduce lifting costs and meet targeted returns on capital employed
6.	Use advance business practices to improve operating efficiency
7.	Rationalise labour expenses
8.	Operate successfully and transparently
9.	Achieve internationally competitive business and technical expertise levels
10.	Improve health, safety, and environmental performance
<b>No.</b>	<b>Contribute to the overall socioeconomic development</b>
1.	Make a significant fiscal contribution to the state
2.	Provide the state with a reliable cash flow, of maximum value, from diversified business interests
3.	Maximise the benefits from operations and place those benefits at the service of the country
4.	Leverage petroleum resources to expand the economy
5.	Maximise the creation of economic value
6.	Maximise employment
7.	Contribute to social, cultural and economic programmes
8.	Contribute to the country's overall development

Source: Adapted from Wainberg and Foss (2007)

The two categories of objectives shown in Table 2.1 can also be referred to as commercial and non-commercial objectives. While the characteristics of the first set of objectives concentrates on profitability, the second set of objects

emphasises on maximising the social welfare of the nation (Mitchell and Stevens, 2008). Similar to other SOEs, the social welfare aspect of NOC's objectives is to achieve public interest, national interest or national mission (Lahn et al., 2007; Wainberg and Foss, 2007; Stevens, 2008a).

Explaining further, Lahn et al. (2007) posited that the 'national mission' is an integral part of an NOC's goals which guides and influences their decision-making. Despite the importance of the commercial objectives, the producing governments attest to them mainly because they are means to optimizing the value of petroleum resources to maximise societal benefits (Al-Naimi, 2004).

Nevertheless, most often the poor performance of NOCs is linked to the burden of achieving non-commercial objectives. Yet, a contrasting view argues that the objectives and operational requirements of NOCs differ from those of MOCs; thus, their assessment should be objective based (Baker Institute Report, 2007). Accordingly, Bruns (1998) argued that in spite of the importance of profit in organisational performance, assessment should be based on management measures that reflect what organisations have to manage in order to make profit.

From another perspective, Lahn et al. (2007) argued that the extent to which the NOCs are expected to achieve the national mission depends on the level of their countries' socio-economic needs as well as their dependence on petroleum revenue. For instance, the reliance on Statoil to achieve some strands of the national mission will be lower than NNPC's because Norway has a well-developed domestic industry which Nigeria doesn't have (James, 2011).

Lahn et al. (2007) presented some list of NOC's objectives that are not mutually exclusive: (i) maximisation of revenue for the state; (ii) national control of petroleum resources; (iii) implementation of economic development policy; (iv) promoting social welfare; (v) providing domestic energy; (vi) petroleum diplomacy. These objectives will be discussed briefly in the following paragraphs.

Given that one of the main priorities of producing governments is to provide social welfare to its citizens, it is vital that revenue is maximised as a means to achieve this objective. This view is, however, subject to the government policy on depletion, development and production (Mitchell and Stevens, 2008). Therefore, of central importance are the efficient and effective manners in which the process is managed and the kind of technology utilised (Lahn et al., 2007).

The goal of controlling petroleum resources may be attributed to the history of the formation of NOCs. The aim is to reduce the influence of MOCs and their home countries on the producing countries, and to achieve self-sufficiency (McPherson, 2004). While some NOCs are solely in charge of their petroleum sectors, others are in cooperative arrangements with MOCs. Therefore the NOCs require a robust administrative system, qualified manpower and professionalism to achieve the national objective of resource control (Lahn et al., 2007). This involves the internal and external monitoring of compliance and performance.

With regards to the objective of implementing development policy, the NOC's focus can be divided into two categories. The first relates to economic linkages, as the NOCs are expected to integrate within the petroleum value chain and as well link up with other aspect of the economy (Stevens, 2008b). The second part of policy development may concern education, training and building of infrastructure. This is more or less the same as the provision of social welfare and the effect of this practice is that it reduces the chances of achieving the objective of revenue maximisation.

One of the mandates of the NOCs is to secure the supply of petroleum to the domestic market. This objective is a downstream objective which may not be within the scope of this study, but is very relevant to the effectiveness of the upstream sector. The high cost of subsidising petroleum in the developing countries affects the NOC's ability to reinvest in the upstream sector (Baker Institute Report, 2007; Wainberg and Foss, 2007). Also, the NOCs strive to use their petroleum wealth as a political bargaining tool in the international stage for the benefit of its government and people (Lahn et al., 2007).



### 2.5.3 The Governance of NOCs

Like other SOEs, the governance of NOCs is concerned with the ownership, organisational structure, and the channel of decision-making. Other areas of concern are autonomy, authority, sources of funding, accountability and transparency, and the quality and capacity of human resources (Tordo et al., 2011). Since governance ultimately leads to efficient utilisation of resources, it is of importance to NOCs whose aim is value addition (Jones, 1991).

The ownership structure is one of the mechanisms used to add value and it can be discussed in the context of the NOCs from two dimensions, namely, ownership types and ownership concentration (Pedersen and Thomsen, 1996). The types of ownership indicate the identity of the shareholders and how the decision-making process is influenced. In other words, the type of ownership is a major determining factor for the efficiency and effectiveness of NOCs. According to Bohren and Odegaard (2001), the ownership structure influences value creation, as it involves the control and appointment of the board and management who carry out the activities that result in value creation or destruction. This is illustrated in Figure 2.1.

**Figure 2.1: Relevance of Ownership on Value Creation**



Source: Author (Adopted from Bohren and Odegaard, 2001)

On the other hand, concentration of ownership implies the level of shareholding and the proportionate distribution of power rights. The pattern of shareholding greatly influences the decision-making process, and the monitoring<sup>11</sup> and control systems of NOCs (Tordo et al., 2011). Furthermore, it is a vital determinant of performance given that it is the basis for the composition of the board of directors. The board is responsible for important decision-making and monitoring. Therefore, corporate value could be reduced

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<sup>11</sup> Agency problems such as principal-agent and free-riding problems arise where the managers misuse the power they have by pursuing personal interest. Where the minority owners lack the incentive to bear the cost of monitoring the managers, then the free-riding problem is likely to surface, or the coalition of majority owners can lead to a principle-principle problem.

or destroyed if the board is weak in controlling and monitoring the activities of the management.

In this respect, most NOCs are wholly owned by government. There are, however, instances where NOCs are partially owned by government either with the majority or minority<sup>12</sup> shareholding (Marcel and Mitchell, 2006). For example, Statoil and Petrobras were privatised to some level, but their government maintain control over them (see Table 2.2).

**Table 2.2: State-ownership, reserves and production of some NOCs**

No	Company	Country	State-Ownership (%)	Reserves (b/bbls)
1	Saudi Aramco	Saudi Arabia	100	265.4
2	NIOC	Iran	100	151.2
3	PDV	Venezuela	100	297.6
4	Petro China	China	90	-
5	NNPC	Nigeria	100	37.2
6	Petronas	Malaysia	100	5.9
7	INOC	Iraq	100	143.1
8	Gazprom	Russia	73	-
9	Statoil	Norway	67	6.9
10	ONGC	India	95	5.7

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

The NOCs have been known to adopt different organisational structures. For instance, Khan (1987) related that the Arab OPEC NOCs adopt a hierarchical form which places the Minister on the board. In this kind of arrangement, the NOC is closely attached to a supervising Ministry which the Minister oversees, while policies for the petroleum industry and approval for projects are exercised by the Council of Ministers. The Minister serves as the link between government and Council. This kind of structure has been well criticised, arguably due to the multiple role of the Minister in the structure and the likely political influences that may lead to inefficient operations (Falola and Genova, 2005).

Another form of structure is the one in which the NOC is run by a board of directors who are mostly experts in oil and gas matters. Given that the NOC is

<sup>12</sup> The government may have a minority shares and maintain a significant control over operations if it is in possession of golden shares. The golden shares allow the government to exercise crucial votes when the national mission/objective is threatened.

an instrument of government policy; the board is vested with the power to drive the policy of government while the management team strategize towards achieving the objectives of the policy. The broad range of interest is represented in the board. An interesting example is the case of Pemex of Mexico where the Workers Union appoints five representatives to the board (Khan, 1987).

The NOCs could also be classified into those that only operate domestically within their territory like NNPC of Nigeria and those that have expanded beyond their territory such as Petro China, Petrobras and Statoil. While the former is still dependent on MOCs to operate passively within its territory, the latter have been able to climb the learning curve through acquisition of the necessary technology and skills for upstream operation (Khan, 1987; Vivoda, 2011). Another basic difference between these two groups of NOCs is that the former is government invested, managed and highly dependent on public funds. On the other hand, the latter group is partially government invested, corporately managed, less dependent on government funds and open to competition (Gordon and Stenvoll, 2007).

#### **2.5.4 The Commercialisation of NOCs**

The 1980s and 1990s were a challenging periods for the NOCs because of difficulties encountered as a result of increased supply of oil to the market by non-OPEC producers and the collapse of the OPEC fixed price system (Al-Moneef, 1998; Fattouh, 2007). During this period, information asymmetry between governments and their NOCs worsened, and they became difficult to control. Drawing from the notion that greater control requires greater information, governments' interest was undermined because of the NOC's influence and power on the limited financial resources (Stevens, 2008b). The resultant increase in corruption and patronage; high cost of operations and low return on investment led to unfavourable political developments (Eller et al., 2007; Nwokeji, 2007).

Subsequently, this unfavourable economic situation ushered in a shift in economic ideologies that support free market implementation called for reform

in the international oil and gas industry. Specifically, in consistence with the NPM, the NOCs adopted business-like style of management that reduced direct government intervention and ushered in deregulation and commercialisation (Helm, 2004). For instance, in 1985, the Norwegian government introduced a petroleum policy centred on competition and efficiency, and in which Statoil ceased to hold the right to access 50% of any developed field as well as its veto right (Gordon and Stenvoll, 2007). Similarly, privatisation of NOCs was witnessed in Argentina, Russia and the United Kingdom (McPherson, 2004, Wolf and Pollitt, 2008).

Furthermore, due to the bad financial position of the Pertamina, the Indonesian government granted the commercial status required for the development of oil field to encourage MOCs and in a way boost competition (Oon, 1986). As well, the Nigerian government restructured the NNPC to better serve commercially through the creation of business units (Nwokeji, 2007). Likewise, in the 1990s the Brazilian government adopted a neoliberal policy which led to the privatisation of Petrobras (Nem Singh, 2012). Even the highly dependent oil producing countries of the Arab world such as Saudi Arabia who did not privatise their NOCs significantly, reduced government interference and encouraged commercial operations of the NOCs (Marcel and Mitchell, 2006).

The debt crisis in the 1980s and the oil price collapse in the 1990s put governments in tight financial positions. As a result, there was underinvestment in all the value chain of the petroleum sector because the NOCs were often starved of investment funds with the belief that such funds will be diverted in rent seeking (Stevens, 2008b). This situation created a window for the MOCs to increase their participation in the international oil sector, and as well pressured the NOCs to operate in a more commercial basis and extend their operations overseas (Marcel, 2005).

In a nutshell, the outcome of this period was the adoption of the concepts of liberalisation, deregulation and privatisation which were then undisputable options for the promotion of efficient oil and gas operations and effective value addition.

### **2.5.5 Socioeconomic Issues**

According to Marcel (2005), one of the basic rationales for the creation of NOCs is to secure national interest efficiently than it could be done using private initiatives. The reasoning is that the NOCs will be under government's control; therefore it can easily be used in all or some part of the petroleum value chain to achieve national objectives (Stevens, 2004; 2008a). In sum, it is postulated that the NOCs are set up to be efficient and profitable, but their decision-making is driven by a prevailing obligation to national welfare (Khan, 1987; Robinson, 2009). This non-commercial goals and obligations of the NOCs is the major characteristic that differentiates the NOC from other petroleum companies (Tordo, et al., 2011).

Some of these objectives include the generation of employment, development of local capacity in the technical and commercial aspects of petroleum operations, in some instances provision of social infrastructures and income redistribution (Stevens, 2004; McPherson, 2004; Marcel, 2005). For instance, Jaffe and Elass (2007:68) reported the role of Saudi Aramco of building schools and awarding scholarship to citizens. Another socioeconomic rationale for the creation of NOC is to maximise the net present value of the economic rent derived from petroleum exploitation. Other socioeconomic concerns are promotion of developmental linkages and self-sufficiency.

### **2.6 Conclusion**

Generally, the review in this chapter discussed the characteristics, objectives, governance and performance of SOEs and aligned them to the NOCs. This was done to demonstrate that the NOC is a quasi-public sector organisation, and as such the main motive of creating it is to protect the interest of the people. In specific terms, the following issues emerged from the review.

Firstly, it was revealed that the NOCs, like other SOEs, are established to correct market deficiencies that otherwise could distort citizen's satisfaction and reduce socio-economic development. Secondly, it was established in the review that NOCs like other SOEs, are mandated to pursue both commercial

and non-commercial objectives. Based on this, it was shown that unlike private companies whose performance is assessed on how well profit is maximised, the performance of NOCs should be based on its dual mandate, and ultimately on people's satisfaction.

## **CHAPTER THREE**

### **OVERVIEW OF THE NIGERIAN NATIONAL PETROLEUM CORPORATION (NNPC)**

#### **3.1 Introduction**

This chapter outlines the historical background of the Nigerian oil and gas industry. Further discussion is aimed at examining and understanding the role of NNPC as a quasi-public sector organisation and to form a view on its performance using the VfM concept (i.e. efficiency, effectiveness and economy). Section 3.2 discusses the evolution of NNPC, and its duties, powers and organisational structure. Section 3.3 examines the objectives and aspirations of NNPC's participation in the upstream oil and gas sector. Furthermore, the roles of NNPC's subsidiaries in achieving its upstream objectives were examined. In section 3.4, the discussion is focused on the participatory arrangements NNPC utilises to develop oil and gas with the aim of adding value to the resources for the benefit of the Nigerian people. Section 3.5 examines the upstream performance of NNPC and discusses the challenges involved. The efforts of NNPC in reforming and transforming itself are discussed in Section 3.6; while Section 3.7 provides a conclusion to the chapter.

#### **3.2 The Nigerian Oil and Gas industry: Historical Perspective**

It is important to give an overview of the Nigerian oil and gas industry in order to understand the genesis of NNPC and the role it is meant to undertake. The exploration for crude oil started in Nigeria in 1908, by the Nigerian Bitumen Corporation, a subsidiary of a German company (Bello and Butt, 2004). Thereafter, in 1938, the British colonial government granted a sole concession<sup>13</sup> to a consortium of Shell-BP, which proceeded to discover oil in

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<sup>13</sup> The concession was granted pursuant to the Mineral Act of 1914 which ceded Nigeria's mineral rights to the British Crown and reserved exploration and production rights to only British companies. The basis for this concession is to pursue British colonial economic policies (Ayodele-Akaakar, 2001; Akinrele, 2003; UNCTAD, 2006). However, subsequently the Mineral Oils (Amendment) Act of 1958 was enacted to undo the sole concession and pave way for other interested MOCs. The MOCs that came in includes Gulf, Mobil, Agip, SAFRAP, Tenneco and Texaco. In 2008, the top four: Shell, ExxonMobil, Total and Chevron accounted for 83% of Nigeria's total production which confirms dominance by a few MOCs (Iledare and Suberu, 2010).

1956 at Oloibiri, Bayelsa state (Akinrele, 2003; UNCTAD, 2006). Subsequently, commercial production began and 5100 barrels of crude oil was exported in 1958 (Thurber et al., 2010).

However, despite the potentials of oil and gas in helping government to meet the socio-economic and political needs of Nigeria, the country lacked the capital, technology, manpower, market and regulatory capacity to run the oil and gas industry (Omoleke and Adeopo, 2005; Nwokeji, 2007). The government's capacity was limited to minimal regulation and collection of taxes<sup>14</sup>, royalties and leases from the MOCs for oil produced. Along with these was an ineffective<sup>15</sup> oversight carried out by a one man unit in the mines' division of the Ministry of Mines and Power (Atsegbua, 1999; UNCTAD, 2006; Gboyega et al., 2011).

The quest of the government to be self-reliant and enhance control of the oil and gas industry steadily increased after the passage of United Nations Resolutions on permanent sovereignty over natural resources (Omoregbe, 2001; Nwokeji, 2007). This was in addition to the inspiration the government got due to the establishment of the Organisation of Petroleum Exporting Countries (OPEC) in 1961; and the OPEC's Resolution XVI, Article 90 of June 1968<sup>16</sup>. The organisation enjoined its members to embrace participation in their oil and gas sector to enable them control their resources<sup>17</sup> (Nwokeji, 2007). The landmark Petroleum Act of 1969 and its subsidiary the Petroleum (Drilling and Production) Regulation of 1969 were thus enacted in this spirit (Omoregbe, 2001; Nwokeji, 2007). These legislations formed the basis of subsequent regulatory administration of the Nigerian oil and gas industry.

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<sup>14</sup> At inception the MOCs were paying pittance but afterwards there was renegotiation based on the Petroleum Profit Tax ordinance which provided a fixed rate of 50% as profit tax, and royalties at between 8% and 12.5% of valued petroleum at the extraction stage (Atsegbua, 1999; UNCTAD 2006).

<sup>15</sup> The government's control was very ineffective as it was evident that the MOCs were manipulating the output figures and exaggerating the cost of extraction; transportation and storage (Falola and Genova, 2005).

<sup>16</sup> The OPEC Resolution provides that: (1) Petroleum had become too critical to the well-being of producing nations to be left completely in the hands of private companies of foreign nations. (2) To control petroleum resources is in the interest of the national security of producing nations. (3) To obtain a fair share of the proceeds of extraction from the MOCs whose activities in the industry are shrouded in secrecy (Orife, 1987).

<sup>17</sup> Although Nigeria was not yet a member of OPEC during this period, she was an observer. Nigeria attended OPEC meetings as an observer for four years before it joined in 1971.



Accordingly, the Petroleum Act of 1969 changed the governance of the Nigerian oil and gas industry by ending the traditional concessions held by the MOCs, and vested all rights to ownership and control of oil and gas in the Federal Government of Nigeria (Hosman, 2009). Thus, the Petroleum Act introduced new licensing<sup>18</sup>, fiscal and contractual regimes to enhance government's participation in the oil and gas industry and protect the interest of the Nigerian people (Akinrele, 2003). The Act also focused on maximising hydrocarbon value, acquiring technology, improving local managerial skills and protecting the environment. However, one significant development that arose from the Act has been the creation of a national oil company (Nwokeji 2007), to manage and regulate the oil and gas industry, as well as address information and agency asymmetries (Usman, 2007).

### **3.2.1 The genesis of NNPC**

Being a prerequisite for joining OPEC in 1971, and pursuant to Decree 18 of 1971, Nigeria established an integrated oil company named Nigerian National Oil Corporation (NNOC) (Ayoade, 2009; Gboyega et al., 2011). Also, in line with a new Four Year Nigerian Economic Development Plan, the NNOC was mandated to participate<sup>19</sup> in all areas of the oil and gas industry, including the upstream, midstream and downstream sectors. Furthermore, the corporation was expected to aspire to be self-reliant and provide economic linkages between the oil and gas industry and other sectors of the Nigerian economy (Nwokeji, 2007; Iledare and Suberu, 2010).

Nevertheless, Nwokeji (2007) and Gboyega et al. (2011) reported that the NNOC was not able to efficiently and effectively carry out these functions due to its lack of finance; technical know-how; control mechanism and unnecessary

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<sup>18</sup> Petroleum Act prescribed three types of grants to regulate oil and gas operations and serves as the first form of policy to introduce participation in the petroleum industry. The Act provides for the Minister of Petroleum Resources to grant licences and leases in the categorised forms of Oil-exploration licence (OEL), Oil-prospecting licence (OPL) and Oil-mining lease (OML) (Hosman 2009; UNCTAD, 2006).

<sup>19</sup> In its effort to participate in the petroleum industry, between 1971 and 1975 the NNOC acquired up to 55% stakes in Shell-BP, Mobil, Gulf, Agip, Phillip, Texaco and Safrap. In 1973 it entered into a production-sharing agreement with Ashland Oil. Participation was further boosted by the enactment of the Indigenization Decree of 1977, as the NNPC had increased its stake to 60% in all participation agreements.

administrative interference by the Federal Ministry of Petroleum Resources (FMPR)<sup>20</sup>. Consequently, the government, through the NNPC Act of 1977, merged the FMPR with the NNOC in 1977 to form the NNPC, and assigned it the responsibility of managing and regulating the upstream and downstream sectors of oil and gas industry (Nwokeji 2007). The NNPC took over all assets and liabilities that belonged to the two merged bodies, and combined the commercial and operational functions of the NNOC with the policymaking and regulatory functions of the FMPR (Nwokeji, 2007; Ayoade, 2009).

### **3.2.2 The Duties and Powers of the NNPC**

As a SOE that is in charge of the mainstay of the economy, the NNPC is significant to the Nigerian socio-economic development. As such, the government through the NNPC Act of 1977 mandated the NNPC with various duties and legal powers, to enable it protect the interest of Nigeria in both the upstream and downstream sectors of the oil and gas industry. Being that the focus of this study is the upstream sector; the upstream duties that are relevant are drawn from UNCTAD (2006) and highlighted as follows:

- (a) Exploring and prospecting for, working, winning or otherwise acquiring, possessing and disposing of petroleum;
- (b) Carrying out research in connection to petroleum or anything derived from it and promoting activities for the purpose of turning to account the results of such research;
- (c) Doing anything required for the purpose of giving effects to agreements entered into by the Federal Government with a view to securing participation by the Government or the corporation in activities connected to petroleum;
- (d) Generally engaging in activities that would enhance the petroleum industry in the overall interest of Nigeria.

According to Gidado (1999), the duties assigned to NNPC are in line with Nigeria's strategic plan of self-economic independence and Nigerianisation, which emanated from OPEC's Resolution XVI of 1968 (Nwokeji, 2007).

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<sup>20</sup> Specifically, Nwokeji (2007) mentioned the unnecessary interference in the running of the NNOC by the Permanent Secretary of the FMPR, who was also the designated chairman of the board. It suggests administrative conflict and dearth of control which eventually led to operational inefficiency and ineffectiveness in the oil and gas industry.

Being a quasi-public corporate enterprise, the NNPC Act of 1977 provided the NNPC powers that are meant to be exercised appropriately to enable it grow into a “world class oil and gas company driven by shared commitment and excellence” (NNPC, 2014c). The corporation can sue and be sued. Furthermore, the NNPC is empowered to adopt a business-like management style and acquire necessary technical capability in managing Nigeria’s oil and gas resources. However, since the NNPC is financially and technically deficient, the Act also provided that it can enter into contracts or partnership with any company to facilitate the discharge of its duties for the benefit of Nigerians (Gidado, 1999; UNCTAD, 2006).

Indeed, the national obligation and powers possessed by NNPC are not only associated with public sector institutions, there are also consistent with the NPM ideology. The NNPC Act provides a basis for NNPC to carry out independent operation and innovation. For instance, the NNPC has been able to integrate its minimal managerial force to run a decentralised structure. Furthermore, the corporation utilises contractual partnership to exploit its oil and gas resources (Thurber et al., 2010; Gboyega et al., 2011). Therefore, it can be argued that NNPC’s quasi-public sector status is demonstrated, and the corporation is provided the means to design and adopt the structure that will best fit its strategies.

Another plausible reasoning can be drawn from the infant industry argument<sup>21</sup>. The NNPC Act seem to have provided the NNPC commercial and regulatory privileges due to its limitations in the oil and gas industry to enable it catch up with the MOCs who are experienced participants in the oil industry. Evidence of NNPC’s limitations is well documented in the areas of finance, technology, managerial skills and marketing (see Omoleke and Adeopo, 2005; Hosman, 2009).

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<sup>21</sup> According to Krueger and Tuncer (1982), the basic arguments of the infant industry case are: (a) newly established activities are of relative high cost and require time to be competitive; (b) it is required that a temporary period of protection or assistance during which its cost will fall enough to permit it to survive competition without assistance.

### 3.2.3 The Organisational Structure of the NNPC

An organisational structure is a pattern of relationships and recipe for managers to achieve organisational goals through planning, directing, organising and controlling (Mullins, 1999; Mabey et al., 2001). Thus, its importance to any value adding process cannot be overemphasised. Therefore, regarding the NNPC, it can be deduced that a good structure designed to fit the corporation's core values<sup>22</sup> will enhance its performance, and subsequently help it achieve the objectives of its mission statement<sup>23</sup>. On this premise, the succeeding paragraphs would discuss the organisational structure that the NNPC relies on to exercise its powers and perform its duties.

Gidado (1999) reported that from 1977 to 1988, the NNPC operated a centralised system in which duties were performed through two broad sections, namely Commercial Section<sup>24</sup> and the Petroleum Inspectorate Unit (PIU) - a unit that covers the regulation, enforcement and supervision of the oil and gas industry. However, the overly centralised administration and management structure was restructured in 1985 into five semi-autonomous sectors<sup>25</sup> each headed by a Chief Executive officer. Afterwards, in 1986, Petroleum Inspectorate was removed and reorganised as the Department of Petroleum Resources (DPR) - the body with the official responsibility for the regulation of the oil and gas industry (Akinrele, 2003). The removal was well-commended, as its existence within NNPC created "the untenable situation of the regulator being subordinate to the industry's largest player (Gillies, 2009).

Consequently, in 1988, pursuant to the Commercialisation and Privatisation Decree of 1988, the Nigerian government reorganised and decentralised the

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<sup>22</sup> The NNPC states its core values as: (1) Respect for the individual; (2) Staff development and growth; (3) Integrity, transparency and accountability; and (4) Professional excellence.

<sup>23</sup> NNPC is an integrated Oil and Gas Company, engaged in adding value to the nation's hydrocarbon resources for the benefit of all Nigerians and other stakeholders.

<sup>24</sup> According to Gidado (1999), during the period between 1977 and 1988, the activities of the commercial section of NNPC can be grouped into three sectors: (1) Operational sector (2) Service sector; and (3) General Management sector. The three sectors are operated within a centralised structure.

<sup>25</sup> The sectors include: Oil and Gas; Petrochemicals; Refineries; pipelines and Products Marketing; and Petroleum Inspectorate (NNPC, 2014b)

organisational structure of the NNPC. Even though there was a slight change in 2013, the structure for executing corporate business remained decentralised with the Head office at the top. Following in the strata are eight directorates and twelve strategic business units (SBUs) that are otherwise referred to as subsidiaries. The NNPC is headed by a Group Managing Director (GMD) and subordinated by eight Group Executive Directors (GEDs) who are responsible for the directorates of Exploration and Production; Commercial and Investments; Corporate Services; Finance and Accounts; Gas and Power; Engineering and Technical; Refineries and Petrochemicals; and Business Development (NNPC, 2014b).

Accordingly, with regards to decision-making, the NNPC has a nine member board of directors<sup>26</sup> while the NNPC's legal adviser serves as the secretary. The members include the Minister of Petroleum Resources,<sup>27</sup> who chairs the board and five external members. The GMD and two other GEDs represent the NNPC on the board (NNPC, 2014a). NNPC's twelve wholly or jointly owned subsidiaries are limited liability companies with their own separate boards of directors that include the Chairman, the Managing Director (MD), two Executive Directors and other external representatives (Nwokeji, 2007).

The decentralised structure adopted by NNPC is a repositioning strategy aimed at making the corporation a commercially integrated and financially autonomous corporation (Nwokeji, 2007). The structure indicates the shift from the traditional management style to the business-like NPM, which is expected to help NNPC attain efficiency, profitability and competitiveness (Akinrele, 2003). It is evident in the literature that high performing NOCs like Statoil and Petrobras operate in a decentralised structure and within the realm of the NPM (James, 2011). With regards to NNPC, Gidado (1999) reported the articulate expression of this view as stated by a former GMD of the NNPC:

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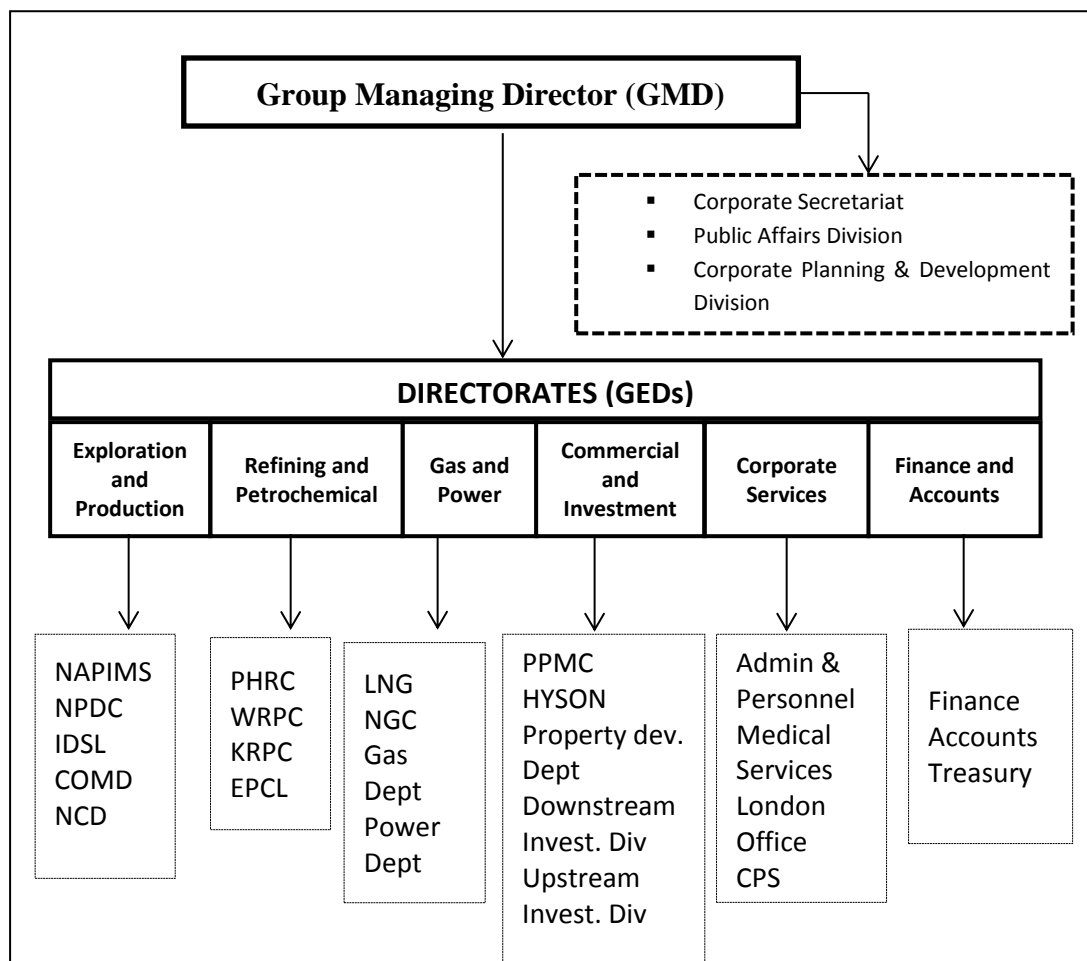
<sup>26</sup> The members of the NNPC board of directors are: Minister of Petroleum Resources, Mrs Diezani Alison-Madueke (Chairman); Permanent Secretary, Federal Ministry of Finance, Mr Danladi Kifasi; GMD, NNPC, Mr Andrew Yakubu; Alhaji Abdullahi Bukar; Mr Steven Oronsaye. Others are: Professor Olusegun Okunnu; Mr Daniel Wadzani; GED, Finance and Accounts, NNPC, Mr Bernard O.N. Otti; and GED, Corporate Services, NNPC, Dr Dan Efebo.

<sup>27</sup> The Presidents of Nigeria had often served as his administration's Minister of Petroleum, and thereby executed the function of the chairman of NNPC (Iledare and Suberu, 2010; Gillies, 2009).

“The objective of the reorganisation is to reduce rigid central control and allow subsidiaries the flexibility necessary to optimise their businesses and operate commercially in the best interest of the corporate body”.

As earlier stated, the activities of NNPC’s subsidiaries cover all the spectrum of the oil and gas industry, from exploration to marketing. A view of NNPC’s twelve subsidiaries are depicted in Figure 3.1 below and outlined in Appendix A.

**Figure 3.1: The organisational structure of the NNPC**



Source: NNPC (2014a)

### 3.2.4 The Objectives and Aspirations of the NNPC

The NNPC, like other NOCs, is incorporated to participate in the oil and gas industry in line with government policies and regulatory framework<sup>28</sup>. Similar to other NOCs, the corporation is also mandated to pursue both commercial

<sup>28</sup> This comprises the legal, fiscal and contractual regimes.

and non-commercial objectives (Nolan and Thurber, 2010; Sarbu, 2011). However, the non-commercial objective is considered most vital because it embodies the provision of the socio-economic needs of the society. Yet, it is worth mentioning that the commercial objective is equally important because it serves as a prerequisite for achieving the non-commercial objectives (Tordo et al., 2011). Therefore, it is plausible to state that achieving both objectives is essential to improve the welfare of Nigerians. In this vein, Gidado (1999) highlighted and summarised the basic objectives the Nigerian government intends to achieve in the upstream sector as:

- (a) Satisfaction of national aspiration of public participation as of right with the MOCs in the ownership of petroleum rights and in decision making on important matters affecting the conduct of petroleum operations
- (b) Increased revenue to government through profit-sharing and sales of government share of crude oil, produced from the joint operations
- (c) Acquisition of requisite technology, managerial and technical skills by the state owned company which participates in the operation
- (d) Supply of internal needs of petroleum and its products, and
- (e) Gaining an inside knowledge of the methods, techniques and patterns of petroleum operations necessary for an effective Government regulation in the industry.

In addition, the NNPC stated its main aspiration in the upstream sector to include the exploration of 40 billion barrels proven oil reserve, and the oil production of 4.5 million barrels per day by 2010 (Iledare and Suberu, 2010). Other aspirations include a 70% target for local content utilisation; increasing capable manpower; acquiring technological know-how and improving the environment through the stoppage of gas flaring (Gboyega et al. 2011). Nevertheless, NNPC have not been able to achieve these aspirations. Arguably, this is as a result of bad governance and ineffective coordination of the fiscal regimes; the operating conditions and the geology and materiality. Yet the failure may be the consequence of an unfavourable political environment which is beyond the control of NNPC (Boscheck, 2006).

In conclusion, NNPC's upstream objectives cut across commercial and non-commercial areas. Furthermore, it can be deduced from the objectives that the upstream sector is very important to the sustenance of the Nigeria economy,

and public participation in the sector was considered to safeguard the interest of the people. Thus, it is imperative that NNPC's management processes are efficient and effective enough to enable it to participate successfully in the upstream sector.

### **3.3 NNPC's Participation in the Upstream Sector of the Oil and Gas Industry**

As earlier discussed in Chapter Two, oil and gas activities cover both the upstream and downstream sectors; however, the focus of this research will be on the NNPC's participation in the upstream sector. The sector represent the initial stage of the oil and gas value chain that involves searching and exploration of potential oil and gas fields, the development, the production and the maintenance of production (Pillai et al., 2010).

In the upstream oil and gas sector, expensive auxiliary activities that demand the expertise and technology of geologists and geophysicists are carried out to exploit oil reservoirs<sup>29</sup>. These activities are capital intensive and the costs of executing them are classified as capital expenditure (CAPEX) and operating expenditure (OPEX) (Wright and Gallun, 2008). It is therefore desirable that VfM is attained in the course of carrying out these activities considering their significance to the determination of oil and gas reserves, production volume and crude oil price (Sarbu, 2011).

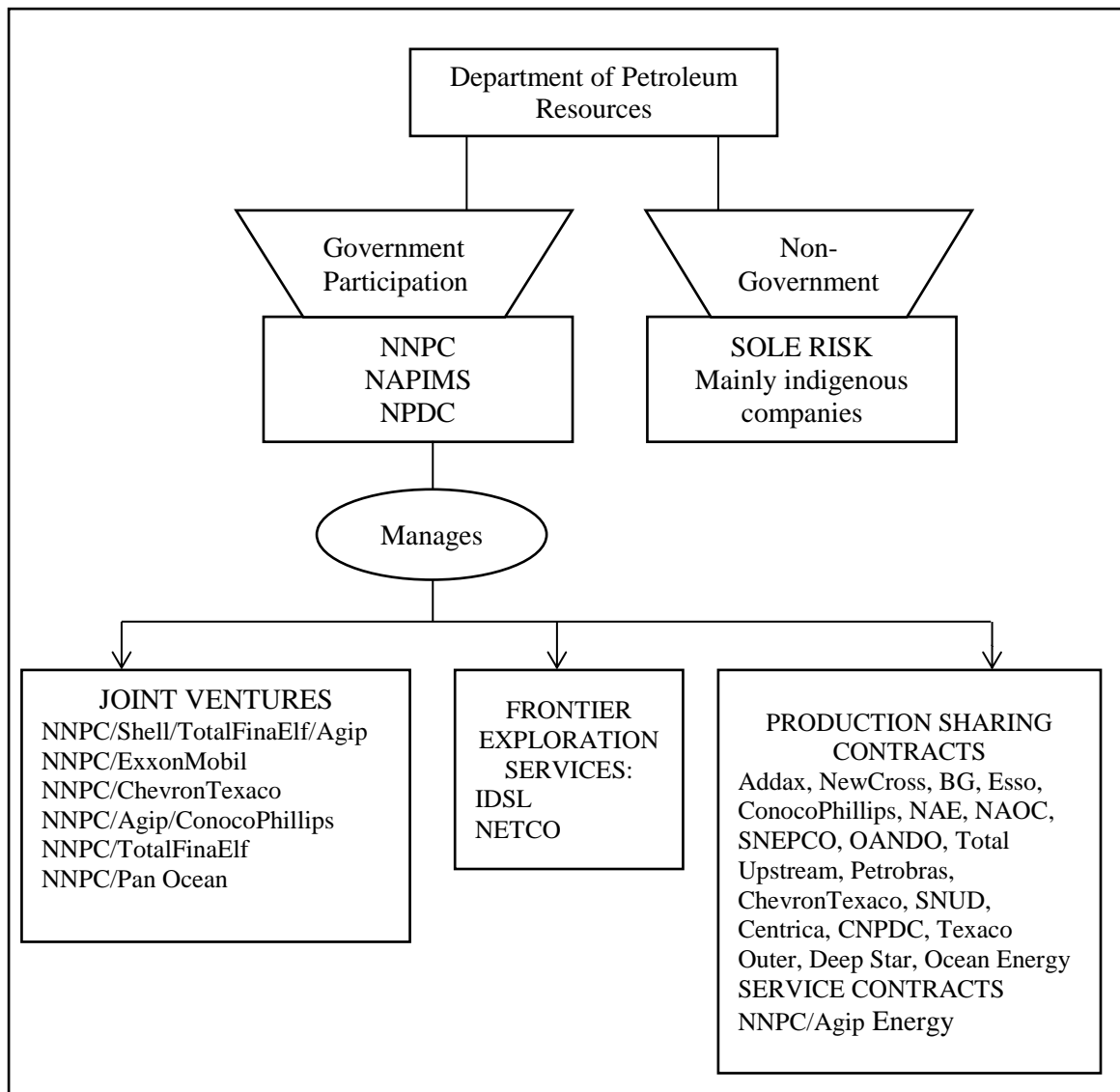
In the light of this, the government decided to participate in the oil and gas industry both directly and indirectly through direct exploitation as well as through concessions and contractual arrangements with MOCs. The NNPC was mandated the role of managing oil and gas assets so as to ensure VfM and safeguard the interests of Nigerians (Hosman, 2009; Gboyega et al., 2011). Figure 3.2 depict how government (through the NNPC) participates in the upstream sector.

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<sup>29</sup> The activities and process of the upstream sector are capital intensive. They involve the supply of expensive equipment and engineering projects in the stages of exploration, appraisals, development and production.



**Figure 3.2: Contractual Composition of Nigerian Upstream Oil and Gas Sector**



Source: Lawal (2008)

Specifically, the NNPC's participation and operations in the upstream sector are mainly executed through four of its subsidiaries, namely: the Nigerian National Petroleum Investment Management Services (NAPIMS), the Nigerian Petroleum Development Company (NPDC), Integrated Data Services Limited (IDSL) and National Engineering and Technical Company Limited (NETCO). The roles of these subsidiaries are briefly discussed in the following paragraphs.

The functions of NNPC's indirect participation in the upstream sector are assigned to NAPIMS, the subsidiary responsible for the efficient management of government investments in the sector. These investments are in the form of

participatory interests the government has in venture collaboration with MOCs. There will be further discussion on this in Section 3.3.1. Nevertheless, the government's gradual acquisition of participatory interests is illustrated clearly in Table 3.1.

**Table 3.1: Government (NNPC) Participatory Interest in Nigerian Oil and Gas Concessions with MOCs**

MOC (Operator)	Participation Interest of Government (%)	Date of Acquisition
Elf	35	April, 1971
	55	April, 1974
	60	July, 1979
Agip/Phillips	33	April, 1971
	55	April, 1974
	60	July, 1979
Shell-BP	35	April, 1971
	55	April, 1974
	60	July, 1979
Shell	80	August, 1979
	60	June, 1989
	55	August, 1993
Mobil	55	April, 1974
	60	July, 1979
Chevron	35	April, 1973
	55	April, 1974
	60	July, 1979
Texaco	55	May, 1975
	60	July, 1979
Pan Ocean	55	January, 1978
	60	July, 1979

Source: Lawal (2008)

The role of NAPIMS is to optimise the benefits accruing to Nigeria from its upstream investments. Specifically, its mandate is to gain a good margin on investments by employing cost reduction strategies that maximise Petroleum Profit Tax (PPT) (Iledare and Suberu, 2010). Achieving this entails effective monitoring and control of their various contractual agreements (JV, PSC, SC). These include ensuring compliance to industry best practices, rules, regulations and processes, such as budgeting and funding, in upstream project execution (NAPIMS, 2013b).

Also of concern to NAPIMS are the promotion of local content input through the development of in-country technological capability; the utilisation of local manpower and materials; the maintenance of safety and environmental protection standards and maximising cooperation within oil and gas producing

communities (Hosman, 2009; Gboyega et al., 2011). NAPIMS is also pursuing the strategic objectives of increasing national oil reserve base and production capacity per day to 40 billion barrels and 4.5 million barrels respectively (CRES, 2008).

While NAPIMS participate indirectly in the upstream sector, the NPDC was created as the flagship of Nigeria in direct upstream operations. It is mandated to professionally and efficiently undertake direct upstream exploration, appraisal, development, production and abandonment activities, both nationally and internationally (NNPC, 2014b). Similar to NAPIMS, the main objectives of the NPDC are to improve proven oil and gas reserve and production as well as develop a capable local manpower (NNPC, 2014b). This places an obligation on NPDC to show leadership; do things right; be cost efficient, and deliver value to its stakeholders using industry best practices. Specifically, the company is required to be effective in the processes of designing work programmes, budget preparation, control, monitoring and budget execution (Penda, 2009).

The NPDC has varied equity and non-equity interests in 23 concessions located in the onshore, swamp and offshore terrain of the Niger Delta region of Nigeria. The company also has an international concession in Equatorial Guinea (Ibrahim, 2009; NPDC, 2012). Despite its initial resolve for direct participation, the NPDC also has indirect operations in which it is involved in strategic alliances with MOCs and other upstream operators<sup>30</sup>. The NPDC participates as operator in only nine of its twenty three concessions (Ibrahim, 2009). The detail of NPDC's concessions and participating interests is presented in Table 3.2.

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<sup>30</sup> The NPDC has several partners involved in Joint Ventures and Service Contract arrangement. Some of them are: ExxonMobil; ConocoPhillips; Ashbert; AENR; and SINOPEC (NNPC 2013). Recently, in the spirit of aggressive expansion, the NPDC took over operatorship of a Shell divested asset that is expected to increase its production level significantly (Eboh and Nwokpoku, 2013).

**Table 3.2: NPDC's concessions and participating interests**

NPDC Business Portfolio						
Onshore		Swamp		Offshore		International
Assets	(%)	Assets	(%)	Assets	(%)	
OML 4	55	OML 64	100	OPL 214	15	1 concession
OML 26	55	OML 66	100	OPL 223	10	
OML 30	55	OML 119	100	OPL 242	25	
OML 34	55			OPL 244	10	
OML 38	55			OPL 251	15	
OML 40	55			OPL 256	5	
OML 41	55			OPL 318	20	
OML 42	55			OPL 325	20	
OML 65	100			OPL 332	10	
OML 111	100					

Source: NPDC (2012)

The IDSL and NETCO, unlike the other two subsidiaries earlier discussed are service companies. The IDSL is the subsidiary of NNPC that was created to provide the oil and gas industry geophysical and petroleum engineering services. Specifically, the subsidiary offers services that include: seismic data acquisition; seismic data processing; seismic/engineering services; and data storage and management. The company has been the foremost indigenous oil service company that enjoy patronage from various upstream operators (NNPC, 2014b).

Similarly, NETCO was established in 1988 as a joint venture between NNPC and American Bechtel incorporation. Since it became wholly owned by NNPC in 1997, it has maintained its status as the premier indigenous engineering company whose main objective is to fulfil NNPC's strategic vision of developing in-country oil and gas engineering capability (NETCO, 2014b). NETCO has executed many significant projects and was awarded the prestigious ISO 9001 Quality Certificate in May 2000 by Bureau Veritas Quality International (BVQI) (Adebola et al., 2006).

Amongst the subsidiary's mandate is the facilitation of Nigerian content and provision of an effective and reliable procurement, engineering and project management services. Its services include: feasibility studies; conceptual engineering design; basic and detailed engineering; project planning and scheduling; cost estimation and cost engineering; computerised project

management; procurement of engineering equipment and material; construction management and supervision; commissioning and start-up; and management of the maintenance of operating plants (NETCO, 2014b).

### **3.4 The Nigerian Government's (NNPC) Participation Agreements**

As earlier stated in Section 3.2, the OPEC Resolution No 90 of 1968 greatly motivated the oil and gas producing countries and enhanced their bargaining status (Al-Emadi, 2010). In this spirit, relevant laws, rules and regulations were put in place to hasten the processes of participation (Umar, 2005). In consequence, after the abolition of the traditional concessions, the government (NNPC) has pursued its participating interests in the oil and gas industry using three types of arrangements, namely: joint ventures, production sharing contracts and service contracts (Atsegbua, 1999).

Thus, in the succeeding sections, the role of NNPC in using the aforementioned arrangements will be discussed with a view to understanding their consequences to VfM (efficiency, effectiveness and economy).

#### **3.4.1 The Nigerian Joint Venture Arrangements**

Generally, joint venture arrangement in the oil and gas industry connotes the coming together of two or more partners (one of whom is usually a NOC) with working interests to engage in oil and gas exploration, development and production (Al-Emadi, 2010). The details of the operations and the rights, obligations and limitations of the partners are drawn from a legal framework called the Joint Operating Agreement (JOA)<sup>31</sup> (Wright and Gallun, 2008).

Specifically, the JOA entail details on the sharing of cost, production and revenue; how equipment and materials will be managed (Umar, 2005). However, because the JOA can be of different forms, Wright and Gallun (2008) highlighted the following as its common areas of responsibilities that the partners come to consensus: (1) the operator; (2) the operating committee;

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<sup>31</sup> The term JOA also refers to the Joint venture agreement. Therefore, they will be used interchangeably in this research work.

(3) work programmes and budgets (4) abandonment; and (5) general provisions and accounting procedures.

Usually, the JOA vests the mandate of providing technical and financial capital on the operating partners. Consequently, the operating partners of the JVs are responsible for the day to day control and management of upstream projects, even though the NOC has the option of participating in different aspects of the projects (Al-Emadi, 2010).

The JV arrangements in Nigeria involve the joint control of oil and gas concessions by MOCs and NAPIMS, the subsidiary of NNPC that is responsible for managing, controlling and regulating JV activities as stipulated in the JOAs and Memorandum of Understanding (MOU)<sup>32</sup> (Gboyega et al., 2011). The JV is funded by the partners according to their participating equity interests and the same interest applies in the sharing of profit. However, in addition to this, the government receive its entitlement of royalty on gross oil production, alongside income taxes and fiscal obligations as provided by the laws and regulations of Nigeria (Thurber et al., 2010). While the JV partners (MOCs) that operate the ventures are entitled to lift crude oil or a monetised equivalent of it as commensurate to their working interests (Gidado, 1999).

With regards to the operations and management of the JVs, Tanimu (2008) reported that the JV operators are responsible for preparing and presenting their yearly work programmes<sup>33</sup> and budgets proposals to NAPIMS for review and concurrence. Initially, a Sub-Committee (SUB-COM) proposes the upstream projects along with the expertise input of a Technical Committee (TECOM). Thereafter, the details of the overall work programme is analysed, packaged and processed for presentation at the Joint Operating Committee (JOPCOM) meeting headed by NAPIMS (Ezenwosu, 2009).

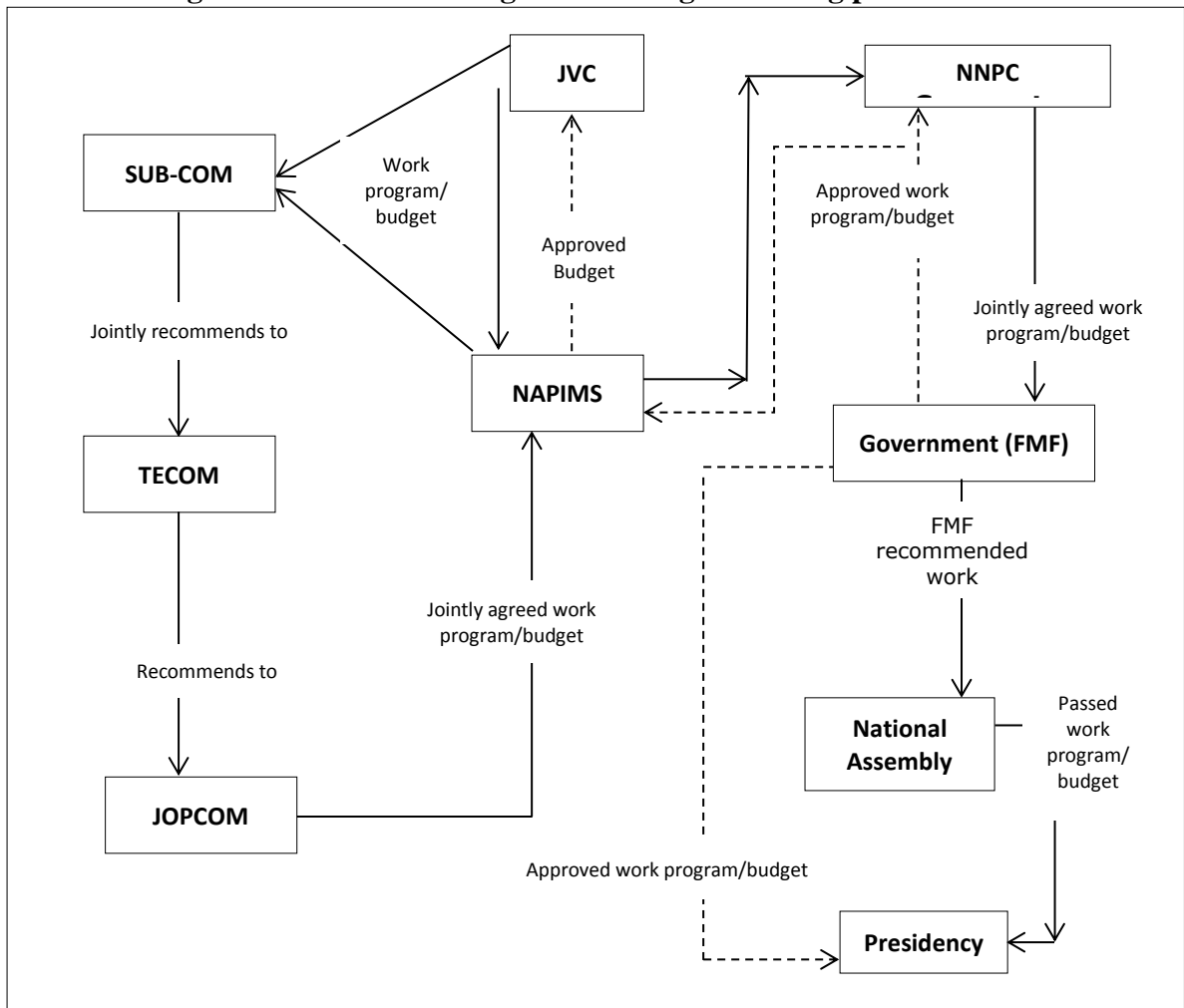
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<sup>32</sup> The MOU is a binding document which defines the fiscal incentives meant to encourage investment in exploration and new development between NNPC and the JV partners (MOCs). It provides the MOCs a minimum profit margin of \$2.30 /barrel, after tax and royalty on MOC's equity crude (NAPIMS, 2013a).

<sup>33</sup> The work programme contains all the upstream project activities to be carried out in a year. This includes CAPEX and the OPEX.

As stipulated in the JOA, the JOPCOM is mandated to provide an orderly overall supervision, control and direction on all matters pertaining to the joint operation. This includes the CAPEX and OPEX of the JV projects (Al-Emadi, 2010). Therefore, in this vein, the NAPIMS presents the government share of the JV budgets and work programmes to the NNPC corporate office for consideration and further process to government for approval. Subsequent to its approval, the government then forwards the work programme and budget proposals to the National Assembly for appropriation (Jibrin, 2006; Ezenwosu, 2009). The schematic presentation in Figure 3.3 illustrates the processes involved from conception to the execution of upstream JV projects in Nigeria.

**Figure 3.3: JV Work Programme/Budget/Funding processes**



Source: Jibrin (2006)

Following the same trend, the JV partners (MOCs) also present their share of the JV budgets to their Home offices for approval (Tanimu, 2008). The funding

of the government share of JV operations is processed as shown in Figure 3.3, except for the appropriation process.

**Table 3.3: Nigerian Oil and Gas Joint Ventures and Working Interests**

Operator (% interest)	Other partners (% interest)	NNPC (% interest)
Shell (30%)	Elf (10%) Agip Oil (5%)	55%
ExxonMobil (40%)	None	60%
ChevronTexaco (40%)	None	60%
Agip Oil (20%)	ConocoPhillips (20%)	60%
TotalFinaElf (40%)	None	60%
Panocean (40%)	None	60%

Source: Al-Attar and Alomair (2005)

Currently, there are six JV agreements in Nigeria, of which the NNPC holds an average of 57% working interests and funding obligations (see Table 3.3). The upstream JV operations which are onshore have been consistent in accounting for the majority of Nigeria’s crude oil production as they accounted for about 70% in 2012 (NNPC, 2013). Under these arrangements, the NNPC (through NAPIMS) reserved the right to serve as operator, although the MOCs have always been the operating partners. Arguably, this is because of the NNPC’s low technical, managerial and financial abilities (Nwokeji, 2007; Hosman, 2009).

The efficiency and effectiveness of the upstream processes will greatly determine the success of upstream projects. Thus, in line with its monitoring role, NAPIMS has multidisciplinary project teams for upstream projects so as to ensure cost effectiveness; enhancement of local content; project controls and time delivery, and compliance with due process. Along with these are separate multidisciplinary audit teams that carry out periodic audits in all upstream projects. The aim is to verify expenditure and the system of internal control; to generate asset registry and create data bank for benchmarking and cost estimation. Likewise, periodically, external auditors are commissioned to carry out VfM audits so as to advise on the monitoring, compliance and benchmarking processes in the upstream sector (NAPIMS, 2013b).



### 3.4.2 The Nigerian Production Sharing Contracts

Next to the JV arrangements is the government's participation in the upstream sector using production sharing contracts (PSCs), otherwise referred to as production sharing agreements or production sharing arrangements. The PSC, according to Gidado (1999), is a contractual agreement under whose terms the MOCs, as contractor utilises its technical and financial resources until oil is discovered in commercial quantities. Subsequent to discovery, the MOCs' costs are recoverable from oil produced (cost oil) each year to a certain limit, and the balance of the produced oil (profit oil) is divided in the net profit royalty ratio. Thereafter, corporate tax is applied to the MOCs' split of the profit oil.

Two distinguishing features of the PSC are: firstly, the MOCs carry the entire exploration risk; if no oil is found, the company receives no compensation. Secondly, the host government owns both the resources and the installations (Bindemann, 1999). Furthermore, if oil is found, the MOCs will be responsible for the execution of operations in accordance with the terms of the contract signed with the NOC. Important amongst the terms are the submission of annual work programmes and budgets; management control by NOC and the sharing of oil based on production not profit (Johnston, 2007).

The aforementioned features are generally evident in the Nigerian PSCs<sup>34</sup> even though the contracts have different fiscal terms. This is because the terms of the contracts were determined by the bargaining power of the NNPC as at the time of signing the contracts. However, the concepts<sup>35</sup> of royalty oil, cost oil, tax oil and profit oil is applied as provided in the contract and the laws and regulations of Nigeria.

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<sup>34</sup> The first PSC in Nigeria was signed between NNPC and Ashland Oil Nigeria in 1973. Other PSC round of licencing were signed in 1993, 2000 and 2005 (Gboyega et al., 2011).

<sup>35</sup> Royalty oil connotes the quantity of available oil allocated to pay the concession rental; Cost oil is the oil that is sold to recover the preproduction, capital and operating costs; Tax oil means the oil allocated to cover the Petroleum Profit Tax (PPT) payable; and Profit oil is the remaining oil left after the aforementioned have been allocated. It is shared between the partners according to pre-agreed percentages.

Generally, the legal backing for PSC operations is derived from the enacted “Deep Offshore Inland Basin Production Sharing Contracts” Decree No. 9 of 1999 (amended) (Ameh, 2007).<sup>36</sup> Virtually all Nigeria’s PSCs are on Deep Offshore and Inland Basin contract areas, although there are no legal restrictions against Onshore or Shallow Water PSCs (Umar, 2005). Table 3.4 shows the lists of all PSCs companies, as at 2004.

**Table 3.4: List of PSC companies operating in Nigeria as at 2004**

No.	Name	Oil Blocks	Effective date	Remarks
1.1	Addax	OPLs 98/118	06-May-98	
1.2	Addax	OPLs 90/225	06-May-98	
2.1	Statoil	OPL 217	18-May-93	
2.2	Statoil	OPL 218	18-May-93	
3.1	Texaco	OPL 213	01-May-93	
4.1	Conoco	OPL 220	02-Jul-93	
5.1	Elf	OPL 222	01-Apr-93	
5.2	Elf	OPL 223	01-Apr-93	Relinquished in year 2000
5.3	Elf	OPLs 803/806/809	01-Apr-93	Relinquished in year 2000
6.1	SNEPCO	OML 118	01-Apr-93	
6.2	SNEPCO	OPL 219	01-Apr-93	
6.3	SNEPCO	OPLs 803/806/809	01-Apr-93	Relinquished in year 2001
7.1	NAE	OPL 211	01-Jul-93	
7.2	NAE	OML 125	01-Jul-93	
7.3	NAE/NPDC	OPL 244	20-Dec-01	
8.1	Esso	OPL 209	01-May-93	
8.2	Esso	OPL 214	13-Jun-02	
9.1	Chevron	OPLs 801/805/810/812/814	02-Oct-94	Relinquished in year 2000
9.2	Chevron	OPL 250	28-Nov-01	Relinquished in year 2000
10.1	Mobil	OPL 221	01-May-93	
11.1	Petrobras	OPL 324	20-Dec-01	
12.1	Phillips	OPL 318	14-Feb-02	
13.1	Oranto	OPL 320		
14.1	Ocean Energy	OPL 256	24-Jan-03	

Source: Lawal (2008)

Similar to the JOC in JV arrangements, the PSC is governed through a ten member Management Committee that comprises five members each from the contractual partners (NAPIMS and the contractor). The Management Committee and other various Sub-Committees are designed to provide orderly direction on all matters pertaining to petroleum operations. The NNPC through

<sup>36</sup> The PSC law amends both the general petroleum Act of 1969 and the Petroleum Profit Tax Act, in general terms, the pre-existing petroleum laws are to be read in conformity with the PSC law (Umar, 2005).

NAPIMS monitors and controls the PSC operations through the Management Committee. Duties of the committee among others include: the revision and approval of all work programmes and budgets, ensuring the contractor implements the provisions of the accounting procedure (Umar, 2005; Ameh, 2007).

Also, Umar (2005) reported that the PSC contractor (MOC) is responsible for preparing work programmes and budgets for projects on a yearly basis. In addition, the contractor also provides the required funds for the execution of the work programme as approved by the Management Committee. The work programme shall also be secured by performance bond, covering the entire budget of the work programme.

Several national interest provisions have been highlighted as the main motivations for adopting PSC. The provisions include the quest for technology transfer; the inability of NNPC to meet its cash call obligations under its various JVs; the recruitment and training of Nigerians in the oil and gas industry as well as to encourage investments in offshore acreages (ESMAP, 2004; Umar, 2005; Gboyega, et al., 2011).

### **3.4.3 The Service Contracts in Nigeria**

Smith et al. (2000) explained the Service Contract (SC)<sup>37</sup> as a strategic arrangement where MOCs agrees to provide technical services, know-how and to supply materials. Under this kind of arrangement, the service contractor (MOC) has no control over operation and has no equity interest in the venture. This suggests that both ownership and control lies with the government (NOC); however, Al-Emadi (2010) argued that it is not so in reality due to the technical and financial incapability of the NOCs in carrying out sole operations. The reward for the services rendered can either be in kind (oil) or cash. However, where exploration risk is assumed by the service contractor, the discovery of oil is the determinant for remuneration.

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<sup>37</sup> There are two types of service contracts namely; Pure Service Contract and Risk Service Contracts. The difference between the two is the burden of risk involved and the type and kind of remuneration (see Johnston, 2003).

The service contract arrangement is relatively new to the Nigerian oil and gas industry being that the first of such contracts was signed in 2000 between the NPDC and Agip to develop two fields (Okono and Okpoho) in OML 119. Under this arrangement, the NPDC assumes the role of a joint operator while Agip contributes the overall project managers for five years in a 70/30 sharing formula. Similarly, Sinopec signed a service contract with the NPDC to develop OML 64 and 66 as operator. However, the NPDC engineers are to take over after three years of commencement of the contract (Eluozo, 2008). The service contract arrangements accounted for 0.48% (8,398 barrels) of the oil produced in Nigeria in the year 2012 (NNPC, 2013).

### **3.5 The Transformation programmes in the NNPC**

Over the last three decades, the various leaderships of the NNPC have embarked on transformation programmes to primarily actualise the vision and mission of NNPC. This entails adding significant value to Nigeria's hydrocarbon assets; striving to be a world class profit-oriented NOC driven by shared commitment to excellence (NNPC, 2014c). Despite this, when compared with some of its peers like Petrobras, Petronas and Statoil who have been able to transform to major players in the global oil and gas business, the NNPC can be termed as a failure. Nevertheless, NNPC's various efforts of transformation are discussed in the following paragraphs.

Although the NNPC adopted a divisional structure in 1979 and created five semiautonomous sectors in 1985 (Nwokeji, 2007), the real effort at transforming the NOC commenced with the Commercialisation, Re-organisation and Capitalisation (CRC)<sup>38</sup> initiative of March, 1988. The initiative which was carried out with the consultancy aid of Arthur Anderson and Co. conceptualised NNPC's structure into twelve SBUs and corporate service units (CSUs) under two directorates: Operations and Services (Makeri, 2009).

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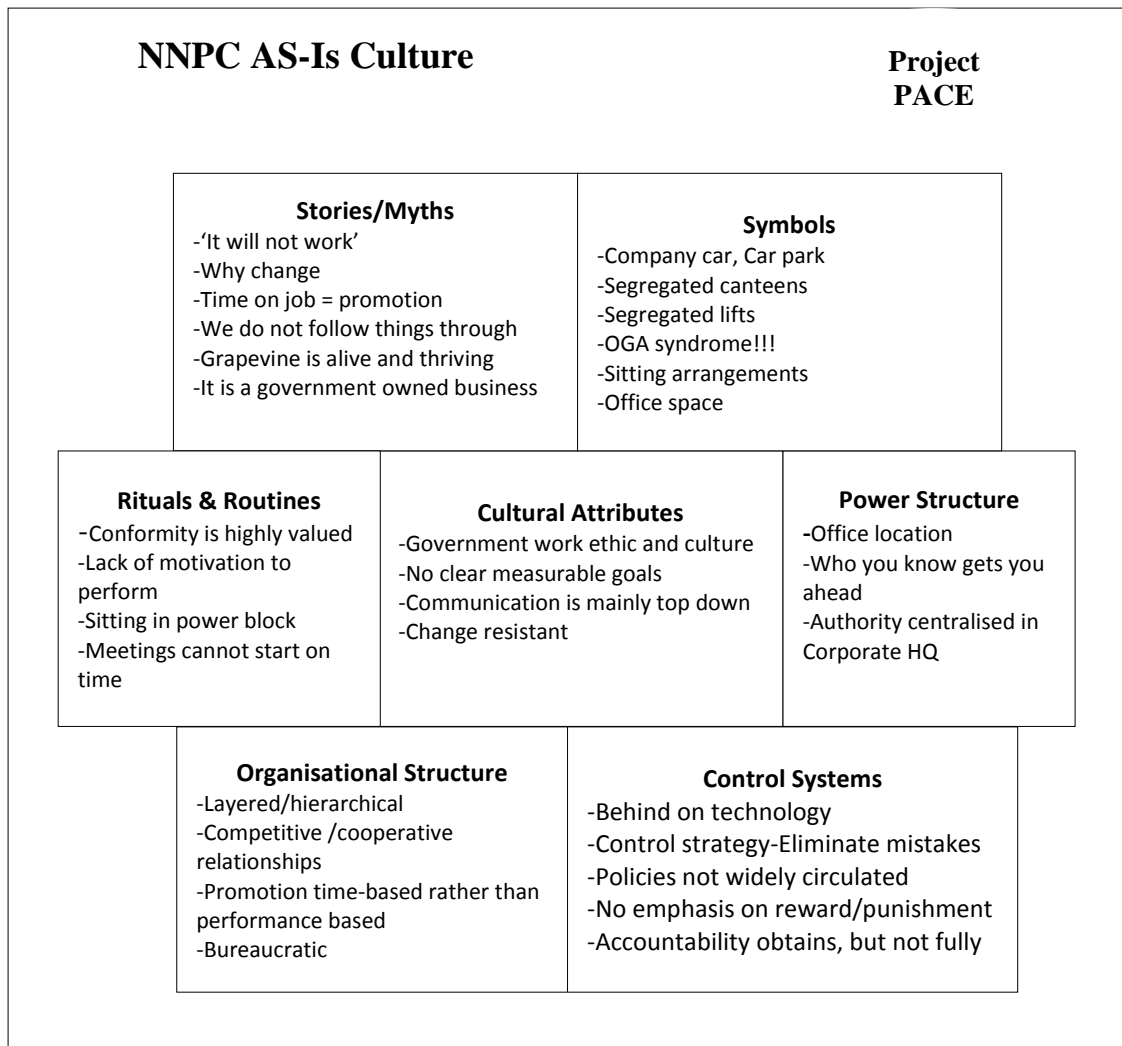
<sup>38</sup> The mandate given for the CRC initiative was to carry out a SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis, the recommendation of which would align NNPC to its vision and mission.

Furthermore, the corporation adopted a Total Quality Management (TQM) culture in 1995 with the focus on quality management and customer satisfaction at the lowest cost (Okoye, 2010). This effort at transformation failed in most of NNPC's subsidiaries due to: the lack of a conducive business environment; ineffective leadership; large staff population; short awareness period; fear of the unknown; cultural environment; low morale; inadequate training; customer dissatisfaction; and inactive corporate steering committee (Omorie, 2001). Although the general conclusion relating to the adoption of TQM by NNPC is that it failed to make the desired impact, with respect to one subsidiary of NNPC, namely NETCO, it has been deemed to be a success.

In 2004, the NNPC also embarked on the first phase of Project PACE - an acronym for Positioning, Aligning, Creating and Positioning. Specifically, Ikoko (2006) highlighted that the key objectives of the project was to ensure that the NNPC evolves as a high performing NOC by developing world class capabilities, systems, processes, and structures. This, in turn, is expected to bring about efficient operation and improved performance in the generation of value from hydrocarbon resources; oil reserves and production; secure higher OPEC quota; local content; capacity building in NAPIMS and NPDC, information technology transformation; and to establish a petroleum market place.

According to Makeri (2009), the first phase of Project PACE carried out a diagnostic assessment of the NNPC in order to redirect it to become an efficient and effective NOC like its peers, Petrobras and Petronas. The diagnosis identified some of the problems of the corporation as lack of focus; a weak culture of accountability; a non-capitalisation and absence of execution/commercial mind-set; inadequate leadership; inadequate managerial capacity and weak enabling processes (NNPC, 2012a). Figure 3.4 illustrates the diagnosis assessment of NNPC.

**Figure 3.4: NNPC Corporate Culture**



Source: Makeri (2009)

Thereafter, in 2005, the second phase of the Project PACE commenced with a focus on the implementation of change initiatives. According to NNPC (2010), during the inauguration of the second phase, the GMD stated that the NNPC was rebranding<sup>39</sup> with a commitment to six key attributes defining high performance: strategy, technology, operational excellence, leadership, organisation and governance, and people and culture.

Consequently, Kupolokun (2006) highlighted the following as some of the achievements of Project PACE: (1) the laying of foundation for corporate

<sup>39</sup> The GMD disclosed that NNPC’s “NNPC’s cultural brand would be professionalism and excellence, teamwork and open communication, ownership and consequence management, safety, innovation, performance empowerment and entrepreneurship, respect and” (NPDC, 2013).

performance through the revision of organisational structure and the institutionalisation of the performance culture in NNPC; (2) savings in contracting and procurement through the Nigerian Petroleum Exchange's (NIPEX), Joint Qualification System (JQS)<sup>40</sup>, a technology solution developed under the petroleum market place; (3) re-engineering key levers for improving the effectiveness of NAPIMS<sup>41</sup>; (4) implementing an enhanced Management Information System in the NPDC and possible increase in operational effectiveness; (5) the re-engineering of human resources function to effectively play the role of a business partner and support a high performing NNPC; and (6) the definition and commencement of the implementation of the information technology needed to enable and support a high performing, world class NNPC.

In 2009, in its quest to improve efficiency and effectiveness, and gain the status of a world class oil company, the NNPC flagged off a new twelve point transformation agenda.<sup>42</sup> The transformation initiative was aimed at reforming the NNPC and transforming it from a cost-center to a profit-center (Okoye, 2010). The initiative was designed to be the fore-runner to the PIB, as it envisages the migration of the NNPC from its passive investor and onlooker status to a major participant in the class of other performing oil and gas companies (NNPC, 2012a).

In addition, this transformation drive emerged at the time that the NNPC was practically insolvent, in that its operation had only been sustained by sovereign guarantees provided by government (Igbikiowubo, 2010). This suggests that all the effort made in the past to transform NNPC were not successful.

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<sup>40</sup> NIPEX's JQS is a procurement system where transaction is carried out in the electronic market. It was developed to improve transparency, efficiency, cost effectiveness and competition.

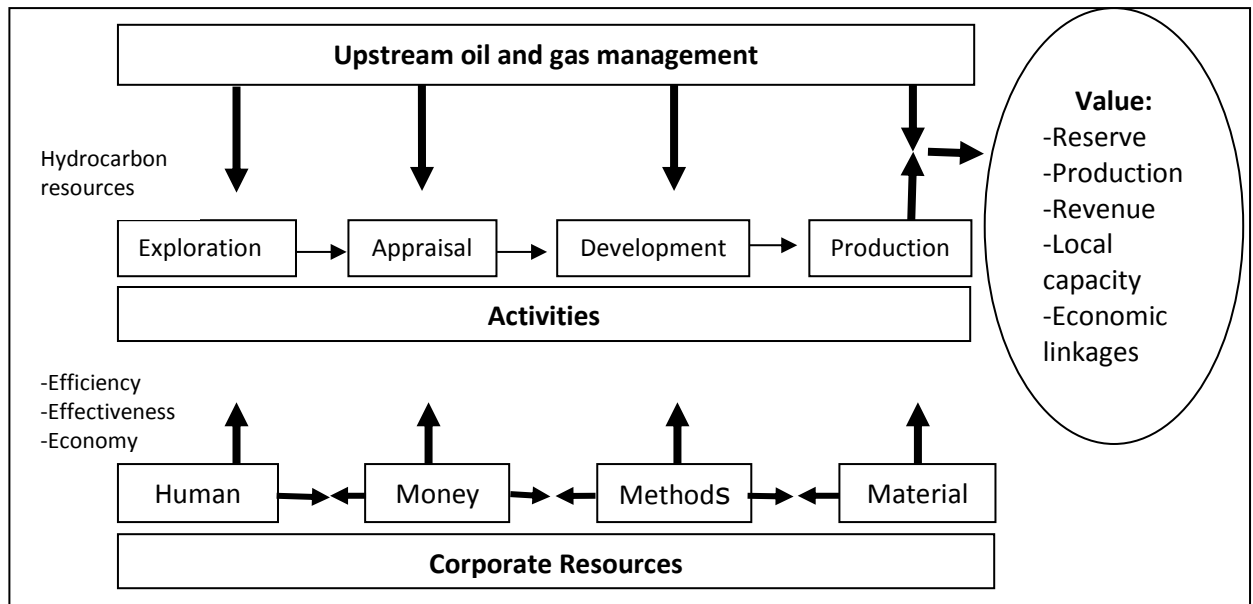
<sup>41</sup> For instance, due to the difficulty of cash calling the JVs, an alternative funding arrangement was developed. In addition, a Nigerian Content Division was created.

<sup>42</sup> The transformation agenda emerged from the recommendation of the Oil and Gas Sector Reform Implementation Committee (OGIC) report. The committee was set up by government to reform and restructure the oil and gas sector.

### 3.6 The NNPC's Value for Money (VfM) concerns

The previous sections discussed the duties, objectives, aspirations, activities and efforts of the NNPC in the upstream sector of the Nigerian oil and gas industry. This section will examine these duties, activities and the corporate resources available, with the aim of understanding how well they are allocated to achieve the NNPC's objectives. The discussion will be based on the concept of VfM (efficiency, effectiveness and economy) which involves obtaining the maximum economic, social and environmental benefits possible from activities for the lowest overall cost. Figure 3.5 illustrates the mixture of the activities, resources and expected value addition.

**Figure 3.5: Management of Oil and Gas Upstream Activities**



Source: Author

#### 3.6.1 Efficiency

Even though there are other spectrums to efficiency in the literature, this study is limited to the understanding of efficiency from the perspective of the classical school of management. In this vein, Murshid (1988) described efficiency as the result of appropriate application of administrative principles that direct and control the internal performance of an organisation. It is concerned with the organisational structure, the administration system and



other essential inputs that ensure that work is done appropriately to achieve maximum efficiency (Richard et al., 2009).

The organisational structure is vital for the mobilisation, allocation and utilisation of corporate resources (Obiwuru et al., 2011); the reason for which Goodman and Pennings (1977:3) referred to it as “a rational set of arrangements oriented towards achieving certain goals”. Therefore, together with a sound administrative system, the structure is used as a vehicle to make and implement policy decisions and strategies adopted by an organisation to achieve its desired goals and objectives.

With regards to NNPC, the structure has been restructured several times in the past to its relative decentralised form in 1988. However, despite its involvement in the diverse spectrum of the oil and gas industry, Yisa (2005) stated that the NNPC’s operational decision-making is centralised at the top. Furthermore, the process is said to be exceedingly slow and highly bureaucratised, such that it leads to a delay in transiting necessary information and other essential inputs required for implementing organisational functions. Further, Ibrahim (2009) reported that the delay creates a defect in the system, because users of information are inadequately fed with it, thus, the resultant lack of administrative synergy<sup>43</sup>. It is evident that this situation will impact negatively on efficiency.

At the top of the NNPC structure is the board of directors which is responsible for decision-making. However, the composition of the board of the NNPC is alleged to be largely based on ethno-political consideration rather than expertise and professionalism (Nwokeji, 2007; Gboyega et al., 2011). Therefore, it is assumed that decisions taken by the board will be unsound, and the judgement of which is based on patronage, rent seeking and self-interested short term strategies (Hosman, 2009; Thurber et al., 2010). Arguably, these impeding factors are associated with the constant meddlesome behaviour of government as a result of which the NNPC has had five GMDs in seven years.

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<sup>43</sup> In respect of this, Eluozo (2008) reported that the department that drill and complete wells do not have appropriate linkage with those that supply materials.

Also of importance to the success of an organisation is the appropriate allocation and utilisation of human resources in the middle and lower cadre. It is reported that the NNPC's best employees have good expertise and culture of working in the oil and gas industry but, on a generally note, the corporation is deficient in human capacity (Thurber et al., 2010). The inadequacy of this vital human input, along with the lack of equipment, have hindered the NPDC and NAPIMS' work programme and budget review exercises (Yisa, 2005; Penda, 2009). A similar view has been given on the negative impact of incompetent personnel in monitoring MOCs operating the JVs and PSCs (Madubuike, 1999; Ugwu, 2006).

Even though NNPC has made reasonable effort in training its staff in line with its core value of 'staff development and growth', Edu (2000) attributed the aforementioned problem to the lack of proper orientation and exposure to the right training. In effect, this creates challenges in communication and feedbacks with the consequences of reduced productivity and inefficiency.

The functions of mobilising, allocating and utilising financial capital resources are of high significance in determining organisational efficiency and value addition (Wang and Berman, 2001; Dekker, 2004). However, the application of these functions in the NNPC is in contrast with a real commercial entity, given that the NNPC's board of directors is not independent of government and, as such, does not have the financial autonomy to source for funds<sup>44</sup> (Nwokeji, 2007). Due to this anomaly, the NNPC generates income it cannot retain, which as a consequence earned it the ironic caption of "a formally commercial NOC that can never make profit" (Thurber et al., 2010).

Despite this circumstance, the management of the NNPC have devised other ways of pursuing business goals even though performance may not be as expected<sup>45</sup>. Thus, it can be suggested that the NNPC is one NOC that lacks

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<sup>44</sup> However, it should be noted that the MOCs source for funds on NNPC's behalf to operate the JV operations. This is an alternative funding arrangement that arose as a result of government's inability to contribute its share of the participating interest.

<sup>45</sup> The revenue NNPC generates is constitutionally bounded to the Federation of Nigeria.

adequate cash flow<sup>46</sup>, which is an important measure of corporate efficiency and effectiveness (Ellis, 1999). This condition of continuous insolvency “explains and helps to reinforce the absence of clarity in NNPC’s budgeting processes” (Thurber et al., 2010).

Considering the dynamic nature of the oil and gas business, timeliness in payment for contracts and execution of projects is essential. Even in this respect, the NNPC has been reported to be slow in the vital processes of approving contracts and making payments due to its excessive bureaucratic bottlenecks. For instance, Edu (2000) stated that the NNPC’s processes of approving contracts and making payments, delays the execution of project as planned. Another example was given by the KPMG (2010), when it reported the link between the late processing of marketing clearance to load oil vessels to delay in receipt of Letters of Credit (LC) from NNPC.

Consequently, Thurber et al. (2010) attributed this to the rigorous procedures of approval and payment at the NNPC’s headquarters that could take months to complete. Similarly, Ezenwosu (2009) related the cause of the delay to the stipulation of the JOA that approval and payment of contracts that exceed the \$500,000 and N10, 000,000 authority limit of JV operators (MOCs) for foreign and local contracts respectively, will have to be forwarded to NNPC. It is argued that the JOA needs to be reviewed so as to amend such provisions to be in line with modern day oil and gas businesses.

Penda (2009) stated the effects of the delay in payment and inadequate funding to include loss of goodwill; shifts in delivery dates; high cost of production and reduction in contractors’ commitment to add value. In this regard, instances were reported when, at different times, contractors (Cledop and Baker Hughes) had to abandon operations due to non-payment, which led to man-hour loss. While expressing shock at NNPC’s apathy towards its upstream projects, Amanze-Nwachuku (2012) noted that delay and inadequate funding constitute a major setback to the government’s aspiration of increasing oil and gas reserves and production; to undermine the development of local content.

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<sup>46</sup> The GMD of NNPC once acknowledged that they were challenges with solvency, while another source said that their survival was based on sovereign guarantee.

However, Penda (2009) acknowledged that the NNPC/NPDC has guidelines for approved budget implementation that demands for accountability, transparency, budget discipline, and provides control and feedback mechanisms such as Authority for Expenditure (AFE), auditing and periodic performance reports<sup>47</sup>. Despite this, it is further asserted that these mechanisms have not had positive effect.

For instance, while Abutudu and Garuba (2011) acknowledged the importance of auditing to improve the NNPC's systems and processes, they reported that audit functions have been inefficiently run due to lack of adequate trained staff who are versed in areas such as well and product costing and project management. In addition, Penda (2009) related this as one of the causes of delay in budget reviews; approval and release of funds, as well as the inadequate budget provisions for projects<sup>48</sup>.

### **3.6.2 Effectiveness**

As reviewed in Chapter Two, effectiveness is generally defined as the extent to which an organisation can achieve its predetermined goals/objectives (Aktas et al., 2011). For an organisation like the NNPC, this can be determined by how well it has achieved its operational targets, mission targets, national aspirations and citizens' expectations. Therefore, based on this, the operational performance of the NNPC in its upstream activities is reviewed.

Drawing from the exploration data shown in Table 3.5, it is evident that in the area of seismic data acquisition, the NNPC in collaboration with other oil companies could only meet its target once in ten years between 2001 and 2010.

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<sup>47</sup> The AFE procedure is to ensure that expenditures are rational and based only on planned activity (Penda, 2009). Similarly, proper transmission of budget information and feedback leads to effective decision making.

<sup>48</sup> The problem of delays in approval and release of funds, and inadequate budget provisions has consistently been an issue of concern given that proceeds from NPDC are paid directly to NNPC who in turn approves and releases funds for NPDC operations. The process usually takes a long time since NNPC itself have to wait for appropriation from the National Assembly (Penda, 2009). The approval limit of the MD of NPDC is \$5 million and N10 million, while he acknowledged that foreign invoices usually take an average of 150 day to process for payment (Ibrahim, 2009). Also, NAPIMS involvement in contract management from the tendering process of prequalification of bids to approval takes an average of 160 to 394 days (Ezenwosu, 2009).

However, over 70% performance level was attained in seven of the ten years and only twice was performance below 50%. In the related data processing and reprocessing activities, the NNPC's performance was better as it surpassed its target in three of the ten years presented and did not record below 50% performance. Although the NNPC was not wholly effective in exploration, it can be argued that its level of performance was close to being effective.

**Table 3.5: Data on NNPC's Upstream Activities 2001-2010**

Year	Seismic data acquired (Sq. km)		Performance level	Data processed /reprocessed (Sq. km)		Performance level
	Plan	Actual	%	Plan	Actual	%
2001	2070.00	901.00	43.53	13926.00	7024.00	50.44
2002	4402.35	4394.69	99.83	9833.00	6379.40	64.88
2003	4305.00	3854.86	89.54	22277.00	11232.00	50.42
2004	1328.38	1131.35	85.17	11468.00	13583.00	118.44
2005	2344.00	1802.03	76.88	13576.50	11165.69	82.24
2006	14290.60	10622.08	74.33	27441.00	18855.05	68.71
2007	11520.00	5200.00	45.14	15945.40	8763.15	54.96
2008	18307.00	10212.16	55.78	6670.00	7831.00	117.41
2009	5000.00	4560.76	91.22	9492.00	5842.00	61.55
2010	2057.00	2700.00	131.26	6490.00	14862.65	229.00
Year	Wells drilled		Performance level	Rigs in operation	Crude oil production	
	Plan	Actual	%	Actual	Volume	
2001	-	218	-	43		
2002	-	254	-	41	729,190,940	
2003	-	172	-	26	831,775,504	
2004	-	168	-	24	910,156,489	
2005	272	179	65.81	27	918,966,736	
2006	367	183	49.86	36	869,196,506	
2007	439	200	45.56	32	803,000,708	
2008	236	110	46.61	27	768,745,932	
2009	197	129	65.48	27	780,347,940	
2010	68	96	141.18	25	896,043,406	

Source: Author (based on information from NNPC, 2013)

As shown in Table 3.5, the NNPC's development activities in the upstream sector have not been so impressive. Of the six years presented, the performance target for the development of wells was met once, while less than 50% performance was recorded for three years. Even though production is guided by OPEC quota allocation, the overall ineffectiveness shown may arguably be a contributing reason for the dip of almost 20% in crude oil production. With this trend over a number of years, it is not surprising that the aspiration of adding reserve value and boosting production was not met. This, in effect, will

reduce a generation of revenue upon which Nigeria's socio-economic development depends.

Also, the effectiveness of budget execution and funding is an essential ingredient for organisational success (Owle and Brown, 1992). It implies that budget execution entails ensuring that investments in projects are appropriately carried out to add value to an organisation in order to achieve objectives. In this vein, Penda (2009) assessed the NNPC/NPDC budget execution and found it ineffective. Further, the illustration in Table 3.6, showed that between 2005 and 2008 the highest level of budget performance was 37.57% while in 2006 there was a dismal low performance of 6.43%.

**Table 3.6: NPDC Capital Budget Execution from 2005 - 2008**

Year	Plan N (Billion)	Actual N (Billion)	%
2005	14.659	1.924	13.13
2006	20.213	1.299	6.43
2007	34.986	13.145	37.57
2008	35.518	2.676	7.53

Source: Penda (2009)

Subsequently, Eluozo (2008) discussed the ineffective execution of budget. He stated that CAPEX has continuously declined, while operating cost OPEX has always been overrun. Correspondingly, this decreases NNPC/NPDC's value addition, and subsequently affects the fortunes of NNPC. Penda (2009) linked NNPC/NPDC's ineffective budget execution to its inability to attain its intended aspirations<sup>49</sup> in upstream operation. Similarly, Bako (2006) also argued that budget implementation in JV operations is primarily focused on the expenditure of sums set out in the budget, as little or no attention is usually given to ensure that goals set out in the budget are correspondingly attained.

Various reasons have been attributed to this failure. For instance, as illustrated in Table 3.7, funding for upstream projects are not usually provided as budgeted. It can be seen that between 1999 and 2003, the highest funding that the NNPC was able to secure from government for upstream projects was 83.82% of planned funding while the lowest was 55.61%.

<sup>49</sup> For instance, that the NPDC's reserve target for 2010 was reviewed from 750 million barrels to 550 million barrels attest to its unimpressive performance.

**Table 3.7: JV jointly recommended budget and funding performance for 1999-2005**

Year	Planned funding (\$000)	Actual funding (\$000)	Funding gap (\$000)	Performance %
1999	7,166,517	3,985,621	3,180,896	55.61
2000	6,470,625	3,841,413	2,629,212	59.34
2001	6,496,305	5,060,912	1,435,393	77.90
2002	7,475,466	4,961,116	2,514,350	66.37
2003	6,808,347	5,707,000	1,101,347	83.82

Source: Author (based on information from Ezenwosu, 2009)

The performance level suggests NNPC’s ineffectiveness in securing funding for projects. Thurber et al. (2010) attributed the inadequacy to government’s commitment to other socio-economic needs and their lack of technical capability to critically evaluate budget proposals. According to Ezenwosu (2009), Mr Kupolokun while serving as the GMD of NNPC gave a better expression of this view when he said:

“Nonetheless there is a limit to the amount of resources that government can commit to the industry on account of competing national needs. This resulted in budgetary constraint that is affecting the industry to the extent that the JV companies have tended to skew their operation in favour of production, while compromising exploration activities.”

According to Tanimu (2008), the inadequacy in funding leads to budget realignment and misalignment, which in turn provides the MOCs an avenue to manipulate the budget by ignoring exploration projects that will not return investments in the short run. In addition, Ibrahim (2009) linked the inadequacy to creation of wider communication gap in the system and problems of accountability. Consequently, achieving operational and policy targets becomes unrealistic.

Also, the NNPC/NAPIMS has the mandate of developing the Nigerian local content<sup>50</sup> in the oil and gas industry as provided by the Petroleum Act of 1969<sup>51</sup>

<sup>50</sup> According to Atsegbua (2012), local content is defined as “the quantum of composite value added to or created in the Nigerian economy by a systematic development of capacity and capabilities through the deliberate utilisation of Nigerian human, material resources and services in the Nigerian oil and gas industry.” It involves the acquisition of technology, skilled manpower, procurement and use of local raw materials, increased participation of local companies and provision of economic linkages to other sectors of the economy (Nwaokoro, 2011a).

<sup>51</sup> The petroleum Act of 1969 provides that: operators in Nigeria shall give preference to Nigerian contractors provided there is no significant differences in price and quality; that work

and other subsequent development policies (Maliki, 2009). Specifically, the Nigerian government’s aim as expressed in the NNPC’s dedicated vision for Nigerian content is to:

“Transform the oil and gas industry into the economic engine for job creation and national growth by developing in-country capacity and indigenous capabilities. In this way a greater proportion of the work will be done in Nigeria with active participation of all sectors of the economy and ultimately Nigeria will be positioned as the hub for services within the West African sub-region and beyond”.

Therefore, in its quest to foster the development of local content by the domiciliation of economic work in Nigeria, the NNPC created the Nigerian Content Division (NCD) as well as established a Nigerian Content Consultative Forum for the industry. Furthermore, up to 23 directives were issued to MOCs to enhance content level in order to attain the aggregate target of local content value of 45% by 2005 and 70% by 2010 (Ovadia, 2013b). The details of the NNPC’s targeted 70% are shown in Table 3.8.

**Table 3.8: NNPC’s Projected Nigerian Content Value Contributions**

Sectors	Average Annual Spend (\$m)	Value Contribution (\$m)				
		2006	2007	2008	2009	2010
Engineering	900	270	340	495	605	720
Installation	1,100	220	233	263	295	330
Construction	1,100	330	465	528	625	770
Fabrication	1,500	500	610	705	850	1,000
Procurement	5,400	475	600	1,000	1,700	2,500
Others		105	320	650	1,150	1,480
<b>TOTAL</b>	<b>10,000</b>	<b>1,900</b>	<b>2,568</b>	<b>3,631</b>	<b>5,225</b>	<b>6,800</b>

Source: Ariweriokuma (2009)

However, in contrast, the NNPC have largely failed to build and improve its own capacity (Thurber et al., 2010). Similarly, the NNPC has not adequately ensured that the MOCs carry out their obligations on local content. Currently, Ovadia (2013a) estimated local content achievement to be between 30 and 40%, which despite being an improvement on the less than 5% domiciliation in

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done in Nigeria shall use, as far as practicable, indigenous human and material resources; where it is not practicable, then the work shall be carried out by a subsidiary of the foreign company based in Nigeria; that fabrications whenever practicable shall be done locally provided standard is not jeopardised; and that there shall be plans and programmes for the training and education of Nigerians in all job classifications (Etrikerentse, 2004).



2002 (Nwaokoro, 2011b), has not met the aspired target. Table 3.9 provides the details of the NNPC's performance in terms of local content.

**Table 3.9: NNPC-NCD Gap Analysis**

<b>Sectors</b>	<b>Capacity Element</b>	<b>Current Available Capacity</b>	<b>Post-Gap Analysis Requirement</b>
Engineering	In-country engineering person-hours	1.5 million	5 million
	Skill discipline engineers	1,000	3,600
	Engineering companies (500,000 person-hour minimum capacity)	None	5 or 6
Fabrication	Annual tonnage of fabrication including FPSO modules and LNG	25,000MT	150,000MT
	Certified welders/fitters	2,000	10,000
	Integrated fabrication yards (25,000MT-30,000MT min capacity)	none	6
	Deep sea port and facilities for FPSO integration	none	2
Manufacturing	Annual tonnage of steel pipes	nil	1 million MT
	Annual tonnage of Portland Cement	2.23 million MT	11.8 million MT
Shipping and Logistics	50% of annual equity crude for export	No indigenous company	180 million bbls (worth \$900M)
	Lighters and medium sized vessels for coastal services	25	Over250
	Qualified Nigerian ship captains, crewman and divers	220	Over 4000

Source: NNPC-NCD (2008)

Yisa (2005) stated that the NNPC/NAPIMS has control mechanism for monitoring the compliance of MOCs to local content directives, through the provisions of upstream contracts, rules, regulations and best practice; by utilising tools such as training plans, work programmes, budgets, periodic review of invoices, work orders/LPOs and auditing. Though, Thurber et al. (2010) is of the opinion that this mechanism may have helped in creating substantial number of positions for local personnel in the oil and gas industry, it is argued that key management functions are performed largely by expatriates.

In concurrence, Bako (2006) stressed that the NNPC has not been able to develop the capability to manage Nigeria's oil and gas resources by itself, given that almost all the crude oil produced is by MOCs. Furthermore, Ibrahim (2008) stated that the MOCs were not following the directives on local content

as well as the provisions and laws that relate to local content - given that the NNPC lack the capacity to enforce compliance. In this respect, Ovadia (2013a) attributed the NNPC's ineffectiveness to its deficient database for the available local human capacity and other resources necessary for the local content project. Similarly, Nwaokoro (2011b) reported that the NNPC is not adequately staffed and equipped to monitor the MOC's local content compliance.

### 3.6.3 Economy

According to Flynn (2012), economy infers the minimising of cost of human, financial and material resources used for an activity while having regard to appropriate quality. In other words, the concept of economy in the VfM frame requires that an organisation combine the relevant factors of production to minimise cost or, rather, be cost efficient (Andrew and Boyne, 2009).

One area where economy is captured in the NNPC performance literature is that of budget under or overruns. As shown in Table 3.10, the JV operators have overrun the budgets approved in four of the five years presented; thereby, signifying the likeliness that cost was not minimised.

**Table 3.10: Actual Budget Approval/Expenditure Performance for 1999-2003**

Year	Actual Budget approved (\$000)	Actual expenditure (\$000)	Budget underun/overrun (\$000)	%
1999	3,985,621	4,005,855	-20,234	0.51
2000	3,841,413	3,634,751	206,662	5.38
2001	5,060,912	5,183,882	-122,970	2.43
2002	4,961,116	5,094,458	-133,342	2.69
2003	5,707,000	5,754,016	-47,016	0.82

Source: Ezenwosu (2009)

This may have arisen due to NNPC's inability to monitor the implementation of the budget. Contrary to the provisions of the JOA, the JV operators unilaterally incur expenditure by deleting, omitting and even adding new budget line items without the approval of the OPCOM (Abdullahi, 2006). As a result, because approved budgets usually do not tally with work programmes, there is an issue of mistrust between the MOCs and the NNPC/NAPIMS (Okonkwo, 2005; Ezenwosu, 2009). Furthermore, the Realignment of budgets

and frequent overrun makes control and monitoring more difficult for the NNPC/NAPIMS. This in effect leads to wastage and lack of economy in the allocation of inputs (Kallamu, 2001).

Being that economy entails the minimisation of the cost of input, it is apparent that the cost of contracts that are unilaterally implemented without approval and due process is suspect, and may likely be over-priced (Bako, 2006). In relation to NNPC, such issues on the economy of performance were evident about the JV operators' authority limit in awarding contracts. Edu (2000) reported that there are cases of highly priced contracts that were awarded by the JV operators without the NNPC/NAPIMS' input and knowledge. It is further alleged that the costs of the contracts are inflated for fraudulent reasons or to cover for the costs of funding in other areas of operations. Ezenwosu (2009) provided the value of such unauthorised contracts for 2005, as detailed in Table 3.11.

**Table 3.11: Summary of Contracts Awarded without NAPIMS Approval in 2005**

JV Operators	Amount (\$)	Amount (N)
SPDC	196,548,000	-
Chevron	11,886,000	-
Total	4,146,053	120,277,083
NAOC	128,232,891	369,385,000

Source: NAPIMS cited in Ezenwosu (2009)

### 3.7 The NNPC's Transparency and Accountability Issues

Transparency and accountability are two central and interlinked pillars of good governance (Hondeghe, 1998). While transparency entails the unrestricted access by the public to timely and reliable information on organisational decisions and performance; accountability is concerned with the obligation on an organisation to give account on its usage of resources and be held accountable for failure to meet targeted performance objectives (Armstrong, 2005).

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). This provides the basis for accountability to play its role of measuring performance and ensuring compliance (Bavly, 1999), which thereby increases efficient and effective management practices and competitiveness (Pitkin and Farrelly, 1999).

In this regard, the Nigerian government focuses on improving transparency and accountability by endorsing the ideals of the Extractive Industries Transparency Initiative (EITI). In relation, the NNPC was identified as the focal point because of its reputation for patronage (Thurber et al., 2010; Gboyega et al., 2011). In its effort of tackling these issues and transforming to achieving its set objectives, the NNPC included transparency and accountability amongst its core values (NNPC, 2014c). The electronic portal and data base, NIPEX, was created to provide enough transparency and self-monitoring among competing companies' procurement processes (Gboyega et al., 2011). Furthermore, the NNPC's GMD, MR Andrew Yakubu, stated the importance of stakeholders' engagement by ensuring transparency and accountability in the corporation's operations (NNPC, 2012a).

However, the National Assembly's probes of NNPC have always portrayed it as an organisation that does not have the exact record of production and revenue earnings (Sanusi, 2014). This concurred with the numerous shortcomings discovered in physical, financial and process audits carried out by the Nigerian Extractive Industries Transparency Initiative (NIETI). In addition, the Revenue Mobilisation Allocation and Fiscal Commission (RMAFC), the agency constitutionally responsible for monitoring Nigeria's revenue, has on numerous occasions complained about the lack of access to information from the NNPC and its non-remittance of accurate revenue (Gboyega, et al., 2011).

### **3.8 Conclusion**

The review in this chapter focused on NNPC's quasi-public organisation status as demonstrated in its evolution, duties, powers and participatory roles in the

oil and gas upstream sector. Drawing from the mission, the review discussed NNPC as a government agency whose mandate is to pursue social objectives that will benefit the people, while it is also required to operate efficiently as a commercial entity with the objective of maximising profit for the benefit of its shareholders. Considering these conflicting objectives, the review focused on the performance of NNPC in its upstream sector activities using the concept of VfM as a basis for critical review.

In the course of the review, a number of issues were revealed. Firstly, the purpose of establishing the NNPC was to control the oil and gas industry in order to maximise revenue for the benefit of Nigerians. In this quest, a mixture of petroleum arrangements are utilised by the NNPC depending on how economical and cost effective they are. Secondly, the NNPC is regarded as the local content vehicle whose responsibility is to prevent capital flight by domiciling technology and skilled manpower, as well as increase local participation and economic linkages.

Thirdly, it is revealed that the roles of the NNPC in the oil and gas industry are conflicting in that it assumes the roles of a manager, policy maker and regulator.

Fourthly, it is evident from the review that the NNPC's participation in the upstream sector is passive despite its majority equity. Therefore, it is implied that the MOCs are still in control of the upstream sector of the oil and gas industry.

Fifthly, the review also showed that NNPC has undergone several reforms to enhance its performance. The corporation aims to lay more emphasis on its commercial role and become a world class NOC. Sixthly, the NNPC is burdened with governance problems that are attributed to both internal and external sources.

Seventhly, the NNPC's efforts to ensure transparency and accountability were discussed, and although these efforts have not been entirely successful they, had some positive effect on NNPC's performance.

## **CHAPTER FOUR**

### **ACCOUNTABILITY AS A THEORETICAL FRAMEWORK FOR ASSESSING THE PERFORMANCE OF A NATIONAL OIL COMPANY**

#### **4.1 Introduction**

A theoretical structure is an essential component of every empirical research, as it provides a basis for explaining or contemplating phenomena (Ennis, 1999). This chapter discusses the accountability theoretical framework adopted for this study. It is underpinned by the principal-agent theory which has widely been used as a paradigm for analysing both private and public sector accountability. Specifically, Sihotang (2003) and Lawal (2008), in different perspective, conceptually used the accountability framework to match and analyse principal-agent relationships in national oil industry settings.

Furthermore, the accountability framework has been linked to performance<sup>52</sup> assessment and analysis (Talbot, 2005). Similarly, there are evidences that the framework is relevant to the management of public enterprises that have both commercial and social effects on different facets of society, and to whom the society seeks answers for their actions or inactions (Sinclair, 1995; Hooks et al., 2002). Thus, the accountability framework is adopted to analyse the role of the NNPC in the upstream sector of the Nigerian oil and gas industry.

The remaining part of the chapter is organised into eight sections. Section 4.2 discusses the various approaches to the definition of accountability; while in Section 4.3, the different types of accountability are addressed. In Section 4.4, the concept of accountability is presented in a principal-agent setting. Section 4.5 discusses the concept of accountability from the viewpoint of SOEs and VfM. The subject of Section 4.6 is the application of the accountability framework in the oil and gas sector; while Section 4.7 demonstrates how accountability framework underpins this study. Section 4.8 presents some other theories which could underpin this study. And Section 4.9 concludes the chapter.

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<sup>52</sup> Performance here applies on the basis of Value for money (VfM). Talbot (2005) linked accountability to performance management through three distinguished levels: (1) Individual or groups; (2) programme, processes and policies; and (3) organisations.

## 4.2 The Concept of Accountability

As the concept of accountability means different things to different people, it is difficult to define (Sinclair, 1995; Robinson, 2002; Bovens, 2007; Demirag and Khadaroo, 2008; Akpanuko and Asogwa, 2013). Different authors have argued that the concept is complex, multi-faceted, abstract, elusive and difficult to define. However, the general view was that it involves responsibility (Mulgan, 1997); control and monitoring (O'Loughlin, 1990); accounting for resource use (Ballentine et al., 1998; White, 2005 ); social<sup>53</sup> and institutional mechanism for assessing performance (Mulgan, 2003; Bovens, 2007 ) and ethical considerations (Dubnick, 2005). Looking at these views regarding accountability, it might be right to say that it focuses on the flow of information between relevant actors.

Further, the concept of accountability might also be viewed differently with respect to ideologies, motifs, language and disciplines. To this end, Sinclair (1995) posited that “auditors discuss accountability as if it is a financial or numerical matter; political scientists view accountability as a political imperative and legal scholars as a constitutional arrangement, while philosophers treat accountability as a subset of ethics. Having mentioned these, this study will concentrate on accountability from a public sector perspective with specific emphasis on state owned public enterprises, rather referred to as NOCs.

According to Schlenker (1997), accountability can be viewed as “being answerable to audiences for performing up to prescribed standards that are relevant to fulfilling obligations, duties, expectations and other charges”. Similarly, Jackson (1982:220) described accountability as the process of “explaining or justifying what has been done, what is currently being done, and what is planned”. According to him, accountability arises from a set of established procedures and relationships of varying formality and it involves the giving of information. This implied that accountability involves the “giving

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<sup>53</sup> Mulgan (2000, 2003) definition of accountability focuses on the externality of the accountee to whom the accountor gives account. This involves social interaction and exchange in terms of rectification and sanctions.

and demanding of reasons for conduct” (Roberts and Scapens, 1985:447), which compels individuals and organisations to explain and accept responsibility for their actions or inactions (Parker and Gould, 1999:116).

In support of this, Patton (1992) referred to accountability as a process that involves the reporting of control and use of resources between those accountable and those to whom they are accountable. This concurs with Hurst’s (1970:58) statement that “an institution which wields practical power – which compels men’s wills or behaviour - must be accountable for its purposes and its performance by criteria not in the control of the institution itself”. The International Organisation of Supreme Audit Institutions (cited in Iyoha and Oyerinde, 2010), further described accountability as the “obligation of persons or entities entrusted with public resources to be answerable for the fiscal, managerial, and program responsibilities that have been conferred on them and to report to those that have conferred responsibilities”. Similarly, Inanga (1991:5) opined that accountability is “a process in which individuals and organisations are compelled to be answerable for their actions/conducts and responsibilities”. These definitions suggested that it is imperative for those entrusted with resources to account and report their usage and the results achieved.

A broader perspective was presented by Gray et al. (1987, 1988, 1991, 1996, and 1997) who cogently argued that whilst ensuring that proper accountability was present to protect the interests of shareholders, it was of great importance to also ensure accountability is present to protect the needs of society and the general public. Mulgan (2000) and Bovens (2007) argued that accountability has expanded beyond the traditional perspective to include facets such as control, professionalism, reporting and disclosure of results<sup>54</sup>. Therefore, beyond the provision of information to the users, it is argued that those that have a right to information should have easy access to it<sup>55</sup> (Gray et al., 1988;

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<sup>54</sup> Accountability ranges more freely over space and time, focusing as much on future potential as on past accomplishment, connecting and consolidating performance reports to plans and forecasts (Hoskin, 1996).

<sup>55</sup> Included in this category of users are passive users who have a right to know even though they might not use the information (Burchell, et al., 1985). The Management Improvement Committee to the Australian Commonwealth Government’s Management Advisory Board



1991). This argument related accountability to social relations; public interest and fairness, thus forming an ethical basis for accounting<sup>56</sup> (Williams, 1987; Pallot, 1991; Roberts, 1991; Dubnick, 1998).

With emphasis on individual behaviour and social relations, accountability is viewed as a means for dealing with potential/actual problematic situations that necessitate excuse-making, justifications, rationalisations and other forms of account-giving (Benoit, 1995 cited in Demirag and Khadaroo, 2011). In this context, Bovens<sup>57</sup> (2005) considered accountability to be “the methods by which the actor may render an account (i.e. justify their actions and decisions) to the stakeholders<sup>58</sup> and by which the stakeholders may hold the actor to account (i.e. impose sanctions or grant permission)”. Gray et al., (1991) also advanced the view that accountability is a necessary step for developing any democratic process. It is a fundamental component of governance required in judging and monitoring the performance of the governor by the governed (White, 2005).

In an organisational context, Lloyd et al., (2007:11) defined accountability as “the process through which an organisation makes a commitment to respond to and balance the needs of stakeholders in its decision making processes and activities, and delivers against this commitment”. Also, Ebrahim (2003:194)

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advocates that the concept of accountability does not simply imply providing information or answering questions, but extends to activities including setting goals, providing and reporting on results and the visible consequences for getting things right or wrong (Core, 1993).

<sup>56</sup> Williams (1987) argued that, while decision making usefulness unavoidably involves implicit judgements about fairness, accountability allows fairness to be made explicit. It allows the inclusion of moral cognitions in the development and understanding of accountability system. Augmenting this view, Lehman (1996) introduced ethical dimension into the accountability equation.

<sup>57</sup> Bovens (2005) noted that the accountee can be an individual, an agency or even an accountability forum such as the general public. Also, Bovens (2005) defined the social process of ‘account giving’ in terms of three elements: the accountant’s obligation to give account to the accountability forum, the forums ability to interrogate the accountant, and the forums ability to pass a judgement and impose sanctions.

<sup>58</sup> The recognition of the rights of the stakeholders and the duty of organisations to be accountable to them has been a subject of debate among scholars. However, among others, Freeman (1984) proposed a general theory that incorporated corporate accountability to a broad range of stakeholders. The basic argument of his proposition is that the role of business organisations in the society is large and their impact is widespread, therefore rather than being accountable only to shareholders accountability should also be discharged to diverse stakeholders. This is supported by Jensen and Meckling’s (1976) acknowledgement that within an agency framework a contractual consideration could ensue between the firm and various primary interest groups of the firm.

defined accountability as “the means through which individuals and organisations are held externally to account for their actions and as the means by which they take internal responsibility for continuously shaping and scrutinising organisational mission, goals, and performance”. Furthermore, in a more explicit way, the Royal Commission on Financial Management and Accountability (1979:9-10) broadly described accountability as such:

“Accountability, like electricity, is difficult to define, but possess qualities that make its presence in a system immediately detectable... [It] relies on a system of connecting links—a two-way circuit involving a flow of information that is relevant and timely, not only for managers but for those who must scrutinize the decisions and deeds of managers.... In simple terms, accountability is that quality of a system that obliges the participants to pay attention to their respective assigned and accepted responsibilities, to understand that it does matter”.

The definitions of accountability earlier cited that encompassed the narrow and broad views of accountability, provided a common ground regarding accountability’s involvement in giving and demanding information or providing reasons for conduct (Roberts and Scapens, 1985; Bovens, 2007). However, this is further expanded to include the notion of stewardship<sup>59</sup> to accountability, where a party is entrusted with responsibility and obliged to give account (Ebrahim, 2003; Bovens, 2005).

The review of accountability literature in the public sector (including SOEs) suggested that accountability has expanded to include participation; concerns of various stakeholders, civil societies and the general public (Parker and Gould, 1999; Mulgan, 2000; Bovens, 2007). Drawing from the UK Department for International Development’s White paper (2006:20), accountability is described as “the ability of citizens, civil societies and the private sector to scrutinise public institutions and governments and hold them to account”.

Additionally the Performance-based Management Special Interest Group (PBM SIG, 2001:1) posited that “accountability refers to the obligation a person, group or organisation assumes for the execution of authority and/or the

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<sup>59</sup> Gray and Jenkins (1993) described stewardship in accountability as the relationship between two parties; where the steward or accountor presents an account for the responsibilities entrusted to him, to the party who entrusted the responsibilities (i.e. principal or accountee).

fulfilment of responsibility”. The group further explained that the obligation includes: answering for the execution of authority and the fulfilment of responsibility; reporting on the results of the execution; assuming liability for the results.

Accountability, in this context, involves openness or “rendering of account for matters of public interest, i.e. an accounting that is performed with a view to the judgement to be passed by the citizens” (Bovens, 2005:9). This concurred with the notion that accountability requires agents to answer to the citizenry- to justify the sources of resources, and the efficient and effective utilisation of public resources (Inanga, 1991).

Similarly, Romzek and Dubnick (1987:228) argued that “public administration accountability involves the means by which public agencies and their workers manage the diverse expectations generated within and outside the organisations. In order words, public sector accountability is strongly related to checking and preventing the abuse of delegated power, and ensuring that power is directed towards the achievement of broadly accepted national goals<sup>60</sup> (The British Royal Commission of Financial Management and Accountability in Tower, 1993).

Despite the varying forms in which accountability is applied, there is a common consensus that accountability is concerned with accounting for actions and inactions, transparency, openness, responsiveness and responsibility (Bovens, 2007). Therefore, accountability can be summarised as “the presentation and communication of evidence about performance in relation to goals previously set and agreed by relevant parties” (Iyoha and Oyerinde, 2010). This is reflected in the manner in which actors comply and the level of governance and institutional accountability (Romzek, 2000). As such, it can be justified that accountability rightly fits the assessment of the performance of SOEs, including NOCs.

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<sup>60</sup> Given the multiple objectives of public sector agencies and enterprises, value for money decisions have been used as surrogate for performance, and are thus assumed to be a function of accountability.

### 4.3 Types of Accountability

According to Willmott (1996), the process of accountability can be viewed from a universal aspect, which provides a platform for our participation in any social world. As human beings, we are continuously involved in relationships where we are expected to give account to others, as well as ourselves, regarding our being and actions (Willmott, 1996). These universal processes of accountability involve the historical and cultural characteristics of accountability.

The PBM SIG (2001) categorised accountability in five key aspects. That accountability is a relationship; is result-oriented; requires reporting; is meaningless without consequences; and improves performance.

Similarly, Stewart (1984) identified different forms of accountability that can be used to achieve an entity's objectives along a ladder of accountability. He argued that the higher the movement along the ladder, the more accountability moves from that of standards to that of judgement (Gray and Jenkins, 1993). The forms of accountability comprise accountability for probity and legality; accountability for process; accountability for programme; accountability for performance and accountability for policy.

While accountability for probity and legality is concerned with appropriate use of resources and malfeasance, process accountability is related with ensuring efficiency and appropriate procedures in carrying out activities for which accounts<sup>61</sup> have to be given. Performance accountability is concerned with meeting the required standards as well as the achievement of outcomes of activities for which accounts have to be given. Programme accountability is related to the achievement of goals and objectives while policy accountability deals with the appropriateness of policy goals and objectives.

Roberts and Scapens (1985) explained accountability in a formal and informal complementary basis, which was further referred to by (Roberts, 1991) as

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<sup>61</sup> Stewart (1984:15) argued that accounts have to be given in the form or language that can be understood. This may be in financial, legal or policy forms.

hierarchical and socialising forms of accountability respectively. The hierarchical form of accountability is related to the accounting and financial functions that are carried out among individuals in a hierarchical form. This form of accountability regards the individual as an economic unit with whom other individuals compete and can be compared. In contrast, the argument for the socialising form of accountability emphasises on communication among people, which will eventually create humane relations, understanding, dissolves barriers and draws a strong reciprocal sense of obligation (Roberts, 1991).

Similar to the above, Laughlin (1990) presented a dichotomy of accountability as communal and contractual. The communal accountability involves a less formal, structured and defined relationship amongst givers and seekers of information on actions and conducts. Communal accountability focuses on meeting stakeholders' needs through consultation and seeking their involvement in the decision-making process. On the other hand, the process of contractual accountability is more formal, structured and defined. It involves entering into legally binding agreements with expected standard of performance and explicitly provides the liabilities and obligations to comply through judicial process (Demirag et al., 2004).

From a different dimension, Sinclair (1995) argued that defining accountability is dependent on the ideologies, motifs, and language meanings. In this vein, Sinclair (1995) split accountability into five typologies, namely: political, public, managerial, professional and personal accountability. And two discourses: a structural and a personal discourse.

Political accountability is related to power and authority; how authority is exercised by elected representatives on behalf of the people to whom they are accountable<sup>62</sup>. Public accountability is viewed as an informal but direct access

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<sup>62</sup> Heald (1984:155) presented three subtypes of political accountability namely: constitutional, decentralised and consultative. Furthermore, he divided managerial accountability into commercial, resource and professional accountability; while legal accountability includes judicial, quasi-judicial and procedural accountability.

utilised by the public to be informed on administrative activities<sup>63</sup>. Sinclair (1995) explained that the political and public forms of accountability are complementary. Managerial accountability<sup>64</sup> also referred to as administrative or bureaucratic accountability is involved with individuals' delegated duties, and their superiors' demand of performance within a hierarchy. Mulgan (2000) referred to this as 'responsiveness' which basically is concerned with efficiency and effectiveness in the use of resources. Professional accountability "invokes a sense of duty that one has as a member of a profession or expert" (Sinclair, 1995:229). In other words, it deals with compliance to professional codes, conducts and ethics while personal accountability is concerned with personal commitment to basic values such as ethics, conscience and other moral values.

Regarding Sinclair's (1995) discourse of accountability, the structural discourse placed emphasis on clear, demarcated formal roles and relationships; accountability in the personal discourse is confidential, anecdotal, and ambiguous as it provides an "emotional dimension to accountability as felt by those involved in its processes" (Wood, 2002:5). In this vein, accountability is described as a 'matter of judgement' that is associated with a sense of morality (Sinclair, 1995).

Light (1993 cited in Bavly, 1999) viewed accountability from the perspective of performance and compliance. He asserted that performance accountability is concerned with the evaluation of effectiveness and bench marking; while compliance accountability is involved with the detection of violations and the enforcement of sanctions. Other classifications of accountability are transparency, liability, controllability; responsibility and responsiveness

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<sup>63</sup> Accessing information administrative activities concerning the public may be sourced through the newspapers, public hearings, legislative committees etc. However, according Glynn (1985:143) public accountability refers that "those who are charged with drafting and/or carrying out policy should be obliged to give an explanation of their actions to their electors".

<sup>64</sup> Robinson (1971) classified managerial accountability into three: fiscal accountability, process accountability and programme accountability.

(Koppell, 2005). There are also dichotomies of accountability in prescriptive, descriptive, operational and longitudinal nature<sup>65</sup> (Blind, 2011).

However, a comprehensive classification of accountability was advanced by Bovens (2007) on the basis of the natures of forum, actor, conduct and obligation. With regards the nature of forum, accountability is divided into political, legal, administrative, professional and social accountabilities. Accountability on the basis of the nature of actors is categorised as corporate, hierarchical, collective and individual. Concerning the nature of conduct, accountability is given financial, procedural and product considerations. Lastly, relating to the nature of obligation to render account, accountability is described in vertical, diagonal and horizontal forms. Bovens classification of accountability is shown in Figure 4.1.

**Figure 4.1: Some Types of Accountability**

<p><b>Forum</b></p> <p>Political accountability            Legal accountability            Administrative accountability            Professional accountability            Social accountability</p>	<p><b>Actor</b></p> <p>Corporate accountability            Hierarchical accountability            Collective accountability            Individual accountability</p>
<p><b>Conduct</b></p> <p>Financial accountability            Procedural accountability            Product accountability</p>	<p><b>Obligation</b></p> <p>Vertical accountability            Diagonal accountability            Horizontal accountability</p>

Source: Adapted from Bovens (2007)

The different types of accountability earlier discussed give the normative understanding of accountability and, extends to social, moral and ethical dimensions of accountability. In sum, the different types of accountability relations provide a basis for transparent and accountable organisations (Gray et al., 1996). According to Bovens (2010), the accountability relation is derived

<sup>65</sup> Blind (2011) posits that “these categories are neither exhaustive nor mutually exclusive. Their purpose is to meaningfully summarize and make manageable a large body of definitional analysis.

on the basis of three classifications of questions: To whom is account to be rendered? Who should render the account? Why does the actor feel compelled to render the account? In relation, Scott (2000) categorised the range of values for which accountability is rendered into three: economic values (including financial probity and value for money); social and procedural values (such as fairness, equality and legality); and continuity/security values (such as social cohesion, services and safety).

Furthermore, Bovens (2010) placed emphasis on the importance of accountability in organisations, and argued that the following are the results derived by an organisation that is accountable: (1) it increases public trust and confidence, and provides legitimacy to public organisations since accountability entails transparency, responsiveness and responsible governance; (2) it gives the public the voice to collectively monitor, identify and address failures, injustices, corruption and obligations, in order to put things right; (3) accountability in an organisation serves as a tool to induce reflection and learning. In this case, it serves as a feedback mechanism that can help achieve and maintain organisational effectiveness.

However, the wider literature has shown that implementation of accountability is not without its own problems. For instance, Tricker (1983) argued that if the accountee is not in a position to enforce accountability, then accountability is not due. In other words, that despite the disclosure of information that meets the demand of accountability by the accountant, the accountee may not be in a position to enforce it.

Nonetheless, Gray (1992) argued differently. He postulated that even if accountability cannot be enforced, it can be due. In addition, Roberts and Scapens (1985) contend that accountability reflects a social process whereby an accountee holds the power that can be used to influence or impose certain values on the accountant. As such, they further argued that the accountability relationship can possibly be exploitative. While in response, Gray (1992) stated that the accountability framework involves stakeholders who cannot enforce their accountability upon the accountant, thus there is no possibility of exploitation.



#### 4.4 Accountability in a Principal-agent relationship

The previous sections dealt with the accountability concept in different perspectives. This section discusses in detail the accountability relationship in a principal-agent setting. As previously discussed, accountability involves the dual roles of giving and demanding reasons for conduct (Roberts and Scapens, 1985).

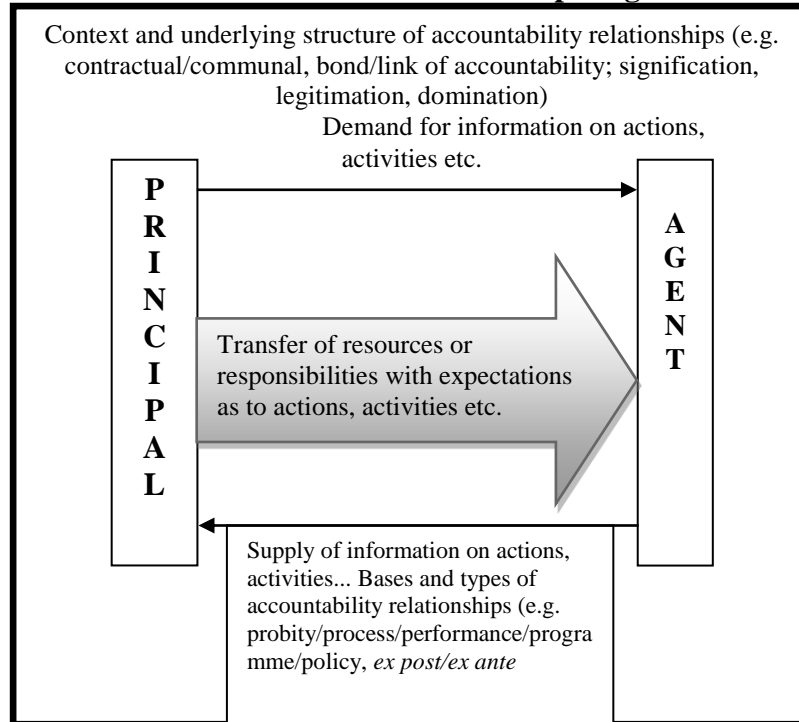
Laughlin (1996:90) argued that the principal-agent relationship is based on “a hierarchical model which assumes that some individual, small group or organisation, called the principal, has certain “rights” to make demands on the conduct of an agent as well as to demand reasons for the conduct undertaken by that agent”. Furthermore, Broadbent et al. (1996) argued that the principle-agent relationship surpasses the principal’s demand for the agent’s conduct and action, and extends to also define the nature of professional activities of the agent. Gray and Jenkins (1986) described the accountability relationship in this context as one established when one party, called the principal, entrusts another party, called the steward, with resources and responsibilities.

However, the principal-agent relationship is basically founded on the assumptions that (1) the desires or goals of the principal and agent conflict and (2) it is difficult or expensive for the principal to verify what the agent is doing (Eisenhardt, 1989).<sup>66</sup> The resultant conflicts that arise in this relationship are referred to as agency problems. As such, the principal-agent model is challenged to determine the most efficient and effective governing mechanism to mitigate the agency problem (Eisenhardt, 1989). In this respect, Shankman (1999) advanced that the expected outcome and behaviour in the relationship should be articulated.

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<sup>66</sup> Laughlin (1996) explained that within the context of the principal-agent relationship, in each base of accountability the agent’s supply of information can either be on the basis of what he is going to do (*ex ante*), or what he has done (*post ante*).

**Figure 4.2: A Theoretical Framework: Principal-agent Relationship**



Source: Laughlin (1996)

In Figure 4.2, Laughlin (1996) illustrated the accountability relationship as embedded in a principal-agent relationship. It is specifically shown that the agent undertakes actions to utilise resources or take responsibilities on behalf of the principal. On the other hand, the principal demands reasons for conduct to which the agent is expected to provide reasons. Simply put, the relationship is focused on how the principal can hold the agent accountable for performance that meets the principal's expectations (Fama and Jensen, 1983). This process of demand and expectation of reasons in either formal or informal form reduces the information asymmetry experienced by the principal (Broadbent et al., 1996; Gray et al., 1997; Gailmard and Patty, 2012).<sup>67</sup>

<sup>67</sup> According to Jensen and Meckling (1976), the major problem that arises in a principal-agent relationship is information asymmetry. Under conditions of incomplete information and uncertainty, Broadbent et al., (1996) assert that two categories of information asymmetry arise: (1) hidden information also referred to as adverse selection; and (2) hidden action otherwise referred to as moral hazard. On the one hand, it is argued that hidden information asymmetry exist *ex ante* and become available after transaction is completed, it involves how the agent uses available resources to achieve the principal's goals; while on the other hand, hidden action asymmetry exist *ex post* as the actions and behaviour of the agent can influence outcomes without the principal observing or knowing. To overcome this, the principal may need to arrange a contract that will discourage the agent from misbehaving.

Additionally, as shown in Figure 4.2, Laughlin (1996) illustrated the principal's unquestioned rights to control the conduct and behaviour of the agent. This implied that the principal has a legitimate right to exercise control over the agent's behaviour when it deviates from expectations. Furthermore, Laughlin (1996) explained that the formality of these expectations provides an implicit contract upon which there are consequences for the principal's demand and agent's supply of information; and the bases and types of accountability relationships which may result.

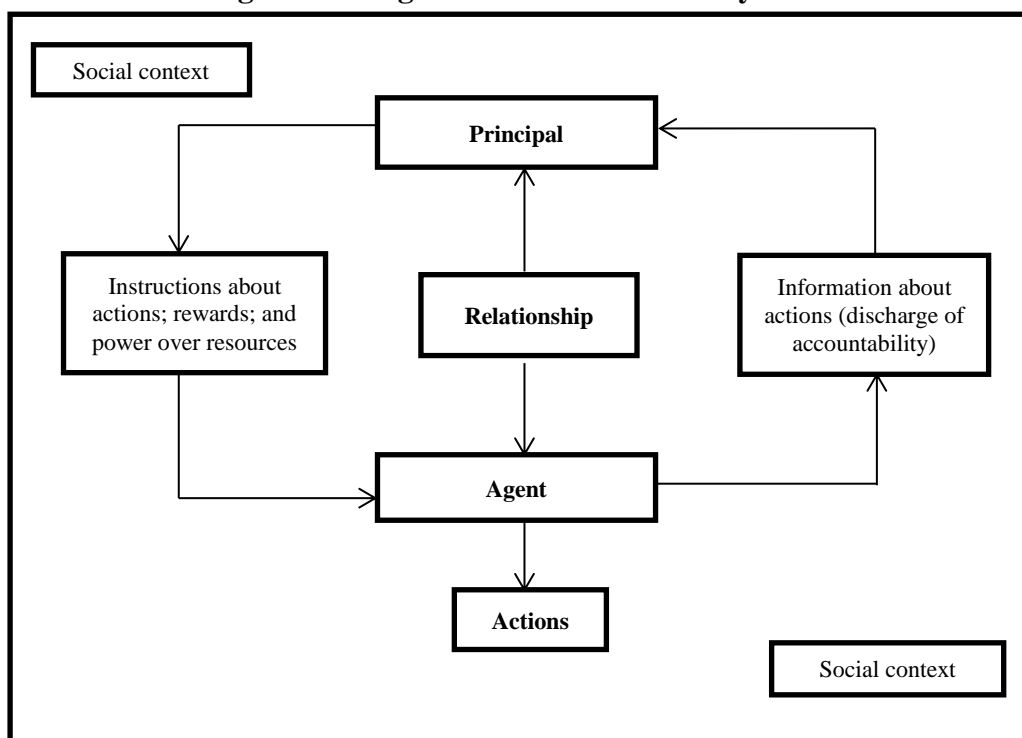
Based on Stewart's (1984) accountability ladder, the strata of accountability seek to supply detailed information on the actions undertaken by the agent. For instance, the probity and legal accountability is mainly concerned with information related to the pattern and legality of expenditure. While, under process accountability, information is sought about the means adopted for actions and activities; the performance, programme and policy accountability seek information that will provide the principal a precise view of the results achieved by the agent in comparison to the set goals and objectives of the principal. All this supply of information is either *ex ante* or *ex post*, and they provide the principal the opportunity to exercise control on the agent's behaviour and actions (Laughlin, 1996).

Figure 4.2 also shows the accountability relationship between principal and agent in communal and contractual contexts. Laughlin (1996) argued that in both contexts of accountability, reporting expectations and control intentions can be achieved. Laughlin (1996) advanced that, while the formalised, defined and written form of command associated with contractual accountability depicts some significant channel of information and control, as well, the informal and unwritten information expectations associated with communal accountability relationships has been proven to be strong control tools.

Differently, Stewart (1984:16) identified this accountability relationship as the "bond of accountability" and the "link of account". Stewart (1984) advanced that the bond of accountability depicts a formalised and contractual relationship, while the link of account portrays an accountability relationship based on obligation or tradition to account.

Subsequently, Macintosh and Scapens (1990) advanced that every accountability relationship underpinned by the principal-agent relationship is driven by the structures of significance, legitimation and domination. This signifies the meaning, morality and power involved in the relationship. As well, it concurs appropriately with Laughlin's (1996:228) position that, "there is a moral relationship involved, whereby an individual or small group is exercising domination over another to ensure that something, meaningfully defined, is done by that person or persons".

**Figure 4.3: A generalised accountability model**



Source: Gray et al. (1996)

The model in Figure 4.3, above, illustrated within the frame of a social contract, the responsibilities of an organisation and the perceived accountability (Gray et al, 1996). The model showed that the sets of relationships between the parties (principal and agent) provided a basis for the responsibilities and rights to information attached to the relationships. Gray et al. (1996) explained that the responsibilities and rights to information within

these relationships are determined by compliance with laws<sup>68</sup> and quasi laws, such as tax, labour, health and safety laws and environmental legislations.

However, it is posited that there is the possibility of accepting natural and moral responsibilities to these rights and responsibilities. Therefore, Gray (1992:413) further asserted that this concept of accountability can be used as “an emancipatory concept, helping to expose, enhance and develop social relationships and social contracts through a re-examinations and expansion of established rights to information”.

This concept concurs with the idea of recognising the rights of stakeholders<sup>69</sup> to access information and the duty of organisations to be accountable. In relation, Solomon and Solomon (2004) related the principal-agent relationship to the sphere of stakeholders and organisations. They opined that business organisations play an important role in the society with pervasive impact; therefore, their discharge of accountability should not be restricted to their shareholders. In a different manner, Broadbent and Laughlin (2003:24) argued that the rights transferred to government to “exercise control and steer societal institutions and organisations can be intensified through multiple pressures that can question the legitimacy of their decisions”.

Similarly, Lawal (2008) argued that the principal- agent relationship in an organisational context is not limited to the explicit contract, responsibilities and the perceived accountability between the principal and agent, but encompasses the implicit contract, responsibilities and the perceived accountability to the society. This ensues from the assumption that the organisation receives its permission to operate from the society.

Correspondently, Crowther (2002) attested to the perceived need to report organisations’ conduct and activities within the context of the society.

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<sup>68</sup> In the context of a social contract, the explicit terms of the contract is provided in the law where the responsibilities of organisations and the related perceived accountability are stated while other non-legislated societal expectations of the society represents the implicit part of the social contract.

<sup>69</sup> Stakeholders in this sense include shareholders, employees, suppliers, customers, partners, communities and general public.

Furthermore, Lehman (2002) argued that accountability entails reporting of organisation's activities to a wider range of stakeholders and the public, as it can be seen as a commitment to exposing and explaining corporate effects and its significance on the society.

#### **4.5 Accountability in the Context of SOEs and Value for Money (VfM)**

In the SOE setting, the concepts of accountability and VfM are related. While accountability is concerned with the discharge of information to stakeholders on how well resources are utilised (Iyoha and Oyerinde, 2010), VfM entails the economy, efficiency and effectiveness of the processes and institutions that utilised the resources (Day and Klein, 1987). Therefore, it is from this spectrum that this study examines the operations of SOEs, including NOCs.

Although SOEs are not homogenous in functions (Jones and Pendlebury, 2000), they are established by government on behalf of the society, and with public funding, to serve as tools for influencing, fulfilling and maximising political and socio-economic benefits (Bertero and Rondi, 2002). It is therefore imperative that SOEs report their activities and performance to their stakeholders, such as the parliament, civil societies, and the general public. Jones and Pendlebury (2000) argued that rendering accountability by SOEs should not be limited to stewardship accounting or financial/asset accountability, but also accountability for the performance of the assets.

In a similar vein, Indreswari (2006) advanced that accountability, transparency, openness and the rule of laws, are the pillars of the sound governance of public enterprises. They are the major apparatuses that will lead to effective economic decision-making; which, in turn, will improve the performance that will meet the expectations of the society. Thus, effective accountability in an organisation is greatly dependant on the effective communication of information to external stakeholders (Tricker, 1994). Furthermore, external accountability is vital to increase efficiency and competitiveness, without which there will be no incentive for efficient and effective management practices (Pitkin and Farrelly, 1999).

In situations where the social contract that exists between the society and SOEs is weakened, accountability recedes or ceases; less VfM is derived and agency problems are developed (Shleifer and Vishny, 1997). In such situations, instead of the management of SOEs to operate efficiently and effectively towards maximising social welfare, the absence of accountability may afford them the opportunity to engage in political patronage, corruption, fraud and pursue other personal economic interests.

Accountability has been examined differently within the sphere of public enterprises; however, few assessments were in the context of SOEs. For instance, Stewart (1984) and Thynne and Goldring (1987) focused on political or upward accountability, which in a Westminster style seeks that agents (government agencies) should be accountable to an executive or parliament represented by and for the people. Mulgan (1997) examined public or outward accountability, where it was considered as an informal variant of accountability involving various stakeholders and the general public. Similarly, from an outward perspective, Romzek and Dubnick (1987) considered professional accountability on the basis of compliance with standards and regulations that exists within an industry. It is further argued that professional accountability helps in maintaining credibility and professional status (Gray and Jenkins, 1993). Also, Palmer (1988) and Taggart (1992) discussed SOEs' accountability in a legal perspective, subject to legislations and contractual agreements. Focusing on ethics, Corbett (1992) focused on the personal conscience of individuals running public agencies.

Robinson (1971) assessed accountability from the perspective of managerial accountability, which he classified into three subtypes, namely: fiscal, process and programme accountabilities. Fiscal accountability is concerned with whether monetary resources have been used as agreed or budgeted. Process accountability involved monitoring whether laid down processes has been deployed and followed; programme accountability measures whether defined results have been achieved. In Collaboration, Day and Klein (1987) described managerial accountability in a hierarchical form and developed a model based

on conventional and conceptual dimensions of managerial accountability (see Table 4.1). Day and Klein (1987) stated that:

“At the top is political accountability which sets the policy objectives and generates the criteria used in neutral technical process of managerial accountability, running from the relatively simple fiscal/regularity accountability to the more complex programme/effectiveness accountability, from inputs to outcomes”.

Day and Klein’s (1987) dimensions of managerial accountability is presented in Table 4.1.

**Table 4.1: Dimensions of Managerial Accountability**

<b>Dimensions</b>	<b>Conventionally</b>	<b>Conceptually</b>
<b>Fiscal/regularity</b>	Making sure that money has been spent as agreed, according to appropriate rules; legal accountability can be seen as a counterpart to this, insofar as it is concerned to make sure that the procedures and rules of decision-making have been observed.	Checking that the appropriate inputs, whether of resources or administration, have gone into the policy or service-delivery machine.
<b>Process/efficiency</b>	Making sure that a given course of action has been carried out, and that value for money (VfM) has been achieved in the use of resources.	Checking that the appropriate outputs have been produced and that the relation between inputs and outputs (efficiency) is the most favourable possible.
<b>Programme/effectiveness</b>	Making sure that a given course of action or investment of resources has achieved its intended results.	Checking whether the intended outcomes have been produced, whether the desired impact has been made.

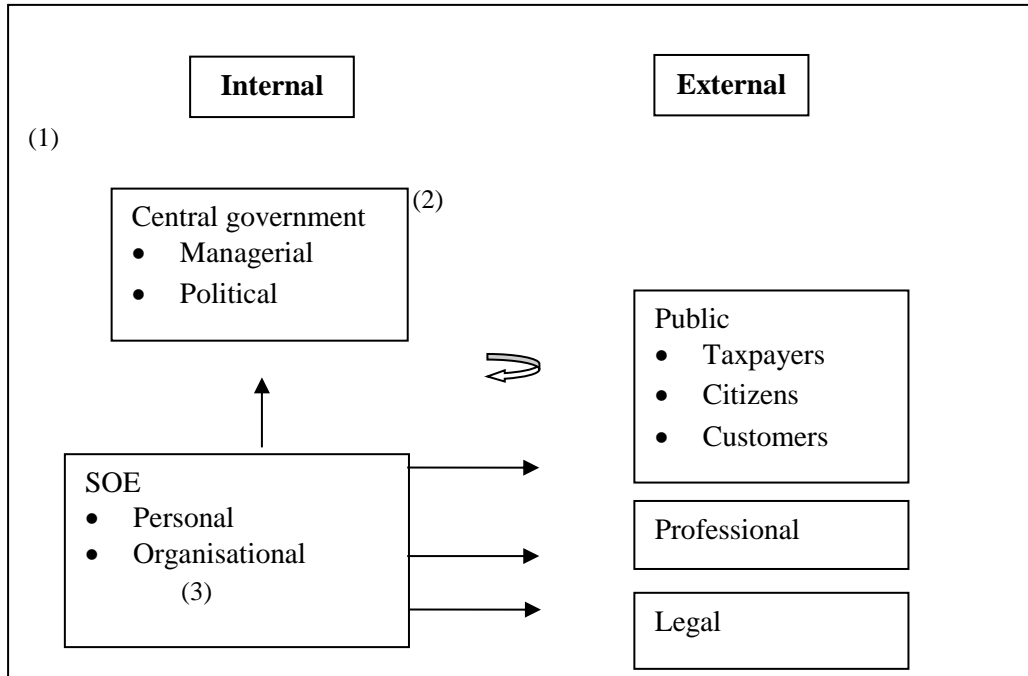
Source: Day and Klein (1987)

Having considered ethics, public expectations and social consensus as some of the various interrelated dimensions of accountability in the public sector, Luke (2010) also developed a model of dimensions and directions of accountability that are relevant to SOEs. Luke (2010) divided accountability into internal and external dimensions, upon which accountability can be directed upward, outwards and inward. Luke argued that SOEs are accountable upward to government on a managerial and political basis. Public, professional and legal accountabilities are directed outwards to the public, while personal



accountability is expected within the SOE. The model is illustrated in Figure 4.4.

**Figure 4.4: Dimensions and Directions of Accountability Relevant to SOE**



Source: Luke (2010)

Consequently, the application of accountability and VfM to the public sector scenario, in this perspective can be viewed as a strategy for the management of expectations (Dubnick and Romzek, 1991), and for coping with the demands of answerability (Hatch, 2013). In relations, Demirag and Khadaroo (2011) indicated that a transparent appraisal process will not only lead to better management and VfM, but will also increase accountability. As it is presumed that improving accountability will increase VfM, and perhaps VfM improvement will develop accountability (Demirag and Khadaroo, 2008). Therefore accountability can be regarded as a useful analytical tool for managing and enhancing the VfM perceptions of stakeholders, as it applies to this study.

Demirag and Khadaroo (2011) developed a framework that shows the relationship between accountability, VfM and government objectives.

Premised on the concept of intelligent accountability<sup>70</sup>, the framework examined the socio-psychological and socio-cultural mechanisms<sup>71</sup> that foster or hinder the development and implementation of intelligent accountability processes alongside the attainment of VfM. Also, the framework, as presented in Figure 4.5, identified appropriate cultures of accountability and accountability processes (mechanisms) based on the argument that different accountability cultures and processes impact on VfM.

Demirag and Khadaroo's (2011) accountability and VfM framework is grounded on Dubnick's (1998; 2005) conceptual framework for accountability and culture; and premised on two main perspectives of accountability cultures that are based on the works of social psychologists, ethno-methodologist and political scientists.

According to Dubnick (1998; 2005), the first perspective of the accountability cultures is related with the accountability of conducts. This emphasises the functional and emergent properties of account giving behaviour. It entails the description, excuses and rationalisations of individuals' and organisations' behaviour and the expectations of accountability to some individuals or group of individuals in a psychological and social context. The second perspective is related to conducts of accountability. It focuses on institutional structures, rules and procedures through which accountability is achieved; how individuals and organisations are brought to account, and the institutional obligations of accountable actors.

In sum, the issue of accountability is viewed and stressed from a sociological perspective as forms and functions of accountability "processes (mechanisms) that impact on social actor as situated pressures for account-giving behaviour". In light of this, Demirag and Khadaroo's (2011) framework identified four accountability cultures that demand account-giving responses, namely: answerability, blameworthiness, liability and attributability.

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<sup>70</sup> The concept of intelligent accountability is concerned with good governance, independent inspection and careful reporting (Demirag and Khadaroo, 2011).

<sup>71</sup> Accountability is termed as a social mechanism on basis that social processes have designated consequences for designated parts of the social structure (Merton, 1968, cited in Bergsteiner, 2012). Thus, accountability can be viewed as social process pressures that impact on the social actors' account giving and ethical behaviour.

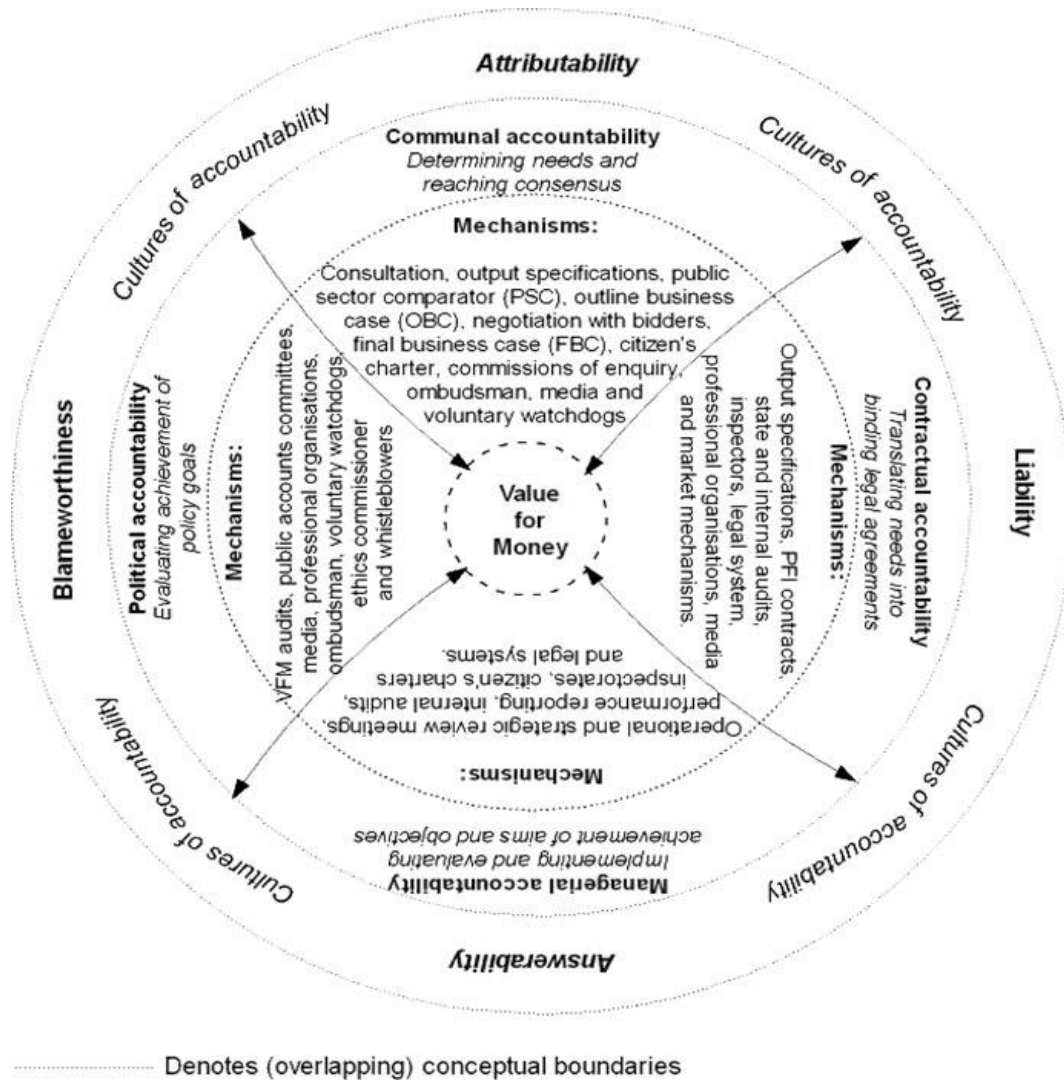
Answerability, according to Dubnick and Justice (2002), involve the obligation of government, its agencies and public officials to give information about their decisions and actions, as well as justify them to the public and the institutions tasked with overseeing them. Expectations, in this case, are derived from the agents' institutional roles or organisational positions (Dubnick, 2003). The answerability culture is reflected in a setting where individuals or organisations are perceived as responsible for reporting, justifying and giving account of their actions. In sum, the roles and social identities of the agents determine their expectations (Demirag and Khadaroo, 2011). This concurs with the principal-agent theory which assumes that the inherent moral hazard and selection problems faced by the principal relying on the agent can be overcome through answerability mechanisms and contractual relationships (Eisenhardt, 1989).

While accountability is often viewed in terms of answerability where roles and contractual obligations are specified, Dubnick and Justice (2002) and Dubnick (2003) asserted that accountability can take the form of blameworthiness when there is a shift of focus to the agents' relative social position and identity with a group. In other words, referring to the agent, Dubnick (2003) advanced that "you are held accountable because you are regarded as socially, if not organisationally blameworthy". Therefore, Demirag and Khadaroo (2011) are of the view that the blameworthiness culture is strongly related to moral responsibility, where expectation is focused on the status of the agent in the community or organisation, rather than the agents' specific task or authority.

The accountability culture of liability arises in a setting where the agents (either individuals or organisations) are bounded to a system of rules and laws that provides for rewards, compliance and sanctions (Dubnick and Justice, 2002). Expectations in this case are highly structured, but not within the organisation. Rather, they are based on external and larger social and legal frameworks in which the organisation functions (Schuck, 1999; Demirag and Khadaroo, 2011). Hence, the liability culture can be placed within the sphere of the ethics of obligation (Dubnick, 2003). The liability culture of accountability

is similar to that of attributability, being that there are both focused on the structure of situations in which the actors operate.

**Figure 4.5: Accountability processes and VfM mechanisms**



Source: Demirag and Khadaroo (2011)

Finally, attributability as an accountability culture entails the roles individuals play in organisations and the expectations associated with those roles (Demirag and Khadaroo, 2011). Accordingly, the attributability culture comes into play where the non-work behaviour of public workers influences their job, not on the basis of accountability performance at work, but on the basis of the importance of their jobs to the public and its associated expectations (Dubnick,

2003). Furthermore, standards are set by other external social actors (people) who attribute actions or behaviours to individuals or organisations upon which accounting is demanded or expected. Simply put, attribution is subject to ideological, cultural and stereotypical bias (Al-Zahrani and Kaplowitz, 1993) and situational determinism (Dubnick, 2003).

Having discussed the different cultures of accountability identified in their framework, Demirag and Khadaroo (2011) also presented four strands of accountability whose associated processes and mechanisms within an agency framework help in achieving VfM. Figure 4.5 shows the four strands of accountability as: contractual, managerial, communal, and political; they have been adequately discussed in section 4.3.

#### **4.6 The Application of Accountability in the Oil and Gas Industry**

There are evidences on the increasing popularity of public accountability in the oil and gas sector. For instance, Chen (2007) posited that the demand for public accountability has transformed the social relationship between host governments, the NOCs, the MOCs, civil societies and the people. He further argued that the accountability relationship in the petroleum industry has helped reshape many petroleum companies' core values and their conduct of doing business.

The accountability framework has been used in the petroleum industry. For instance, Lawal (2008) employed the accountability framework to assess decommissioning in the Nigerian petroleum industry, while Sihotang (2003) used accountability theoretical basis to deal with economic and managerial issues in the Indonesian petroleum industry. In relations, Boele et al. (2001; cited in Naimi, 2011) adopted the accountability framework to assess Shell's sustainability performance in their Nigerian operation.

Furthermore, the Natural Resource Charter (2012) advocacy document set out elements of good practice in extractive industry underpinned by an accountability frame. Similarly, Lahn et al. (2007), in their report on Good Governance of National Petroleum Sector, showed that accountability of

decision-making and performance is an essential requirement of good governance in any petroleum industry. This concurred with the EITI initiative that emphasised the relevance of an accountability framework in the extractive (including the petroleum industry). As stated by Chen (2007), the focus of EITI is premised on enhancing good governance and curbing corruption in the extractive industries of natural resource rich countries. This view is appropriately expressed below.

The EITI supports improved governance in resource rich countries through the full publication and verification of company payments and government revenues from oil, gas and mining. Many countries are rich in oil, gas and minerals, and studies have shown that when governance is good, these can generate large revenues to foster economic development and reduce poverty. However, when governance is weak, they may instead cause poverty, corruption and conflict-the so called “resource curse”. The EITI aims to defeat this “curse” by improving transparency and accountability.

Consequently, Lahn et al. (2007) expressed the importance of accountability to the performance of NOC by positing that the provision of transparent corporate information encourages transparency through external benchmarking. This in effect helps decision makers to ensure objectives are met, as well as give stakeholders a platform to hold decision makers accountable for compliance and performance. As a result, for instance, it is argued that the effective oversight of accountability institutions (part of stakeholders) is crucial for stemming inefficiency, ineffectiveness and corruption in Nigeria (Gillies, 2009).

A good example of the acknowledgement of the relationship between accountability, performance and social responsibility in a NOC setting can be deduced from Statoil’s report that “openness about financial transactions is an effective method of combating corruption and helps to achieve greater security and predictability” (Statoil and sustainable development).

Consequently, Lahn’s et al. (2007) view that NOC’s promotion of social welfare is strongly related to transparency and accountability in revenue generation and spending. Similarly, Accenture (2011), in their leadership framework for NOC executives, attributed amongst other major factors, the

success of the NOC's mission to the capability of the leadership to create and manage accountability. In their assessment of the Angolan petroleum sector, KPMG (2004) attributed the weaknesses uncovered in the management of petroleum sector to lack of a developed mechanism that will improve transparency and accountability. This concurred with Norad Report's (2012) view that there is bound to be weak accountability in petroleum industry if there is low transparency, responsiveness and capability.

The review above attested to the applicability of the accountability framework in petroleum studies, and it can be used to assess organisational performance relating to both internal and external stakeholders. However, the specific reasons for adopting the accountability framework for this study are related below.

Firstly, the accountability framework is adopted having considered that this research enquiry focuses on the analysis of relationships between diverse parties who claim legitimate interest in knowing how the principles of VfM is applied in running NNPC. Secondly, being that this study is focused on assessing performance; the accountability framework is valuable for analysing the transmission of accounting information. Finally, the framework is most favourable for the analysis of organisation's performance in vital areas of a country's economy. This can be applied to analysis of the performance of the NNPC who manage Nigeria's petroleum resources as a mainstay to the country's economy.

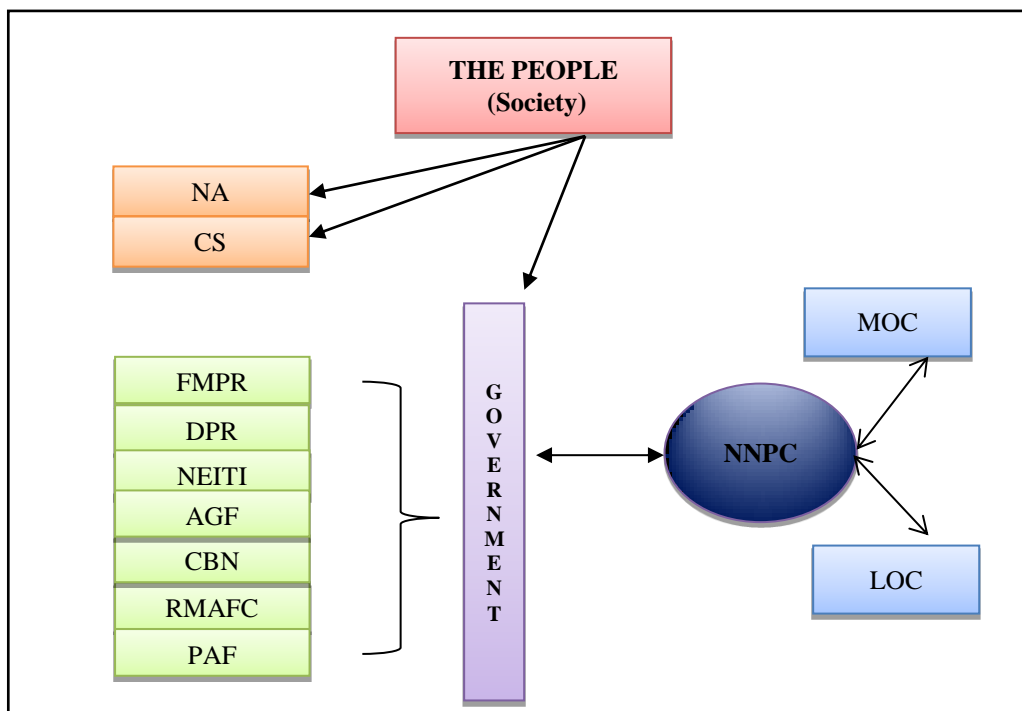
#### **4.7 Accountability as a Theoretical Framework for Assessing NOC's Performance**

In the context of this research, the accountability framework shown in Figure 4.6 is underpinned by the principal-agent relationship as characterised by Laughlin's (1996) principal-agent model presented in Figure 4.2. The relationship depicts the exchange of information, obligations and expectations between various actors (stakeholders).

The principal side of the accountability relationship consists of two components. The first component assumes the role of the chief principal, and it represents the society, which can otherwise be referred to as the people. This component is premised on the fact that the people own the hydrocarbon resources vested in the country as provided in the constitution. A moral relationship exists where the principal is assumed to dominate the agent with the intent of pressurising the agent to do the right thing.

In the second component, the civil societies and the government, represented by various relevant government bodies, assumes the role of minor principals. Therefore, in line with this study, the minor principals are the stakeholders who affect or are affected by the outcome of resources the agent manages. As such, the principals include the NA, the CS, the FMPR, the DPR, the NEITI, the AGF, the CBN, the RMAFC and the PAF. Furthermore, the cost for running these bodies can be referred to as the agency cost the society will have to bear to ensure minimal agency problems.

**Figure 4.6: Accountability relationship underpinned by the principal-agent model**



Source: Author



On the other hand, the rights of ownership and control of the resources is held by government on behalf of the people, and subsequently transferred to an executing organisation (agent). This is done with the view that the agent will efficiently and effectively explore and develop for the mutual benefit of the society. Therefore, in this study the NNPC assumes the role of the agent with the view that the VfM expectations of the society will be achieved.

However, in the Nigerian oil and gas industry, exploration and development activities are mostly operated by the MOCs and the LOCs in venture arrangements involving the NNPC as non-operator. This shows the existence of another strand of principal-agent relationship where the NNPC assumes the role of a principal, while the MOCS and the LOCs serve as agents. In this relationship, information is expected to be exchanged between the actors, and the principal is expected to monitor and ensure compliance in order to attain targeted performance. The relationship is bounded by legitimation and obligation.

Therefore, on the one hand, it can be concluded that the relationship between the various stakeholders representing the society and the NNPC illustrates the existence of a social contract. The assumption is that the NNPC received its permission to operate from the society with an attached expectant level of performance. This is reflected in the mission statement of NNPC whose aim is to add value to the Nigeria's hydrocarbon resources for the benefit of the people.

On the other hand, the assumption is that the relationship between the MOCs, the LOCs and the NNPC illustrates the existence of a legal contractual agreement. The contractual agreement binds the relationship, and in the context of this study, the NNPC is expected to ensure the attainment of performance targets through monitoring compliance of processes.

Overall, it is important for the NNPC to render accountability and transparency because they help organisations to increase efficiency, effectiveness and competitiveness (Indreswari, 2006); communication of information (Tricker, 1994), and performance of assets (Pendlebury, 2000). It is also argued that in

both communal and contractual accountability settings, positive organisational performance is achieved when there is an effective control and reporting mechanism on policy, process, financial and managerial activities (Stewart, 1984; Laughlin, 1996; Demirag and Khadaroo, 2011).

Therefore, it can be seen that both the main and minor principals have the rights to receive information from the agent regarding performance. As well, the principal-agent model can be used to assess the performance of the NNPC's oil and gas operation while aligned to the concept of efficiency, effectiveness and economy (value for money). This is illustrated in Figure 4.7 in the context of this study.

In view of Demirag and Khadaroo's (2011) model shown in Figure 4.5, a VfM-accountability model for NOCs was designed. Presented in the model, are four types of accountability and culture, upon which VfM can be attained when paired to certain behavioural and institutional activities and processes.

**Figure 4.7: Accountability and value for money (VfM) model for NOCs**

<b>ATTRIBUTABILITY</b>	<b>LIABILITY</b>
<b>Communal</b>	<b>Contractual</b>
<p><b>Mechanisms:</b>            Citizen's charter, mission, added value: revenue, local content, economic linkages, feedbacks, benchmarking, disclosure and transparency of operations, revenue, output, funding, media, monitoring compliance, consultation etc.</p>	<p><b>Mechanisms:</b>            Effectiveness of petroleum contractual and fiscal regimes, legal framework, compliance with contractual provisions: local content, HS&amp;E, production, lifting, funding etc.</p>
<p><b>Mechanisms:</b>            Mission, policy goals, cost effectiveness and VfM audits, political interference, board appointment and staffing, legal system, fiscal regime, monitoring compliance, oversight from parliament, media, civil societies etc.</p>	<p><b>Mechanisms:</b>            Operational and strategic processes, commercial expertise, administrative, funding and budgetary systems, internal audits appropriate staffing, monitoring and compliance functions, procurement procedures, communication, etc.</p>
<b>Political</b>	<b>Managerial</b>
<b>BLAMEWORTHINESS</b>	<b>ANSWERABILITY</b>

Source: Author

Firstly, answerability focuses on demanding and giving accounts, based on role expectations in a formal organisational setting (Dubnick, 2003). Thus, in the

context of this study, answerability can be applied to the managerial roles of the NNPC, as it is assumed it will help the principals overcome the inherent moral hazard problems associated with the principal-agent relationship. Answerability can provide the platform for the principals to demand the NNPC (agent) to give account of its various roles and operational processes. It includes control, utilisation of funds, budgeting, procurement, communication and compliance monitoring. This is based on the assumption that adequate reporting and rendering of account will ensure VfM and in effect enhance performance. For instance, if the NNPC funds are not utilised as budgeted, it can be concluded projects' management will not be efficiently and effectively implemented.

Secondly, as earlier stated in Section 4.5, accountability in the form of blameworthiness has a strong link with moral responsibility, and it involves that an agent can be blameworthy within a social setting as a result of its status. This can be contextualised to the role of the NNPC as manager of Nigeria's oil and gas resources, and in effect a leader in oil and gas industry. The principals, especially the parliament, civil societies and media can perceive the NNPC to be blameworthy on some issues, such as environmental pollution, political patronage and nepotism, based on its social position.

Thirdly, liability stresses the requirement of a structure situation as the actions of the parties are guided and assessed according to laws and rules that have sanctions for non-compliance. The expectations of the principals and obligations of the agents are restricted to the legal frame and contracts. Thus, being that most of the NNPC's involvement in the oil and gas industry is through the MOCs operations, the liability concept serves as an instrument for maintaining order and control. The principals can assume that VfM will be attained if the NNPC (agent) complies and ensures that the MOCs comply with rules, regulations, standards and contractual agreements.

Fourthly and finally, the culture of attributability is paired with communal accountability. Attributability concerns the non-work expectations and moral obligations attached to the roles of individuals or organisations within a social setting. Dubnick (2003) explained it as the accountability where non-work

behaviour of an individual or organisation affects its professional work, not based on work performance, but on its role in public life and its associated expectations. In other words, attributability emerges when suspicious or negative perceptions are attributed to social actors based on the actions they take. For instance, the personal non-work behaviour of the GMD of NNPC can create a perception upon which the public can call the organisation to account. Such issues may be related to conflict of interest or corruption.

#### **4.8 Alternative Theories that could be used to Assess Performance of SOEs**

As earlier stated, this study adopted the accountability theory underpinned by the principal-agent relationship for the assessment of NOC's performance on the basis of VfM. However, there are several other theories such as the stewardship theory, the legitimacy theory, the institutional theory and the resource dependence theory (Davis et al, 1997; Chen and Roberts, 2010; Summerhays and De Villiers, 2012) that could be adopted. Two of these theories, namely, the stewardship theory and the legitimacy theory, are discussed in the subsequent subsections.

##### **4.8.1 The Stewardship Theory**

The idea of stewardship theory stems from sociologists' and psychologists' views on the principal-agent relationship (Donaldson and Davis, 1991). The stewardship theory, assumes that the top management of a business corporation is a steward, who will act in the best interest of the corporation and principal. Therefore, the theory portrays a relationship in which the interests of the manager (steward) are perfectly aligned with that of the principal (Caers et al., 2006). It is assumed that the steward has a pro-organisational behaviour, and places higher value in cooperation than defection (Kluvers and Tippett, 2011).

It is also assumed that there is no conflict of interest between the steward and the principal, since the steward always seeks to maximise the principal's interest. It is assumed that even if a conflict of interest arises, the steward will endeavour to align or solve the problem in the best interest of the principle (Van Slyke, 2006). This stemmed from the view that the steward is always

motivated by a need to achieve; to gain intrinsic satisfaction through successfully performing inherently challenging work; to exercise responsibility and authority, and thereby gain recognition from peers and bosses (Davis et al., 1997). As such, there is no need for any incentive for performance or costs for monitoring performance (Pastoriza et al., 2008).

In other words, the steward is assumed to have a fiduciary duty, and always seeks to achieve organisational goals and objectives (Tricker, 1996). This is based on the premise that, in maximising the principal's wealth, the steward will gain more than if he had pursued his own personal interest (Arthurs and Busenitz, 2003).

The stewardship theory is closely related to the agency theory, but differs because it questions the assumption that a principal-agent relationship will always be characterised by agency conflicts (Caers et al. 2006). While the agency theory characterised human beings as individualistic, opportunistic, and self-seeking (Jensen and Meckling, 1976), the stewardship theory characterised human beings as having higher needs for collectivism, self-esteem, self-actualisation, growth and achievement (Arthurs and Busenitz, 2003). Indeed, this cooperative and trustworthy relationship between the steward and the principal as advanced in the stewardship theory is, opined to have positive correlation with performance (Tian and Lau, 2001).

Within the context of SOEs such as NOCs, the principal-steward relationship stated above can apply. On the one side, the relationship is premised on the fact that the petroleum resources vested in the country belongs to the people (chief principal), and on whose authority the government (principal) and its agencies are established. On the other side, the NOC acts as the steward who is expected to efficiently, effectively and economically utilise the petroleum resources for the benefit of the people and other stakeholders, as a result of which the steward will maximise his utility.

In the petroleum industry setting, the government established NOC is saddled with the responsibility of extracting the resources, either alone or in partnership with the MOCs. The NOC is therefore expected to be cost-efficient and

effective in carrying out its activities. If the stewardship theory is employed, it is assumed that the NOC and its management shall act in the best interest of the people and other stakeholders on the premise that they stand to gain more in benefit.

However, while stewardship theory is appropriate to be engaged in the context of NOC's performance and value creation, it was not employed for the following reasons. Firstly, the underlying assumption that the manager (steward) will always advance the interests of principal may be difficult to apply in the real world. Secondly, the assumption that monitoring and control is based on the self-discipline of the steward may likely lead to the abolishment of the governance system (Al-Zumai, 2007). Thirdly, the extent to which the stewardship theory can be applied successfully to the Nigerian petroleum industry is arguable, given the industry's bad reputation for corruption. Indeed, this suggests that the notion of accountability underpinned by the principal-agent relationship is more appropriate.

#### **4.8.2 The Legitimacy Theory**

The Legitimacy theory proposition is value system centred and premised on the notion of a social contract between the public (otherwise known as stakeholders) and social institutions (Yi et al., 2011). Legitimacy, in this respect, is derived from the perceptions of stakeholders in the larger environment in which the organization is rooted (Brown and Jagadanada, 2007). The reasoning of the theory is about an organization fulfilling its social contract with the society.

As explained by Dowling and Pfeffer (1975), the legitimacy theory is founded on the concept of organisational legitimacy which owes its existence to "congruence between an entity's value system and that of the society in which it operates". This refers that the perceptions of stakeholders on the existence, activities and impact of the organisation should be justifiable and appropriate in terms of central social values and institutions (Oliver, 1991). Further explicit explanation is given by Shocker and Sethi (1974:67; cited in Patten, 1992) who posited that:

Any social institution-and business is no exception- operates in society via a social contract, expressed or implied, whereby its survival and growth are based on:

- (1) the delivery of some socially desirable ends to society in general, and
- (2) the distribution of economic, social or political benefits to groups from which it derives its powers. In a dynamic society, neither the sources of institutional power nor the needs for its services are permanent. Therefore, an institution must meet the twin tests of legitimacy and relevance by demonstrating that society requires its services and that the groups benefitting from its rewards have society's approval.

Furthermore, the legitimacy theory assumes that any perceived disparity between an organisation's social value and societal values characterise a threat<sup>72</sup> to the organisation's legitimacy and a breach of their social contract (Summerhays and De Villiers, 2012). As a result, the lack of congruence that develops, otherwise referred to as legitimacy gap can lead to the withdrawal of support by stakeholders, which in effect may endanger the survival of the organisation (Pfeffer and Salancik, 1978).

Therefore, the concern of the legitimacy theory is linked to the basis on which an organisation operates; that is, the lawfulness, admissibility and justification for the organisations course of action (Edwards, 2000). It encourages corporate sustainability by guaranteeing the access to capital, labour and other resources (Pfeffer and Salancik, 1978; Singh et al, 1986); while it mitigates against any possible threat to corporate existence (Elsbach, 1994). Therefore, depending on the situation, the relevance and survival of an organisation involves consistency in gaining, maintaining and repairing legitimacy (Adenibi, 2005), through chosen public disclosure tactics<sup>73</sup> (Suchman, 1995).

In the petroleum industry's performance study, the legitimacy theory is applicable as evidenced by Deegan et al. (2002). In the context of this study, it could be considered that the NOC is the agent, while other stakeholders represent the principal. The applicability of the theory can be justified, given

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<sup>72</sup> Legitimacy threats can be referred to as threats of access to resources, such as the government increasing regulatory and reporting requirements, reduced customers patronage and shareholders unwillingness to invest (Deegan et al, 2000).

<sup>73</sup> Adenibi (2005) pointed out that organisations may respond to legitimacy gap, for instance through lobbying, advertisement and voluntary disclosure of corporate information.

that the agent's perception of the level of the principal's satisfaction largely depends on the agent's reaction to the legitimacy gap. Furthermore, the efficiency and effectiveness of the agent is considered a function of the agent's status and the way he is perceived (Kassim and Menon, 2003).

However, the legitimacy theory was not used in this study due to certain reasons. Firstly, the disclosure of information by the agent is voluntary and mostly in reaction to negative perception; not based on obligation to the stakeholders. Secondly, the theory implies that acceptability is mainly based on an organisations' disclosure strategy to the public. There are insinuations that the organisations could easily sway public opinion in their favour through misinformation (Adenibi, 2005). Thirdly, in practice, gauging the level of managerial response to legitimacy threat is difficult (Deegan, 2002). Finally, the theory will not be able to form a view on the efficiency, effectiveness and economy of NNPC operations - which is the objective of this study.

#### **4.9 Conclusion**

In this chapter, the literature on accountability was reviewed. The principal-agent concept was adopted to explain and assess the performance of the NOC. The concept involves the accountability relationships that exist between actors that are referred to as principals and agents. For instance, in the context of the Nigerian oil and gas sector, the existence of the accountability relationship can be explained in two ways: (1) between the people represented by government (principal) and the NOC (agent); (2) between the NOC (principal) and the MOCs and the LOCs (agents).

The relationships connote a transfer of responsibility from the society and government (principals), to the NOC (principal/agent); the MOCs and the LOCs (agents) who are expected to execute oil and gas activities. In return, it is expected that the stakeholders and principals will be discharged implicit and explicit information that will help them form a view on how efficient, effective and economical resources are utilised.



Thus, this study will use the model of accountability underpinned by the principal-agent relationships between the NOC and other stakeholders. In the model, the notion of accountability reflects on NOC's VfM issues and concerns in its oil and gas operations. The model will be used to interpret data derived from stakeholders' perceptions on the VfM entailed in the processes used by the NOC to handle resources, with the view to test the hypothesis of the study. The following chapter will address the methodology and methods to be employed in this study.

## **CHAPTER FIVE RESEARCH METHODOLOGY AND METHODS**

### **5.1 Introduction**

The previous chapter explained the theoretical background upon which this study is based. The aim of this chapter is to review some of the methodological approaches that this study could adopt, and provide justification for the method employed to conduct the study.

The chapter begins with the identification of various methodological approaches, and discusses the ontological, epistemological and methodological assumptions that underpin them. Sections 5.3 to 5.5 present a broad view on research approaches and the research methods data analysis. Section 5.6 explains the position of the research regarding philosophical assumptions, research approaches and methods and data analysis. Section 5.7 concludes.

### **5.2 Research Methodology**

A research methodology is the operational framework or the protocol within which the facts, as known, are placed so that their meaning may be seen more clearly (Mackenzie and Knipe, 2006). It relates to the reasoning and the philosophical assumptions underpinning a research work which in effect explains the researchers' position on how to seek knowledge and clarify the nature of reality (Gall et al., 1996). The assumptions are not entirely objective or value free and, therefore, should be influenced by the researchers' social characteristics (Hopper and Powell, 1985; Chua, 1986). As well, these assumptions are based on the perspectives of the researcher on which they influence the way knowledge is interpreted and studied; they are collectively referred to as a paradigm<sup>74</sup> (Mackenzie and Knipe, 2006).

Bogdan and Biklen (1998:22) defined the term paradigm as "a loose collection of logically related assumptions, concepts, or propositions that orient thinking and research". Relatedly, Guba (1990) described a paradigm as "a set of beliefs

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<sup>74</sup>The term "paradigm" has been subjected to different interpretation by different researchers. Kuhn (1970: viii) stated that "paradigms are universally recognised scientific achievements that for time provide model problems and solution to a community of practitioners.

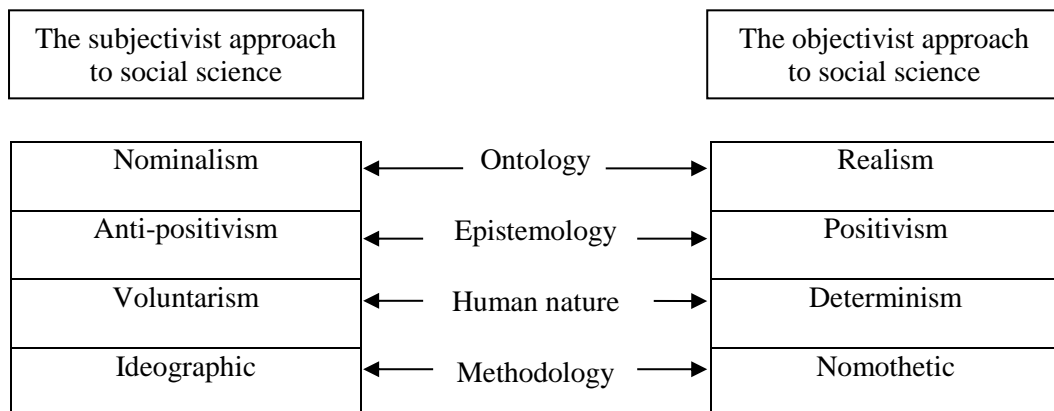
and feelings about the world and how it should be understood and studied", while Burrell and Morgan (1979:23) used the term as a "commonality of perspectives which binds the work of a group of theorist together". Denzin and Lincoln (2003) described the set of beliefs as ontology, epistemology and methodology; as ontology relates to the philosophy of reality; epistemology refers to how we come to know that reality; while methodology ascertains the processes to use to attain the knowledge of reality (Ryan et al, 2002; Krauss, 2005; Tuli, 2010).

There have been debates regarding the issues of paradigm over the past decades between various philosophical schools of thought (see for example: Burrell and Morgan, 1979; Hopper and Powell, 1985; Chua, 1986; Scapens, 1990; Humphrey and Scapens, 1996; Remenyi et al, 1998; ; Saunders et al., 2003; Denzin and Lincoln, 2003; Ahrens and Chapman, 2006; Kakkuri-Knuuttilla et al, 2008; Tuli, 2010). However, Lowe, (2001) stated that the paradigmatic framework, introduced by Burrell and Morgan (1979), has been the most cited and widely used in management and sociological research literature.

### **5.2.1 The Burrell and Morgan Framework**

The analytical framework developed by Burrell and Morgan (1979) was constructed from two independent philosophical dimensions. The two-dimensional matrix is based on assumptions related to the nature of social science (also referred to as the subjective-objective dimension) and the nature of society (also referred to as the regulation-radical changes dimension). Relatedly, Burrell and Morgan's (1979) framework developed an abstract analytical binary schema to align four mutually exclusive assumptions, namely: ontology, epistemology, human nature and methodology - with the various methods of enquiry in the social sciences. Thus, regarding the nature of social science, Figure 5.1 illustrates the relationships from the subjective-objective dimension.

**Figure 5.1: A Scheme for Analysing Assumptions about the Nature of Social Science Research**  
**The subjective-objective dimension**



Source: Burrell and Morgan (1979)

In social sciences, there are possibilities of several realities of the social world, which are interpreted and investigated from the perspective of the social scientists' assumptions (Burrell and Morgan, 1979; Chua, 1986). Figure 5.1 shows the two major philosophical dimensions in social science, which are aligned to their respective assumptions and their related terminologies. They are discussed below.

The ontological assumption concerns the nature of reality of the phenomena under investigation (Hopper and Powell, 1985). It probes what things, if any, have existence or whether reality is the product of one's mind (Burrell and Morgan, 1979). The researchers' ontological assumption can be termed the corner stone to other assumptions as it predicates the other assumptions (Chua, 1986). From the ontological debate, nominalism assumes that social reality is relative; as the existence of reality is based on an individual's consciousness (Burrell and Morgan, 1979). On the other hand, realism assumes that the social world is real and has a hard, intangible structure that can be transmitted in tangible form; it exists, irrespective of an individuals' perception of it.

Epistemology consideration concerns the study of the nature of knowledge. It addresses the questions of how to know a phenomenon, and the verification of what we know and refer to as truth (Carter and Little, 2007:1317). It emphasises on the possibilities of gaining knowledge of the world (Hughes and

Sharrock, 1992) and the “nature, validity and limits of inquiry” (Rosenau, 1992:109). Additionally, Chua (1986) relates that the epistemological beliefs of a researcher depends upon the researchers’ ontological beliefs, as “epistemological assumptions decide what is to count as acceptable truth by specifying the criteria and the process of accessing truth claims” (p.604).

Regarding the debate on epistemology, the positivists - otherwise referred to as objectivists - assume that the social world can be predicted and explained through the search for patterns and relationships between people. They believe that knowledge is a cumulative process that can be tested from developed hypotheses (Dunne, 2003). The positivists view reality as an object to be discovered and measured through scientific methods. On the other hand, the anti-positivists or subjectivists assume reality to be a social construct, as they believe that participation and experience, rather than observation, is what can help to understand the happenings in the social world (Burrell and Morgan, 1979).

The assumption about human nature addresses the relationship between humans and their environment. Being that human life is the subject or the object of inquiry, Burrell and Morgan (1979) identified two extreme perspectives that relates to humans’ response to the environment. Determinism assumes that humans and their experiences are mostly the product of their environment and as such are conditioned by the circumstances of the environment. It is possible to interpret voluntarism as having the consequence that humans are the creators of their environment, and their behaviour and experiences are a result of their free will (Burrell and Morgan, 1979). This view, however, is an extreme position, and the analysis in this study allows some flexibility in interpreting the association between environment and free will.

Connecting to methodology, Burrell and Morgan (1979) argued that the social scientists’ choice of methodologies is influenced by their perspective on ontology, epistemology and human nature. The methodologies range from those referred to as scientific, where the social world is treated like the natural world; to those referred to as naturalistic, where the social world is treated

softly with more subjective quality. Thus, the nomothetic methodology is adopted by the proponents of former while the proponents of the later adopt idiographic methodology.

The assumptions about the nature of society are argued based on the regulation-radical change dimension. In connection, Burrell and Morgan (1979) distinguished between the theories of 'order' and 'conflict'<sup>75</sup>. The theories explained the society either in terms of social order and equilibrium (sociology of regulation) or in terms of change, conflict, and coercion in social structures (sociology of radical change).

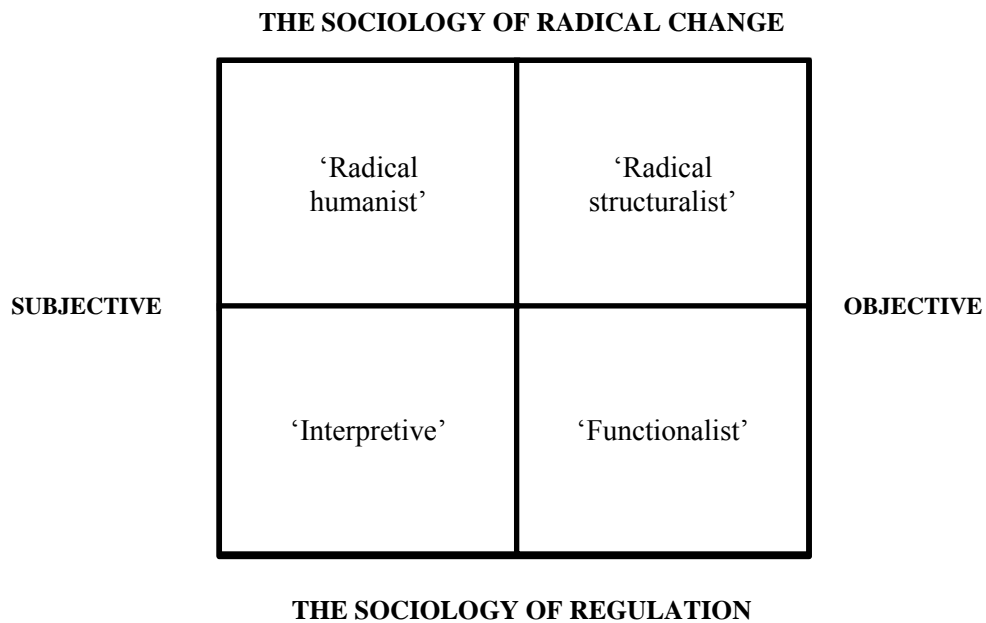
Having consolidated the ideas about the nature of science and nature of society, Burrell and Morgan (1979) despite some limitations, established matrices of four paradigms as a 'frame of reference' for analysis of social phenomena, namely: functionalist, interpretive, radical human and radical structuralist. This is illustrated in Figure 5.2.

The functionalist paradigm rest upon the premise that the social world is composed of relatively concrete objects that are identifiable and can be systematically measured and verified; as well it has concerns for order and regulation (Hassard, 1991; Ryan et al, 2002). Consequently, the paradigm identifies with realism as its ontological position combined with the epistemology of positivism. It takes a deterministic stand on the issue of human nature and a nomothetic methodology. This paradigm advocates a scientific research process that distances the scientist from the research subject matter (Hassard, 1991).

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<sup>75</sup> The explanation on the nature of society is known as the 'order-conflict debate'.

**Figure 5.2: Four paradigms for the analysis of social theory**



Source: Burrell and Morgan (1979)

The interpretive paradigm also identifies with the tenets of order and regulation but, in contrast with functionalism, it approaches the analysis of the social world based on subjectivism. It views “the social world as emergent social process which is created by individuals concerned” (Burrell and Morgan, 1979). According to Hassard (1991), interpretive researchers tend to “deconstruct the phenomenological processes through which shared realities are created, sustained and changed”. In other words, they are interested in making meaning of the characters of our daily activities (Ryan et al, 2002). The paradigm aligns with nominalist ontology, anti-positivist epistemology, voluntarism for human nature and an ideographic methodology.

In respect to the sociology of social change, Burrell and Morgan (1979) states that both radical humanism and radical structuralism accepts the existing assumptions of the interpretive and functionalist paradigms, but substitute the interpretive and functionalist’s assumption of consensual society with conflicting society. While radical humanists advocate radical change from a subjective perspective, the radical structuralists tend to views it from an objective stand. The radical humanists’ approach has a “perspective which tend to be nominalist, anti-positivist, voluntarist and ideographic”, and radical

structuralists' perspective leans towards "realist, positivist, determinist and nomothetic" (Burrell and Morgan, 1979). It is committed to emancipation and emphasises on structural change.

Despite the wide acceptance of the Burrell and Morgan (1979) framework in the management and sociological field, it has also received its fair share of criticism. This is particularly more with respect to the framework's strict use of mutually exclusive dichotomies; the implications of its assumptions on the relativity of reality, and the unclear justification given for the separation between radical humanist and radical structuralist paradigms (Hopper and Powell, 1985; Chua, 1986; Shultz and Hatch, 1996). The framework has also been referred to as too simplistic (Willmott, 1993).

Notwithstanding the criticism, the usefulness of the Burrell and Morgan (1979) is enormous. It is regarded as the foundation for many frameworks in the social sciences (Chua, 1986), and it as well reminds researchers of the need to critically consider the various important assumptions underlying any research work and their connection to the methodology and methods to be employed.

### **5.2.2 The Research Paradigms in Accounting**

In the previous section, there was a discussion on the assumptions a researcher can embrace with regards to the nature of social science and the nature of society. Additionally, the four paradigms that can be utilised for the analysis of various social phenomena were explored, as presented by Burrell and Morgan (1979).

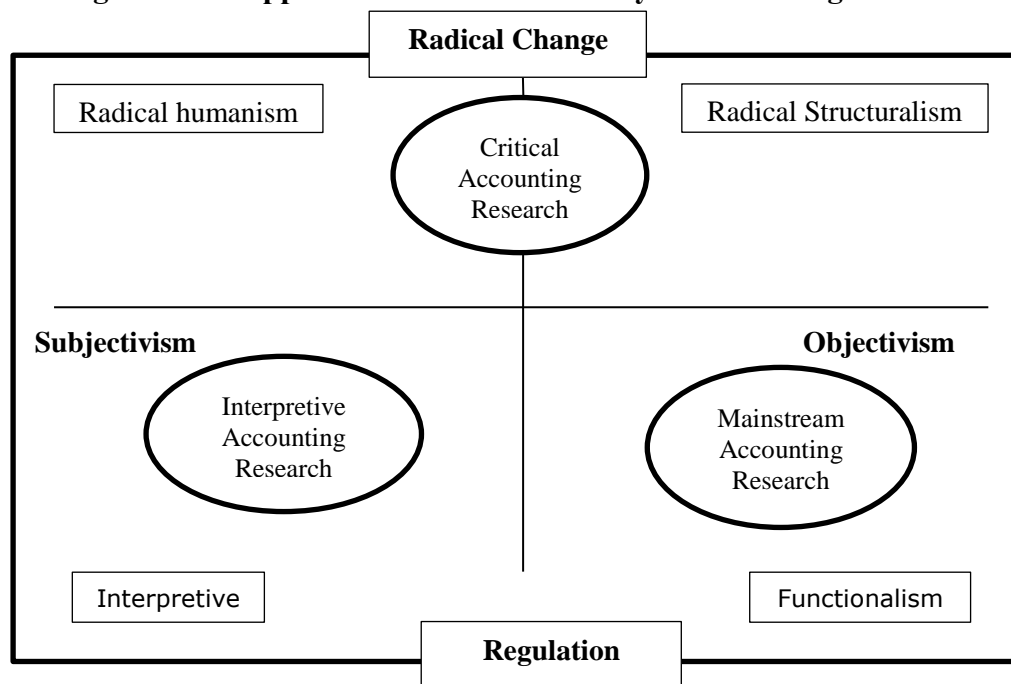
Building on the work of Burrell and Morgan (1979), accounting researchers have gone further to classify accounting research into the mainstream (functionalist), the interpretive and the critical accounting researches (Hopper and Powell, 1985; Chua, 1986; Laughlin, 1999; Ryan et al, 2002). An illustration of the classification is shown in Figure 5.3.

The assumptions of the mainstream, accounting research premise on the objective social world and the deterministic human behaviour, thus this in other



words is referred to as a functionalist approach (Ryan et al, 2002). In addition, the functionalist approach has been sub-categorised into the sphere of positivism, realism, instrumentalism and conventionalism (Laughlin, 1995). Some of the main assumptions of this approach include views that “reality is objective and external to subject, humans are passive objects; humans are rational actors who pursue their goals; the independence of observations to subject; and generalisation of findings using quantitative data (Chua, 1986).

**Figure 5.3: Hopper and Powell’s taxonomy of accounting research**



Source: Ryan et al (2002)

In a different manner, the interpretive accounting research assumes that “social reality is emergent, subjectively created and objectified through human interaction, and that the role of a theory is to explain human actions in a society which is deemed to be stable, where any existing conflicts are resolved through shared meanings” (Chua, 1986:615). The interpretive approach shed light on particular meanings and uses of accounting in specific settings. It seeks to explore the ways in which “...the social, or the environment, as it were passes through accounting. Conversely, accounting ramifies, extend and shape the social” (Burchell et al, 1985: 385 cited in Maxfield, 2013). When used in the accounting context, it has been argued that the interpretive approach enables “researchers to examine metaphorical dimensions of accounting and thereby

gain an understanding denied by the more limited scope of the mainstream research perspective” (Baker and Bettner, 1997).

Interpretive theorists are of the view that accounting and organisational objectives are interdependent, considering that “objectives are influenced by the knowledge of potential accounting” (Swieringa and Weick, 1987) and objectives are bound to be reformulated on the basis of new accounting information (Preston et al., 1992). Further, proponents of the interpretive accounting approach argue that accounting is a “system of thought” designed by human beings to assist human beings to make decisions, and influence human behaviour. Thus, they argue that social constructionist ontology would seem to be the most appropriate basis of conceptualising accounting (Gaffikin, 2006).

Laughlin (1999:73) defined critical accounting as “a critical understanding of the role of accounting process and practices and the accounting profession in functioning of society and organisations with an intention to use that understanding to engage (where appropriate) in changing these processes, practices and profession”. The critical accounting research shares some common features of interpretive research in that it assumes that social reality is a creation of social actors and it embraces radical change.

However, the critical accounting research is distinct, in that it recognises accounting as a human endeavour that has social, political and economic consequences (Chua, 1986; Laughlin, 1999). It advocates engagement in order to change or improve accounting practice. Furthermore, it is interdisciplinary and concerned at individual, organisational, societal and professional levels (Gaffikin, 2006; Laughlin, 1999). Although critical accounting research agrees with interpretation, it emphasises that interpretation should consider “the material conditions of domination that influence the process” (Chua, 1986:621).

There has been vast discussion on the classification of accounting research in the literature which confirms the opinion that there are alternative accounting research approaches (Ryan et al, 2002). In this respect, Laughlin (1995) argues

for a “middle range alternative”. He presented an alternative three dimensional schema for classifying empirical accounting research which circumvents the subjective-objective debate.

Comprising the Laughlin (1995) framework is based on three dimensions of theory, methodology and change that can be analysed along range of low, medium and high. It is argued in such a way that the mainstream accounting research is categorised by a high level of theorisation and methodology and a low level of change. The interpretation of the low level of change, in this instance, is that the researcher assumes that the world requires no change, while the high level of theorisation and methodology suggests the researcher’s assumption that the role of the observer is limited to the application of the pre-determined methods. In contrast, the interpretive perspective is characterised by a low level of methodology; a low level of prior theorisation and medium to low levels of change. In this instance, the researcher assumes that the world is a projection of the mind and the observer is free to get involved in the observation process.

Alternatively, the “middle range” approach argues for taking a mid-point on each of the three continuums (theory, methodology and change). It suggests possibility of ‘skeletal’ generalisation and theory, human involvement, method of data collection and change. In his submission, Laughlin (1995) argues that a more realistic image of the social and technical nature of accounting system can be presented from the “middle range” position.

### **5.3 The Research Approach**

Traditionally, there are basically two broad types of approaches used in conducting research, namely: quantitative (extensive) and qualitative (intensive) research. While the former views reality objectively and places consideration on numbers to form an opinion, the latter emphasises on words and observations to describe reality in their natural setting. Although the virtues of these differing assumptions vary from the perspectives of different authors, there is substantial agreement about their key features and their relevance to the conduct of research, as illustrated in Table 5.1.

**Table 5.1: Features of Quantitative and Qualitative Methods**

Quantitative	Qualitative
<ul style="list-style-type: none"><li>• Inquiry from the outside.</li><li>• It is underpinned by a completely different set of epistemological foundations than in qualitative research.</li><li>• Are simply different ways to the same end?</li><li>• Involves the following of various states of the scientific research.</li><li>• The results are said to be ‘hard’ generalizable data.</li></ul>	<ul style="list-style-type: none"><li>• Inquiry from the inside.</li><li>• An attempt to take account of differences between people.</li><li>• Aim at flexibility and lack of structure, in order to allow theory and concepts to proceed in tandem.</li><li>• The results are said to be, through theoretical generalisation, ‘deep, rich and meaningful’.</li><li>• Inductive-where propositions may develop not only from practice, or literature review, but also from ideas themselves.</li><li>• An approach to the study of the social world, which seeks to describe and analyse the culture and behaviour of humans and their groups from the point of view of those being studied.</li></ul>

Source: Adapted from King (1994)

Consequently, due to the endless debate<sup>76</sup> over the suitability of both quantitative and qualitative approaches, a complementing approach with pragmatic perspective was introduced to the body of research literature. These approaches have been referred to in various terms, including multi-strategy (Bryman, 2004); hybrids (Ragin et al., 2004); mixed-methods (Creswell, 2003); multi-methods (Brannen, 1992); and methodological triangulation (Morse, 1991). The mixed method approach has been outstanding for its practicality, in the sense that all methods can be combined to answer a question. The data sets of both quantitative and qualitative approaches are either converged to provide more comprehensive evidence for studying a research problem, or having to build one set of data on the other to strengthen the validity and reliability of findings (Creswell, 2003). In sum, the appropriate approach for a particular research depends on its suitability with the research question (Locke et al, 2010).

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<sup>76</sup> The debate over the suitability or compatibility of the combination of both quantitative and qualitative methods and paradigms in a single study is described as the “paradigm wars” (Johnson and Onwuegbuzie, 2004).

## **5.4 Research methods**

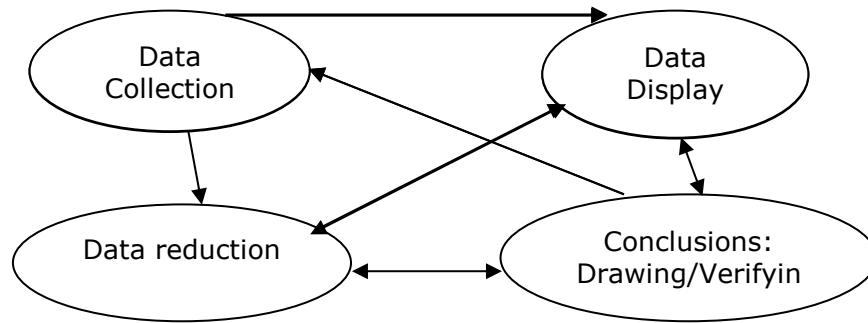
Research methods refer to the variety of ways data can be collected and analysed. In conducting research, the appropriateness of which research method to employ is to be considered before data collection. This is so because it depends mainly upon the research objectives; research hypotheses and characteristics of population (Bryman and Bell, 2007). Several research methods can be employed for collecting survey data, including participant observations, case studies, interviews and self-administered questionnaires. Each of these methods has advantages and disadvantages (Collis and Hussey, 2003; Remenyi et al., 1998; Sekaran, 1992). Bearing in mind the objectives of this study, a questionnaire survey and interviews were employed to collect data.

## **5.5 The Methods of Data Analysis**

Data analysis consists of examining, categorising, tabulating, or otherwise recombining the evidence to address the initial propositions of a study (Yin, 1994). As asserted by Miles and Huberman (1994), data analysis involves re-arranging the data into manageable units in defined patterns and summarising the data with the intent to extract useful information about a research question and arrive at a meaningful conclusion. A clear instance of this is the coding process that it is essential in both quantitative and qualitative research.

Yin (1994) presented pattern matching; explanation building and time series analysis as analytical techniques for investigations. In connection, Miles and Huberman (1994:11) relate that the data analysis process consists of three streams of interactive activities, namely: data reduction, data display and conclusion drawing and verification. The three streams of activities are intertwined prior to, during and after data collection. The activities therein are not separate from the analysis, but a part of the analysis as illustrated in Figure 5.4.

**Figure 5.4: Components of data analysis: Interactive model**



Source: Miles and Huberman (1994)

The processes, illustrated above, are concerned mainly with qualitative research. From the perspective of quantitative data, its organisation, pattern and interpretation, there are mainly two statistical techniques: descriptive and inferential - used for analyses of data. The descriptive techniques relate to the transformation of raw data into a formalised pattern for easy understanding and interpretation, and the reorganisation, ordering and manipulation of the data to provide descriptive information. On the other hand, the inferential technique makes inference on observations based on estimated parameters. While the descriptive statistics are based on calculations such as mean, median and frequency distribution, ranking, standard deviations; the inferential techniques estimate parameters and test for significance (Pallant, 2001).

This can be achieved using statistical estimates of population parameters in the form of a parametric test or a non-parametric statistical test. These are otherwise referred to as hypothesis tests. While the parametric test considers certain assumptions<sup>77</sup> about the underlying population distribution of the data on which they are used, the non-parametric test does not consider assumptions<sup>78</sup> about the distribution of the population (Neideen and Brasel, 2007). The non-parametric procedures are preferred when certain assumptions of parametric procedures are grossly violated. Further, some of the statistical techniques used for analysis are illustrated in Table 5.2.

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<sup>77</sup>The assumptions considered by a parametric test are mainly: (i) normal distribution of data; (ii) equal variance; and (iii) the variables are continuous.

<sup>78</sup>The non-parametric test does not require measurement on an interval scale neither does it assume normality of distribution and homogeneity of variance.

**Table 5.2: Commonly Used Statistical Tests**

<b>Parametric test</b>	<b>Nonparametric test</b>	<b>Purpose of test</b>
<i>t</i> test for independent sample	Mann-Whitney U test; Wilcoxon rank-sum test	Compares two independent samples
Paired <i>t</i> test	Wilcoxon matched pairs signed-rank test	Examines a set of differences
Pearson correlation coefficient	Spearman rank correlation coefficient	Assesses the linear association between two variables
One way analysis of variance ( <i>F</i> test)	Kruskal-Wallis analysis of variance by ranks	Compares three or more groups
Two way analysis of variance	Friedman Two way analysis of variance	Compares groups classified by two different factors

Source: Dallal (2000)

## **5.6 Situating the Thesis**

Considering the various theoretical assumptions, approaches and methods that can be utilised in a social science research, as described in the previous section, this section presents the methodology and methods adopted in this study. The section discusses the research paradigm, the methods and the data analysis techniques used for this study.

### **5.6.1 The Research paradigm for the Thesis**

The survey methods employed in the course of carrying out this study attempts to find out the reality of the performance of the NNPC as it is constructed in the minds of the respondents who are widespread across the upstream sector of the Nigerian oil and gas industry. Being that a researcher is required to understand the various paradigms and adopt the appropriate one after due consideration of the research questions, objectives and audience (Creswell, 2007); the researcher employed the views of the interpretive paradigm. The paradigm was adopted in consistency with the Burrell and Morgan framework.

This research views ‘reality’ as a subjective construction of the human mind (Burrell and Morgan, 1979), although clearly the degree to which such a view is valid imposes some limitations on the interpretation of the findings. Thus, the researcher aligns with the nominalist ontology. This is justified considering that this study seeks the perception of stakeholders on the performance of the NNPC in the upstream sector.

Closely related to ontology is the epistemological assumption which entails the nature of knowledge and its investigation. In this respect, the researcher is looking for the reality of knowledge based on human interaction, experience and perception of the subject of study. Additionally, of interest to the researcher is to “obtain an understanding of the subjectively created social world ‘as it is’ in terms of an on-going process” (Burrell and Morgan, 1979). Thus the epistemological assumption employed is anti-positivism.

Regarding the assumption concerning human nature, this research adopts the voluntarist point of view which advocates that man has a certain degree of latitude with respect to his actions. This view is consistent with human actions being mostly unconditioned and human beings being able, in the main, to express free will (Silverman, 1970:134 cited in Goles and Hirschheim, 2000). In other words, great emphasis is placed upon human consciousness as it is the assumption of the researcher that human beings play a role in the creation of their environment (Burrell and Morgan, 1979:6). In the context of the NNPC, the behaviour of individuals is a contributing factor in the creation of the setting of this research.

The choice of nominalist ontology, anti-positivist epistemology and a voluntarist assumption for human nature influenced the adoption of ideographic methodological approach. This implies that the understanding of the world is best done by analysing subjective accounts of a situation or phenomena. This places this study within the realm of interpretive paradigm in consistence with Burrell and Morgan (1979) framework.

Regarding the dimensions of “regulation” and “radical change” advanced by Burrell and Morgan (1979), the research leans towards radical change. The justification for this choice relates to the advocacy of the radical humanist paradigm regarding emancipation of people from social constraints that limit their potentials for growth and development. The view fits the context of this research. However, the Laughlin’s (1995) argument on “middle range” thinking is also influential in this research.



### 5.6.2 The Formulation of Hypotheses

Drawing from the literature reviewed, hypotheses are formulated to empirically and critically determine the position of the NNPC with regards to its efficiency and effectiveness, cost effectiveness and value addition. A hypothesis is important for executing empirical research (Frankfort-Nachmias and Nachmias, 2008); therefore, five null hypotheses were formulated for this research, as discussed below.

Firstly, worldwide, the oil and gas industry covers a range of activities and processes that transforms the trapped oil and gas resources into usable products. The combined effort of this range of activities and processes creates value along the chain (Tordo, et al., 2011). Still, the objectives for value creation may not be clearly defined and may vary according to countries and companies due to different historical, organisational, financial and socio-economic conditions (Wainberg and Foss, 2007). Therefore, for the assessment and monitoring of performance to be achieved, the goals and objectives of the organisations seeking to add value will have to be properly identified (Wholey et al., 2010).

In Section 2.7 and as illustrated in Table 2.2, objectives drawn from the literature were categorised into two broad groups<sup>79</sup>, namely; i) development of hydrocarbon resources; ii) socio-economic development (Wainberg and Foss, 2007; Robinson, 2009). Adding value to hydrocarbon resources for the benefit of Nigerians and other stakeholders (NNPC, 2014c), as stated in the mission statement of the NNPC is a vague expression of its objectives. As a result, it seems desirable to find out if the commonly attested objectives in the literature apply to the Nigerian oil and gas industry. If so, understanding how value is created in consonance with the set objectives will provide a basis for measuring the performance of the NNPC.

Also, the Nigerian government set objectives for the NNPC. In the main, these objectives help add value to the oil and gas resources of the country. For example, the government aspire to participate and control the oil and gas

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<sup>79</sup> The two broad groups of objectives are otherwise referred to as commercial and non-commercial objectives.

industry, increase revenue, and acquire requisite technology and managerial skills (Gidado, 1999). The NNPC, on the other hand, acts in a managerial role over the MOCs with respect to exploration and production activities; thus, the MOCs report to the NNPC on the success or otherwise of their operations in Nigeria. This reporting again is relevant to adding value to the oil and gas resources. Therefore, the role of NNPC as accountant to the government<sup>80</sup> and accountee, with respect to the MOCs, helps form an accountability framework, at the heart of which lies value adding objectives.

Despite the vagueness of the NNPC's mission, it is assumed that the aspirations of government, as earlier stated, form the basis of the NNPC's mission. It is not unexpected that countries like Nigeria, which are highly dependent on oil and gas, will give relevance to revenue generation, acquisition of requisite technology, local content and economic linkages. These value adding indicators are well-acknowledged in the literature with the spirit of balancing the NOC's commercial and non-commercial objectives. As well, the indicators have come to be regarded as tools for communication and reporting performance (MacGillivray and Zadek, 1995). This justifies the basis for forming hypothesis H<sub>1</sub> below.

**H<sub>1</sub>: NNPC's value adding objectives meets the global standard for hydrocarbon value creation.**

However, the rentier status of Nigeria and the centrality of oil and gas in its national politics provide the basis for argument that there are other personal and political objectives impeding the value adding ones set for the NNPC. For example, Thurber et al. (2010)<sup>81</sup> reported that the presidency have often used its power over the control of oil and gas for patronage and settling political scores. Whilst the MOCs have also been alleged to collaborate with government to

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<sup>80</sup> It is assumed that the government represent the people in ensuring effective management of the oil and gas resources. However, the people may feel unrepresented, when as often alleged, the government and other institutions delegated the responsibility of managing resources are unaccountable to the ordinary people. This in effect may become an avenue for patronage, misappropriation, fraud, corruption and social disorder that can impede the value adding expectations of the people (Schloss, 2008).

<sup>81</sup> Thurber et al. (2010) stated that "Indeed, the implicit government goal for the oil sector appears to be the maximization of patronage opportunities; government policies have been too inconsistent to allow discernment of any more explicit objectives".

subvert the value adding objectives in order to help government to keep power or for their own personal gains (Frynas, 1998). In consistence with the resource curse theory, this leads to political and economic instability which, in the long run, undermines the expectation of the people (Nwokeji, 2007).

Based on the above, it can be argued that in reality the objectives of the government and the value adding mission of NNPC are not in congruence with the norm in other oil and gas industries. Generally, the basic aim for creating NOCs is to maximise revenue from which socio-economic problems will be solved. From the commercial point of view, emphases are placed on the discovery of reserves; the increase in production and scientific/technological development. The socio-economic point of view is concerned mainly with the distribution of the revenue; local content contribution and the linkages of the oil and gas industry with other sectors of the economy (Wainberg and Foss, 2007). Other less emphasised objectives of the NOCs are diplomacy and environmental sustainability (Stevens, 2008a). As such the null hypothesis  $H_{01}$  is formed that:

**$H_{01}$ : NNPC's value adding objectives do not meet the global standard for hydrocarbon value creation.**

Being the most emphasised in the literature, the null hypothesis  $H_{01}$  is tested through: i) discovery of new oil and gas reserves; ii) level of production; iii) level of revenue generation; iv) development and application of results from scientific research; v) increase in local content capacity; and increase in economic linkages to other aspects of the national economy.

Secondly, according to Wainberg and Foss (2007) the operating environments (both endogenous and exogenous) for oil and gas businesses across producing nations are known to influence the NOCs' ability to create value. Tordo et al. (2011) referred to the operating environments as drivers for value creations and grouped them into two categories of variables that describe the initial conditions and context and those that describe human and organisational agency. Cameron (1986) classified the environments into controllable and uncontrollable factors.

Overall, the operating environments restrict and influence the actions taken by the NOCs, along with the structures and processes used for accomplishing the outcome of the actions taken (Iles and Sutherland, 2001). Therefore, the level of an NOC's achievement is greatly linked to its relationship with the operating environment (Aktas et al., 2011). Examples of these environments include policies, organisational culture, and governance of oil and gas sectors, political, fiscal/contractual and legal, underpinned by transparency and accountability (Tordo et al., 2011).

In specific term, endogenous and exogenous environmental factors may have different effects on the operations of the NOCs, which on the balance will reflect in the performance of the NOCs. A factor may have a positive impact on one NOC while the same factor may impact negatively on another NOC (Tordo et al., 2011). For instance, the good performance of Statoil has been attributed to Norway's separated oil and gas industry governance structure. Nevertheless, the same separated structure failed in Nigeria because of the difference in institutional and political environment (Thurber et al, 2010). This shows that what obtains elsewhere may not fit the Nigerian context and vice versa.

Notwithstanding, the NNPC has been able to increase its reserves and production levels by retaining the services of the MOCs through offering favourable fiscal/contractual regimes. The interconnected effect of this to the NNPC's objectives of value creation in effect has enhanced the NNPC's performance in raising revenue for Nigeria and meeting its OPEC obligations (NAPIMS, 2013a). Therefore, it can be argued that despite deficiencies in some areas, on balance, the NNPC has been positively influenced in adding value to oil and gas resources. Thus hypothesis H1<sub>2</sub> is formed on this basis.

**H1<sub>2</sub>: Environmental factors associated with the Nigerian upstream sector have, on balance, had a positive influence on adding value to hydrocarbon resources.**

Nevertheless, the literature has revealed the impeding effect of the legal environment in which the NNPC operates, as it has been argued to be outdated. The effort to change the existing legislation through the PIB has also been

greatly opposed by the MOCs (Gboyega et al., 2011). The uncertainty that ensues has reduced investments in the upstream sector which affects NNPC's value adding objectives. Along with this are the excessive meddlesomeness of government in NNPC's affairs and the alleged non-transparency; the lack of accountability and the corruption attributed to the NNPC (Iledare, 2008; Thurber et al., 2010; Iledare and Suberu, 2010). This makes it desirable to empirically test the effects of the various environmental factors on the performance of the NNPC through null hypothesis  $H_0$  stated below.

**$H_0$ : Environmental factors associated with the Nigerian upstream sector have not, on balance, had a positive influence on adding value to hydrocarbon resources.**

In the management and organisation literature, the notion of VfM is commonly accepted as the yardstick for measuring the performance of public enterprises. The performance indicators, in this respect, are generally drawn and examined from the interrelated components of economy, efficiency and effectiveness (3Es) (Boyne, 2002); that are based upon an input, process and output model of organisation (Boland and Fowler, 2000). In other words, the VfM concept is concerned with the assessment and accountability of outcomes, along with the means and processes used to achieve them (Jackson, 1993).

In this respect, the concept of VfM is applied to the operations of the NNPC, a public enterprise whose activities are largely relied upon for the sustainability of Nigerians, and to whom public resources are allocated to create value. For this reason, there is the need for the NNPC to demonstrate accountability and VfM in its operations so as to justify the use of resources allocated to it and demonstrate its relevance and level of performance in adding value to Nigeria's oil and gas resources. In this vein, three more hypotheses are formulated in line with the three components of VfM.

Thirdly, efficiency which is one of the components of VfM is described as the appropriate utilisation of inputs to achieve maximum results (Richard et al., 2009); it entails the responsiveness of an organisation's operations or activities to public preferences (Jackson, 1982). The efficient utilisation of resources is very important because it generates surpluses, which can be reinvested in

creating and developing other capabilities (Jones, 1991). Relating this to public enterprises, especially those of developing countries where such enterprises constitute a significant proportion of the country's aggregate value-added is very essential, since the fortune of the country is inseparably linked to the performance of such enterprises.

The scenario above describes the dominant role of the NNPC within the Nigerian economy. Thus, the efficiency of the NNPC is very important because it will demonstrate the usage of resources and the freeing of funds for government to provide other socio-economic needs. Considering its importance, over the years, the NNPC have carried out transformation initiatives that involved restructuring, commercialisation and TQM with the intent of enhancing its structures, processes, operating system and performance (Ikoko, 2006; Okoye, 2010). That these efforts earned NNPC/NETCO an international award (Omoriege, 2001) can be taken as evidence of progress made by NNPC in its operational and value creation roles. Furthermore, it gives a perception that NNPC is efficiently managed and provides the basis for the view that the hypothesis H1<sub>3</sub>, below, reflects.

**H1<sub>3</sub> – NNPC's management of upstream petroleum activities has been efficient.**

Conversely, the literature also suggested inefficiency in several aspects of the NNPC's operations - given its deficiencies in mobilising, allocating and utilising resources for value addition (Nwokeji, 2007). For instance, inefficiency has been demonstrated from the delays and lack of administrative synergy in project implementation due to the centralised nature of the NNPC's structure (Yisa, 2005; Ibrahim, 2009). It can also be assumed that strategic decisions derived from a board majorly composed of non-experts, like that of the NNPC, will be inefficient (Thurber et al., 2010; Gboyega et al., 2011). Likewise, it is stated that the quality and the quantity of the staff utilised for the NNPC's operations, along with its funding processes, are deficient (Nwokeji, 2007; Penda, 2009).

Having considered the relevance of roles within the NNPC in the sustainability of the NNPC, it can be concluded that the mixed reportage on its effectiveness

will only lead to further speculations. It is therefore pertinent to empirically test how well NNPC utilises its inputs and processes to derive optimum output. The variables to be tested will include the administrative system, staffing, financial processes and control mechanisms; since they are greatly responsible for achieving any organisations underlying management objectives of productivity, cost minimisation and performance (Boland and Fowler, 2000). As such, the null Hypothesis  $H_0$  is formulated.

**$H_0$  – NNPC’s management of upstream petroleum activities has not been efficient.**

Fourthly, organisational effectiveness, which is another component of the VfM concept, is described as the extent to which an organisation fulfils its mission target or objectives (Aktas et al., 2011). Within the realm of VfM, effectiveness can serve as a performance measurement tool through the assessment of how well resources, actions and processes are utilised to achieve objectives (Rainey and Steinbauer, 1999). In relation to public enterprises, an organisation’s effectiveness is argued to have a great influence on the quality of lives and sustainability (Rainey 2003), so it is bound to generate interest from the public.

In this regard, the operations of the NNPC and its performance in achieving its set objectives have generated a lot of media hype, upon which the public and other stakeholders speculate and give their perception. For instance, while the NNPC acknowledges that it needs to enhance its performance, it has claimed success in most of its endeavours despite its funding constraints. The reserves’ base of crude oil has increased from 17 billion barrels in 1990 to 37 billion barrels in 2012, and the production level has surged from 1 million barrels per day in 1970 to over 2 million barrels in 2010. Also, NNPC claims success in its upstream engineering activities (NNPC, 2014b), and its seismic activities - as shown in Table 3.5. It can therefore be hypothesised that the NNPC has been effective in its operations.

**$H_1$  - NNPC’s management of upstream petroleum activities has been effective.**

On the contrary, the literature also presented the view that the NNPC has been ineffective as none of the aspirations set by government has been achieved. For example, the NNPC is still far away from its 4.5 million barrels per day target, local content development is still at about 35% and a high percentage of gas is still flared (Thurber et al., 2010; Gboyega et al., 2011). Other actions, processes and activities examined in the literature showed that the budget/project execution and funding targets are rarely met, while the control mechanism available is weak (Eluozo, 2008; Penda, 2009; Thurber et al., 2010). Therefore, these negative opinions have influenced the forming of the null hypothesis  $H_{04}$ , which will test the actions, processes and procedures that aids the NNPC in achieving its desired objectives.

**$H_{04}$  - NNPC's management of upstream petroleum activities has not been effective.**

Fifthly, ensuring economy in the operations of an organisation is the third component of obtaining VfM. As earlier discussed in Section 3.6.3, economy involves the allocation of the minimum cost possible for human and material resources to achieve the optimum result without compromising on quality (Flynn, 2012). Therefore, economy is focused on the appropriateness of allocation and utilisation of resources for organisational activities and projects. It is also concerned with cost efficiency and benchmarking as a basis for evaluation (Boland and Fowler, 2000).

As earlier stated, the NNPC have used various forms of oil and gas contractual arrangements to ensure economy. For instance, the adoption of the PSC arrangement in the early 1990's can be argued to be the most economical option considering NNPC's dearth of funding (Agoro, 2001). In addition, it can be argued that these decisions have helped in increasing the reserve base and production from the offshore oil fields. Furthermore, the NNPC has also demonstrated economy through the establishment of NIPLEX, a procurement exchange that encourages competition, cost effectiveness and improves transparency and accountability (Kupolokun, 2006). These are views that suggest that the NNPC's decisions for adding value considered minimal cost and quality and, as a result, hypothesis  $H_{15}$  is formed.



### **H1<sub>5</sub> – NNPC has ensured economy in the management of the upstream sector.**

On the other hand, the NNPC's performance has been shown to be incapable of ensuring economy. Ezenwosu (2009) reported issues concerning the MOCs' budget realignment, overrun and unilateral execution of unapproved projects. Other issues raised by Okonkwo (2005) and Abdullahi (2006) are the abuse of the authority limit for contracts; over pricing and lack of due process in tendering and other contract procedures. This can result in frauds and a wastage of resources that provides evidences of the NNPC's weakness in its control monitoring roles (Kallamu, 2001).

Based on these views, it can be assumed that there is a weak manifestation of economy in the activities of the NNPC. This provides the basis for the formation of null Hypothesis H0<sub>5</sub> to find the level NNPC's ability to ensure cost performance in its different oil and gas contractual arrangements.

### **H0<sub>5</sub> – NNPC has not ensured economy in the management of the upstream sector.**

#### **5.6.3 The Research Approach for the Study**

This research emphasises the use of the qualitative approach, being that it is based on human interaction; experience and perception of the respondents as regards to the NNPC and its upstream performance. Further reasons for adopting the qualitative approach include its emphasis on process and meanings (Denzin and Lincoln, 2003). Regarding data collection, both qualitative and quantitative methods triangulated to provide “useful and novel way to communicate meaning and knowledge”; and consolidate the advantages of having the “reliability of count with the validity of lived experience and perception” (Johnson and Onwuegbuzie, 2004).

Sandelowski et al. (2009) argues that counting numbers often involves qualitative judgments, and that numbers are often related to context. This collaborates the views that the “qualitative-quantitative debate is philosophical not methodological” (Trochim, 2006); the use of quantitative method to help

assess the perception of respondents in an interpretive study is acceptable (Collis and Hussey, 2003).

### **5.6.3.1 Population and Sample of the Study**

A population connotes a defined group of persons, objects, items or places from which samples can be drawn for measurement. According to Sekaran (1992:225), the population of a study refers to an “entire group of people, events, or things of interest that the researcher wishes to investigate”. Similarly, it is defined “as an aggregate or totality of all objects, subjects or members that conform to a set of specification” (Polit and Hungler, 1999:37). Furthermore, they relate that the process of selecting a portion of the population to represent the entire population is known as sampling. Thus, in order to achieve the objectives of a study, it necessary to identify a suitable population from which appropriate data can be drawn (Sekaran, 1992).

The total population upon which this study relied upon, includes the staff of the Nigerian National Petroleum Corporation (NNPC); the Department of Petroleum Resources (DPR); the Federal Ministry of Petroleum Resources (FMPR); the Multinational Oil Companies (MOC); the Local Oil Companies (LOC); the Revenue Mobilisation, Allocation and Fiscal Commission (RMAFC); the Auditor-General’s office (AGF); the Nigerian Extractive Industry Transparency Initiative (NEITI); the Central Bank of Nigeria (CBN); the National Assembly (NA); the Professional Accounting Firms (PAF); the Civil Society (CS).

Following the review of the literature regarding the Nigerian oil and gas industry, it can be argued that the listed institutional bodies are authentic stakeholders who have experience and knowledge of the petroleum upstream sector. A judgemental sampling<sup>82</sup> technique was used to pick the potential respondents, based on their schedule of duty, knowledge and experience in the petroleum upstream sector. The researcher utilised personal contact to consult relevant people within the stakeholder groups; as such, the number of potential

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<sup>82</sup>According to Marshall (1996) the judgemental sampling technique is most utilised in qualitative approach. It enables the selection of the most productive sample to answer research questions.

respondents varies among the groups. Further justifications for the choice of the listed respondent populations are discussed as follows.

The NNPC is an important part of the respondent populations being the main subject of this study and based on its role as the Nigerian NOC. The NNPC has the responsibility for managing the interests of the Nigerian government and citizens in the oil and gas industry. From within the NNPC, fifty potential respondents from the National Petroleum Investment and Management Services (NAPIMS); the Nigerian Petroleum Development Company (NPDC); the Directorate of Exploration and Production; the Directorate of Commercial and Investment; and the Directorate of Finance and Accounts were identified and included in the population frame. The employees included are those whose schedule of duty relates to the upstream sector and the four arms picked are those that have direct involvement in the upstream sector.

The regulation of the Nigerian oil and gas industry is officially the responsibility of the DPR. It is an extra-statutory department in the FMPR, which is the petroleum ministry. There are both well-placed within the governance structure of the Nigerian oil and gas industry; while the DPR is officially the regulator of the industry, the FMPR is responsible for policymaking. Fifteen potential respondents from the DPR and twelve potential respondents from the FMPR were included in the population frame after due consideration of their upstream background.

The NEITI, the AGF and the PAF were included primarily because they all, in one form or another, partake in the auditing of the NNPC. Fifteen potential respondents were identified and included in the sample from the NEITI, being that the agency that serves as a watchdog of oil and gas industry. In an effort to instil the culture of transparency and accountability in the industry, the NEITI carries out periodic physical and financial audits on petroleum production and revenue remitted to government by the MOCs. Also, eight employees working with the oil and gas section of the AGF's office were included. Adding the AGF's office to the population is justified being that it is constitutionally invested with the responsibility of auditing all government bodies including the NNPC. With regards to the PAF, they are professional firms involved in joint

venture auditing and as such fifteen potential respondents were identified and included in the population frame.

The MOCs and the LOCs are included as part of the population based on their role as explorers and producers of Nigerian oil and gas. While the MOCs are credited with over 90% of production, the performance of the LOCs has improved over the years. Twenty and ten potential respondents are included from the MOCs and the LOCs respectively. The perception of these groups is important because they deal directly with the NNPC in the upstream sector through various contractual agreements.

The RMAFC and the CBN are included in the population because they are involved in the safekeeping and distributing revenue derived from petroleum taxes. In addition, the CBN nurtures and monitors the growth of the Nigerian economy and petroleum is the dominant factor. In this regard, ten potential respondents each are included in the sample from the CBN and the RMAFC; they all work in departments that have relationship with the upstream sector of the oil and gas industry.

Besides its oversight function in the oil and gas industry on behalf of the people, the NA is included in the population of the study because of its roles in legislation and in the appropriation of funds. The NA is responsible for making laws in Nigeria, and this includes those related to the oil and gas industry. Furthermore, the NA through its oil and gas committees appropriate the funds needed for developmental projects in the upstream sector. As such, fifteen legislators who serve in the upstream committee and their supporting employees were included in the sample.

The civil societies are included due to its active participation in debating and monitoring of oil and gas activities. The civil societies are represented in the National Stakeholders Working Group of NEITI. Therefore, with the help of the Civil Society Legislative Advocacy Centre, fifteen potential respondents were considered as part of the sample. Table 5.3 presents the summary population for the study.

**Table 5.3: Summary of Respondents**

<b>No</b>	<b>Place of Work</b>	<b>Population (%)</b>
1	Nigerian National Petroleum Corporation (NNPC)	50 (25.6)
2	Nigerian Extractive Industry Transparency Initiative (NEITI)	15 (7.7)
3	Department of Petroleum Resources (DPR)	15 (7.7)
4	Federal Ministry of Petroleum Resources (FMPR)	12 (6.2)
5	Multinational oil companies (MOC)	20 (10.2)
6	Local oil companies (LOC)	10 (5.1)
7	Central Bank of Nigeria (CBN)	10 (5.1)
8	Revenue Mobilisation, Allocation and Fiscal Commission (RMAFC)	10 (5.1)
9	Auditor-General's Office (AGF)	8 (4.2)
10	Professional Accounting Firms (PAF)	15 (7.7)
11	National Assembly (NA)	15 (7.7)
12	Civil Societies (CS)	15 (7.7)
	<b>Total</b>	<b>195 (100)</b>

Source: Author

### **5.6.3.2 Method of Data Collection Used in this Study**

As stated earlier, the methods of data collection refers to the channel used for collecting data, and it greatly depends on the nature of the data. In this study, the questionnaire and interviews were employed to collect data with the aim of satisfying the objective of the research using a qualitative approach. Also the section discussed the piloting and administration of the questionnaire and issues relating to reliability and validity.

#### **5.6.3.2.1 Questionnaire**

Considering the nature of this study, a questionnaire was designed with questions asked in line with the objectives of the study. The questionnaire aimed to collate empirical evidence upon which a view can be formed regarding NNPC's performance (efficiency, effectiveness and economy) in the Nigerian oil and gas upstream sector from a stakeholders' perspective.

In view of this, and with the aim of encouraging the respondents to answer the questions and increase the response rate, an accompanying covering letter (see Appendix B) was designed considering the characteristics recommended by several authors (Sekaran, 1992; Frankfort-Nachmias and Nachmias, 2008). These characteristics include an introduction on the Robert Gordon University formal letterhead; the purpose and importance completing of the survey; an assurance of confidentiality regarding the information being sought; an offer to provide the respondents the results of the survey if they so wish.

Furthermore, the principles of designing a questionnaire discussed in 5.4.1.1 through to 5.4.1.1.3 which includes wording, type, sequence and scaling of questions were considered for the questionnaire in this study. As postulated by Sekaran (1992) and Oppenheim (1992), a careful choice of wording in a questionnaire is important in order to avoid jargons, duplications, double barrelling, leading questions and ambiguity. The wording can also have positive influence on the simplicity and the length of a questionnaire. All these were carefully taken into consideration when designing the questionnaire for this study under the able guidance of my supervisory team.

It took four months to put the questionnaire in order, having gone through a series of meetings, rewording and rewriting the questions to be understandable and to convey the intended meaning to respondents. This effort was justified as no respondents requested for further explanation or clarification. Further, the questionnaire was primarily designed to be closed-ended with some space left at the end to enable the respondents to make relevant comments. In this respect, and as discussed in 5.4.1.1.2, the closed questions were employed because through it respondents' answers can be meaningfully compared, coded and easily analysed.

Again, the questions were sequenced to "facilitate smooth progression of respondents through the questionnaire" (Sekaran, 1992:208). The questionnaire was arranged in a logical order with questions progressing from the general to the specific. Some space was provided at the end of the questionnaire (in an open ended format) for the respondents who may want to make further comment in their own words.

Regarding scaling, an appropriate measuring rule was considered, as it is a vital aspect of designing a questionnaire (Frankfort-Nachmias and Nachmias, 2008). This is to enable the researcher have an instrument that will efficiently and effectively capture and reflect the opinions' of respondents; provide optimum validity; reduce the respondents' burden and the researchers' cost of collecting data (Krosnick, 1999). A nominal scale was considered for the first part of questionnaire where respondents' personal information was requested. The respondents were asked to indicate their place of work by ticking the appropriate box. In the second part comprising of four sections, a standard five point Likert scale (1=strongly agree, 2=agree, 3=neutral, 4=disagree, and 5=strongly disagree) was used to ascertain the respondents' perceptions on the issues raised.

The design of questionnaire has two parts, consisting of five sections. In the first part, personal information was sought regarding the respondents' places of work. This information was used to examine and compare the pattern of opinions from different respondent groups regarding the NNPC's value addition, efficiency, effectiveness and economy. Other demographic information such as age, nationality, position was not sought because there were not relevant to this study.

Section One of the second part of the questionnaire sought respondents' opinions regarding what is expected of NNPC to add value to hydrocarbon resources and what the constraints are. The aim of this was to determine what "value adding" entails as stated in NNPC's mission and examine its performance and constraints. Generally accepted value adding indicators were identified and presented to respondents for their perceptions on NNPC's performance. Similarly, opinions were sought on how some factors such as political interference, transparency, accountability, fiscal policies and legislations have influenced the performance of the NNPC (either positively or negatively). This is important to enable the researcher to form a view on how well the NNPC is doing in achieving mission objectives.

Section Two of the questionnaire sought the views of the respondents regarding the issues related to the efficiency of the NNPC in carrying out its

upstream petroleum operations. Questions were asked regarding the processes of operations; the robustness of administration; the quality and quantity of staffing; finance; monitoring and control tools - such as budgeting. This is important to enable the researcher have an empirical basis to form a view regarding the efficiency of the NNPC.

In Section Three, six strands of questions were asked of the respondents regarding the NNPC's effectiveness in its upstream operations. Particularly, questions were asked on whether targets are met in respect of crude oil reserves, production, development of skills, and transfer of technology. In addition, opinions were sought about the NNPC's effectiveness regarding cost control processes; effective monitoring compliance to various upstream operational rules and regulations as well as effective communication.

Finally, the fourth section concerns NNPC's choices and economic decisions for the petroleum upstream sector. Questions were asked to determine the economic appropriateness of the petroleum contractual arrangements that the NNPC employ, as well as the cost effectiveness of the NNPC's monitoring roles in the upstream sector. Relatedly, the views of the respondents were sought regarding the capability of the NNPC to identify problematic cost areas, to benchmark and to improve performance.

#### **5.6.3.2.1.1 Pilot Study**

The pre-tests and pilot surveys are important approaches to avoid or minimise limitations of questionnaires. They address the issues of clarity, wording, scaling, validity, layout, instructions and the time it takes to complete the questionnaire. They also save the researcher time, money and effort that can be lost if the shortcomings of the questionnaire are not detected in time. Many authors have discussed the importance of a pilot survey. For instance, Sarantakos (2005) related the need for pre-testing and piloting as "to discover possible weaknesses, inadequacies, ambiguities and problems in all aspects of the research, so that they can be corrected before the actual data collection takes place".



Furthermore, the pilot survey has been acknowledged as an important process of improving the validity and reliability of each question included in the questionnaire, as the respondents involved in the piloting stage are similar to those in the main survey (Oppenheim, 1992). In addition, the pilot survey offers the opportunity of gathering information through non-verbal behaviour regarding the wordings or contents of the questionnaire that may embarrass or cause some discomfort to the respondents (Sarantakos, 2005).

In this study, two stages of tests were conducted. In the pre-test stage, seven research students and three academic staff of the Aberdeen Business School, Robert Gordon University and Glasgow Caledonian University were involved. The pilot respondents were requested to comment on any ambiguities, omissions and areas of improvement. Their comments and recommendations focused on wordings; length of the questionnaire and the length of time to complete the survey. Thereafter, the questionnaire was revised in line with their comments and recommendations.

In the second stage, the pilot test involved three Nigerians working in the oil industry in Aberdeen and six pilot participants from across the selected stakeholder groups in Nigeria. The researcher applied judgemental selection in this process. Their valuable comments focused mainly on the length of the questionnaire. After taking into account their comments, the researcher with the support of the supervisory team revisited and revised the questionnaire as recommended and developed a final version.

#### **5.6.3.2.1.2 Administration of Questionnaire**

The researcher made pre-notification contact with relevant officers in the various stakeholder organisations before proceeding to the field. As a result, the researcher was fortunate to be invited to attend the Nigerian Oil and Gas Conference, 2012, in Abuja, Nigeria. This enabled the researcher to meet a cross-section of key stakeholders in the Nigerian oil and gas industry, including the NNPC; the DPR; the FMPR; the MOC; the LOC; the RMAFC; the NEITI; the CBN; the NA. Appointments with the heads of research units of the various groups were arranged since they knew those most qualified who could

understand the issues highlighted and make a useful contribution. In particular, the top management of the NNPC and the DPR supported the administration of the survey.

The questionnaires were personally delivered to the PAF; the AGF; and the CS after necessary enquiries were made about the relevant officers to meet. The Director, Internal Audit of the AGF emphasised that the questionnaires would be distributed to officers in their Oil and Gas unit. The whole exercise of administering questionnaires was carried out over the period of two weeks; whereby, all of the stakeholder organisations were given both hard and soft copies of the questionnaires.

After distribution of the questionnaires, the researcher constantly followed up through personal visits to the organisations, and by frequently phoning the main contacts. Using the approach of persuasion, the researcher was able to collect the answered questionnaires from all of the organisations either through hand delivery and electronic mails. This collection process was done over a period of three weeks.

#### **5.6.3.2.2 Interview**

The second method employed for this empirical study was the semi-structured interview, and it was patterned in line with the questionnaire. Interviewing is a common qualitative approach for data collection that allows interviewees the time and scope to relate their opinions about a subject within the framework to be explored. The aim of this is to retrieve more in-depth information about the phenomena under study (Hussey and Hussey, 1997) and to further investigate the responses of the questionnaire (McNamara, 2009).

The interview was arranged according to the five themes of the questionnaire: Adding value to hydrocarbon resources; environmental factors that influence NNPC's performance; efficiency; effectiveness; and economy. The researcher sought to explore further by amplifying the themes in the questionnaire to ascertain why certain things happen or why not, which enabled the results of the questionnaire to be better understood.

As earlier stated, the interviews conducted were in a semi-structure form. The researcher assured the interviewees of the confidentiality of the outcome of the interviews. Additionally, notes were taken during the interviews to ease the process of analysis, and to serve as a back-up in case of 'machine' malfunction. This helped in the accurate transcription of the interview.

The researcher conducted the interviews after considering and applying the principles recommended by McNamara (2009) which include: (i) choosing a setting with little distraction; (ii) explaining the purpose of the interview; (iii) addressing terms of confidentiality; (iv) explaining the format of the interview; (v) indicating the usual length of the interview; (vi) telling them how to get in touch afterwards - if they want to; (vii) asking them if they have any questions before the interview commences; (viii) making sure all instruments are in place so as not to rely on memory in order to recall their answers.

Regarding the actual conduction of the interviews, the researcher identified, selected and arranged with the potential interviewees during the Nigerian Oil and Gas Conference, 2012, held in Abuja, Nigeria. Two interviewees each were identified for the twelve respondent groups stated in the questionnaire. However, the plan could not be implemented due to the non-availability of some of them as arranged or because they are no longer willing to grant the interviews. Despite this setback and time constraints, a total of sixteen interviews were conducted. Ten were conducted in Abuja and six were conducted on telephone from Aberdeen.

The interviews conducted involved interviewees from: (i) the NNPC; (ii) the DPR; (iii) the MOCs; (iv) the NA; (v) the CS; (vi) the NEITI. All of the interviews were audio taped with the exception of one who declined to be taped for fear that his anonymity may be compromised. In this situation, a full note of the responses was taken. The duration for the interviews ranged between forty-five minutes to one hour, and the language of communication was English. The interviews were conducted in suitable environments.

#### 5.6.4 Data Analysis

This research went through a series of processes: from data collection to data analysis. The concept of 3Es (efficiency, effectiveness and economy) was adopted to carefully design questions for the surveys. Accordingly, the right groups of respondents were identified, and the responses received were coded. At this stage, no conclusions were made. Thereafter, the data collected and coded were subjected to statistical tests, analysed and concluded in line with the objectives stated for the study.

The statistical processes undertaken for analysing the data collected for the study are descriptive statistics and non-parametric statistical tests. The descriptive statistics entails the use of frequencies, mean, median, and cross-tabulation. These cover the analysis of personal information of respondents' groups as well as their perceptions regarding each of the tested variables. Furthermore, the non-parametric test of Mann-Whitney was employed to identify and discuss the differences between the respondents' groups. The non-parametric test was used because the data gathered does not meet the normality requirement for a parametric test. Accordingly, the five per cent level of significance was chosen for this study, as it is the conventionally accepted significance level for business research.

Analysis of the data collected from the interviews, was based on the processes of data reduction, display and conclusion. A thematic analytical method was adopted, whereby the common themes and patterns of the interviews were identified (Frankfort-Nachmias and Nachmias, 2008). Also, as recommended by Owen (1984), the themes were derived from: (i) recurrence<sup>83</sup>; (ii) repetition<sup>84</sup>; (iii) and forcefulness<sup>85</sup>. The technique of 'quote research'<sup>86</sup> was also utilised in the course of analysis.

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<sup>83</sup>Recurrence refers to instances where at least two parts of the interviews reflect the same meaning, even if they were present using different words.

<sup>84</sup>Repetition refers to instances where key words, phrases, sentences are repeated in at least two parts of the interview.

<sup>85</sup>Forcefulness refers to instances where there are significant changes in volume or inflection or positioning during the interview.

<sup>86</sup>Quote research refers to the use of quotes from interviews conducted in the research work.

#### **5.6.4.1 Data Coding**

The term ‘coding,’ in both qualitative and quantitative research concerns the arrangement of data in a systematic order to enable make meaningful conclusions. Coding has been defined as“ a systematic way in which to condense extensive data set into smaller analysable units through the creation of categories and concepts derived from the data” (Lockyer, 2004). Thereafter, the coded data can be easily inputted into computers for analysis.

After consulting with a statistician at the Robert Gordon University, codes were allocated to each variable in the questionnaire in a coding sheet (see Appendix C), and eventually the data was entered into the computer. Each respondent group was allocated a code ranging from 1 to 12, in this form: 1(NNPC); 2(NEITI); 3(DPR); 4(FMPR); 5(MOC); 6(LOC); 7(CBN); 8(RMAFC); 9(AGF); 10(PAF); 11(NA); 12(CS). Regarding the responses, each variable in the questionnaire was allocated its code and the completed questionnaires were entered according to the codes. The entries were rechecked to make sure that there were no mistakes.

After considering various statistical packages that are used for data analysis, the Statistical Package for Social Science (SPSS) was chosen for the data analysis. It is one of the most comprehensive statistical packages used for social science studies. It is user friendly, saves time and fits the purpose of this research (Bachman and Schutt, 2007).

#### **5.6.4.2 Missing Data Analysis**

The issue of missing data is a common problem in all kinds of research. This problem usually arises as a result of respondents’ unwillingness to answer a question; due to lack of clarity of the question, due to lack of time or if data are not properly recorded. The problem of missing data if not properly treated - threatens the validity of a study (Croninger and Douglas, 2005).

According to Little and Rubin (1989), missing data are defined in this taxonomy: (i) Missing completely at random (MCAR); (ii) Missing at random

(MAR); (iii) Not missing at random (NMAR). Firstly, data are said to be MCAR when the probability that responses are missing is unrelated to either the value of specific values that, in principle, should have been obtained or the set of observed responses. Secondly, data are MAR when the probability that responses are missing depends on the set of observed responses, but is unrelated to the specific missing value that should have been obtained. Thirdly, data are NMAR when the probability that responses are missing depends on both the set of observed responses and the specific missing values that, in principle, should have been obtained.

In view of this, overcoming the problem of missing data can be dealt with through four main ways: (i) ignorable response - whereby only available data are analysed; (ii) Data replacement - whereby researchers impute missing data with a replacement value and consider them as observed data; (iii) by imputing missing data based on certainty; (iv) model based method - which use multivariate relationship between variables to handle missing data. However, a researcher can only use one of the ways suggested above, having considered a technique for tackling the missing data problem. Buhi et al. (2008) suggested three general categories of techniques: case deletion, direct estimation and imputation.

Firstly, case deletion entails the exclusion of all cases that have missing data during analysis. Case deletion can be effected either through listwise deletion and pairwise deletion. These approaches are commonly used; can be used for any kind of statistical analysis and require no special computational method. However, the drawback of case deletion is that it substantially reduces the size of data which in effect can yield biased estimates. Secondly, direct estimation concerns the use of all available data, including those cases with missing value to produce parameter estimates and standard errors. There are several direct estimation techniques amongst which the Full Information Maximum Likelihood (FIML) is probably the most pragmatic. Thirdly, the logic of the imputation technique which is further divided into single and multiple imputations are “to substitute some reasonable guess (imputation) for each

missing value and then proceed to do the analysis as if there were no missing data” (Allison, 2002:11).

The single imputation technique replaces incomplete observations with complete information based on an estimate of the true value of the unobserved variable. Although it allows the inclusion of all cases, the single imputation cannot reflect sample variability. It is, however, widely used in practice because of its straightforwardness, and the most popular of the single imputation techniques is the mean estimation (Nakia and Ke, 2011). On the other hand, the multiple imputation technique replaces missing items with two or more acceptable values, representing a distribution of possibilities. The technique is sophisticated in that it requires several imputations.

Having reviewed the various missing data mechanisms, it was noted that the handling of missing value is determined by the type of ‘missingness’; that is whether the data is MCAR, MAR or NMAR. In view of this, this study determined that the missing data is MCAR and employed the mean estimation technique to fill the missing values. The mean estimation technique was considered because it is widely used and can easily be employed through the SPSS.

### **5.6.5 Reliability and Validity**

Reliability and validity are two concepts that are important to social scientists because of their significance in ensuring that conclusions derived from a study are relevant, accurate and usable to other researchers. The two concepts are related in a lop-sided manner. Potter (1996) postulate that a test can be reliable without being valid, but it cannot be valid unless it is reliable. The two concepts are most favoured in quantitative studies and by researchers with positivistic paradigm (Charmaz, 2000). Notwithstanding, researchers aligned to the interpretive paradigm also stress the significance of reliability and validity during the entire research process, and call on researchers to ensure proper management of threats (Morse et al, 2002). Therefore, both reliability and validity are considered through the processes of this study.

Reliability is defined as “a measure that indicates the stability and consistency with which the instrument is measuring the concept and helps to assess the ‘goodness’ of a measure” (Sekaran, 1992:173). Reliability is vital in any research work to ensure that the appropriate measuring instruments are employed to get results. The degree of reliability is the most used measure for evaluating a research instrument and its compatibility with the variables or set of variables it intends to measure (Hair et al, 2006). The evaluation of reliability requires that the processes employed are repeatable, and other researchers can arrive at the same results at different periods (Drucker-Godard et al, 2001).

The goal of reliability is to minimise biases and errors in a research work. In view of this, Saunders et al. (2003) identified the biases and errors as: participant error; participant bias; observer error and observer bias. The participant error reveals the attitudes of respondents regarding the time it takes to fill the questionnaires and the expected time of returning them. This may influence the way they answer the questions due to stress and the surrounding environment. Considering this threat, it was determined, during the pilot survey, that fifteen minutes is the maximum time it could take to fill the questionnaire. Relatedly, a period of three weeks was given to the respondents to fill the questionnaire. Therefore, it is assumed that the issues of stress and distortion of answers were addressed. Regarding participant bias, which happens as result of personal relationship with respondents, this study ensured that the respondents were nameless and unidentifiable. In this aspect, it can also be assumed that the reliability of the questionnaire was not threatened.

Observer error relates to the manner questions are presented in a questionnaire. Being that the questionnaire for this study employed a standard format; the appropriate principles of designing a questionnaire were adhered to, it is assumed that the threat to reliability is very minimal. Relating to observers bias, the researcher was as objective as possible to set out transparent processes of designing the questions, data collection and analysis that reflects the context studied.



Validity in a related manner has been defined as “the correctness or credibility of a description, conclusion and explanation, interpretation, or other sort of account” (Maxwell, 1996:87). Similarly, Collis and Hussey (2003:186) referred to research validity as “the extent to which findings and conclusions accurately represent what is really happening in the situation”. Validity concerns how the accurately a variable or variables are compatible with a concept used and the confidence other researchers may have in the findings. In other words, it concerns the relationship between the measuring instruments and the results derived.

Validity has been classified into different type. Firstly, Sekaran (1992) stated to two types, namely: internal validity and external validity. The internal validity refers to the extent of drawing accurate and legitimate samples studied; external validity refers to the extent of making a wide generalisation from the findings.

Secondly, in another form, Sekaran (1992:172) identified three types of validity namely: content, construct and criterion-related validity. Content validity concerns the effectiveness of delineating the dimensions and elements of a concept. It proposes that the items that make up the content of the study include everything needed and does not capture anything that is not needed. Construct validity refers to the meaningfulness of the survey instrument, in relation to the context in which it being used. Its assessment is usually based on the track record of the instrument in, the context it is being used. Criterion-related validity refers to how well one instrument of measurement is compared to another one which acknowledge as the standard of judgement.

Considering the issues related to content validity, as stated earlier, the pilot tests conducted in this study provided insight and recommendations that ensured accuracy and relevance of the content. The standard format adopted for the questionnaire ensured that the threats related to participants’ influences, such as beliefs, sex, and health, were greatly minimised. Furthermore, based on the pilot test, appropriate wordings were used and the reduction of the length of the questionnaire did not leave out any important content. Additionally, the instruments used are common in studies on efficiency; value

for money of performance; hence it can be assumed that validity was not threatened.

## **5.7 Conclusion**

In this chapter, the types of research; the philosophical assumptions; methodology and methods considered for the study were discussed. In consistence with the Burrell and Morgan (1979) framework, earlier defined, this study adopted the interpretive paradigm because of its suitability for a descriptive and explanatory research.

The study also considered the Laughlin's argument on "middle range" thinking - given the subjective nature of human beings and then the appropriateness of the anti-positivist methodological approach. These thoughts influenced the mixed methods of the questionnaire survey and interviews employed for the study. In the succeeding two chapters (six and seven), the analysis of the data collected and the findings are presented, with a view to determining how well stakeholders perceived the NNPC to have performed in ensuring value adding functions in the upstream sector.

## **CHAPTER SIX**

### **ANALYSIS OF QUESTIONNAIRE-BASED SURVEY**

#### **6.1 Introduction**

This chapter is primarily concerned with the analysis of the data collected based on the questionnaire designed and administered for the study. For easy interpretation, the chapter is structured into four sections. Section 6.2 involves the analysis of questionnaire responses and personal information of the stakeholder groups. This is followed by the statistical analysis of the responses of the major issues addressed by questionnaire, as in Section 6.3. And, lastly, Section 6.4 concludes the chapter.

#### **6.2 Questionnaire Response Rate**

A total of 195 questionnaires were distributed in paper form to 12 stakeholder groups, and 126 completed questionnaires were returned (see Table 6.1). It therefore means that the survey achieved an overall response rate of 65%. The high response rate achieved can be ascribed to the following reasons:

- (1) The contact that the researcher had with relevant officers of the various stakeholder groups.
- (2) An introductory letter written by my supervisor introducing the researcher and the importance of the topic under investigation might have contributed to the high response rate (see Appendix B).
- (3) The attractive format in which the questionnaire was designed. As shown in Appendix D, the questionnaire was carefully worded and arranged in the sequence of the objectives of the study.

**Table 6.1: Responses Received Analysed by Stakeholder Group**

No	Organisations	Issued	Returned	Response Rates	Percentage
1	NNPC	50	24	48%	19.0
2	NEITI	15	13	87%	10.3
3	DPR	15	8	53%	6.3
4	FMPR	12	10	83%	7.9
5	MOC	20	12	60%	9.5
6	LOC	10	7	70%	5.6
7	CBN	10	8	80%	6.3
8	RMAFC	10	10	100%	7.9
9	AGF	8	6	75%	4.8
10	PAF	15	8	53%	6.3
11	NA	15	12	80%	9.5
12	CS	15	8	53%	6.3
<b>Total</b>		<b>195</b>	<b>126</b>	<b>65%</b>	<b>100</b>

Source: Author

**Note:** NNPC=Nigerian National Petroleum Corporation; NEITI=Nigerian Extractive Industry Transparency Initiative; DPR=Department of Petroleum Resources; FMPR=Federal Ministry of Petroleum Resources; MOC=Multinational Oil Companies; LOC=Local Oil Companies; RMAFC=Revenue Mobilisation Allocation and Fiscal Commission; CBN=Central Bank of Nigeria; AGF=Office of Auditor General for the Federation; PAF=Public Accounting Firms; NA=National Assembly and CS=Civil Societies.

### 6.2.1 Missing Data

The data files were inspected for missing data, after which the missing value analysis in SPSS was employed to determine the number of values missing for each of the cases and variables. It was found that 17 cases have empty cells ranging from 1 to 4 (see Table 6.2), and these represent less than 0.5% of the whole responses<sup>87</sup>.

**Table 6.2: Cases with Missing Value**

<b>A</b>	3	13	16	20	24	34	39	53	54	57	61	65	67	81	85	89	91
<b>B</b>	1	1	1	2	1	2	4	1	1	1	1	1	1	1	1	1	2

Source: Author

**Note:** A= Cases; B=Missing values

<sup>87</sup> There were a total of 126 respondents and 68 variables. This indicated 7276 expected responses of which 23 were not answered. This represents 0.27% of the total responses (23/8568=.00268\*100).

The Little's MCAR test was utilised to determine the randomness of the missing values. The result indicated a Chi-square = 143.467 (DF=134, Sig = .272). Further, the result revealed significant value (0.272) that is greater than the alpha value (0.05). The interpretation of this is that no identifiable pattern exists to the data missing. Consequently, the mean estimation technique was utilised to fill the missing gaps.

### **6.2.2 Respondents' Stakeholder Groups**

As illustrated in Table 6.1, the respondents were classified into 12 different stakeholder groups. The high ranking respondents in the sample were from the NNPC (19.0%), the NEITI (10.3%) and the MOC and the NA with 9.5% each. They were followed by 7.9% respondents each for the FMPR and the RMAFC; whilst the low ranking respondents groups were the LOC (5.6%) and the AGF (4.8%). In between these two groups were respondents from the DPR, the CBN, the PAF and the CS, each with a 6.3% representation. In addition, except for the NNPC which has a 48% response rate, responses from all the stakeholder groups is above 50% (see Table 6.1).

### **6.3 Statistical Analysis of Questionnaire Responses**

This section is designed to test five hypotheses<sup>88</sup> developed for the study. Analyses of the 68 variables employed for the study were based on a descriptive analysis of the frequency of distribution of group respondents' responses with the aim to determine their overall perception on each of the variables.

Furthermore, as explained in Section 5.6.4, the non-parametric test of Mann-Whitney is employed to facilitate the statistical analyses based on 5% level of

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<sup>88</sup> According to Frankfort-Nachmias and Nachmias (2008:435), the process of testing hypothesis comprises of four steps: " i) formulate a null hypothesis and a research hypothesis; ii) choose a sampling distribution and a statistical test according to the null hypothesis; iii) specify a significance level and define the region of rejection; and iv) compute the statistical test, and reject or retain the null hypothesis accordingly".

significance<sup>89</sup>. Accordingly, the cross-tabulation tests are employed to analyse the differences that emerge.

### **6.3.1 The NNPC and Value Addition**

As mentioned in Section 1.1, the primary aim of creating the NNPC is to obtain optimum value to Nigeria's hydrocarbon resources in the best interest of the country (Nwokeji, 2007). It is further expressed in its mission statement that the "NNPC is an integrated Oil and Gas Company, engaged in adding value to the nation's hydrocarbon resources for the benefit of all Nigerians and other stakeholders" (NNPC, 2014c). Thus in this regard, this section sought the perception of stakeholders as to: i) what indicators signify adding value to hydrocarbon resources; ii) the value drivers (internal and external factors) that affect the performance of NNPC.

#### **6.3.1.1 Perception of Stakeholder Groups on Value Adding Indicators**

The research sought the views of respondents on their understanding of the NNPC's mission as a basis for evaluating the NNPC's performance. However, the term 'adding value' as expressed in the NNPC's mission statement does not clearly indicate the requisite functions and outcomes of value addition. Hence, forming a view on the NNPC's performance requires knowing what value adding entails. As such, the null hypothesis  $HO_1$  is designed to test the perception of respondents in relation to six value adding indicators generally cited in the literature (see Section 2.5.2):

**$HO_1$  - NNPC's value adding objectives do not meet the global standard for hydrocarbon value creation.**

The recognition of the value adding objectives is indeed the first requisite for measurement of organisational performance (Glendinning, 2002). In this regard, and in the context of the research, Al-Naimi (2004) and Tordo et al (2011) asserted that NOCs should be evaluated based on their own objectives. Accordingly, hypothesis  $HO_1$  above was drafted to determine the NNPC's

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<sup>89</sup> The decision to select a level of significance is quite arbitrary. However, it is customary to set the level of significance at 0.5 or 0.1 (Frankfort-Nachmias and Nachmias, 2008:438).

value adding indicators and assess the extent to which they have helped the NNPC in adding value.

Results derived from descriptive statistics and as presented in Table 6.3 were used to test the null hypothesis  $H_{01}$ .

**Table 6.3: Indicators for Adding Value to Hydrocarbon Resources**

<b>Indicators</b>	<b>Median (Mean)</b>	<b>SA (%)</b>	<b>A (%)</b>	<b>N (%)</b>	<b>D (%)</b>	<b>SD (%)</b>	<b>Total (%)</b>
a) Discovery of new reserves	2.00 (1.74)	53 (42.1)	56 (45.2)	12 (9.5)	4 (3.2)	- (0)	126 (100)
b) Higher than budgeted oil production	2.00 (1.99)	38 (30.2)	59 (46.8)	22 (17.5)	6 (4.8)	1 (0.8)	126 (100)
c) Higher than budgeted oil revenue	2.00 (2.01)	48 (38.1)	46 (36.5)	19 (15.1)	9 (7.1)	4 (3.2)	126 (100)
d) Development and application of scientific research	2.00 (2.00)	44 (34.9)	50 (39.7)	23 (18.3)	6 (4.8)	3 (2.4)	126 (100)
e) Increase in local capacity	2.00 (1.88)	46 (36.5)	58 (46.0)	14 (11.1)	7 (5.6)	1 (0.8)	126 (100)
f) Stronger economic linkages	2.00 (1.81)	57 (45.2)	47 (37.3)	12 (9.5)	9 (7.1)	1 (0.8)	126 (100)

**Note:** SA=strongly agree; A=Agree; N=Neutral; D=Disagree; SD=Disagree; and %=percentage

Table 6.3 showed the perception of respondents on six different indicators generally cited in the literature, in relations with the NNPC's value addition to hydrocarbon resources. A total of 126 responses were recorded for each of the indicators. From the descriptive statistics, all six indicators revealed mean scores of less than 2.00 and median score of 2.00 for each variable. This suggests that the majority of the respondents agreed with the view that the six indicators add value to hydrocarbon resources and, as such, can be considered as yardsticks for measuring the NNPC's performance.

Nevertheless, Mann-Whiney tests were conducted in order to determine whether there is any statistically significant difference between the views of the respondent groups at 5% level of significance. The result of the tests, as shown in Table 6.4, indicate differences of opinion in two group cases on the issue of discovery of new oil reserves; five group cases on development and application of scientific research.

**Table 6.4: Mann-Whitney Tests Value Adding Indicators**

Mann-Whitney tests						
<b>i) Discovery of new oil reserves</b>						
Groups					NNPC	NEITI
RMAFC					.044	.019
<b>ii) Development and application of scientific research</b>						
Groups		MOC	LOC	RMAFC	PAF	NA
NEITI		.041	.049	.035	.047	.016

**Note:** NNPC=Nigerian National Petroleum Corporation; NEITI=Nigerian Extractive Industry Transparency Initiative; MOC=Multinational Oil Companies; LOC=Local Oil Companies; RMAFC=Revenue Mobilisation Allocation and Fiscal Commission; PAF=Public Accounting Firms; and NA=National Assembly.

At 5% level of significance, the result of the Mann-Whitney tests indicated that there were statistically significant differences in the responses of the RMAFC and those of the NNPC and the NEITI, in relation to the suggestion that the discovery of new oil reserves is a significant aspect of adding value. However, these differences were due to the strength of agreement to the suggestion. In order to ascertain the cause of differences among the groups, a cross tabulation test showed that while 70% of the RMAFC's respondents agreed with what was put to them, the NNPC and the NEITI's respondents agreed with higher scores of 87.5% and 92.3% respectively. The RMAFC's slightly lower score of 70% can be attributed to its concern with revenue generation and distribution. However, in sum, the groups' responded with high levels of agreement as reflected in the mean score of 1.74.

Similarly, the Mann-Whitney tests indicated differences in the responses of six groups in relation to development and application of scientific research. The differences are based on the groups' strength of agreement. The majority of the NEITI's respondents strongly agreed with 92.3%, while the views of the majority from the MOCs, the LOCs, the RMAFC, the PAF and the NA simply agreed with 75%, 100%, 80%, 62.5% and 75% respectively.

The possible reasons for the majorly positive responses for the six value adding indicators are further discussed. With regards to the discovery of new oil reserves and growth in oil production, their value adding status can arguably be linked to oil producing countries' desire to control and derive economic power from oil reserves (Stevens, 2008a). Therefore, both indicators are considered as



important value drivers that are essential for operational performance (Tordo, et al., 2011), and a bargaining tool for OPEC quota allocation (Alsalem et al., 1997).

In addition, discovery of new oil reserves is a requisite for the growth of oil production; which, in turn, may increase oil revenue through sales, taxes, royalties and fees (Frynas and Paulo, 2007; Nwokeji, 2007). This may also open up investment opportunities in the upstream sector with resultant healthy economy and a stable polity (McPherson, 2004). Therefore, it may be argued that it was on this basis that the NNPC aspired to boost its oil reserves to 40 billion barrels and grow oil production to 4.5 million per day by 2010 (Gboyega et al., 2011). Although this was not achieved, the expected effect of these aspirations is to achieve government's socio-economic objectives.

These may have informed the positive perceptions of the respondents regarding development and application of scientific research for the upstream sector; the increase in local capacity for upstream activities and the creation of stronger economic linkages. The three variables are all related to the economic concerns of oil producing countries (Taverne, 1999). With oil being the mainstay of the Nigerian economy, the activities of the NNPC are expected to expand and create opportunities in other productive sectors of the economy. In addition, the daunting technological challenges that hinder most oil producing countries' aim of self-sufficiency in upstream oil and gas operations can be overcome through investment in scientific research and development (McPherson, 2004; Ozigbo, 2008).

Generally, it can be concluded that based on the perceptions of stakeholders, the six indicators presented for the test are considered as appropriate for adding value to hydrocarbon resources. Since this suggests that the indicators are suitable for assessing the upstream performance of the NNPC, the null hypothesis  $H_{01}$  tested is rejected.

### **6.3.1.2 Factors Affecting the Performance of the NNPC**

According to Tordo et al. (2011) an organisation's ability to create or add value is affected by factors that emanate from the organisations and the environment in which they operate. Thus, hypothesis HO<sub>2</sub> was formed to assess respondents' perceptions on the effect of twelve organisational and governance factors on the NNPC's ability to add value to hydrocarbon resources. Table 6.5 presents the respondents' views on these factors upon which the null hypothesis HO<sub>2</sub>, stated below, was tested.

**HO<sub>2</sub> - Environmental factors associated with the Nigerian upstream sector have, on balance, not had a positive influence on adding value to hydrocarbon resources.**

Table 6.5 summarises the results of the descriptive statistics for twelve environmental factors that are associated with the performance of the NNPC. Of these, respondents' perception on eight factors derived a median score of 4.00, meaning that the respondents are of the opinion that the eight environmental factors, in general, have not helped the NNPC in developing its hydrocarbon resources. The factors are: limited political interference; unfavourable tax system for oil companies; stability of petroleum operations; commercial expertise; disclosure and transparency of production; disclosure and transparency of oil revenue; disclosure and transparency of production cost; petroleum laws governing upstream operations.

**Table 6.5: Perception on factors that affect NNPC's value adding mission**

<b>Factors</b>	<b>Median (Mean)</b>	<b>SA (%)</b>	<b>A (%)</b>	<b>N (%)</b>	<b>D (%)</b>	<b>SD (%)</b>	<b>Total (%)</b>
a)Limited political interference	4.00 (3.99)	6 (4.8)	13 (10.3)	9 (7.1)	46 (36.5)	52 (41.3)	126 (100)
b)Appropriate power conferred on NNPC	3.00 (3.18)	6 (4.8)	37 (29.4)	25 (19.8)	44 (34.9)	14 (11.1)	126 (100)
c)Petroleum contractual arrangements	3.00 (3.07)	7 (5.6)	41 (32.5)	31 (24.6)	30 (23.8)	17 (13.5)	126 (100)
d)Favourable tax system for oil companies	3.00 (2.95)	16 (12.7)	38 (30.2)	26 (20.6)	28 (22.2)	18 (14.3)	126 (100)
e)Unfavourable tax system for oil companies	4.00 (3.67)	4 (3.2)	11 (8.7)	40 (31.7)	39 (31.0)	32 (25.4)	126 (100)
f)Stability of petroleum operations	4.00 (3.69)	5 (5.0)	17 (13.5)	23 (18.3)	48 (38.1)	33 (26.2)	126 (100)
g)Membership of OPEC	2.00 (2.10)	41 (32.5)	54 (42.9)	17 (13.5)	5 (4.0)	9 (7.1)	126 (100)
h)Commercial expertise	4.00 (3.71)	6 (4.8)	10 (7.9)	26 (20.6)	57 (45.2)	27 (21.4)	126 (100)
i)Disclosure and transparency of oil production	4.00 (3.91)	3 (2.4)	10 (7.9)	25 (19.8)	45 (35.7)	43 (34.1)	126 (100)
j)Disclosure and transparency of oil revenue	4.00 (3.98)	4 (3.2)	8 (6.3)	20 (15.9)	49 (38.9)	45 (35.7)	126 (100)
k)Disclosure and transparency of production cost	4.00 (3.87)	2 (1.6)	6 (4.8)	29 (23.0)	59 (46.8)	30 (23.8)	126 (100)
l)Petroleum laws governing upstream operations	4.00 (3.42)	8 (6.3)	32 (25.4)	13 (10.3)	45 (35.7)	28 (22.2)	126 (100)

**Note:** SA=strongly agree; A=Agree; N=Neutral; D=Disagree; SD=strongly disagree; and %=percentage

However, the descriptive statistics' results for appropriate powers conferred on the NNPC; the provisions of petroleum arrangements in use in Nigeria and the favourable tax system for oil companies reveals a neutral (median=3.00) view from the respondents. This suggests that the respondents were indecisive regarding the influence of the factors on NNPC's development of hydrocarbon resources.

Furthermore, respondents' views sought on whether membership of OPEC has assisted the NNPC to develop Nigeria's hydrocarbon resources was perceived differently from the other factors, with an overall median value of 2.00. The result indicates that the respondents agreed that Nigeria's OPEC memberships have helped the NNPC in developing hydrocarbon resources.

Despite these, the Mann-Whitney test was applied to determine statistically significant differences between the stakeholder groups at the 5% level of significance. The results of the differences detected by applying the Mann-Whitney tests in relation to the factors that affect the NNPC's value addition are presented in Tables 6.6a and 6.6b.

**Table 6.6a: Mann-Whitney Tests for Factors Affecting Value Addition**

Mann-Whitney tests										
<b>i) Limited political interference</b>										
Groups									CBN	FMPR
CS									.046	.037
<b>ii) Stability of petroleum operations</b>										
Groups							DPR	NA	CS	
NEITI							.028	.014	.007	
MOC									.024	
<b>iii) OPEC Membership</b>										
Groups						NNPC	MOC	CBN		
NEITI						.013	.007	.018		
FMPR								.028		
<b>iv) Commercial expertise</b>										
Groups	DPR	FMPR	MOC	LOC	CBN	RMAFC	AGF	PAF	NA	CS
NNPC	.002	.041	.002	.003	.014	.017	.005	.035	.001	.005

**Note:** NNPC=Nigerian National Petroleum Corporation; NEITI=Nigerian Extractive Industry Transparency Initiative; DPR=Department of Petroleum Resources; FMPR=Federal Ministry of Petroleum Resources; MOC=Multinational Oil Companies; LOC=Local Oil Companies; RMAFC=Revenue Mobilisation Allocation and Fiscal Commission; CBN=Central Bank of Nigeria; AGF=Office of Auditor General for the Federation; PAF=Public Accounting Firms; NA=National Assembly and CS=Civil Societies.

Firstly, responses regarding limited political interference revealed statistically significant differences between the perceptions of the CS's respondents on the one hand and the perceptions of the FMPR and the CBN respondents. While 87.5% of the CS's respondents disagreed that limited political interference have assisted the NNPC in adding value to hydrocarbon resources, only 50% and 62.5% of the FMPR and the CBN respondents disagreed. Although the FMPR and the CBN respondents were in agreement on the issue by 40% and 20% respectively, the overall result showed that the differences between the groups are based on the respondents' depth of disagreement. Therefore, the result is in line with the overall median of 4.00 for all the groups.

The possible reasons for the majority's disagreement regarding political interference can be deduced from evidence found during the 2012 and 2014 legislative investigation of the NNPC. For instance, the suspended central bank governor's allegations against the NNPC clearly suggest that political office holders have influenced the NNPC's decisions for personal benefits (Sanusi, 2014). This conforms to Frynas' (1998) assertion that the management of the NNPC had consistently been under political pressure as the management team is often changed in line with political leanings. In addition, Thurber et al. (2010) and Gboyega et al. (2011) are of the view that the NNPC's performance is strongly affected by political patronage and corruption.

Secondly, from Table 6.6a, results of the Mann-Whitney test for stability of oil and gas operations showed differences along two patterns of responses. On the one hand, differences exist between the NEITI respondents and the DPR, the NA, and the CS's respondents. Although the majority of the four groups disagreed that there is adequate stability in the oil and gas operations in Nigeria, their levels of disagreement differs. While the NEITI disagreed with 46.2% and held a neutral view with 23.1%, the DPR, the NA and the CS had high disagreement rates of 75%, 83.3% and 87.5% respectively. On the other hand, differences exist in the pattern of responses between the MOCs and the CS. While none of the CS's respondents agreed that oil and gas operations are stable in Nigeria, 87.5% of the respondents disagreed. This position is in contrast with the MOCs' 50% disagreement and 25% agreement. Similarly, given that majority of the MOCs' respondents disagreed, it can be interpreted that the differences between the two groups is due to their strength of disagreement.

The perception of the respondents' of the NEITI, the DPR, the MOCs, the NA and the CS regarding stability of operations is not surprising, considering the constant disruptions of upstream operations in the Nigeria's delta region. Oil and gas activities have suffered due to Niger delta militants criminal activities, such as sabotage, hostage taking and direct attack on oil installations (Nwokeji, 2007; Thurber et al. 2010, Gboyega et al. 2011). In addition, this has affected

production activities to the extent that there is a difficulty in meeting up with Nigeria's OPEC production quota (Thurber et al., 2010).

Thirdly, the result of the Mann-Whitney test applied on the impact of OPEC membership on the performance of the NNPC indicated statistically significant differences at the 5% level of significance between the NEITI and the NNPC, the MOCs and the CBN. Similarly, the FMPR's response also differed from that of MOCs'. The cross tabulation revealed that the five groups agreed that Nigeria's OPEC membership impact positively on NNPC's performance. However, the group differed based on their strength of agreement. The NEITI and FMPR agreed highly with 84.6% and 90% respectively as against the MOCs' 50% agreement.

The possible reason for these different patterns of agreed responses on the OPEC membership can be attributed to divergence of objectives. The MOCs may have responded with average agreement because the OPEC quota restricts depletion, which hinders the achievement of its production strategy, and its main objective of maximising profit (Frynas, 1998; Pongsiri, 2004). Whereas, the other groups being government agencies, may have considered the advantages that the OPEC provides to the NNPC in the areas of oil pricing, marketing and even the bargaining power of the OPEC as a cartel (Griffin and Xiong, 1997; Gidado, 1999).

Fourthly, the Mann-Whitney tests showed statistically significant differences at the 5% level of significance between the NNPC and ten other groups, namely: the DPR, the FMPR, the MOCs, the LOCs, the CBN, the RMAFC, the AGF, the PAF, the NA and the CS. The differences in response are in respect of the NNPC's commercial expertise and its impact on the NNPC's value adding objective. An interpretation of the results between the NNPC and the ten groups indicated a mixed response from the NNPC respondents with 41.7% agreement, 33.3% disagreement and 25.0% neutral views. This differs from the views of the respondents of the other ten groups whose disagreement on the issue ranged between 70.0% and 85.7%.

A possible reason for the disagreed perception of the ten groups is arguably the tide of the market driven reform in the international oil and gas sector witnessed in the last two decades, which seemed not to have been efficiently adopted by the NNPC. Apparent evidence can be seen in the NNPC's lack of autonomy in decision-making and financial management (Yisa, 2005). Other reasons are allegations against NNPC for not allowing the Auditor General audit its accounts as provided by the Nigerian constitution (Nwokeji, 2007). Since the government is seeking to reform the NNPC and make it commercially efficient through the PIB that is presently before the National Assembly, it can be argued that the perception of the ten respondent groups is an indication of NNPC's lack of commercial expertise.

Based on the cumulative median of 4.00, the ten stakeholder groups disagreed that the NNPC's commercial expertise, if any, helps in developing hydrocarbon resources. On an individual group basis, the NNPC's respondents did not take a clear position on this issue. Hence, it can be concluded that the NNPC's value adding objective may have been impeded due to inadequate commercial expertise.

Furthermore, in relations to the factors that affect the NNPC's performance, Table 6.6b presents the results of three variables whose Mann-Whitney tests indicate significant differences at 5% level of significance.

Firstly, as shown in Table 6.6b, the result of the Mann-Whitney test applied to group responses relating to the disclosure and transparency of oil production indicates statistically significant differences between the responses of the NNPC and the responses of the NEITI, the DPR, the MOCs, the RMAFC, the NA and the CS. A cross tabulation of the respondents' perception showed that 50% of the NNPC's respondents took a neutral stand on the issue, and another 37.5% disagreed. This indicated a huge difference when compared with the 76.9%, 75.0%, 75.0%, 90%, 91.7% and 87.5% rates of disagreement by the respondents of the NEITI, the DPR, the MOCs, the RMAFC, the NA and the CS respectively. The mixed opinion recorded for NNPC's respondents can arguably be attributed to the unwillingness of the respondents to address the issue of disclosure and transparency of oil production.

**Table 6.6b: Mann-Whitney Tests for Disclosure and Transparency Factors Affecting Value Addition**

Mann-Whitney Test										
<b>i) Disclosure and transparency of oil production</b>										
Groups		NEITI	DPR	MOC	RMAFC	NA	CS			
NNPC		.016	.047	.029	.003	.000	.002			
<b>ii) Disclosure and transparency of oil revenue</b>										
Groups		NEITI	DPR	MOC	LOC	CBN	RMAFC	AGF	NA	CS
NNPC		.039	.042	.000	.003	.040	.013	.007	.000	.005
<b>iii) Disclosure and transparency of oil production cost</b>										
Groups									NA	CS
NNPC									.020	.003
LOC										.034

**Note:** NNPC=Nigerian National Petroleum Corporation; NEITI=Nigerian Extractive Industry Transparency Initiative; DPR=Department of Petroleum Resources; FMPR=Federal Ministry of Petroleum Resources; MOC=Multinational Oil Companies; LOC=Local Oil Companies; RMAFC=Revenue Mobilisation Allocation and Fiscal Commission; CBN=Central Bank of Nigeria; AGF=Office of Auditor General for the Federation; PAF=Public Accounting Firms; NA=National Assembly and CS=Civil Societies.

Being that the six groups that strongly disagreed are important oil industry stakeholders who are involved in the mobilisation and distribution of oil revenue, appropriation of upstream fund and as watchdogs of the industry, it could be argued that their disagreement is based on their knowledge of the Nigerian oil industry. For instance, in support of this argument, the RMAFC’s chairman stated “the operation of NNPC’s crude oil account is “shrouded in secrecy and therefore makes it a subject of several criticisms, suspicion and lack of confidence by all stakeholders” (Okubenji, 2011). Evidence of the NNPC’s non-transparency and non-disclosure of oil production are found in the KPMG audit report (2010) and the Hart group audit report (2011). In addition, the fact that disclosure has the potential to increase trust and improve state-society relations (Ocheje, 2006) may have informed the groups’ disagreement.

In general, the perception of respondents on the issue of disclosure and transparency of oil production regarding the NNPC’s value addition is negative. This is evident from the overall median (4.00) score generated which implied respondents’ disagreement on the issue.



Secondly, regarding the disclosure and transparency of oil revenue, Table 6.6b showed that the NNPC respondents significantly differed in nine instances with the NEITI, the DPR, the MOCs, the LOCs, the CBN, the RMAFC, the AGF, the NA and the CS. The cross tabulation of responses revealed that 41.7% of the NNPC's respondents disagreed on the issue of oil revenue disclosure and transparency, and 37.5% were neutral. On the other side, the levels of disagreement for the nine respondent groups ranged between 62.5% and 100%. This clearly showed the gap in disagreement between the NNPC and the nine other groups.

In support of the opinion of the nine groups, a former Nigerian minister of finance said:

“to address the agency asymmetry, the government established the NNPC, which has, itself, given rise to other agency problems such as endemic corruption and lack of transparency not only in the oil industry, but also in the management of public finance regarding full oil revenue disclosure” (Usman, 2007).

Besides this indicting statement, the response of the nine groups can also be justified based on various allegations made regarding the NNPC's lack of physical and financial transparency in the KPMG report (2010) and the Hart Group report (2011). The recent allegation by the CBN about the NNPC's non-remittance of twenty billion dollars to the treasury is another case in sight. In view of this, it can be assumed that the DPR, the MOCs, the LOCs, the RMAFC, the NA, the NEITI and the CS are right have held a negative opinion given their roles as partners in the upstream sector and the relevant agencies in the monitoring and distribution of oil revenue.

Therefore, in general, the findings above revealed the respondents' disagreement with the notion that the NNPC's disclosure and transparency of oil revenue has made positive impact on its value adding objective.

Thirdly, Table 6.6b presents the results of Mann-Whitney tests that signified differences between the NNPC and the NA and the CS. Also, differences of opinion exist between the LOCs and the CS's respondents. The interpretation of this result showed that, though all three groups disagreed to the notion of

disclosure and transparency of oil production costs, their pattern of disagreement differed. It can be seen from the cross tabulation that the NNPC's respondents disagreed with 58.3% as against the NA's 75% and CS's 87.5% disagreements respectively. In addition, the NA's and the CS's neutral responses of 16.7% and 12.5% respectively differed from the NNPC's respondents' neutral position of 33.3%. Also, regarding the differences between the LOC and the CS, the results indicated that 71.4% of the LOC's respondents disagreed on the issue, while 28.6% took a neutral stand. This differed from the CS's 87.5% disagreement and 12.5% neutrality.

Being that the rates of disagreement for all of the groups ranged between 61.1% and 87.5%, in general it can be argued that all of the groups do not agree that the level of disclosure and transparency of oil production cost has assisted the NNPC's upstream value adding objectives. The differences noticed in the responses are as a result of the groups' depth of disagreement and neutrality. Nevertheless, it was noticed that both the NNPC and the LOC had lower rates of disagreement (61.1% and 71.4%), which could be linked to their informed knowledge as direct participants in upstream activities. On the other hand, the other groups' (the NA and the CS) higher disagreement rates of 75% and 87.5% can be attributed to the NNPC's reputation as a corrupt organisation which operates a non-competitive system (Akinrele, 2003; Izeze, 2012).

From the findings presented in Tables 6.6a and 6.6b, the conclusion is that the majority of respondents disagreed that six of the factors presented have had a positive impact on the NNPC's value adding drive. Nevertheless, the respondents have a common agreement that Nigeria's OPEC membership has a positive impact on the NNPC's value adding performance. However, on a general note, since the respondents disagreed on six of the seven factors presented, the null hypothesis  $H_{02}$  is accepted.

### **6.3.2 The NNPC's Efficient Management of Upstream Oil and Gas Operations**

This section is in relation to Section Two of the questionnaire administered. It sought the views of the respondents' on the NNPC's efficiency in the

management of the Nigerian upstream oil and gas sector. The rationale for these questions is based on the premise that better organisational performance requires appropriate strategies that aligns abled administrative teams with good management control systems (Tsamenyi et al., 2011). Furthermore, considering the relevant role of the NNPC to Nigeria's socio-economic development, it can rightly be assumed that the NNPC's efficiency will contribute significantly to the country's aggregate value addition. Along with this are the benefits of developing capabilities, enhancing accountability and achieving VfM (Jones, 1991; Richard et al., 2009). Thus, in this section the efficiency of the NNPC's upstream oil and gas operations is tested using a null hypothesis  $HO_3$ , as stated below:

**$HO_3$  – NNPC's management of upstream oil and gas activities has not been efficient.**

Table 6.7 presents the descriptive analyses of the respondents' perceptions on the NNPC's administrative system, fund management and control systems.

**Table 6.7: Efficiency of NNPC's Management of the Upstream Sector**

Statements	i) The Efficiency of NNPC's administrative procedures:						
	Median (Mean)	SA (%)	A (%)	N (%)	D (%)	SD (%)	Total (%)
a) Robust administrative system	4.00 (3.60)	9 (7.1)	18 (14.3)	15 (11.9)	56 (44.4)	28 (22.3)	126 (100)
b) Appropriate decisions for upstream operations	4.00 (3.55)	5 (4.0)	18 (14.3)	26 (20.6)	57 (45.2)	20 (15.9)	126 (100)
c) Qualified staff for monitoring upstream operations	3.00 (3.14)	9 (7.1)	37 (29.4)	18 (14.3)	51 (40.5)	11 (8.7)	126 (100)
Statements	ii) NNPC's efficiency in fund management:						
	Median (Mean)	SA (%)	A (%)	N (%)	D (%)	SD (%)	Total (%)
a) Full utilisation of available fund	4.00 (3.47)	6 (4.8)	19 (15.1)	28 (22.2)	56 (44.4)	17 (13.5)	126 (100)
b) Utilisation of fund according to budget	4.00 (3.69)	3 (2.4)	20 (15.9)	14 (11.1)	65 (51.6)	24 (19.0)	126 (100)
c) Good system for distributing fund	4.00 (3.37)	6 (4.8)	20 (15.9)	32 (25.4)	57 (45.2)	11 (8.7)	126 (100)
Statements	iii) NNPC's efficient use of control tool for upstream operations:						
	Median (Mean)	SA (%)	A (%)	N (%)	D (%)	SD (%)	Total (%)
a) Budgetary system	3.00 (3.07)	4 (3.2)	42 (33.3)	29 (23.0)	43 (34.1)	8 (6.4)	126 (100)
b) Authorisation for Expenditure (AFE)	2.00 (2.50)	16 (12.7)	51 (40.5)	39 (31.0)	20 (15.9)	- (0)	126 (100)
c) Compliance audit	3.00 (2.82)	3 (2.4)	55 (43.7)	33 (26.2)	32 (25.4)	3 (2.4)	126 (100)
d) Joint venture auditing	3.00 (2.57)	12 (9.5)	48 (38.1)	48 (38.1)	18 (14.3)	- (0)	126 (100)
e) Procurement procedures	3.00 (3.36)	2 (1.6)	31 (24.6)	31 (24.6)	44 (34.9)	18 (14.3)	126 (100)
f) Carry agreement auditing	3.00 (3.05)	2 (1.6)	32 (25.4)	56 (44.4)	30 (23.8)	6 (4.8)	107 (100)

**Note:** SA=strongly agree; A=Agree; N=Neutral; D=Disagree; SD=Disagree; and %=percentage

### 6.3.2.1 NNPC's Administrative Procedures for Upstream Oil and Gas Operations

As presented in Table 6.7, the descriptive statistics showed the overall pattern of the respondents' perception on the NNPC's efficiency on three different but related issues, namely: a robust administrative system; the appropriateness of the NNPC's decisions for upstream operations, and the appropriate number of qualified staff for monitoring upstream operations.

In response to the NNPC's robust administrative system, only 27 respondents representing 21.4% overall agreed; while 84 respondents (66.7%) disagreed. Neutral perceptions on the issue stood at 11.9%. This pattern of responses justified the result of the median test (4.00); thereby suggesting that on average the respondents disagreed that the NNPC operates on an efficient administrative system in the upstream sector. However, as Table 6.8 presents, the results of the Mann-Whitney test applied at a 5% level of significance indicated statistically significant differences in eight group cases.

The first set of differences from the cross tabulation showed the NNPC's 50% agreement and 45.8% disagreement to the robustness of its administrative system. This result is in contrast with the strong disagreement of the MOCs, the LOCs, the AGF, and the CS's 91.7%, 85.7%, 100% and 100% respectively.

Possible reasons for the four groups' disagreed perceptions can be related to their vast knowledge of the Nigerian upstream operations and the NNPC's administrative structure. These disagreed perceptions are aligned with evidence from literature on the NNPC's lack of administrative synergy and bureaucratic bottleneck, which delays the processing and transmitting of the necessary input required for achieving the organisation's objectives (Ibrahim, 2009). Furthermore, it is asserted that since its establishment, the NNPC have failed to put in place an administrative structure that is free from government manipulation (Izeze, 2012). This can also be linked to the NNPC's low level of managerial accountability that retards responsiveness and the efficient usage of resources (Mulgan, 2000).

There were also statistically significant differences revealed between the PAF's 50% disagreement and the 91.7%, 100% and 100% strong disagreement of the MOCs, the AGF and the CS respectively. Similarly, the wide gap between the NEITI's 61.5% disagreement and the AGF's 100% disagreement was signified in the Mann-Whitney test. However, in all of these cases, the majority of the respondents disagreed, but differed based on their depth of disagreement. This concurs with the overall respondents' perception mean and median scores of 3.60 and 4.00 respectively.

Therefore, based on these findings, conclusively it can be assumed that the groups' respondents had a negative perception on the robustness of the NNPC's administrative system.

**Table 6.8: Perception on Administrative System**

<b>Mann-Whitney tests</b>										
<b>i) Robust administrative system</b>										
Groups				MOC	LOC		AGF			CS
NNPC				.006	.040		.012			.034
PAF				.016			.012			.021
NEITI							.049			
<b>ii) Appropriate decisions for NNPC's upstream operations</b>										
Groups		NEITI	DPR	MOC	LOC	CBN	AGF	PAF	NA	CS
NNPC		.024	.003	.001	.002	.004	.001	.010	.008	.012
FMPR							.018			
<b>iii) Qualified staff for monitoring upstream operations</b>										
Groups							FMPR	RMAFC		AGF
NNPC							.041	.040		.031

**Note:** NNPC=Nigerian National Petroleum Corporation; NEITI=Nigerian Extractive Industry Transparency Initiative; DPR=Department of Petroleum Resources; FMPR=Federal Ministry of Petroleum Resources; MOC=Multinational Oil Companies; LOC=Local Oil Companies; CBN= Central Bank of Nigeria; RMAFC=Revenue Mobilisation Allocation and Fiscal Commission; AGF=Office of Auditor General for the Federation; PAF=Public Accounting Firms; NA=National Assembly; and CS=Civil Societies.

Regarding the appropriateness of the NNPC's decisions taken for upstream operations, the majority of respondents disagreed on the notion. Of the 126 respondents tested, 23 representing 18.3% agreed; 77 representing 61.1% disagreed and 26 representing 20.6% were neutral. The pattern of responses suggests the possibility of significant differences among the respondent groups. Table 6.8 presents the results of the Mann-Whitney test applied on the variable. The responses of the NNPC have statistically significant differences at the 5% level of significance to the responses of nine other groups, namely: the NEITI, the DPR, the MOCs, the LOCs, the CBN, the AGF, the PAF, the NA and the CS. Also, significant differences were noticed between the FMPR and the AGF.

Firstly, the cross tabulation showed that 12 NNPC respondents representing 50% agreed that appropriate decisions are taken for upstream operations, while 25.0% disagreed. Interestingly none of their counterparts in the DPR agreed.

Instead, 75% of the DPR's respondents disagreed on the issue. As the official regulators of the Nigerian oil and gas industry, the disagreement articulated by the DPR can be assumed to be based on their knowledge of the industry. Furthermore, the mixed opinions of the NNPC's respondents arguably suggest that they were not willing to take a position on the appropriateness of the NNPC's upstream decisions.

Secondly, the pairing of the NNPC and the MOCs indicated that 83.3% of the MOCs' respondents' disagreed that the NNPC makes appropriate decisions for the upstream operations, which clearly differs from the NNPC's 25.0%. Further, only 16.7% of the MOCs' respondents agreed to the view, as against 50% agreement by the NNPC's. Arguably, the MOCs are the most important players in the oil and gas industry because they produce most of Nigeria's crude oil in partnership with the NNPC. The MOCs' perception carries much weight because they have an international knowledge of oil industry management. As such, they are aware that quick and quality decisions are required for the challenges of a dynamic oil and gas sector (Lahn et al., 2007). Thus, this study can conclude that, in general, appropriate decisions were not taken for upstream operations.

Thirdly, similar to the MOCs' respondents, the LOCs' disagreed that decisions made by the NNPC for its upstream operations are appropriate. No agreed response was recorded from the LOC's respondents while 85.7% disagreed on the issue. This is quite different from the NNPC's pattern of responses. On the basis of their experience in the upstream sector, it can be argued that the opinion of the LOC's respondents is based on their interaction with the NNPC and their knowledge of upstream operations.

Fourthly, there is a significant difference between the NNPC's and CBN's pattern of responses. A cross tabulation showed that 75% of the CBN's respondents disagreed, and 25% were neutral. These contrast the position of the NNPC on the issue. The CBN's opinion can be justified being that one of their roles is to monitor every sector of the Nigerian economy. It is as a result of this that the CBN recently advised the government to investigate some

contractual decisions taken by the NNPC (Sanusi, 2014). The CBN's view also concurs with Ariweriokuma (2009:65) who stated that:

“The NNPC executed many projects on a year to year basis. However, the diagnostic process confirmed that the executions were not guided by a corporate wide project management governance system”.

Fifthly, similar to the other groups, the AGF also disagreed that the NNPC takes appropriate decisions for the upstream sector. The interesting outcome of this result is that 100% of the AGF's respondents disagreed on the issue which differed with the NNPC's responses. The AGF's respondents may have taken the opinion based on their auditing role, their exposure to reports on the NNPC and several investigative hearings on the NNPC. Also, it could have been based on the proposed Petroleum Industry bill (PIB) which aims to streamline the NNPC's decision-making process (Gboyega et al., 2011).

Sixthly, the PAF's perceptions showed 62.5% of respondents' disagreement and 37.5% neutrality. Justification for this pattern of response may arguably be due to the PAF's exposure to the NNPC activities as external auditors. Based on this relationship, it is assumed that the PAF have a fair view about the NNPC's operations. Another possible influence for the PAF's perception can be attributed to the recent KPMG audit report (2010) that indicted the NNPC on corrupt practices.

Seventh, as found in the previous cases, the NA disagreed that the right decisions for the upstream sector were taken by the NNPC. The pattern of responses suggests that 58.4% of the NA respondents disagreed, 33.3% were neutral and 8.3% agreed on the issue. The result differed from the NNPC's 50.0% agreement and 25.0% disagreement. This perception can be linked to several evidences gathered by the NA through legislative investigations. Importantly, the NA's opinion can be assumed to be based on the relevant information given its expected role in the passage of the PIB, which amongst other issues dwelled on NNPC's decision-making processes.

Eight, the existing significant differences between the NNPC's and CS's respondents are due to the CS's 87.5% disagreement on the appropriateness of



NNPC's upstream decisions as against NNPC's 25% disagreement. Likewise, NNPC's 50% agreement differed from CS's 12.5% agreement.

Arguably, the CS's view can be attributed to their aim of securing long-term welfare for the citizens of Nigeria. As such, for the CS, this is an interesting issue given that their aim cannot be actualised if appropriate decisions are not made to transform oil wealth into other areas of the economy for the benefit of the citizens. For instance, despite the NNPC's ambition of expanding the operations of its subsidiary, the NPDC, its decision to engage an inexperienced third party (Atlantic Energy) in a strategic alliance agreement to operate the divested Shell blocks on behalf of the NPDC is viewed by many stakeholders not to be in the interests of Nigeria (ThisDay, 2013). This decision may have been based on self-interested, short-term strategies that are embedded in rent seeking and patronage (Hosman, 2009; Thurber, et al., 2010).

Also, significant differences were noticed in the comparisons between the FMPR and the AGF. The cross tabulation analysis of the groups' responses showed the FMPR's mixed opinion on the issue with a 30% agreement; a 40% disagreement and a 30% neutral position. This is different from the perception of the AGF's respondents who disagreed 100% on the issue. The FMPR's view can be concluded as that of an organisation that is unwilling to address the issue. Given the conflicting role of the Minister of the petroleum resources as the Chair of the NNPC board, this may have influenced the lack of clear direction in the FMPR's responses. On the other hand, the AGF's opinion can be justified given that it is the establishment responsible for auditing government agencies' accounts. Therefore, it is not unexpected that they have adequate knowledge on the issue.

On whether the NNPC has the appropriate qualified staff to monitor its upstream operations, the descriptive statistics revealed that overall, 46 respondents (36.5%) agreed; 18 respondents (14.3%) were neutral and 62 respondents (49.2) disagreed. The result is backed with a mean score of 3.00. Further Mann-Whitney tests conducted at 5% level of significance indicated differences between the NNPC's responses and those of the FMPR, the RMAFC and the AGF. While 58.3% of the NNPC's respondents agreed they

have the capability to monitor upstream operations, in contrast 60%, 60% and 66.6% of the FMPR, the RMAFC and AGF's respondents disagreed.

It is interesting that majority of the NNPC's respondents are in agreement despite stating inadequate managerial capacity as one of the rationales for carrying out its transformation programme, Project PACE (NNPC, 2012a). Furthermore, evidences stated in Section 3.6.1 support the disagreed views of the FMPR, the RMAFC and the AGF. For example, Thurber et al. (2010) stated that, although the NNPC have some qualified employees with expertise in oil and gas operations, generally the organisation is deficient in human capacity. Also, the inadequate human capacity was linked to the NPDC's inefficiency in work programme and budget review exercises (Penda, 2009), as well as in monitoring MOCs operating the JVs and the PSCs (Madubuike, 1999; Ugwu, 2006). Therefore, the opinion of the three groups is considered most appropriate.

In summary, the majority of the respondents disagreed on the three variables tested, namely: a robust administrative system; appropriate decisions for upstream operations and qualified staff for monitoring NNPC's upstream operations. Thus, it can be concluded that on average, the NNPC's administrative vehicles for carrying out its upstream operations are inefficient. Hence, in relation to the statements tested, the research hypothesis HO<sub>3</sub> is accepted.

#### **6.3.2.2 NNPC's Efficiency in Managing Fund for Upstream Operations**

This section sought the views of respondents on how well the NNPC manages funds for upstream operation. The views of the respondents were sought because adequate and consistent funding and fund management is vital for an organisation's efficiency, as it is required to hire competent employees and carry out operational functions (Wang and Berman, 2001). Also, it is emphasised that the management of appropriated fund and the coordination of the activities involved are important for organisational performance (Dekker, 2004). Therefore, in this respect, views were sought in relation to the NNPC's

full utilisation of available funds; utilisation of funds according to budget and the availability of a good system for distributing funds.

As shown in Table 6.7, the descriptive analysis on the NNPC’s full utilisation of available fund revealed that 57.9% of the overall respondents disagreed, 19.9% agreed and 22.2% were neutral. The results indicate that the majority of the respondents disagreed on the issue as supported by the overall median of 4.00. Furthermore, in the Mann-Whitney test conducted at a 5% level of significance, a statistically significant difference was revealed between the NNPC and the NEITI’s responses, as Table 6.9 presents.

From the cross tabulation analysis, it was further revealed that the NNPC had a mixed response of 41.7% agreement, 20.8% neutrality and 37.5% disagreement. On the other hand, the NEITI only had 15.4% agreed responses and disagreed strongly with 76.9%. The NNPC’s mixed response may be linked to the unwillingness of the respondents to take a defined position. Even though the majority of the NNPC’s respondents agreed with a low percentage, it differs from the views drawn from the literature in Sections 3.6.1 and 3.6.2.

**Table 6.9: Mann-Whitney Tests for NNPC’s Upstream Fund Management**

<b>Mann-Whitney tests</b>								
<b>i) Full utilisation of available fund</b>								
Groups		NNPC	DPR	FMPR	LOC	RMAFC	PAF	NA
NEITI		.001	.004	.030	.017	.017	.001	.009
CBN							.021	
<b>ii) Utilisation of fund according to budget</b>								
Groups			NEITI	LOC	CBN	AGF	NA	CS
NNPC			.003	.015	.004	.010	.018	.030
PAF					.048			
<b>iii) Good system for distributing fund</b>								
Groups			NEITI	MOC	LOC	AGF		CS
NNPC			.000	.012	.009	.011		.002
RMAFC			.015					.028
PAF			.020					.040
NA			.030					.038

**Note:** NNPC=Nigerian National Petroleum Corporation; NEITI=Nigerian Extractive Industry Transparency Initiative; DPR=Department of Petroleum Resources; FMPR=Federal Ministry of Petroleum Resources; MOC=Multinational Oil Companies; LOC=Local Oil Companies; CBN=Central Bank of Nigeria; RMAFC=Revenue Mobilisation Allocation and Fiscal Commission; AGF=Office of Auditor General for the Federation; PAF=Public Accounting Firms; NA=National Assembly and CS=Civil Societies.

For example, Thurber et al. (2010) and Penda (2009) related that poor utilisation of finance hinders the NNPC's performance; increases its costs of operations and erodes its goodwill. Although the NEITI's audit reports concentrate on revenue, its strong disagreement on the NNPC's optimum utilisation of available upstream funds can be assumed to be based on knowledge since it is one of the oil industry's watchdogs. This result is supported by an overall median score of 4.00, which is in line with the opinion of the major oil industry players which includes the DPR, the MOCs, the LOCs, the PAF, and the AGF who disagreed. Therefore, the NEITI's disagreement on the NNPC's full utilisation of finances for the upstream sector is considered most appropriate.

Regarding the utilisation of funds according to budget, the descriptive statistics revealed that 89 respondents representing 70.6% of the total, disagreed that funds meant for upstream operations were utilised as budgeted. However, 23 (18.3%) respondents agreed on the issue; while 14 (11.1%) respondents were indecisive. Interpreting further, the mean and median tests indicated scores of 3.69 and 4.00 respectively, which on average implied the respondents' disagreement. To ascertain the statistically significant differences in group responses, the Mann-Whitney test employed at a 5% level of significance detected differences in seven instances.

Table 6.9 presents the results of the differences between the NNPC and the NEITI, the LOC, the CBN, the AGF, the NA and the CS. There were also differences in the patterns of responses between the PAF and the CBN. The cross tabulation analysis revealed that the NNPC's responses were almost evenly distributed between agreement (37.5%) and disagreement (45.8%). This is in contrast with the strong disagreement expressed by the respondents of the LOC (100%), the CBN (87.5%), the AGF (100%), the NA (75%) and the CS (87.5%). The mixed perceptions expressed by the NNPC may arguably be attributed to an unwillingness to take a position on the issue. Whereas, the strong disagreement of the six other groups on how well the NNPC expend funds according to plan can be argued to be based on their knowledge of the oil

industry. In addition, their perception seems most appropriate considering that almost half of the NNPC's respondents also disagreed on the issue.

The significant differences noticed between the PAF's and the CBN's respondents are due to their depth of disagreement. While 87.5% of the CBN's respondents disagreed on the issue, only half (50%) of the PAF's respondents disagreed. Since none of the CBN's respondents agreed, their view about the planned utilisation of funds is very strong and could be relied upon. Also, the CBN have the capacity to reasonably measure how the upstream funds were utilised being that they are the custodian of government funds. Generally, the findings indicate that majority of the respondents disagree that the NNPC efficiently utilises its finances as planned. This view is well-backed by the median and mean scores earlier indicated.

The descriptive analysis of the respondents' perceptions, regarding the NNPC's efficiency regarding the distribution of funds, revealed that only 20.7% agreed; 25.4% of respondents took a neutral stand; while 53.9% disagreed. On average, the median score is 4.00 even though the mean score is 3.37. However, the results of the Mann-Whitney test employed to determine statistically significant differences between groups revealed eleven paired cases at the 5% level of significance.

As shown in Table 6.9, there were differences between the respondents of the NNPC and the NEITI, the MOCs, the LOCs, the AGF and the CS. Half (50%) of the NNPC's respondents agreed with the suggestion that they operate a good system for distributing upstream funds, and the remaining 50% is equally shared between the respondents that agreed and those that were neutral. In contrast, the NEITI, the MOCs, the LOCs, the AGF and the CS mostly disagreed with 84.6%, 58.3%, 85.7%, 83.3% and 87.5% respectively.

The MOCs and the LOCs have direct engagement with the NNPC in upstream contracting and funding processes; therefore, their position on the issue can be considered to be appropriate. As well, the roles that the NEITI, the AGF and the CS play in the oil and gas industry is justifiable to conclude that their disagreed opinion is based on knowledge, given the reoccurring problems of

cash call payment for upstream activities (Thurber et al., 2010). The difficult bureaucratic processes of appropriating funds by the National Assembly, in addition to the challenges of accessing the funds through the various relevant agencies, causes delays in upstream project execution (Tanimu, 2008; Ezenwosu, 2009; Penda, 2009). Table 3.7 gives a clear picture of the NNPC's distribution of funds for upstream projects over a period of five years.

Statistically significant differences were also detected between the NEITI and the CS on the one hand, and the RMAFC, the PAF and the NA on the other hand. While the NEITI had no agreed response and the CS had no neutral response, the three other groups held neutral responses of 40%, 50% and 41.7% respectively. Therefore, on average it can be analysed that the groups were indecisive on how well operate a good system of distributing upstream funds. However, in a similar pattern, 40%, 37.5% and 41.7% of the RMAFC, the PAF and the NA's respondents disagreed on the suggestion. This shows that despite the high rate of neutrality among the three groups, they expressed a much higher level of disagreement on the issue than agreement. Therefore, arguably the disagreed perception of the NEITI and the CS is most appropriate considering that mixed response expressed by the other groups.

In general, it can be concluded that on the three statements presented in relation to the NNPC's efficiency in the management of upstream funds, the majority of respondents disagreed. This is in line with the overall median scores of 4.00 generated for each of the variables. Therefore, the null hypothesis  $HO_3$ , stated above, is accepted.

### **6.3.2.3 Efficient Control Mechanism for Upstream Operations**

This is the third statement in relation to testing the hypothesis  $HO_3$  earlier stated. The views of the respondents were sought on whether the control tools (see Table 6.7) were efficiently used by the NNPC in its upstream oil and gas operations. Since the NNPC's activities in the upstream sector are carried out mainly through joint ventures with the MOCs, it is apparent that the existing asymmetric information in the relationship demands monitoring and control by the NNPC (Pongsiri, 2004).

Therefore, for the NNPC to achieve its objectives, it needs to reduce asymmetry and fully monitor the performance of the MOCs through an efficient control system. In view of this, six control tools were tested, namely: budgetary system; authorisation for expenditure (AFE); compliance audit; joint venture auditing; procurement procedures and carry agreement auditing.

Firstly, Table 6.7 presents the descriptive statistics on responses relating to the NNPC's efficient utilisation of the budgetary system as a control tool. The result revealed that 46 respondents, representing 36.5% of the overall, agreed to the notion, 29 respondents representing 23% were neutral and 51 respondents representing 40.5% disagreed. This mixed distribution of groups' responses generated the mean and median scores of 3.07 and 3.00 respectively; thereby showing that on average the respondents were neutral on the issue. However, as shown in Table 6.10a, further investigation using the Mann-Whitney test at a 5% level of significance was applied. The result revealed significant differences between the NEITI and two other groups namely: the NNPC and the PAF.

**Table 6.10a: Mann-Whitney tests for control tools for upstream operations: Budget system and AFE**

<b>Mann-Whitney tests</b>									
<b>i) Budgetary system</b>									
Groups								NNPC	PAF
NEITI								.006	.016
<b>ii) Authorisation for Expenditure (AFE)</b>									
Groups		NEITI	FMPR	LOC	CBN	RMAFC	AGF	NA	CS
PAF		.034	.004	.018	.005	.004	.003	.005	.000
DPR							.036		.003
NNPC			.042						.005
NEITI									.019

**Note:** NNPC=Nigerian National Petroleum Corporation; DPR=Department of Petroleum Resources; FMPR=Federal Ministry of Petroleum Resources; LOC=Local Oil Companies; RMAFC=Revenue Mobilisation Allocation and Fiscal Commission; CBN=Central Bank of Nigeria; AGF=Office of Auditor General for the Federation; PAF=Public Accounting Firms; NA=National Assembly and CS=Civil Societies

While 76.9% of the NEITI's respondents disagreed that the NNPC's budgeting system is used efficiently for upstream operations, in contrast the NNPC's and

the PAF's respondents agreed to the notion with 54.2% and 50% respectively. The respondents of the NNPC and the PAF may have answered in agreement because the corporation lacks an effective performance evaluation framework. For instance, Tanimu (2008) reported that the corporate planning division of the NNPC's processes and implements the corporation's budget without looking at the performance of the budget.

On the other hand, the strong disagreement expressed by the NEITI collaborates with the findings in the literature. The lack of proper budget execution causes delays, realignment, manipulations, misallocation of inputs and non-accountability, which in effect makes the monitoring compliance of partners difficult (Abdullahi, 2006; Tanimu, 2008). In addition, the Auditor-General's report observed that funds meant for joint venture cash call were diverted to other projects without the approval of the National Assembly (AGF, 2010).

Based on this evidence, and the fact that the NNPC and the PAF had just half of the agreed responses, it can be assumed that the budgetary system is flawed and inefficient. Therefore, in view of this the null hypothesis  $H_{O3}$  is accepted.

Secondly, the analysis regarding the efficient use of authorisation for expenditure (AFE) revealed that 53.2% of the overall respondents agreed that authorisation for expenditure was efficiently used as a control tool for upstream operations. Further, the descriptive statistics indicated 31.0% neutral responses and 15.9% disagreement. The median test demonstrated a score of 2.00, which overall suggests the respondents' agreement on the issue. Despite this, at a 5% level of significance, the Mann-Whitney tests conducted showed significant differences in thirteen instances.

As shown in Table 6.10a, the PAF's respondents differed in opinion with those of the NEITI, the FMPR, the LOC, the CBN, the RMAFC, the AGF, the NA and the CS. From the cross tabulation, it was made known that 100% of the PAF's respondents agreed that the AFE was well-used as a control tool. Those of the respondents from the NEITI, the FMPR, the LOC, the RMAFC and the NA also agreed with 69.2%, 40%, 57.1%, 40% and 50% respectively. This



shows that the differences detected are due to the depth of agreement. However, differences also exist on the AFE issue between the PAF and the CBN, the AGF and the CS as a result of their 50%, 83.3% and 87.5% neutral opinions. Being that the AFE is an internal control tool; the neutral opinion of the three groups can be based on their lack of adequate knowledge on how the tool was used. Furthermore, if the role of the PAF is considered as external auditors to the NNPC, their opinion can be accepted as a fair view of the situation.

Regarding other trends of responses, the DPR had 75% agreement on the efficient use of the AFE for upstream operations while the AGF and the CS had neutral responses of 83.3% and 87.5% respectively. In this case, the opinion of the DPR is arguably regarded as appropriate because, as the regulator of the oil and gas sector, the DPR have privilege information on the operation of the sector. Also, the NNPC's 62.5% agreement on efficient use of the AFE differed with the CS's 0% agreement and 87.5% neutral position. As mentioned above, the CS position might be due to lack of knowledge on the issue.

There is evidence that sometimes the MOCs do expend funds without the AFE and due process (Ezenwosu, 2009; Penda, 2009). In general, however, the opinions of the NNPC, the NEITI, the DPR and the PAF were that the NNPC's efficient application of the AFE for upstream sector operations can be considered most appropriate. This is based on the fact that the groups are major players in the oil industry with adequate experience and access to the NNPC's internal operations. Therefore, it can be taken that the groups present a fair view on the AFE that is knowledge based. For instance, the NEITI may have responded based on knowledge acquired from the process and physical audit it carried out on the NNPC, while the PAF may have been informed through their periodic auditing exercises. Therefore, it can generally be considered that the AFE is well-utilised, and as such, the null hypothesis  $H_{O3}$  is rejected in respect of the statement.

Thirdly, Table 6.7 presents the descriptive statistics for the effective use of compliance audit as control tool Nigerian upstream activities. The result

revealed that 46.1% of the overall respondents agreed; 26.2% were neutral and 27.8% disagreed. Although the description showed that almost half of the respondents agreed on the issue, the median score of 3.00 suggest that on average the respondents were indecisive on the issue.

At the 5% level, the test for significant differences between the groups is demonstrated in Table 6.10b. The differences discovered are between the NNPC's responses and those of the AGF, the NA and the CS. From the cross tabulation, 66.7% of the NNPC's respondents agreed that compliance audit have been positively put to use in the upstream sector, while the respondents of the AGF, the NA and the CS disagreed with 50%, 41.7% and 37.5% respectively. Also, these three groups had neutral rates that ranged between 33.3% and 50%. The perception of the disagreeing groups may be considered most appropriate because it concurs with the observations in the Auditor-General's annual report (AGF, 2010). Thus, the null hypothesis  $H_{O3}$  is accepted in relation to the statement tested.

Fourthly, Table 6.7 also presents the descriptive results of joint venture auditing as a control tool for upstream activities. The results revealed that 47.6% of respondents agreed on the issue; 38.1% were neutral and 14.3% disagreed. This varied opinion is further demonstrated in the median score of 3.00; thereby showing that on average, the respondents held a neutral opinion on the issue. However, the Mann-Whitney test was applied at a 5% level of significance to determine differences between respondents groups, and eight cases of paired group differences were revealed (see Table 6.10b).

**Table 6.10b: Mann-Whitney Tests for Upstream Control Tools Compliance and JV Auditing**

Mann-Whitney tests							
i) Compliance audit							
Groups		AGF	NA	CS			
NNPC		.019	.014	.010			
ii) Joint Venture auditing							
Groups		FMPR	CBN	RMAFC	AGF	NA	CS
MOC		.007	.023	.036	.020	.006	.003
LOC							.022
NNPC							.028

**Note:** NNPC=Nigerian National Petroleum Corporation; FMPR=Federal Ministry of Petroleum Resources; MOC=Multinational Oil Companies; LOC=Local Oil Companies; RMAFC=Revenue Mobilisation Allocation and Fiscal Commission; CBN=Central Bank of Nigeria; AGF=Office of Auditor General for the Federation; NA=National Assembly and CS=Civil Societies

As presented in Table 6.10b, significant differences exist between the MOCs' respondents and those of the FMPR, the CBN, the RMAFC, the AGF, the NA and the CS. The MOCs agreed (83.3%) that the NNPC efficiently employed joint venture auditing to control upstream oil and gas operations. With the exception of the RMAFC, all of the other groups had more of neutral responses which may be interpreted as a demonstration of their indecisiveness on the issue of joint venture auditing. The RMAFC's 40% slight majority of agreed responses differ with the MOCs' 83.3%, based on their strength of agreement. The RMAFC's low level of agreement on the issue may be attributed to their conclusion that joint venture partnership is not transparent and inefficient (Hosman, 2009, Thurber et al., 2010). In addition, the NEITI report 2009-2011 observed that non cash call expenditures, amounting to \$1.73 billion were paid from the JV's account. Assuming that the JV auditing is efficient, there would have been a query to this effect (Hart Group, 2011).

Similarly, significant differences exist between the CS and the respondents of the NNPC and the LOC. While the CS had a neutral response of 75%, the NNPC and the LOC agreed that the JV auditing is used efficiently with 62.5% and 71.4% respectively. Just as in the cases above, the NNPC and the LOC are mainly involved in the joint venture process, and their opinion may have been expressed based on knowledge and experience.

Nevertheless, despite the fact that joint venture auditing is an internal control mechanism and the majority of the respondents had mixed perception, their perception can be interpreted as non-acceptance to the statement asked. This is so as the picture given above is surprising and contrary to the findings in the literature. For instance, the Auditor-General of the Federation in his annual report on the accounts of the federal government, observed that the NNPC's internal control system is weak given that "the statutory auditors of the JV operators only submitted the audited accounts of the operators to the NNPC/NAPIMS without the accompanied management report" which is to show in detail the weaknesses observed by the auditors (AGF, 2010). The Auditor-General stated further that the joint venture audit assignment is incomplete without the management report.

Therefore, in general, despite the average neutral perception held by respondents with the median score of 3.00, the findings above suggests that joint venture auditing is not being efficiently utilised as a control tool in the Nigerian upstream oil and gas sector. Therefore, null hypothesis  $HO_3$  is accepted.

Fifthly, questions were asked regarding the NNPC's efficient use of procurement procedures in the Nigerian upstream sector. As shown in Table 6.7, the statement was agreed upon by 26.2% of the overall respondents; 24.6% were neutral and 49.2% of the respondents disagreed. Despite this, median score of 3.00 indicated that on average the respondents took a neutral stand, even though the mean score of 3.36 suggest the strength of opinion was moving towards disagreement. Based on the varied views, further Mann-Whitney tests carried out at a 5% level of significance revealed differences in five instances (see Table 6.10c).

**Table 6.10c: Mann-Whitney Tests for Upstream Control Tools-  
Procurement and CA auditing**

Mann-Whitney tests						
i) Procurement procedures						
Groups		NEITI	LOC	CBN	AGF	NA
NNPC		.008	.011	.038	.005	.014
ii) Carry agreement auditing						
Groups		NNPC	MOC	PAF		
CS		.005	.009	.024		

**Note:** NNPC=Nigerian National Petroleum Corporation; MOC=Multinational Oil Companies; LOC=Local Oil Companies; CBN=Central Bank of Nigeria; AGF=Office of Auditor General for the Federation; PAF=Public Accounting Firms; NA=National Assembly and CS=Civil Societies

As demonstrated in Table 6.10c, the NNPC’s pattern of responses differed with those of the NEITI, the LOCs, the CBN, the AGF and the NA. While 58.3% of the NNPC’s respondents agreed that the NNPC efficiently utilises the procurement procedures for upstream operations, the NEITI, the LOCs, the CBN, the AGF and the NA disagreed with 69.2%, 71.4%, 50%, 83.3% and 58.3% respectively. The NNPC’s respondents may have agreed - given the effort of the organisation in ensuring transparency and competition in procurement processes. For example, the organisation has been able to create an electronic portal and database called the NIPEX which is aimed at streamlining the procurement processes of the upstream oil and gas sector (Okoye, 2010).

Nevertheless, it can reasonably be argued that the NEITI, the LOC, the CBN, the AGF and the NA are very much aware of the procurement procedures as they are either participants or observers of the procurement processes. Therefore, despite the improvement of the procurement system through the introduction of the NIPEX, the contending groups may have disagreed given the frequent allegations of inflation of contracts costs, over-invoicing and awards of contracts to incompetent companies in the Nigerian oil industry. As a result of this, Gillies (2009) stated that significant progress has not been made as more transparency is needed for competing companies to self-monitor the process and report unfair dealings (Gillies 2009). Similarly, another major problem observed is the failure to effectively vet bidders for upstream

operations through pre-qualifications, resulting in technically and financially incompetent companies acquiring rights for operation (Thurber et al., 2010). This managerial behaviour reduces the chances of ensuring VfM.

Based on the forgoing, the disagreeing perceptions of the NEITI, the LOCs, the CBN, the AGF and the NA's respondents may be considered as the appropriate perception. Thus, the null hypothesis  $HO_3$  is accepted for the statement tested.

Sixthly, responses sought on the NNPC's efficient employment of carry agreement auditing as a control tool for upstream oil and gas operations, related that 27% of the respondents agreed there was efficient utilisation of the tool. In addition, there were 28.6% disagreed responses while the majority of respondent (44.4%) were neutral. This is supported by the mean score of 3.05 and the median score of 3.00 which signified the neutral position of the overall respondents. However, the test for individual groups indicated a 5% significant difference in opinion between the CS and the NNPC, the MOCs and the PAF.

As demonstrated in Table 6.10c, in the cross tabulation analysis the majority of the CS's respondents responded with 62.5% disagreement to the NNPC's efficient utilisation of carry agreement auditing in the upstream operations. This result is in contrast to the MOCs' and the PAF's disagreement at 50% and 62.5% respectively. In a different way, the CS's agreement also differs from the NNPC's: 37.5% agreed and 50% neutral responses.

The NNPC, the MOCs and the PAF are the groups that are directly involved in the carry agreement auditing process. As a matter of fact, the audit is carried out by the PAF to ascertain how funds are alternatively sourced and utilised by the MOCs on behalf of JV partners, one of which is the NNPC. Therefore, the three groups are very knowledgeable about the function of carry agreement auditing as an internal control mechanism. Assuming the opinions of the three were the same, it might have been argued as the most appropriate, but, the neutral opinion of the NNPC, on whose behalf the audit is carried out, suggests otherwise.

On the other hand, the CS is involved in the oil industry as a watchdog and whose concern it is to ensure accountability and transparency. In this vein, various reports have alleged that the key institutions involved in the management of Nigerian oil and gas resources, and mainly the NNPC are deficient in accounting systems and control which has created an enabling environment to fraudulent practices (KPMG, 2010; NEITI Report, 2011; Ribadu Report, 2012). As a result of these reports, two PAFs, Akintola Williams Deloitte and Olusola Adekanola and Co., were indicted and suspended for providing a wrong view of the NNPC's activities in the downstream sector. This may be a good reason for NNPC's neutral views upon which it can be concluded that the CS's opinion is more consistent with the situation on ground. Therefore, the view of the CS is considered.

In conclusion, the findings above showed that of the six cases tested, five cases presented negative perceptions regarding NNPC's efficient utilisation of upstream control tools. Hence the null hypothesis  $H_{O3}$  is accepted.

Overall, the findings revealed a negative perception on the NNPC's efficiency in administrative system and fund management and utilisation of control tools. Being that all the three sub-sections tested were perceived to have negative impact on NNPC's efficiency, thus, the null hypothesis  $H_{O3}$  is accepted.

### **6.3.3 The NNPC's Effectiveness in Upstream Oil and Gas Management**

It is assumed that the best strategy to control natural resources is through state ownership, because it increases self-sufficiency, reduces information asymmetry and dependence on the MOCs (Aharoni, 1986). As such, in this section, six statements from Section Three of the questionnaire were used to test the null hypothesis  $H_{O4}$ , which is concerned with the effectiveness of the NNPC in upstream oil and gas management.

Based on the premise that effectiveness is concerned with meeting targets and objectives, this section focused on the processes and procedures that the NNPC utilises in achieving its objectives. Specifically, the section probed the use of

policies, rules, regulations and their compliance. Also included are the effective control on costs and communication.

**HO<sub>4</sub> - NNPC's management of upstream oil and gas activities has not been effective.**

The descriptive statistics of the six statements involved are divided into two presentations as shown in Tables 6.11a and 6.11b. The description in Table 6.11a demonstrates the opinion of respondents on NNPC's effectiveness in oil exploration and production, as well as the costing and sharing of the oil produced in the Nigerian oil and gas sector.



**Table 6.11a: NNPC's Effectiveness in Exploration and Production Management**

Statements	i) NNPC's Effectiveness in exploration and production management:						
	Median (Mean)	SA (%)	A (%)	N (%)	D (%)	SD (%)	Total (%)
a) Growth in crude oil reserves	4.00 (3.37)	3 (2.4)	27 (21.4)	27 (21.4)	59 (46.8)	10 (7.9)	126 (100)
b) Monthly crude oil production targets	3.00 (3.20)	3 (2.4)	32 (25.4)	34 (27.0)	51 (40.5)	6 (4.7)	126 (100)
c) Operational cash flows	3.00 (3.17)	3 (2.4)	24 (19.0)	52 (41.3)	43 (34.1)	4 (3.2)	126 (100)
Statements	ii) NNPC's effective control over oil production and sharing:						
	Median (Mean)	SA (%)	A (%)	N (%)	D (%)	SD (%)	Total (%)
a) Crude oil production	4.00 (3.23)	6 (4.8)	33 (26.2)	23 (18.3)	54 (42.9)	10 (7.9)	126 (100)
b) Sharing of crude oil	3.00 (3.13)	3 (2.4)	37 (29.4)	33 (25.4)	49 (38.9)	5 (4.0)	126 (100)
c) Crude oil lifting	3.00 (3.17)	7 (5.6)	31 (24.6)	31 (24.6)	47 (37.3)	10 (7.9)	126 (100)
Statements	iii) NNPC's effective control over upstream operations cost:						
	Median (Mean)	SA (%)	A (%)	N (%)	D (%)	SD (%)	Total (%)
a) Direct operating costs	3.00 (3.04)	2 (1.6)	40 (31.7)	41 (32.5)	37 (29.4)	6 (4.8)	126 (100)
b) Cost recovery in production sharing contract (PSC)	3.00 (2.95)	6 (4.8)	36 (28.5)	49 (38.9)	28 (22.2)	7 (5.6)	126 (100)
c) Monitoring costs	3.00 (3.17)	7 (5.6)	19 (15.1)	54 (42.9)	38 (30.1)	8 (6.3)	126 (100)
d) Development costs	3.00 (3.16)	4 (3.2)	28 (22.2)	47 (37.3)	38 (30.2)	9 (7.1)	126 (100)
e) Overhead costs	3.00 (3.17)	6 (4.8)	29 (23.0)	40 (31.7)	39 (31.0)	12 (9.5)	126 (100)

**Note:** SA=strongly agree; A=Agree; N=Neutral; D=Disagree; SD=Disagree; and %=percentage

### 6.3.3.1 The NNPC's Effectiveness in the Management of Exploration and Production Activities

This section tests the first statement of hypothesis HO<sub>4</sub>. The views of respondents were sought regarding the NNPC's effectiveness in meeting its targets in the following areas: i) growth in crude oil reserves, ii) monthly crude oil production targets, and iii) the operational cash flow targets. Respondents' views were sought in this respect because of the importance of importance of

reserves, production and cash flow as source of internal funding to oil companies; especially the NOCs (Fazzari et al., 1988; Griffin, 1988; Tordo et al. 2011).

Firstly, as shown in Table 6.11a, in relation to the NNPC's targeted growth of crude oil reserves, 69 respondents representing 54.7% of total responses disagreed that the target has been met. There were 31 (23.8%) respondents who agreed on the issue while 27 (21.4%) respondents were neutral. The median score of 4.00 recorded for the responses demonstrates that on average, the respondents disagreed that the NNPC has effectively met oil reserve growth target.

To further investigate the differences between the groups, the Mann-Whitney test applied at a 5% level of significance revealed significant differences in two instances (See Table 6.12). The differences detected were between the CS's respondents and two other groups, namely: the NNPC and the MOCs. While 75% of the CS's respondents disagreed that the NNPC has been effective in meeting its oil reserves target, only 41.7% each of both the NNPC and the MOCs' respondents disagreed. Despite the fact that all three groups had majority responses of disagreement, on the one hand it can be explained that the difference between them is the depth of disagreement. On the other hand, while no CS respondent agreed, the respondents of the NNPC and the MOCs agreed with 29.2% and 33.3% respectively.

Nevertheless, the disagreed response of the three groups concurs with the literature. Although growth in reserves has been experienced over the last decade, the NNPC's aspiration to attain a reserve base of 40 billion barrels by 2010 was not achieved. This failure was attributed to the improper coordination of relevant operating factors and the NNPC's bad governance style in the oil and gas sector (Gboyega et al. 2011). Thus, the disagreed perception is apt for the statement tested.

**Table 6.12: Mann-Whitney Tests for Meeting Upstream Targets**

Mann-Whitney tests										
<b>i) Attaining oil reserves target</b>										
Groups								NNPC	MOC	
CS								.024	.041	
<b>ii) Attaining oil production targets</b>										
Groups		NNPC	NEITI	DPR	MOC	LOC	RMAFC	PAF	NA	
CS		.001	.003	.028	.003	.034	.013	.017	.020	
NNPC		.018				.040			.039	
<b>iii) Attaining cash flow targets</b>										
Groups								MOC	LOC	NA
NNPC								.001	.016	.031
NA								.016		
CS								.025		

**Note:** NNPC=Nigerian National Petroleum Corporation; NEITI=Nigerian Extractive Industry Transparency Initiative; DPR=Department of Petroleum Resources; MOC=Multinational Oil Companies; LOC=Local Oil Companies; RMAFC=Revenue Mobilisation Allocation and Fiscal Commission; PAF=Public Accounting Firms; NA=National Assembly and CS=Civil Societies.

Secondly, the perceptions of respondents were sought on how well the NNPC has performed in meeting monthly oil production targets. Overall, the descriptive analysis presented in Table 6.11a showed that 27.8% of the respondents agreed that the NNPC has done well in meeting oil production targets, while in contrast 45.2% disagreed. The neutral position was maintained by 27% of the respondents, and with mean and median scores of 3.20 and 3.00 respectively. Nevertheless, further investigation carried out for significant differences at the 5% significance level indicated the existence of differences in eleven paired group cases.

As shown in Table 6.12, differences exist based on strength of disagreement between the respondents of the CS (87.5%) and the respondents of the NEITI, the DPR, the RMAFC and the NA who disagreed with 61.6%, 50%, 40% and 50% respectively. Also, differences were detected between the CS's disagreed position and the 41.7%, 57.1% and 37.5% responses of the MOCs, the LOCs and the PAF respectively. This pattern of responses can be interpreted as the respondents' unwillingness to share their views, as in the cases of the MOCs and the LOCs, or due to lack of adequate knowledge on the issue as shown by the PAF.

Subsequently, differences emerged between the NNPC's 54.2% agreement and the 61.6%, 42.9%, 50% and 87.5% disagreeing responses of the NEITI, the LOCs, the NA and the CS respectively. As stated in Section 3.3, the NNPC's aspiration to produce 4.5 million barrels of crude oil per day by 2010 was not achieved (Gboyega et al., 2011). The failure to meet this target has been linked to various factors that include bad governance; a lack of stability due to the Niger Delta militancy, funding, OPEC quota and the related depletion policy (Iledare and Suberu, 2010). Therefore, it can be argued that the NNPC is faced with numerous internal and external challenges, upon which the disagreeing groups based their verdict. As such, it is apparent that the disagreed opinion is most appropriate for this statement.

Thirdly, in terms of the NNPC meeting its cash flow targets, Table 6.11a showed that 21.4% of the respondents agreed; 41.3% were neutral and 37.3% disagreed. The mean and median tests demonstrated the overall neutral view of respondents with scores of 3.17 and 3.00 respectively. An investigation for a pattern of group responses indicated statistically significant differences at the 5% level of significance in five group pairings.

As presented in Table 6.12, the MOCs' responses differed from those of the NA and the CS based on their levels of neutrality. While the MOCs had a 25% neutral view and no agreed response, the NA and the CS held 75% and 62.5% neutral opinions. On this basis it can be argued that the NA deliberately refused to respond to the statement, because it is aware that the revenues generated by the NNPC are remitted to the Federation account as provided by the constitution of Nigeria. The NNPC does not have the autonomy to retain its income, and its subsequent operations and projects are funded through appropriation by the NA (Jibrin, 2006; Ezenwosu, 2009). Accordingly, this funding process has placed the NNPC in a state of continuous insolvency which has greatly affected its effectiveness (Thurber et al., 2010). On the other hand, the CS's high neutral opinion may have been held due to inadequate knowledge on the issue.

In two other paired cases, the NNPC barely agreed that it effectively meets its operational cash flow targets with 50% of responses; while in contrast, two of

its operational partners, the MOCs and the LOCs disagreed with 75% and 57.1% respectively. Furthermore, none of the respondents of the MOCs and the LOCs agreed on the issue. This suggests that these groups who are versed in oil and gas operations and, who are aware of the significance of adequate cash flow to organisational efficiency and effectiveness, gave their opinions based on knowledge and experience in working with the NNPC. In fact, it can be argued that the MOCs, due to its JV and PSC operations will be the first to notice and be affected if the NNPC does not meet up with cash flow targets. Therefore, regarding the effectiveness of the NNPC in meeting its cash flow targets, the disagreed opinion of the MOCs and the LOCs can be considered as the most appropriate.

Generally, from the findings on the three variables presented, it is established that the stakeholder groups were not convinced that the NNPC has been effective. Thus the null hypothesis HO<sub>4</sub> is accepted in relation to the statements tested.

#### **6.3.3.2 The NNPC's Effective Control over Oil production and Sharing**

Three variables were presented under the second statement drafted to test hypothesis HO<sub>4</sub>. The statement sought the opinion of respondents regarding the NNPC's effective control over crude oil production, sharing and lifting (see Table 6.11a). The rationale for seeking the groups' opinion in this regard is to examine if transparency and accountability applies in the processes, as they are important in determining government take which subsequently is used to achieve socio-economic objectives. Furthermore, the MOCs who are the operators of oil concessions in Nigeria can hinder the course of achieving these objectives through gold plating, if their operations are inefficiently monitored and controlled (Akinwumi, 2009). Therefore, being custodian of government investments in the oil and gas sector, the NNPC is expected to have the capacity to effectively monitor and control the three variables presented.

Firstly, Table 6.11a presents the descriptive analysis of the opinion sought on the NNPC's effective monitoring and control over crude oil production. The result revealed that 50.7% of respondents disagreed on the notion; 31% agreed

and 18.3% remained neutral. The result is supported with the median score of 4.00. The Mann-Whitney test employed to determine differing group responses indicated statistically significant differences at the 5% significance level in five paired cases. The differences are between the respondents of the NNPC and the LOC, the CBN, the AGF, the NA and the CS (see Table 6.13).

**Table 6.13: Mann-Whitney Tests Effective Monitoring and Control of Upstream Operations**

Mann-Whitney tests								
<b>i) Capacity to monitor and control oil production</b>								
Groups		LOC	CBN	AGF	NA	CS		
NNPC		.002	.002	.025	.026	.006		
<b>ii) Capacity to monitor and control oil sharing</b>								
Groups		NEITI	CBN	AGF	CS			
NNPC		.035	.036		.020			
MOC		.018	.011	.038	.009			
<b>iii) Capacity to monitor and control oil lifting</b>								
Groups		NEITI	DPR	MOC	CBN	AGF	NA	CS
NNPC		.001	.029	.020	.036	.003	.030	.003
PAF		.030				.024		.027

**Note:** NNPC=Nigerian National Petroleum Corporation; MOC=Multinational Oil Companies; LOC=Local Oil Companies; CBN=Central Bank of Nigeria; RMAFC=Revenue Mobilisation Allocation and Fiscal Commission; AGF=Office of Auditor General for the Federation; PAF=Public Accounting Firms; NA=National Assembly and CS=Civil Societies.

The analysis of the differences indicated that 58.4% of the NNPC’s respondents agreed that the NNPC had the capacity to effectively monitor and control oil production; while in contrast, the LOC, the CBN, the AGF, the NA and the CS disagreed with 85.7%, 75%, 66.6%, 58.3% and 75% respectively. This indicated the groups’ strong view on the NNPC’s ineffectiveness in monitoring and controlling crude oil production. The opinion of the three groups may have been influenced by allegations of the NNPC’s ineffectiveness reported in the cycle of the NEITI reports and the KPMG reports of 2010. Specifically, the NEITI reports have consistently reported that the actual amount of oil produced in Nigeria is not known because the NNPC and the DPR lack the capacity in staff, skills and apparatus to accurately monitor and measure production (Hart Group, 2011). This explains the reason for the conflicting records on Nigeria’s oil production. Therefore, the opinion of the

disagreeing groups can be argued to be appropriate as it reflects the situation on ground.

Secondly, from Table 6.11a, the descriptive analysis regarding the NNPC's effective monitoring and control over oil sharing revealed a mean score of 3.13 and a median score of 3.00. This is therefore an indication that on the average, the respondents took a neutral stand on the issue. The descriptive statistics demonstrates that 40 respondents, representing 31.8% of the total agreed to the NNPC's effectiveness on oil sharing, 32 (25.4%) respondents were neutral and 54 (42.9%) respondents disagreed on the notion. The Mann-Whitney test employed at a 5% level of significance, determined the differences in the pattern of responses in twelve instances.

As shown in Table 6.13, there were two sets of differing patterns. The first set was between the NNPC's respondents and the NEITI, the CBN and the CS. While 54.1% of the NNPC's respondents agreed on the NNPC's capability to effectively monitor and control oil sharing, the NEITI, the CBN and the CS disagreed with 69.2%, 50% and 75% respectively. The disagreed perception of these groups on the issue can be attributed to the knowledge acquired in the course of their involvement in the oil and gas industry. Also, their perception may have been conceived from the NEITI reports which informed on the deficient state of the NNPC in the physical accounting of produced crude oil (Hart Group, 2011). In effect, the finding indicates that there is a lack of proper accountability in the production process, which can also be extended to sharing of oil. Thus, because the disagreed opinion concurs with the line of argument in the literature, it is considered as appropriate.

Similarly, the second set of differences was detected between the MOCs and the NEITI, the CBN, the AGF and the CS. While 41.7% of the MOCs' respondents agreed on the issue of effective oil sharing and 50% remained neutral, the majority of the NEITI, the CBN, the AGF and the CS responded in disagreement with 85.7%, 50%, 66.6% and 75% respectively. The fact that half of the MOCs' respondents were neutral may arguably be attributed to their unwillingness to share their knowledge on the issue, as they are the major

sharing partners. Therefore, as earlier stated, the view of the disagreeing groups is considered as appropriate.

Thirdly, regarding the effectiveness of the NNPC in monitoring and controlling the process of oil lifting, Table 6.11a presents that 30.2% of overall respondents agreed, and 24.6% were neutral while 45.2% disagreed. Further analysis revealed a mean score of 3.17 and a median score of 3.00 which demonstrated respondents' neutrality on the issue. The test for significant differences at the 5% level of significance detected differences in ten paired cases.

The first set of differences, revealed from the cross tabulation analysis, is between the NNPC's respondents and those of the NEITI, the DPR, the MOCs, the CBN, the AGF, the NA and the CS. The respondents of the NNPC, one of the major oil lifters, agreed with 62.5% on the issue of its effective monitoring and control of oil lifting. In contrast, the respondents of the NEITI, the DPR, the CBN, the AGF and the CS majorly disagreed on the notion with 76.9%, 62.5%, 50%, 83.3% and 87.5% respectively.

The groups consist of the DPR who is the official regulator of the Nigerian oil and gas industry, and a major actor in crude oil lifting. Also sharing the disagreeing opinion are the NEITI and the AGF, who probably based their views on the findings of the NEITI and the KPMG reports, in which it was observed that the oil lifting procedures lack transparency and accountability. Specifically, the NEITI report alleged that the amount oil produced and lifted in Nigeria is not reliably known, as the metering equipment used by the NNPC are obsolete (Nwokeji, 2007). It further confirmed the disparity between 414.4 million barrels of oil lifted by MOC's and the 322.1 million barrels declared by the NNPC (Hart Group, 2008).

On the one hand, the second set of differences on the issue of the NNPC's oil lifting effectiveness is between the MOCs' 58.3% neutrality and the 76.9% and the 87.5% disagreeing opinion of the NEITI and the CS respectively. On the other hand, the MOCs' above average neutrality differed to the PAF's 37.5% neutrality. While the difference that emerged between the MOCs and the PAF



is based on their depth of neutrality, the difference between the MOCs and the NEITI and the CS can be attributed to the MOCs' unwillingness to respond. This conclusion is arrived at after considering the role of the MOCs as a major oil lifter, and upon whom the NNPC's monitoring role is sought. Therefore, in contrast to the NNPC's view, the disagreed opinion of the other groups is justified and considered appropriate.

In general, the findings regarding the NNPC's effectiveness in controlling crude oil production, sharing and lifting, showed that overall, the respondents have negative perception. Therefore, in relation to the three variables tested the null hypothesis  $H_{04}$  is accepted.

### **6.3.3.3 The NNPC's Effective Cost Control Procedures for Upstream Operations**

In this section, the opinions of respondents were sought regarding the NNPC's effectiveness in costs related to different aspects of upstream operations. Being that in Nigeria, the NNPC shares the costs of exploration and production of crude oil with other oil companies in joint ventures that they do not operate, it is important to be effective in control of expenditures. Therefore, the hypothesis  $H_{04}$  was tested using five costs variables.

Firstly, as presented in Table 6.11a, the overall responses for the NNPC's cost control over direct operating cost in upstream joint venture operations revealed respondents mixed opinion. Of the overall 126 respondents, 42 respondents representing 33.3% of responses agreed that the NNPC had control over direct operating cost, 43 respondents representing 34.2% disagreed and 41 (32.5%) of respondents were neutral. This pattern of responses is further justified with a mean score of 3.04 and median score of 3.00, which averagely demonstrated the neutral position of respondents. However, as shown in Table 6.14, the results of the Mann-Whitney test run at 5% level of significance revealed differences in twelve paired group responses.

The MOCs' and the LOCs' opinions differed with the opinions of the NEITI, the RMAFC, the NA and the CS. From the cross tabulation, the MOCs and the

LOCs agreed that the NNPC has control over the direct operating cost of its upstream operation with 75% and 57.1% respectively. In contrast, the NEITI, the RMAFC, the NA and the CS disagreed with 61.5%, 40%, 41.7% and 62.5% respectively. Drawing from the literature, the possible reason for these groups' disagreement can be attributed to several allegations relating to either the MOCs' inflation of expenses or the NNPC's inability to assess properly the costs of operations (Edu, 2000; Frynas, 2000; Hart Group, 2011). This ineffectiveness undermines the expansion of Nigeria's reserve base and in effect its objective of adding value (Abutudu and Garuba, 2011).

Subsequently, the NNPC differed with 37.5% each for agreement and neutrality as against the disagreed opinions of the NEITI, the NA and the CS. Since it is the NNPC's responsibility to safeguard government's oil and gas investment, it is therefore supposed to be apt in monitoring the operating cost of upstream petroleum activities. However, the NNPC returned a mixed response which either suggests their unwillingness to answer the question, or confirm that their staff are not adequately trained and versed in project costing (Abutudu and Garuba, 2011). Further, the differences detected between NNPC's 37% neutral opinion and the DPR's 50% can be attributed to the depth of their unwillingness to respond to the issue.

Secondly, the description in Table 6.11a revealed that 33.4% of the overall respondents agreed that the NNPC's control on cost recovery in production sharing contracts is effective, 27.8% disagreed and 38.9% of the respondents remained neutral. However, on average the median score of 3.00 demonstrated that the respondents were neutral on the issue. Due to the mixed response, the Mann-Whitney test employed at a 5% level of significance determined differences between eight paired groups' cases.

From the cross tabulation, Table 6.14 showed the existence of differing opinions between the NEITI and the NNPC, the MOCs and the LOCs. The NEITI generally disagreed with 61.5% that the NNPC is capable of controlling and monitoring the process of cost recovery. In contrast, the NNPC, the MOCs and the LOCs agreed (45.8%, 66.6% and 57.1% respectively) with what was being suggested. Since cost recovery is an avenue for the operators to recoup

sunk cost from produced crude oil (Akinwumi, 2009), it is not surprising that the NEITI disagreed on the NNPC's capabilities in this respect. The NEITI has consistently observed in their audit that the operators may be lifting more crude oil than is due to them because of the lack of accountability in the process and incapability on the side of the NNPC (Abutudu and Garuba, 2011). Furthermore, a peculiar problem related to the cost recovery in Nigeria has been the NNPC's inability to adequately monitor the expenditure of the MOCs (Akinwumi, 2009).

Also, the cross tabulation revealed that in contrast to the NNPC, the MOCs and the LOCs agreed opinion on cost recovery, the AGF respondents took a neutral position with 66.7%. Other differences that emerged from the test involves the NEITI's general disagreement and the PAF's 50% neutral position, as well as the variance between the MOCs' agreement and the CS's mixed response of 37.5% each for neutral and agreed opinions. It can be argued that, though the AGF and the PAF participated in the oil industry audit, their form of audit maybe financially inclined. Their lack of broad view about auditing, and the NNPC's operation may have influenced their neutral opinions. Another possible reason may well be the secretive nature of oil and gas operations in Nigeria (Nwokeji, 2007), which is likely to have influenced the neutral submission of the CS.

Likewise, it can be argued that the MOCs and the LOCs may have agreed on the notion because answering otherwise may easily lead to the conclusion that they have been taking advantage of the NNPC and Nigeria. The NNPC, on the other hand, may have answered in agreement to justify its role of safeguarding government's interest. However, since the NEITI is mandated to watch closely from aside, and does not derive any personal gain, it can be concluded that its opinion is the most appropriate.

Thirdly, the descriptive frequencies on responses sought on the effectiveness of the NNPC over monitoring cost revealed that overall, of the 126 responses, 26 (20.7%) agreed, 54 (42.9%) were neutral and 46 (36.5%) disagreed. On average, the mean score of 3.17 demonstrates that the respondents were neutral on the issue. Notwithstanding, a Mann-Whitney test was conducted at a 5%

level of significance to ascertain if there were difference in groups responses. The results are presented in Table 6.14.

**Table 6.14: Mann-Whitney Tests for Effective Cost Control over Upstream Operations**

Mann-Whitney tests						
<b>i) NNPC's control over direct operating cost</b>						
Groups		NNPC	DPR	MOC	LOC	
NEITI		.018	.048	.003	.011	
RMAFC				.024	.048	
NA		.037		.006	.015	
CS		.044		.009	.015	
<b>ii) NNPC's control over cost recovery</b>						
Groups		NNPC	MOC	LOC	PAF	
NEITI		.005	.004	.011	.038	
AGF		.043	.033	.018		
CS			.046			
<b>iii) NNPC's control over monitoring cost</b>						
Groups		NNPC	DPR	MOC	LOC	PAF
NEITI		.000	.001	.001	.010	.004
AGF		.021	.029	.034		
CS		.005	.009	.011		.031
<b>iv) NNPC's control over development cost</b>						
Groups		NEITI	LOC	CBN	CS	
NNPC		.005	.027	.013		
DPR		.016	.015	.008		
PAF		.007	.014	.009	.032	
<b>v) NNPC's control over overhead cost</b>						
Groups		NNPC	LOC	PAF		
NEITI		.010	.049	.049		
CS		.009		.029		

**Note:** NNPC=Nigerian National Petroleum Corporation; NEITI=Nigerian Extractive Industry Transparency Initiative; DPR=Department of Petroleum Resources; MOC=Multinational Oil Companies; LOC=Local Oil Companies; RMAFC=Revenue Mobilisation Allocation and Fiscal Commission; AGF=Office of Auditor General for the Federation; PAF=Public Accounting Firms; NA=National Assembly and CS=Civil Societies.

From Table 6.14, the NNPC, the DPR, the MOCs and the LOCs had differing opinions with the common view of the NEITI, the AGF and the CS. Firstly, a cross tabulation of the differences revealed that 48.8% and 41.7% of the NNPC and the MOCs' respondents respectively, agreed on the NNPC's effective control of monitoring cost, while 33.3% and 41.7% respectively were neutral. This is quite contrary to the 0% agreed response for the NEITI, the AGF and

the CS, and their equally contrasting disagreed responses of 76.9%, 50% and 62.5% respectively.

According to the cross tabulation, the first set of differences can be classified to be between the NNPC and the MOCs on the one side, and the NEITI, the AGF and the CS on the other side. While the first group barely agreed on the issue, the second group generally disagreed. It is interesting to observe that despite the direct involvement of both the NNPC and the MOCs on upstream costing, their responses on the issue were not definite. This can lead to the conclusion of their unwillingness to respond to the question.

On the other hand, the NEITI, the AGF and the CS generally disagreed on the NNPC's capability in controlling monitoring cost. The monitoring cost is expected to mitigate the agency problems in the NNPC's relationships. It may well be that the groups disagreed because of limited accountability and transparency that is characterised with Nigerian oil and gas contractual arrangements (Nwokeji, 2007). This may have raised questions about the effectiveness of the NNPC's monitoring cost as it seems the problems of moral hazard and adverse selection still exist. The NEITI, the AGF and the CS are groups that are traditionally concerned about open transactions and disclosure of information; therefore, their opinion might not be unconnected to the knowledge they may have and the appropriateness of the issue.

Another set of variances exist due to the DPR, the LOC and the PAF's 87.5%, 87.5% and 62.5% general neutral positions, which differs significantly with the disagreement of the NEITI, the AGF and the CS. Similar to the argument above, the DPR, the LOC, and the PAF respondents simply refused to answer the question. This conclusion is arrived at having considered the roles of the DPR, the LOC, and the PAF as the regulator of the Nigerian oil and gas sector, operators and auditors respectively. Therefore, this set of differences confirms the appropriateness of the disagreeing view.

Fourthly, opinions were sought to ascertain how well the NNPC controls petroleum development costs. The descriptive statistics presented in Table 6.11a revealed that 25.4% of the respondents agreed; 37.3% were neutral and

37.3% disagreed. On average, the description is justified with median and mean scores of 3.00 and 3.16 respectively. Further investigation for statistically significant differences on the 5% level revealed significant differences in various instances, and the result is as presented in Table 6.14.

In the first instance, the NEITI, the LOC, and the CBN differed in opinion with the NNPC and the DPR in six paired cases. The differences were as a result of the NEITI, the LOC and the CBN's 61.5%, 57.1% and 62.5% respective disagreement on the issue. In contrast, the NNPC and the DPR generally held a neutral opinion with 41.7% and 87.5% respectively. Incurring development cost is requisite for oil production, and in Nigeria the management of this and other costs is the responsibility of the NNPC, and as regulator, that of the DPR. That both groups did not respond in definite terms and this suggests that they are hoarding information.

The perception of the NNPC and the DPR contradict the NNPC's GMD who alleged that Shell expended \$1.2 million in excess of development budget without regulatory approval (Ezenwosu, 2009). Other evidence of budget overruns in the literature strongly indicates that development costs are not effectively controlled by the NNPC, possibly because of delays in funding and executing projects, and poor monitoring (Kallamu, 2001; Abdullahi, 2006).

Similarly, the NEITI, the LOC, the CBN and the CS's disagreed opinions contrast the PAF's 62.5% agreed response. Interestingly, the PAF agreed on the notion even when the NNPC and the DPR were unsure. Despite the possibility that the PAF's opinion is based on knowledge, the disagreed opinion is still considered as most appropriate because the LOC is a direct participant in oil and gas development, and the opinion concurred with the evidence drawn from subsection 3.6.2.

Therefore, it can be concluded that despite the several variances in perceptions, the findings above suggests that majority of the respondents do not agree that the NNPC has been effective in controlling development cost in the upstream sector.

Fifthly, as shown in Table 6.11a, the descriptive analysis of opinions sought on the NNPC's control over overhead costs of upstream petroleum operations revealed 27.8% agreed responses, 31.7% neutral responses and 40.5% disagreeing responses. This pattern of responses is justified with median and mean scores of 3.00 and 3.17 respectively. The Mann-Whitney test was conducted at the 5% level of significance to ascertain the differences between the groups. Significant differences were noticed in five instances.

From Table 6.14, it can be seen that the responses of the NEITI and the CS differed with those of the NNPC, the LOC and the PAF. In the first set of variance, the cross tabulation showed that the NEITI (61.5%) and the CS (75%) disagreed to the suggestion that the NNPC have control over upstream overhead expenses; while the NNPC and the LOC took a neutral position with 50% and 57% respectively. These two groups are major players that duly participate in the management of upstream overhead cost. Therefore, their neutral position may well be considered as unwillingness to respond on the issue suggested.

With regards to the differences revealed in relation to the PAF's 50% agreement and the NEITI and the CS's disagreement, it may be argued that the PAF responded based on knowledge being auditors of the oil prospecting companies. However, the views of the NEITI and the CS may as well be based on knowledge that is derived from the various reports on the Nigerian oil and gas industry, and probably the reoccurring debates on the Petroleum Industry Bill (PIB). For instance, Frynas (1998) reported that Shell have the financial incentive to inflate costs and set prices and administrative charges between affiliate companies in order to justify its expenses.

Generally, the neutral position taken by the NNPC and the LOCs can be considered a statement of ineffectiveness, because they are major oil industry players who should be the first to have an opinion on the issue. However, in several instances the literature has shown how procedures for incurring expenditure have been abused. For example, it is alleged that the MOCs do incur unbudgeted expenses with suggest laxity or the incapability of the NNPC in upstream cost management (Okonkwo, 2005; Abdullahi, 2006).

Overall, on the five statements regarding the NNPC's effectiveness in controlling cost, the findings above indicated that most respondents disagreed. Since the interpretation of the finding is that the NNPC has been ineffective monitoring and controlling the various upstream related costs, the null hypothesis  $H_{O4}$  is accepted.

Another set of three statements were presented to the respondents to form a view on the NNPC's effectiveness in some upstream oil and gas activities and processes. The statements therein are related to the Nigerian content policy, compliance to provisions relevant to upstream oil and gas contracts and laws, and the effectiveness of communication. These activities which are of national interest are presented in Table 6.11b.



**Table 6.11b: Nigerian Content Policy and the NNPC's Effectiveness in Monitoring Compliance**

Statements	i) NNPC's effective implementation of the Nigerian content policy:						
	Median (Mean)	SA (%)	A (%)	N (%)	D (%)	SD (%)	Total (%)
a)Development of local skills	3.00 (2.90)	8 (6.3)	48 (38.1)	23 (18.3)	42 (33.3)	5 (4.0)	126 (100)
b)Use of local manpower	3.00 (3.02)	5 (4.0)	50 (39.7)	21 (16.7)	38 (30.2)	12 (9.5)	126 (100)
c)Transfer of technology to local companies	4.00 (3.49)	4 (3.2)	22 (17.5)	30 (23.8)	48 (38.1)	22 (17.5)	126 (100)
d)Increased upstream participation of local companies	3.00 (2.86)	7 (5.6)	57 (45.2)	21 (16.7)	29 (23.0)	12 (9.5)	126 (100)
Statements	ii)NNPC's effective monitoring and compliance monitoring with:						
	Median (Mean)	SA (%)	A (%)	N (%)	D (%)	SD (%)	Total (%)
a)Provisions of Joint Venture (JV)	3.00 (2.92)	12 (9.5)	38 (30.2)	32 (25.4)	36 (28.6)	8 (6.3)	126 (100)
b)Provisions of Production Sharing Contract (PSC)	3.00 (2.83)	10 (7.9)	45 (35.7)	32 (25.4)	34 (27.0)	5 (4.0)	129 (100)
c) Provisions of Carry agreements	3.00 (2.99)	10 (7.9)	29 (23.0)	45 (35.7)	36 (28.6)	6 (4.8)	129 (100)
d) Petroleum laws and regulations	3.00 (3.16)	3 (2.4)	38 (30.2)	31 (24.6)	44 (34.9)	10 (7.9)	126 (100)
e)Industry best practices	4.00 (3.53)	3 (2.4)	17 (13.5)	33 (26.2)	56 (44.4)	17 (13.5)	126 (100)
f) Environmental laws and regulations	4.00 (3.69)	5 (4.0)	14 (11.1)	27 (21.4)	49 (38.9)	31 (24.6)	126 (100)
g)Joint operating decisions	3.00 (2.94)	4 (4.0)	38 (30.2)	51 (40.5)	27 (21.4)	6 (4.8)	126 (100)
h)Compliance with Health and Safety procedures	4.00 (3.33)	3 (2.4)	32 (25.4)	24 (19.0)	54 (42.9)	13 (10.3)	126 (100)
i)Compliance with Local Content Act	3.00 (3.19)	7 (5.6)	35 (27.8)	22 (17.5)	55 (40.5)	11 (8.7)	126 (100)
Statements	iii) NNPC's effective communication strategy:						
	Median (Mean)	SA (%)	A (%)	N (%)	D (%)	SD (%)	Total (%)
a)Effective communication between NNPC and stakeholders	4.00 (3.33)	7 (5.6)	32 (25.4)	20 (15.9)	47 (37.2)	20 (15.9)	126 (100)
b)Good use of feedback	4.00 (3.44)	3 (2.4)	17 (13.5)	39 (31.0)	56 (44.4)	11 (8.7)	126 (100)

Note: SA=strongly agree; A=Agree; N=Neutral; D=Disagree; SD=Disagree; and %=percentage

#### **6.3.3.4 The NNPC's Achievement on the Nigerian Content Objectives**

The NNPC, like most other NOCs of the developing countries is created to address both economic and social issues (Stevens 2008a). Specifically, it serves as a local content vehicle whose aim is to domicile capital, skilled manpower, technology and enhance economic linkages to other sectors of the economy in terms of wealth creation and employment generation (Thurber et al. 2010). This is expected to reduce dependency, capital flight and attain self-sufficiency (Gboyega, 2011), which in effect will help domestic industrial development and value generation (Balouga, 2012).

It is in this vein that this section sought the views of respondents regarding the effectiveness of the NNPC in achieving the Nigerian content objectives through four statements: i) development of local skills; ii) use of local manpower; iii) transfer of technology to local companies; iv) increase in participation of local companies in the upstream sector.

Firstly, the presentation in Table 6.11b showed records of 126 responses regarding the NNPC's effectiveness in aiding the development of local skills for the Nigerian upstream oil and gas sector. The descriptive statistics revealed that 44.4% of the respondents agreed on the issue; 18.3% were neutral and 37.3% disagreed. This statistic is further justified with a median score of 3.00, which on average indicates the respondents' neutral position on the issue. However, the result of the Mann-Whitney test conducted at a 5% level of significance revealed differences in eight paired cases as shown in Table 6.15.

**Table 6.15: Mann-Whitney tests for meeting local content targets**

Mann-Whitney tests										
<b>i) Development of local skills</b>										
Groups			NEITI	FMPR	NA	CS				
NNPC			.028	.007	.018	.008				
MOC			.038	.012	.022	.011				
<b>ii) Use of local manpower</b>										
Groups		NNPC	MOC	FMPR	CBN	PAF	NA			
NEITI		.003	.041							
FMPR		.047								
LOC		.001	.013			.027				
AGF		.005	.029							
CS		.000	.002	.043	.018	.006	.008			
<b>iii) Transfer of technological expertise</b>										
Groups			DPR	LOC	NA	CS				
NNPC			.004	.006	.009	.026				
<b>iv) Increase in participation of local companies</b>										
Groups	NEITI	DPR	FMPR	CBN	RMAFC	AGF	PAF	NA	CS	
NNPC			.016		.046	.001		.001	.001	
AGF	.016	.042		.023			.032			
CS	.045			.048						

**Note:** NNPC=Nigerian National Petroleum Corporation; NEITI=Nigerian Extractive Industry Transparency Initiative; DPR=Department of Petroleum Resources; FMPR=Federal Ministry of Petroleum Resources; MOC=Multinational Oil Companies; LOC=Local Oil Companies; RMAFC=Revenue Mobilisation Allocation and Fiscal Commission; CBN=Central Bank of Nigeria; AGF=Office of Auditor General for the Federation; PAF=Public Accounting Firms; NA=National Assembly and CS=Civil Societies.

In one set of differences, the NNPC and the MOCs generally agreed that the NNPC has been effective in aiding the development of local skills with 70.8% and 75% respectively. This view is in variance with the FMPR, the NA and the CS's 50%, 58.3% and 75% disagreement. Another set of differences presented in the Table 6.16 is between the NEITI's 38.5% neutral position and the NNPC and the MOCs' major agreement.

The NEITI's neutral position may possibly be due to lack of adequate knowledge of the issue because its transparency mission is mainly focused on oil revenue. However, the agreeing response of the NNPC and the MOC can be related to the NNPC's enormous effort in the creation of the Nigerian Content Division (NCD); its contribution towards the statutory establishment of the Nigerian Content Development and Monitoring Board (NCDMB) and the

enactment of the Nigerian Content Act of 2010 (Nwokeji, 2007; Thurber et al., 2010).

Additionally, the NNPC developed local content strategies that provided the platform for training its personnel in engineering, welding and fabrications in collaboration with the MOCs. As well, the NNPC have contributed in producing skilled engineers, geologist, geophysicists and oil industry managers through its cooperation with the Petroleum Technology Development Fund (Oyejide and Adewuyi, 2011; Balouga, 2012). Based on this, it can be argued that the NNPC has really aided local content development to the current estimated achievement of about 40% (Atsegbua, 2012, Ovadia, 2013a).

Even the FMPR, the NA and the CS acknowledged the effort of the NNPC in local skill development with minority agreement of 20% and 33.3%; however, the groups majorly disagreed because the NNPC was not able to meet the 70% domiciliation target by 2010 (Nwaokoro, 2011b; Ovadia, 2013b). It is in line with this reasoning that a former Minister of petroleum resources, Odein Ajumogobia states:

“In the last 20 years alone, the industry has generated total revenues of some \$300 billion while industry spending has grown to some \$12 billion annually in the last 5 years. Despite this activity level, the country has little to show in terms of local capacity and capability for indigenous participation” (Nwaokoro, 2011a).

In addition, it is reported that the MOCs were not complying with their contractual obligations regarding local skill development because they are aware that the NNPC lack the human and technological capability to monitor and enforce compliance (Ovadia, 2013; Ibrahim, 2008). In fact, a conflict of interest that surfaces in the NNPC/MOCs’ relationship can also be argued to impede the NNPC’s monitoring functions.

Therefore, despite the NNPC’s acknowledged contribution to the development of local skills, Nigeria is still far from achieving the 70% target. Since the measurement of effectiveness is based on the achieving objectives, the disagreeing opinion of the FMPR, the NA and the CS is considered most appropriate.

Secondly, respondents' views were sought on how well the NNPC ensures the use of local manpower in the upstream petroleum sector. The descriptive analysis indicated an overall agreement score of 43.7% and disagreement score of 39.7%. With a median score of 3.00, the respondents averagely held a neutral view. Despite the descriptive results, the Mann-Whitney test indicated several differences in the groups' pattern of responses (see Table 6.15).

From Table 6.15, differences were identified in group responses on the NNPC's effective use of local manpower between the NNPC and the respondents of the NEITI, the FMPR, the LOC, the AGF and the CS. While the NNPC generally agreed with 70.5%, in contrast the NEITI, the FMPR, the LOC, the AGF and the CS disagreed with 46.2%, 40%, 85.7%, 66.6% and 87.5% respectively. Similarly, differences also exist between the MOCs' 66.7% general agreement and the NEITI, the LOC, the AGF and CS's disagreement.

The NNPC and the MOCs expressed their agreement because they are the main groups concerned with the utilisation of local manpower in the oil industry. The Petroleum Act provides that the MOCs can only use expatriates where there are no qualified Nigerians. Therefore, the agreed response of the MOCs is defensive, because despite the increase in skilled manpower in oil and gas industry, the manpower has been highly underutilised (Ihua, 2010). On the other hand, the NNPC is one of the three main organisations that are to monitor and ensure compliance by the MOCs. However, the agreed view of the NNPC may be doubted, because it is in contrast with the evidence from the literature. In light of this, The Nation (2013:19) stated:

“What is more confounding is that NNPC and its subsidiaries ought to be the driving force behind the country's economic development. But they are all, sadly, pursuing neo-colonial employment policy that negates the contents of NNPC's enabling Act. The NNPC, over time, has become renowned for being a cesspit of corruption necessitating its being treated with disdain by many Nigerians.”

Another angle to this issue is the conflicting role that the NNPC plays as manager of oil and gas resources as well as serving as regulator (Thurber et al., 2010). Since the NNPC is the MOCs' partner in all JVs operated in Nigeria, the

close relationship may have led to a laxity in ensuring compliance. This raises the questions of transparency and accountability. Therefore, as a result of this it can be argued that the disagreed view of the NEITI, the FMPR, the LOC, the AGF and the CS, who are important oil industry participants, is based on knowledge and experience.

The Mann-Whitney test also indicated variances between the responses of the CS and those of the FMPR, the CBN and the PAF. The CS highly disagreed (87.5%) that the NNPC manages the process of utilising local manpower effectively, while the FMPR disagreed with only 40%. As such, the variance is due to their depth of disagreement. The variance between CS's disagreement and the CBN and PAF's average agreement of 50% and 41.7% respectively can be attributed to the groups' lack of certainty on the issue. This is because they also disagreed averagely with 37.5% and 33.3% respectively. However, since the view of the CS concurs with the argument earlier discussed, it is considered most appropriate.

Thirdly, opinions about the NNPC's effectiveness in ensuring transfer of technology were sought as presented in Table 6.11b. The descriptive analysis indicated that the overall number of agreed responses was 26 (20.7%), the disagreed responses were 70 (55.5%) and the neutral responses were 30 (23.8%). The median score of 4.00 signifies that on average terms, the respondents disagreed that the NNPC has done well in ensuring the transfer of technology. Further investigation carried out uncovered differences among groups' responses in four paired cases (see Table 6.15).

The result of the Mann-Whitney investigation tested at the 5% level of significance is presented in Table 6.15. The result revealed significant differences between the NNPC and the DPR, the LOC, the NA and the CS. The cross tabulation on effective transfer of technology showed that 41.7% of the NNPC's respondents agreed; 33.3% were neutral and 25% disagreed. However, in contrast, the DPR, the LOC, the NA and the CS highly disagreed with 87.5%, 71.4%, 75% and 75% respectively.

In its pursuit to achieve technological transfer and build local capacity for operations in the oil and gas sector, the NNPC adopted some technological learning practices. For instance, the NNPC encourages the secondment of its personnel to the MOCs; partnering with the MOCs in the areas of engineering and fabrications, and encourages the transfer of operatorship to the NPDC (Ovadia, 2013a). Despite this effort, it is surprising that the NNPC narrowly agreed on its effectiveness in technological transfer.

On the other hand, the DPR, the LOCs, the NA and the CS may have clearly disagreed because they view the enormous effort of the NNPC as aberrations of the real transfer of technology. Although the MOCs train low and medium level technicians, engineers and even administrators, it is argued that they limit their career development to a certain extent. Through this and other possible ways, the MOCs protect the market for their technologies and services, and maintain effective control of petroleum operation (Alegimenlen, 1991). Furthermore, they use the strategy to resist the transfer of technology and avoid displacement in the upstream sector (Chima et al., 2002).

Therefore, as major oil industry participants, the disagreeing opinion of the groups, particularly the DPR and the LOC who are officially the regulator of the oil industry and local oil explorers respectively cannot easily be disregarded. Even the NA and the CS may have opined based on knowledge acquired through their oversight functions. In light of this, it is concluded that respondents generally perceive the NNPC as ineffective in the pursuit of transfer of technology. In other words, VfM has not been ensured in this aspect of the NNPC's operation. Hence, the disagreeing opinion is considered most appropriate and the null hypothesis H4 is accepted.

Fourthly, respondents' views were sought regarding the performance of the NNPC in aiding increased participation of local companies in the Nigerian upstream sector. The descriptive analysis shown in Table 6.11b revealed that 50.8% of the respondents agreed; 16.7% of respondents were neutral and 32.5% disagreed. This is justified by the median scores of 2.00 respectively. Furthermore, Table 6.15 presents the results of Mann-Whitney test conducted

at the 5% level of significance; the results revealed significant differences between two set of groups.

From the cross tabulation analysis, it is shown that the first set of groups' that comprise the NNPC, the NEITI, the DPR, the CBN, and the PAF disagreed with 75%, 46.2%, 75%, 62.5% and 50% respectively. In contrast, the second set of groups comprising the RMAFC, the AGF, the NA and the CS disagreed with 40%, 83.3%, 58/3% and 62.5% respectively.

The first set of groups may have answered in agreement considering the enormous effort made by government and the NNPC in the recent past. For example, as stated in section 3.3.1, the repositioning of the NPDC has significantly increased local companies production capability. This is demonstrated in the NNPC's acquisition of all the equity interest Shell divested in their JV blocks, which added 600 million barrels of reserves to the NPDC's portfolio. In a similar manner, other Nigerian companies have taken over in oil blocks divested by the MOCs (Eboh and Nwokpoku, 2013).

Likewise, the NETCO and the IDSL, two of the NNPC's service subsidiaries have increased their level of involvement in the areas of petroleum engineering, seismic data gathering, data processing and management. Balouga (2012) reported increased participation in fabrication and other deep-water offshore activities, which is evident in the successful construction of the Bonga Buoy by Nigerdock. The marginal field reform also provided an avenue for increased participation of local oil and gas explorers, and service companies. These developments have provided linkages to the banking and insurance sectors of the economy, and in effect contributed to job creation and capacity building (Ovadia, 2013a).

However, despite these strides, the second set of groups may well possibly have disagreed on the basis that the current capability of local companies is far less than expected. It is evident that after five decades of oil and gas activities, the contribution of Nigerian local companies in crude oil production is less than 10% (NNPC, 2013). Likewise, the local companies' contribution to the economy is still insignificant given that their annual earnings "constitute less



than 5% of the upstream sector's annual aggregate contracting budget" (Balouga, 2012). Furthermore, it is alleged that some of local companies are used as avenue for patronage (Chima et al., 2002), which undermines accountability and hinders VfM.

It is evident that the NNPC contributed enormously towards the enactment of the Nigerian Content Act, which in effect served as a basic incentive for increased local participation. However, the level of contribution of the local companies is still considered minimal and below expectation. Therefore, the disagreeing opinion of the second set of groups is considered.

Overall, based on the findings above, it is concluded that the respondents had a negative perception on the performance of the NNPC regarding the four Nigerian content statements tested. Thus, the null hypothesis  $HO_4$  is accepted.

#### **6.3.3.5 The NNPC's Effectiveness in Monitoring Compliance with the Provisions of Upstream Oil and Gas Operations**

Most oil rich countries use their NOCs strategically to ensure control of their upstream oil and gas sectors, and optimise value (Balouga, 2012). However, since the NOCs, such as NNPC, lack the technological and financial capability to undertake exploration and production, they passively participate in JV operations that are operated by the MOCs. As a result, a principal-agent relationship is established and with the expectation for accountability. Therefore, to mitigate the agency problem, it is important for the NOCs to have the adequate human capability that can monitor JV activities and enforce compliance to relevant provisions, rules and regulations.

In view of this, nine statements were designed to seek respondents' perceptions on the NNPC's effectiveness in monitoring and ensuring compliance. The descriptive statistics for the statements are presented in Table 6.11b and are accordingly used to test hypothesis  $HO_4$ .

With regards to the first statement presented in Table 6.11b, views were sought on how effective the NNPC is in monitoring and ensuring compliance to the

provisions of JVs in the upstream sector. Overall, the descriptive analysis revealed that 50 (39.7%) respondents agreed that the NNPC effectively monitors and ensures compliance; 32 (25.4%) respondents were neutral and 44 (34.9%) respondents disagreed. On average, the respondents were neutral and the result is justified with mean and median scores of 2.92 and 3.00. From Table 6.16a, the results of the Mann-Whitney test applied at the 5% level of significance revealed significant differences in fifteen paired cases.

**Table 6.16a: Mann-Whitney tests for ensuring compliance with the provisions of contractual agreements**

Mann-Whitney tests									
i) Compliance with JV provisions									
Groups		NEITI	DPR	LOC	CBN	RMAFC	AGF	NA	CS
NNPC		.002	.011	.001	.018	.009	.004	.004	.003
MOC		.034		.006			.025		.031
FMPR				.022					
CBN				.019					
PAF				.036					
ii) Compliance with PSC provisions									
Groups			FMPR	LOC	CBN	RMAFC	AGF	NA	CS
NNPC			.023	.001	.021	.042	.002	.002	.001
MOC			.025	.000	.011	.028	.002	.002	.001
CBN				.009			.020		.030
RMAFC				.027			.041		
PAF				.035			.048		
iii) Compliance with CA provisions									
Groups					NEITI	DPR	FMPR	AGF	
NNPC					.043	.047	.032	.010	
MOC								.040	
PAF								.023	

**Note:** NNPC=Nigerian National Petroleum Corporation; NEITI=Nigerian Extractive Industry Transparency Initiative; DPR=Department of Petroleum Resources; FMPR=Federal Ministry of Petroleum Resources; MOC=Multinational Oil Companies; LOC=Local Oil Companies; RMAFC=Revenue Mobilisation Allocation and Fiscal Commission; CBN=Central Bank of Nigeria; AGF=Office of Auditor General for the Federation; PAF=Public Accounting Firms; NA=National Assembly and CS=Civil Societies

Firstly, in Table 6.16a, differences of opinion are shown between the NNPC, who agreed that they ensure compliance to the provisions of JV agreements, and two other set of groups who held neutral and disagreed opinion respectively. In one instance, the NNPC agreed with 79.1% while the DPR, the CBN and the CS were neutral with 50%, 62.5% and 50% respectively. In another instance, the NNPC's agreed response is in variance with those of the

NEITI, the LOC, the RMAFC, the AGF and the NA who disagreed with 53.9%, 71.4%, 60%, 66.6% and 50% respectively. Similar differences were also detected between the MOC's 66.6% agreed perception and the disagreed perceptions of the NEITI, the LOC, the AGF and the CS.

The neutral response of the DPR, the CBN and the CS may well be argued as a confirmation of the alleged secretive nature of the JV agreements in Nigeria. While it may be assumed that the CBN and the CS responded due to inadequate knowledge, it will be difficult to assume the same in the case of the DPR, whose responsibility is to regulate the oil and gas industry. Indeed, this suggests that accountability is lacking in the JV operations, and the DPR decided to remain neutral because it shares the responsibility of ensuring compliance with the NNPC.

On the other hand, the NEITI, the LOC, the RMAFC, the AGF and the NA may have disagreed based on knowledge, as audit reports have shown that the NNPC has been deficient in ensuring compliance in several instances. For example, the KPMG (2010) reported that the NNPC could not ensure the MOCs' compliance because it has a poor data management culture; sub-optimal technology and deficient human capability. Similarly, Ovadia (2013b) stated that many provisions of the various contractual agreements are completely ignored by the MOCs, and could not be enforced by the NNPC because of the conflicting role of the NNPC as a JV partner. This situation leads to inefficient behaviours and managerial rent-seeking which creates a principle-agent problem between government and the NNPC. It is attested by a former Minister of Finance, Anthony Ani, who said that the JV partners collide with the NNPC's officials at the expense of government revenue (Frynas, 2000). In this light, the disagreed perception is considered appropriate.

Also, significant differences were detected between the LOC's agreement and the 40% and 62.5% neutral perception of the FMPR and the CBN's respectively. The explanation for this may well be because of the CBN's lack of adequate information, as the JV in Nigeria can be termed a private affair because of the NNPC's reputation as a secret empire (Thurber et al., 2010). Also of interest is the FMPR's pattern of mixed responses with 40% each for

agreement and neutrality. The FMPR is officially the policy maker for the oil and gas industry, and ultimately responsible for monitoring all of the government's interest in the oil industry. It can therefore be argued and concluded that the FMPR was being secretive or unwilling to take a clear position on how well the NNPC ensures JV compliance. As such, the LOC's disagreed perception is considered most appropriate.

On a general note, it can be concluded that despite the secrecy of the contracting terms, the perceptions of the NEITI, the LOC, the RMAFC, the NA and the CS is knowledge based, given their important roles in the oil and gas industry. Other important stakeholders like the DPR and the FMPR that shied away from taking a position only helped to confirm the disagreed perception. This leads to the conclusion that the NNPC has been ineffective in monitoring and ensuring compliance to JV provisions. Therefore, hypothesis HO<sub>4</sub> is accepted.

Secondly, regarding the effectiveness of the NNPC in monitoring compliance to the provisions of the PSC, 43.6% of the overall 126 respondents agreed; 25.4% were neutral and 31.0% disagreed (see Table 6.11b). On average, the mean and median scores of 2.83 and 3.00 respectively, indicated the respondents' neutral opinion. The investigation for statistically significant differences at the 5% level of significance revealed a number of differences. The results are presented in Table 6.16a.

Similar to the case of JV compliance, the NNPC, the MOCs and the PAF agreed that the NNPC ensures compliance to the PSC provisions with 83.3%, 83.3% and 50% respectively. On the one hand, these statistics vary from the neutral views of the FMPR (40%); the CBN (62.5%) and CS (50%) respectively. The neutral position taken by the FMPR can be attributed to the Ministry's unwillingness to share information because, as the oil industry's policymaker, it is ironic that it lacks knowledge on the PSC's operations.

On the other hand, the LOCs, the AGF, the NA and the CS disagreed with 71.4%, 83.3%, 41.7% and 62.5% respectively. Similar to the conclusion on the provisions of JV agreements, the disagreed perception may have been

influenced by the NNPC's human and technical incapability (KPMG, 2010). Furthermore, the conflict of interest associated with the NNPC's role of enforcing compliance is a possible reason for the disagreed perception. As well, it can be argued that the difficulty of ensuring accountability and compliance under the PSC is enormous, given that the NNPC is not responsible for the management of operations (Umar, 2005). In this case, the disagreed perception can arguably be considered as appropriate.

Another aspect of differences detected is between the LOC and the AGF's high disagreement that the NNPC is effective in monitoring and ensuring compliance to the PSC's provisions, and the neutral perception of the CBN and the RMAFC. As earlier argued, the CBN and the RMAFC may have held the neutral position due to lack of adequate information on the NNPC's performance in ensuring compliance. This is particularly plausible in the case of the RMAFC, since its main area of interest is revenue mobilisation and distribution.

Also, the LOC and the AGF's perception differed with the opinion of the PAF, who averagely agreed with 50%. Since the PAF partakes in the PSC's audits, it's agreeing perception on the NNPC's performance may be based on knowledge. Correspondingly, the AGF's disagreement can be plausible since it is constitutionally empowered to carry out audits on all government agencies. Likewise, the perception of the LOC should carry weight because of their direct involvement in the PSC's operations. Additionally, Ameh (2007) reported that the NNPC's ineffective monitoring and compliance enforcement provides an avenue for the MOCs to gold plate cost under the PSC's arrangement. Further evidence in this respect, as related by Frynas (1998), is given in the statement of a former GMD of NNPC:

“Proper cost monitoring of their operations has eluded us and one could conclude that what actually keeps these companies in operation is not the theoretical margin but the returns which they build into their costs”.

This self-admission from a high NNPC official is plausible enough to doubt the perceptions of the NNPC, the MOC and the PAF. Therefore, in concurrence with the disagreed perception of the LOC, the AGF, the NA and the CS,

arguably, it can be concluded that the NNPC has been ineffective in ensuring compliance to the provision of PSC. Consequently, the null hypothesis  $HO_4$  is accepted.

Thirdly, Table 6.11b presents the perceptions of respondents sought regarding how well the NNPC monitors compliance with the provisions of carry arrangements (CA). The descriptive analysis of the respondents' perceptions revealed is 30.9% for agreement; 35.7% for neutrality, and 33.4% for disagreement. The mean and median scores of 2.99 and 3.00 averagely justify the respondents' neutral position. The Mann-Whitney test was employed at a 5% level of significance to determine differences between respondents groups, and the results are as presented in Table 6.16a.

The first pattern of significant differences, shown in Table 6.16a, was as a result of the NNPC's 62.5% agreement and the neutral position taken by the DPR and the FMPR with 62.5% and 40% respectively. Since these two groups represent the policy making and regulatory arms of the oil and gas industry, their neutral perception can be interpreted as hoarding of information.

A second pattern of differences were revealed between the NNPC's agreed perception and that of the NEITI and the AGF who disagreed with 53.8% and 83.4% respectively. Similarly, differences were also noticed between the agreeing response of the PAF (50%) on the one hand, and the disagreeing responses of the AGF (83.4%). Both the NNPC and the PAF may have responded in agreement to CA compliance, based on knowledge. According to the NAPIMS (2013a), a modified carry agreement (MCA) was introduced by the NNPC to enhance transparency and accountability in the payment and compensation processes of the alternative funding.

The possible reasons for the NEITI and the AGF's disagreement may be linked to the 2010 annual reports of the Auditor-General of the federation where it was alleged that loans were collected by the operator on behalf of the JVs without regulatory approval and at an exorbitant interest rate (AGF, 2010). This agrees with the National Assembly's investigation which found that the carry agreements have been used fraudulently to the disadvantage of Nigeria. It

was specifically reported that \$3.67 billion over-bloated CA claims were made by the MOCs (Okubenji, 2011; Abdulrauf, 2012). In this vein, it can be concluded that VfM was not ensured, accountability is lacking and the NNPC is ineffective in monitoring and ensuring compliance. As such, the disagreed opinion is considered most credible.

Another pattern of differences was noticed between the MOCs who held neutral opinions with 41.7%, and the high agreed perception of the AGF (83.3%). The neutral position taken by the MOCs is most probably intentional, because it cannot claim lack of information since it is responsible for sourcing funds on behalf of the JV under the carry agreement.

Generally, the findings regarding monitoring compliance of CA were mostly of negative perceptions. This concurs with the findings from the KPMG audit report (2010); AGF annual report (2010); Hart Group audit report (2011) and the investigation of the National Assembly. Therefore, it is taken that the respondents perceived the NNPC as ineffective in monitoring and ensuring CA compliance. Hence, the null hypothesis  $HO_4$  is accepted.

Fourthly, views were sought on the NNPC's performance in ensuring compliance with petroleum laws and regulations. The descriptive statistics as shown in Table 6.11b revealed that 32.6% of the 126 respondents agreed; 42.8% disagreed and 24.6% were neutral. The respondents were averagely neutral as justified by the median score of 3.00. However, at the 5% level of significance, statistically significant differences in the groups' pattern of responses were revealed in twenty-five instances (see Table 6.16b).

From Table 6.16b, differences were noticed between the respondents of the CS who disagreed with 87.5% and the responses of the NEITI, the DPR, the RMAFC and the NA who also held disagreeing opinions with 69.2%, 62.5%, 50%, and 50.0% respectively. As shown from the cross tabulation test, the differences were due to their depth of disagreement as all the groups generally disagreed.

**Table 6.16b: Mann-Whitney Tests for Ensuring Compliance with Oil and Gas Laws and Best Practices**

Mann-Whitney tests										
i) Compliance with petroleum laws and regulations										
Groups	NEITI	DPR	FMPR	LOC	CBN	RMAFC	AGF	NA	CS	
NNPC	.000	.005	.000	.003	.001	.024	.008	.001	.000	
MOC	.012		.016		.015			.045	.004	
PAF	.005	.045	.009	.027	.008			.022	.005	
CS	.032	.047				.049		.048		
ii) Compliance with industry best practice										
Groups	NEITI	DPR	FMPR	MOC	LOC	CBN	PAF	AGF	NA	CS
NNPC	.000	.019	.015	.016	.019	.010		.017	.026	.002
RMAFC	.002					.039				.012
PAF	.006									.021
iii) Compliance with environmental laws and regulations										
Groups			DPR	MOC	LOC	CBN	AGF	PAF	CS	
NNPC			.006	.012	.024	.004	.007	.022	.005	
NEITI			.036				.018		.016	
RMAFC			.013	.032	.038	.008	.010	.036	.010	

**Note:** NNPC=Nigerian National Petroleum Corporation; NEITI=Nigerian Extractive Industry Transparency Initiative; DPR=Department of Petroleum Resources; FMPR=Federal Ministry of Petroleum Resources; MOC=Multinational Oil Companies; LOC=Local Oil Companies; RMAFC=Revenue Mobilisation Allocation and Fiscal Commission; CBN=Central Bank of Nigeria; AGF=Office of Auditor General for the Federation; PAF=Public Accounting Firms; NA=National Assembly and CS=Civil Societies

Again, a variant set of responses were revealed on the how well the NNPC ensures compliance with petroleum laws and regulations. One set of groups comprising of the NNPC, the MOCs and the PAF generally agreed 66.6%, 50% and 50%, while in contrast, the other set of groups, namely: the NEITI, the FMPR, the CBN, the NA and the CS disagreed with 69.2%, 60%, 75%, 50% and 87.5% respectively. Likewise, on the one side, the NNPC and the PAF's agreement differed from the disagreement of the DPR and the LOCs; whilst on the other side, the NNPC differed with the disagreed perceptions of the RMAFC and the AGF.

On the issue of compliance with laws and regulations, the common agreed opinion of the NNPC and the MOCs can be understood, as both groups may be classified as one entity, given their relationship in the JV partnerships. Although a NOC is expected to put national interest first before other interests, it may possibly connive to subvert laws and regulations in order to maintain its influence in the polity (Stevens, 2008), rather than enforce compliance. In



concurrency with this argument, Nwokeji (2007) acknowledged that the laws and regulations governing the oil and gas industry in Nigeria are obsolete and often disregarded. This explains the demand for changes in the existing legislation through the PIB.

Therefore, it is arguable that the perception of the disagreeing groups is based on knowledge and experience derived from the oil and gas industry, considering their roles as regulator, policymaker, exploration contractors and lawmakers. On this basis, it may well be taken that the disagreed perception is most appropriate, and the null hypothesis  $H_0$  is accepted in relation to the statement tested.

Fifthly, regarding compliance with industry best practice, the descriptive analysis presented in Table 6.11b revealed that 15.9% of the respondents had an agreed perception; 57.9% had disagreed perception and 26.2% held a neutral perception. On average, the median score of 4.00 justified respondents' disagreement on the NNPC's effectiveness in ensuring industry best practice. The Mann-Whitney test applied at the 5% level of significance uncovered significant differences in a number of cases.

From Table 6.16b, the results on the NNPC's competence in ensuring compliance to the oil industry best practices revealed significant differences between the NNPC's neutrality (41.7%), and the strong disagreement of the NEITI, the DPR, the FMPR, the MOCs, the LOCs, the CBN, the AGF, the NA and the CS. The groups disagreed on the issue with rates that ranged between 66.6% and 92.3%. The neutral position, taken by the NNPC, can be interpreted as its unwillingness to share information rather than a lack of knowledge on industry best practices. The neutral position may also be taken as a silent acceptance that the NNPC falls behind in the area of best practices. These explain the NNPC's endeavour to ensure best practices and good governance through its transformation programmes. Evidence of this is the proposed cost reduction initiative that will ensure that costs of projects in Nigeria are in line with the international best practice (NNPC, 2010).

In view of the above, it is evident that the NNPC is deficient in ensuring best practice. Also, the nine groups may have strongly disagreed due to the flawed bureaucratic tendering, procurement and funding processes in the Nigeria upstream sector (Nwokeji, 2007). Therefore, arguably the groups disagreed based on knowledge and experience. This suggests that best practice in the upstream sector is lacking and can only be encouraged and enforced where there is standard system and procedures for operations.

Also, differences were noticed as a result of the indecisive stand of the RMAFC and the PAF, who each agreed and disagreed with 30% and 37.5% respectively. This is in contrast with the strong disagreement of the NEITI, the CBN and the CS. The possible reason for the mixed response of the RMAFC and the PAF may be due to lack of adequate information.

Generally, the respondents were of the perception that best practice is not enforced in the upstream sector. As such, there is a need for the development of industry best practise to help execute upstream project efficiently and effectively. Based on the aforementioned, the study accepts the null hypothesis  $H_{O4}$ .

Sixth, from Table 6.11b respondents' perceptions were sought regarding the monitoring compliance of environmental laws and regulations in the upstream petroleum sector. Overall, the descriptive analysis revealed the respondents' weak agreement (15.1%) and strong disagreement (63.5%). With a median score of 4.00, the disagreement of the respondents was further demonstrated.

Despite this, a number of statistically significant differences at the 5% level were detected when a Mann-Whitney test was conducted. As presented in Table 6.16b and interpreted through cross tabulation, the NNPC had a mixed response with 33.3%, 33.4% and 33.3% for agreement, neutral and disagreement respectively. The result contrasts the strong disagreement from the respondents of the DPR (75%), the MOCs (75%), the LOCs (85.7%), the CBN (87.5%), the AGF (100%), the PAF (87.5%) and the CS (87.5%).

The differences noticed between the responses of the RMAFC and those of the DPR, the MOCs, the LOCs, the CBN, the AGF, the PAF and the CS are on the basis of their strength of disagreement. The cross tabulation showed the RMAFC's 40% weak disagreed opinion as against the other groups strong disagreement that ranged from 75% to 100%. Similarly, this pattern applies to the differences detected between the NEITI's 61.5% disagreement and the higher degrees of disagreed perception given by the DPR, the AGF and the CS.

Possibly, the NNPC's respondents were not willing to share their views because of their conflicting roles in the upstream oil and gas sector. For example, out of the 6.6 billion cubic feet's daily output of gas, 37.9% is flared, and due to the NNPC's 60% participating interest in the JVs there are equally liable for environmental degradation. As a result, the enforcement of environmental laws and regulations became difficult from the part of the NNPC (Oyefusi, 2007).

On the other hand, the DPR, the regulator with whom the NNPC shares the monitoring role may have disagreed based on knowledge or as a result of the rivalry between them in monitoring compliance. This view is supported by Nwokeji (2007) when he asserted that other agencies of government sharing the responsibility of enforcement are overpowered by the might of the NNPC, and as such the laws are under-enforced.

However, surprisingly the MOCs who have always been accused of activities that have caused the negative environmental impacts that result in conflict with host communities (Kadafa, 2012), also admitted to the NNPC's lack of ability to enforce compliance. This is in line with the findings of literature, as Ite (2004) reported that the NNPC is weak in enforcing environmental laws and regulations in the upstream sector possibly because of its status as a major partner in the oil and gas JVs. As well, Frynas (1998) asserted that the environmental standards in Nigeria have deliberately been weakened for the sake of economic development, and as a result investment in old pipelines and infrastructures are not usually replaced. In effect, there is oil pollution and local unrest which hinders the achievement of VfM. Therefore, it may be argued that

the perception of the groups is based on informed knowledge and it is most appropriate for consideration.

Generally, it can be argued that the respondents disagreed on NNPC's monitoring compliance of environmental laws and regulations based on the findings above. On the basis of this general perception, the hypothesis HO<sub>4</sub> is accepted.

Seventh, Table 6.11b presents the descriptive results of respondents' perceptions sought on compliance with joint operating decisions of the joint operating committees. Of the 126 respondents, 42 (33.3%) agreed; 51 (40.5%) were neutral and 33 (26.2%) disagreed. The mean and median scores of 2.94 and 3.00 respectively, showed that on average the respondents were neutral. Furthermore, the Mann-Whitney test was conducted to determine statistically significant differences at a 5% level of significance. As presented in Table 6.16c, the results revealed differences between respondents' groups in a number of cases.

**Table 6.16c: Mann-Whitney Tests for Ensuring Compliance with Provisions of Joint Operating Decisions, Health and Safety and Local Content Act**

Mann-Whitney tests											
i) Compliance with joint operating decisions											
Groups		NEITI	DPR	LOC	CBN	AGF	CS				
NNPC		.001	.010	.003	.003	.005	.004				
MOC		.009		.015	.025	.028	.037				
PAF		.045									
NA		.046									
ii) Compliance with Health and Safety procedures											
Groups	NEITI	DPR	FMPR	MOC	LOC	CBN	RMFC	PAF	AGF	NA	CS
NNPC	.005	.007			.022	.021			.016	.023	.000
CS	.048	.004	.007	.009			.048	.010		.026	
iii) Compliance with local content Act											
Groups	NEITI	DPR	FMPR	MOC	LOC	CBN	RMAFC	AGF	NA	CS	
NNPC	.001	.001	.006	.015	.007	.007	.048	.004	.013	.001	
MOC											.034
RMAFC											.039
PAF											.040

**Note:** NNPC=Nigerian National Petroleum Corporation; NEITI=Nigerian Extractive Industry Transparency Initiative; DPR=Department of Petroleum Resources; FMPR=Federal Ministry of Petroleum Resources; MOC=Multinational Oil Companies; LOC=Local Oil Companies; RMAFC=Revenue Mobilisation Allocation and Fiscal Commission; CBN=Central Bank of Nigeria; AGF=Office of Auditor General for the Federation; PAF=Public Accounting Firms; NA=National Assembly and CS=Civil Societies

One set of significant differences noticed from the cross tabulation involves the NNPC (66.6%) and MOCs' (50%) agreement on the NNPC's capability to monitor the compliance of joint decisions, and the neutral positions held by the DPR (62.5%), the LOC (57.1%), the CBN (75%), the AGF (66.7%) and the CS (87.5%). Possible reasons for the differences may well be attributed to the fact that joint operating decisions are taken by the joint operating committee, and the five groups that had neutral perception will not be exposed to such decisions. Therefore, being that the NNPC and the MOCs' members constitute the joint operating committee, it can be argued that their view is most appropriate.

However, the Mann-Whitney test also showed a significant variance between the disagreed responses of the NEITI (69.2%) and two other patterns of responses. Firstly, it differed with the agreed responses of the NNPC, the MOCs and the NA. Secondly, the NEITI disagreement is different from the neutral positions of the PAF at 62.5%. The PAF may have been unaware of how the joint operating decisions are implemented. However, the disagreed perception of the NEITI may be based on the findings of its process audit. Specifically, the NEITI tactfully questioned the ability or the inclination of the NNPC/NAPIMS to take part as an equal partner in the decision-making of JV companies, and as well ensure compliance, by stating that:

“...it is unclear whether as a co-venturer it undertakes truly independent technical assessments or economic evaluations of potential opportunities, or relies mainly on the JV/PSC Operators to provide the information that it reviews.” (Hart Group, 2006 p2)

Based on this, it may be argued that the perception of the NEITI on the effectiveness of the NNPC to ensure compliance to joint operating decisions is more credible, and therefore most appropriate. Thus, the null hypothesis  $HO_4$  is accepted for the statement tested.

Eighth, Table 6.11b revealed the descriptive statistics of respondents' perceptions on the NNPC's effectiveness in monitoring compliance to Health and Safety procedures in the upstream petroleum sector. Of the 126 respondents asked, 35 (27.8%) of the respondents agreed on NNPC's

effectiveness; 24 (19%) were neutral and 67 (53.2%) disagreed. Overall, the respondents disagreed on the issue as justified by a median score of 4.00. However, the Mann-Whitney test was employed to ascertain the significant differences between the groups' perceptions, at the 5% level of significance. The results are shown in Table 6.16c.

As presented in Table 6.16c, significant differences were noticed between the responses of the CS and the responses of the NEITI, the DPR, the MOCs, the RMAFC and the NA. The cross tabulation showed that the difference is as a result of the strength of disagreement. While the CS disagreed with 87.5%, the NEITI, the DPR, the MOCs, the RMAFC and the NA disagreed with 69.2%, 75%, 50%, 60% and 50% respectively. The groups' response reflects on their levels of exposure to the issue suggested. This explains the MOCs' weak disagreement, since it is a direct participant in the upstream petroleum sector, and likely has better understanding of the NNPC's effort in ensuring compliance.

The perceptions of the FMPR and the PAF were equally split between agreement and disagreement. While the FMPR held 40% each for agreement and disagreement, the PAF responded similarly with 37.5%. These mixed responses differed from the outright disagreement of the CS, and may have been due to the FMPR's unwillingness to give information. Similarly, the PAF may have mixed their response due to inadequate information, given that the issue of Health and Safety is not within the comfort zone of professional accountants' firms.

Another pattern of differences is detected where 50% of the NNPC's respondents agreed that there is effective monitoring compliance of Health and Safety procedures, and in contrast, the NEITI, the DPR, the LOC, the CBN, the AGF, the NA and the CS strongly disagreed with 69.2%, 75%, 71.4%, 75%, 83.4%, 50%, and 87.5% respectively. The NNPC claimed to have improved its performance through periodic Health, Safety and Environment audits. As a result, it was rewarded with the African Most Outstanding Health, Safety and Environment Company of the Year, 2012 (NNPC, 2012b).

However, the perception of the disagreeing groups may be based on knowledge. Again, the conflicting role of the NNPC in the oil and gas partnerships hinders compliance by the MOCs. The Minister of Petroleum Resources at a conference in Abuja stated that there is no robust control mechanism for ensuring compliance to Health and Safety in the Nigerian oil and gas industry, as such; the rules and procedures are often ignored by the MOCs (NNPC, 2012b). The disagreed response of the MOCs also supports this opinion. Although the DPR shoulders more of the responsibility of ensuring compliance, it may have disagreed as well considering the role of the NNPCs in the oil and gas partnerships.

The general perception on the issue of Health and Safety compliance is that of disagreement. Even groups like the MOCs and the LOCs who are usually accused of violating the Health and Safety procedures, and upon whom the NNPC is to ensure compliance have disagreed on the capability of the NNPC. As such, the hypothesis HO<sub>4</sub> is accepted.

Ninth, the perceptions of respondents were sought on the NNPC's compliance monitoring of the local content act. The descriptive statistic drawn from Table 6.11b revealed that of the 126 respondents, 42 respondents representing 33.4% agreed there was effective compliance monitoring; 62 respondents representing 49.2% disagreed. The result is justified with mean and median scores of 3.97 and 3.00 respectively. However, the Mann-Whitney test conducted at a 5% level of significant differences found differences between groups in thirteen instances.

From Table 6.16b, significant differences of opinion on the NNPC's effectiveness in monitoring compliance to the local content Act are shown to exist between the NNPC and ten other groups. The cross tabulation revealed that 75% of the NNPC agreed to the suggestion while 84.6%, 75%, 40%, 41.7%, 57.1%, 62.5%, 40%, 83.4%, 41.7% and 75% of the NEITI, the DPR, the FMPR, the MOCs, the LOCs, the CBN, the RMAFC, the AGF, the NA and the CS disagreed respectively.

The NNPC may have strongly agreed to the suggestion because it specifically established the Nigerian Content Division (NCD) to implement the Nigerian content policy. The division was focused on working with the MOCs to “develop strategies, drive implementation and ensure compliance with directives by the oil companies” (NNPC, 2009). In addition, the NNPC introduced the NIPEX Joint Qualification System to gather data of available goods and services and help facilitate contracting processes (Gboyega et al., 2011).

Nevertheless, the ten groups that disagreed may have done so based on knowledge and the experience gained in the petroleum industry. Their perceptions are in line with the findings of the literature, where for instance, Atsegbua (2012) reported the NNPC’s admittance to low level of Nigerian contents, considering that 80% of work value is carried out abroad. In addition, he asserted the inadequacy of the correlation between the NNPC’s directives on local content with the Nigerian capacity. Nwaokoro (2011a) concludes that the NNPC has adequate provisions that could help it control the Nigerian content regime, but could not because of its inadequacy in capacity and unwillingness to enforce regulations.

The NEITI may have been informed on the issue suggested due to the debates that preceded the passage of the Nigerian content Act and reports available to them after the passage of the Act. Also, the DPR disagreement is argued to be based on knowledge derive from the dual stewardship it shares with the NNPC in monitoring and ensuring compliance. The DPR was probably influenced by the difficulty to enforce compliance where the NNPC has business interests. The MOCs who operate the ventures and are expected to comply with the content directives may have disagreed knowing that the human and technical capacity required to achieve the provisions of the content Act are not adequately available. In addition, the CBN and the NA’s disagreement may have been based on the self-admittance of the NNPC on low content achievement. In addition, the CS may have disagreed because they always partly attribute the cause of poverty in Nigeria to the inadequate implementation of local content provisions (Nwaokoro, 2011a).



The FMPR's 30% perception each in agreement and disagreement showed a mixed perception which may be interpreted that some sections of the policy making body do not have adequate information on the issue of discourse. Overall, the majority of the opinions were not satisfied with the NNPC's performance in the area of local content enforcement. In light of this, the null hypothesis HO<sub>4</sub> is accepted.

On a general note, the respondents disagreed on all nine statements tested. This clearly showed the NNPC's compliance function has, over time, not been effectively managed. Thus, the null hypothesis HO<sub>4</sub> is accepted.

#### **6.3.3.6 The NNPC's Effectiveness in Communication**

Communication is an essential ingredient for the effective management of organisations and implementation of policies, as ineffective communication hinders coordination and widens the gap of achieving objectives (Makinde, 2005). In organisational and inter-organisational settings, formal and informal communication channels are utilised to establish flow of information and create a cohesive community upon which organisational objectives are achieved (Daft, 2003; Elving, 2005).

Being that the performance of organisations are measured by their objectives' functions (Tordo et al., 2011), this section sought the perceptions of the respondent groups, in general, regarding the NNPC's effective use of communication through the following statements: i) the NNPC's effective communication with relevant stakeholders on all material issues relating the upstream petroleum operations; ii) the NNPC's effective utilisation of feedback. These two statements were used to test hypothesis HO<sub>4</sub> of the study.

As shown in Table 6.11b, the perceptions of the respondents were sought in relation to the NNPC's effective communication with relevant upstream petroleum industry's stakeholders. Of the 126 respondents asked, 39 representing 31% agreed there is effective communication between the NNPC and other stakeholders; while 67 representing 53.1% disagreed. On average, a median score of 4.00 justified the respondents' disagreement. Further

investigation for statistically significant differences at the 5% level revealed differences between groups' in twelve instances (see Table 6.17).

**Table 6.17: Mann-Whitney Tests for Effective Communication System of Upstream Operations**

Mann-Whitney tests											
i) Effective communication system between stakeholders											
Groups	NEITI	DPR	FMPR	MOC	LOC	CBN	RMAFC	AGF	PAF	NA	CS
NNPC	.006	.002	.001	.017	.002	.001	.002	.029	.008	.008	.000
NA											.048
ii) Appropriate use of feedback											
Groups		NEITI	DPR	FMPR	MOC	CBN	RMAFC	AGF	PAF		CS
NNPC		.007	.003	.007	.011	.020	.012	.039	.009		.020

**Note:** NNPC=Nigerian National Petroleum Corporation; NEITI=Nigerian Extractive Industry Transparency Initiative; DPR=Department of Petroleum Resources; FMPR=Federal Ministry of Petroleum Resources; MOC=Multinational Oil Companies; LOC=Local Oil Companies; RMAFC=Revenue Mobilisation Allocation and Fiscal Commission; CBN=Central Bank of Nigeria; AGF=Office of Auditor General for the Federation; PAF=Public Accounting Firms; NA=National Assembly and CS=Civil Societies.

The results of the Mann-Whitney test, presented in Table 6.17, revealed significant differences between the NNPC and eleven other groups. The cross tabulation shows the NNPC's strong agreement (75%) in relation to its effectiveness in communicating with stakeholders; while contrastingly, the NEITI, the DPR, the FMPR, the MOCs, the LOCs, the CBN, the RMAFC, the AGF, the PAF, the NA and the CS who disagreed with 69.2%, 62.5%, 70%, 50%, 71.4%, 75%, 70%, 66.7%, 50%, 41.7% and 75% respectively.

The NNPC must have responded in agreement because the cultural and operational transformation it introduced emphasised on openness to information; improved professionalism; communication and systemic documentation (Nwokeji, 2007; NNPC, 2012a). However, the stakeholders' disagreeing perceptions may possibly be based on experience given their level of interaction with the NNPC. For instance, the NNPC's project PACE acknowledged that the top down communication system within the organisation causes inefficiency. Also, the NNPC's deficiency in human capacity and relevant technology has hindered effective communication within and without the NNPC (Ugwu, 2006; Thurber et al., 2010). Consequently, the

budget realignment and misalignment have been identified to create communication gap between the NNPC and its stakeholders (Tanimu, 2008; Ibrahim, 2009).

Also, there is conflict in regulatory functions of the NNPC and the DPR (Nwokeji, 2007), which arguably would have been solved if there was an effective communication system. Other possible reasons for the NNPC's ineffectiveness as perceived by the stakeholders may be the alleged inadequate provision of information to stakeholders such as the RMAFC, the AGF, the CBN and the CS and inadequate transparency in the NNPC's operations. For instance, Abdulrauf (2012) reported that the head of the RMAFC accused the NNPC of non-remittance of revenue and operating secret accounts without being monitored by relevant agencies as required by law. This concurs to the findings in literature where it was opined that the secretiveness of the NNPC is a measure for its importance and influence in the Nigerian political space (Nwokeji, 2007). Finally, in relation to the CS, it was related that the NNPC's ineffective communication has led to ineffective stakeholders' engagement. Therefore, it may be argued that the perception of the stakeholders is apt.

Generally, the analysis of the various groups suggests that most respondents disagreed that the NNPC has an effective communication system in place that will help it achieve its upstream objectives. In view of this, the null hypothesis  $HO_4$  is accepted in relation to the statement tested.

Regarding the NNPC's effectiveness in its management of feedbacks from upstream operations, the Table 6.11b revealed that 20 respondents representing 15.9% agreed on the notion, and 67 respondents representing 53.1% disagreed. The median score of 4.00 showed that on average, the respondents disagreed. Thereafter, the Mann-Whitney test was employed at a 5% level of significance to determine differences between respondents' groups.

Table 6.17 that presents the results of the Mann-Whitney test indicated the existence of differences on the management of feedbacks, between the NNPC and nine groups, namely: the NEITI, the DPR, the FMPR, the MOCs, the CBN, the RMAFC, the AGF, the PAF and the CS. The cross tabulation

analysis revealed both the NNPC's agreed and neutral perceptions at 41.7% each. This is in contrast with the opinion of the majority of the other nine groups who disagreed on the suggestion.

The NNPC's pattern of responses may be taken as the unwillingness of respondents to share their view. Considering the roles of the other groups/stakeholders that are responsible for policy making, regulation, oil and gas contract operators and managers, it may well be concluded that their perception is based on knowledge and experience. Therefore, this can justify the acceptance of the null hypothesis tested.

Overall, for the two statements tested, the respondents perceived that the NNPC has been ineffective in managing communication and feedbacks from relevant upstream stakeholders. Thus, the null hypothesis  $HO_4$  is accepted.

#### **6.3.4 The Economy of the NNPC's Upstream Management**

In this section, the perceptions of respondents' groups were sought on whether the NNPC ensures economy in its upstream oil and gas investment. Ensuring economical operation in any arrangement is concerned with how oil and gas rent is shared between the principal (NNPC) and the agent (MOCs), and how costs are incurred and treated (Radon, 2005). In the light of this, it is imperative to determine if the NNPC's choice of oil and gas arrangements, and other related processes are economical (produce high profit and benefit). It is of importance to ensure that the input acquired for exploration and development activities are of minimised cost and optimum output. In addition, their quality should not be compromised while at the same time objectives are achieved (Daujotaite and Macerinskiene, 2008). Therefore, since it is the NNPC's responsibility to protect Nigeria's interest in the oil and gas sector, its decisions in this respect will affect economic efficiency.

In view of the aforementioned, statements related to the optimisation of contractual arrangements, cost performance and the NNPC's capability to identify, measure and improve cost performance were drafted to test the null hypothesis  $HO_5$  stated below:

**HO<sub>5</sub> – NNPC has not ensured economy in the management of the upstream sector.**

The descriptive statistics of the respondents’ perceptions on the performance of NNPC in ensuring economy in the Nigerian upstream oil and gas sector is presented in Table 6.18.

**Table 6.18: The Economy of NNPC’s Management of Upstream Petroleum Sector**

Statements	i) In general, how has NNPC’s costs of using the following petroleum contractual arrangements achieved optimum result:						
	Median (Mean)	SA (%)	A (%)	N (%)	D (%)	SD (%)	Total (%)
a)Joint venture (JV)	2.00 (2.52)	25 (19.8)	48 (38.1)	22 (17.5)	25 (19.8)	6 (4.8)	126 (100)
b)Petroleum sharing contracts (PSC)	2.00 (2.56)	23 (18.3)	44 (34.9)	28 (22.2)	27 (21.4)	4 (3.2)	126 (100)
c)Service contracts (SC)	3.00 (2.60)	18 (14.3)	40 (31.7)	46 (36.5)	18 (14.3)	4 (3.2)	126 (100)
Statements	ii) In general, NNPC’s monitoring of the following categories of operators have the potential to adversely affect their cost performance :						
	Median (Mean)	SA (%)	A (%)	N (%)	D (%)	SD (%)	Total (%)
a)Private indigenous oil companies	4.00 (3.79)	1 (0.8)	10 (7.9)	26 (20.6)	66 (52.4)	23 (18.3)	126 (100)
b)Multinational oil companies (MOC)	4.00 (3.78)	1 (0.8)	15 (11.9)	19 (15.1)	67 (53.2)	24 (19.0)	126 (100)
c)Service companies	4.00 (3.84)	0 (0)	7 (5.6)	31 (24.6)	63 (50.0)	25 (19.8)	126 (100)
Statements	iii) In general, NNPC’s monitoring of the following categories of operators positively affect their cost performance						
	Median (Mean)	SA (%)	A (%)	N (%)	D (%)	SD (%)	Total (%)
a)Private indigenous oil companies	3.00 (2.84)	12 (9.5)	35 (27.8)	46 (36.5)	27 (21.4)	6 (4.8)	126 (100)
b)Multinational oil companies (MOC)	3.00 (2.83)	15 (11.9)	33 (26.2)	42 (33.3)	30 (23.8)	6 (4.8)	126 (100)
c)Service companies	3.00 (2.65)	16 (12.7)	41 (32.5)	44 (34.9)	21 (16.7)	4 (3.2)	126 (100)
Statements	iv) NNPC’s capability of:						
	Median (Mean)	SA (%)	A (%)	N (%)	D (%)	SD (%)	Total (%)
a) Measuring cost performances of MOCs.	3.00 (3.04)	6 (4.8)	39 (31.0)	33 (26.2)	40 (31.7)	8 (6.3)	126 (100)
b)Identifying problematic cost areas	3.00 (3.09)	7 (5.6)	34 (27.0)	33 (26.2)	45 (35.7)	7 (5.6)	126 (100)
c)Assisting with improving the costs performance of MOCs	3.00 (3.34)	2 (1.6)	27 (21.4)	35 (27.8)	50 (39.7)	12 (9.5)	126 (100)

**Note:** SA=strongly agree; A=Agree; N=Neutral; D=Disagree; SD=Disagree; and %=percentage

#### **6.3.4.1 Ensuring Economy in the Choice of Contractual Arrangements**

Firstly, from Table 6.18, in general, the perceptions of the respondents were sought with regards to the cost effectiveness of using JV contractual agreements in Nigerian upstream petroleum operations. The descriptive analysis revealed that 57.9% of the 126 respondents asked agreed that the JV is cost effective and optimum for the outcome achieved. 24.6% of the respondents disagreed and 17.5% were neutral. The median score of 2.00 indicated that, on average, the respondents are in agreement. However, further investigation was carried out to determine significant differences between individual groups.

Table 6.19 presents the results of the Mann-Whitney test employed at a 5% level of significance. It is shown that there are significant differences between the respondents of the CBN and the NA on the one hand, and those of the NNPC, the NEITI, the DPR and the MOCs. The cross tabulation analysis shows that 62.5% of the CBN's and 41.7% of the NA's respondents disagreed on the cost effectiveness and optimality of JV contractual arrangement. In contrast, the NNPC, the NEITI, the DPR and the MOCs strongly agreed to the suggestion with 66.6%, 77%, 75% and 83.3% respectively.

The NNPC have been utilising the JV arrangement for over three decades and it is assumed to be optimal since it produces about 80% of Nigeria's crude oil. Even though there is the problem of cash calling as a result of other competing priorities of government, the JVs have continued operations through the introduction of carry agreements, and still contribute the largest portion of government revenue. Arguably, the agreement expressed by the NNPC, the MOCs, the DPR and the NEITI is based on knowledge and experience derived from these reasons.

The CBN and the NA may have disagreed because of the separate memorandum of understanding (MoU) that applies in JV arrangements. The MoU were introduced as a fiscal incentive to encourage the MOCs during the gloomy period of oil and gas production (Nwokeji, 2007). Since oil production is booming it can be argued that the continuous application of the MoU terms

increases cost and reduces government revenue. In other words, since more could be made without discouraging the MOCs, the argument is that the operations of JVs are not cost effective, and do not ensure VfM. Another issue is the interests that accrue on the carry agreement that is believed to be exorbitant (Iledare and Suberu, 2010). These are possibly some of the problems the PIB is advocating to correct. This explains the disagreement of the FMPR (50%) as against the agreed response of the NEITI (77%).

Overall, despite the fact that renegotiation of the MOU can lead to an increase in government revenue, surprisingly the respondents agreed that the JV arrangement is cost effective and produces optimum output. Since, the NNPC and the MOCs are the major JV participants, the null hypothesis  $H_{05}$  is rejected.

**Table 6.19: Mann-Whitney Tests for Optimum Outcome from Petroleum Arrangements**

Mann-Whitney tests									
<b>i) Joint Venture (JV) agreements</b>									
<b>Groups</b>				FMPR		CBN		NA	
NNPC						.007		.021	
NEITI				.022		.004		.008	
DPR						.022		.041	
MOC						.010		.018	
<b>ii) Production sharing contracts (PSC)</b>									
<b>Groups</b>			NNPC	FMPR		CBN	RMAFC	NA	
NEITI				.016			.038	.010	
MOC			.047	.011		.043	.025	.006	
<b>iii) Service contracts (SC)</b>									
<b>Groups</b>		NNPC	DPR	FMPR	LOC	RMAFC	PAF	NA	CS
NEITI		.007	.038	.004	.008	.022	.048	.020	.007
MOC		.016		.009	.015	.042		.034	.011

**Note:** NNPC=Nigerian National Petroleum Corporation; NEITI=Nigerian Extractive Industry Transparency Initiative; DPR=Department of Petroleum Resources; FMPR=Federal Ministry of Petroleum Resources; MOC=Multinational Oil Companies; LOC=Local Oil Companies; CBN=Central Bank of Nigeria; RMAFC=Revenue Mobilisation Allocation and Fiscal Commission; NA=National Assembly and CS=Civil Societies.

Secondly, as presented in Table 6.18, the cost effectiveness of the PSC was sought and tested. The descriptive analysis revealed that of the 126 respondents asked, 67 representing 53.2% agreed that the PSC is cost effective; 31 respondents representing 24.6% disagreed and 28 respondents representing

22.2% were neutral. The median score of 2.00 justified that the respondents averagely agreed. However, the Mann-Whitney test was employed to ascertain significant differences between individual groups and the results are presented in Table 6.19.

The test on cost effectiveness of the PSC arrangement generated significant differences at the 5% level of significance, between the MOCs and five groups, namely: the NNPC, the FMPR, the CBN, the RMAFC and the NA. The differences between the MOCs' 75% agreement and the responses of the NNPC and the CBN, who agreed with 54.2% and 50% respectively, are shown to be as a result of their depth of agreement.

Another pattern of significant differences exist between the respondents of the MOCs and the NEITI, who agreed with 75% and 77% respectively, and the disagreeing responses of the FMPR (50%), the RMAFC (50%) and the NA (41.7%). The FMPR, the RMAFC and the NA being important government agents who make and implement laws and policies for the oil and gas industry may have disagreed with the cost effectiveness of the PSC based on knowledge. Possible reasons for their disagreement may have emanated from the defects of the first PSC arrangements entered into in 1993, in which cost recovery was not capped (Ameh, 2007).

In contrast, the MOCs and the NEITI may have agreed on the issue knowing that the subsequent PSCs have been enhanced with tougher fiscal terms in favour of the Nigerian state. In addition, the NNPC is not burdened with funding the PSC, which frees up resources for government to meet its socio-economic obligations (Umar, 2005; Ameh, 2007). With proper monitoring, it can be argued that the PSC can be cost effective and produce an optimum outcome (Johnston, 2007). Since the MOCs are directly involved in the PSCs and their perception coincide with those of the NNPC and the LOCs, it can be taken as the most appropriate. In general, based on the findings, it can be argued that the respondents agreed to the cost effectiveness of the PSC. Thus the null hypothesis  $H_{05}$  is rejected.



Thirdly, the perceptions of the respondents were sought on the cost effectiveness and optimisation of the SC. The descriptive analysis as presented in Table 6.18 revealed that of the 126 respondents, 46% agreed; 17.5% disagreed and 36.5% remained neutral. On average, the median and mean scores of 3.00 and 2.60 showed that the respondents were neutral on the issue of discourse. However, investigation for statistically significant differences between individual groups indicated fourteen cases at the 5% level of significance.

As presented in Table 6.19, the cost effectiveness of the SC generated differences in perceptions between the MOCs and the NEITI on the one side, and several other groups. In the first instance, the cross tabulation analysis revealed that the MOCs and the NEITI strongly agreed with 83.3% and 77% respectively, while the NNPC, the DPR, the RMAFC and the NA weakly agreed with 45.8%, 37.5%, 40% and 50% respectively. These results showed that the differences were based on respondents groups' strength of agreement, as the majority of the respondents in all of the groups agreed. The perception of the MOCs can be argued to be appropriate given the only SC in Nigeria is operated by the MOCs.

In another instance, the MOCs and the NEITI's 83.3% and 77% respective agreement is in contrast with the 42.9% and 50% weak disagreement of the LOCs and the FMPR. Although the two groups are relevant players in the petroleum industry, none of them participates directly in a SC. Therefore, since the MOCs are the only operator of a SC, the study may arguably accept their perception as appropriate.

The cross tabulation also revealed differences between the MOCs who strongly agreed with 83% and the CS's 50% neutral perception. In a similar manner, differences were indicated between the NEITI's 77% agreement and the PAF's and CS's respective 50%. Again, it can be argued based on the secrecy of contractual agreements in Nigeria, that the PAF and the CS do not have much knowledge about the workings of the SC. Therefore, based on knowledge, the perception of the MOCs and the NEITI may be considered most appropriate.

Overall, the findings suggest that the SC is cost effective. This perception is consistent with Johnston (2007) who reported that the cost effectiveness of a contractual agreement is relative to implementation. As a result, the null hypothesis  $H_{05}$  is rejected.

#### **6.3.4.2 The NNPC’s Monitoring Role has Adverse Effect on Cost Performance of Operators**

The functions of monitoring and control in oil and gas principal-agent relationships are important to curb the moral hazard of the agent (MOCs). However, these roles may have adverse effect on the cost performance of the MOCs, and eventually the profitability of the operation if the MOCs are faced with bad incentives (Pongsiri, 2004; Rossiaud, 2007). In view of this, three variables are tested.

Firstly, as presented in Table 6.18, the perception of the respondents were sought to find out if the monitoring role has a negative effect on cost performance of private indigenous oil companies. In this respect, overall, the descriptive statistics revealed that 11 respondents representing 8.7% agreed; 26 respondents representing 20.6% were neutral and, overwhelmingly, 89 respondents representing 70.7% disagreed. The mean and median scores of 3.79 and 4.00 justified that on average, respondents’ disagreed that the NNPC’s monitoring role in the upstream petroleum sector negatively affects the cost performance of private indigenous oil companies. A further Mann-Whitney test, conducted at the 5% level of significance, revealed significant differences between individual groups and indicated three cases of differences.

**Table 6.20: Mann-Whitney Tests on the Adverse Effect of NNPC’s Monitoring of Indigenous Oil Companies**

<b>Mann-Whitney tests</b>				
<b>i) Monitoring role of NNPC adversely affect performance of indigenous oil companies</b>				
<b>Groups</b>		<b>NEITI</b>	<b>LOC</b>	<b>CS</b>
NNPC		.038	.049	.044

**Note:** NNPC=Nigerian National Petroleum Corporation; NEITI=Nigerian Extractive Industry Transparency Initiative; LOC=Local Oil Companies; and CS=Civil Societies.

Table 6.20 presents the results of the Mann-Whitney test conducted to determine whether the NNPC's monitoring role negatively affects indigenous oil companies. Significant differences in responses were identified between the NNPC who disagreed with 62.5%, and the respondents of the NEITI, the LOC and the CS who disagreed with 84.6%, 100% and 75% respectively. It can be seen that the differences emerged due to the groups' strength of disagreement. The result confirms that, in general, the NNPC's monitoring role does not have the potential to negatively affect the cost performance of indigenous oil companies.

Secondly, respondents were asked whether the NNPC's monitoring role negatively affects cost performance of the MOCs. The descriptive analysis indicated that 16 (12.7%) respondents agreed; 19 (15.1%) respondents were neutral and 91 (72.2%) respondents disagreed. This strong pattern of disagreement is justified with mean and median scores of 3.78 and 4.00 respectively. A further Mann-Whitney test did not indicate significant differences between the individual groups.

Thirdly, with regards to the NNPC's monitoring role and its effect on oil servicing companies, the descriptive statistics revealed that 5.6% of the 126 respondents agreed; 69.8% of the respondents disagreed; while 24.6% were neutral. On average, the mean and median scores of 3.84 and 4.00 respectively, showed the respondents' disagreement. No significant differences were detected after running a Mann-Whitney test for paired group differences.

Despite the fact that the respondents generally disagreed on the issues presented, the literature suggests that the NNPC's monitoring functions may contribute negatively to the performance of the oil companies, due to conflicts of interest and deficient administrative, human and operational capacities (Heller and Marcel, 2012). It is further argued that the bureaucratic bottle neck involved in budgeting, approval and funding processes increases the costs of projects and affects cost performance (Thurber et al., 2010).

In addition, concentrating regulatory functions on the NOC poses an accountability crisis, which may exclude other industry participants in

decision-making, and create an exclusive relationship between the NOC and the presidency. Since the oil is the mainstay of the economy, the NOC may become a state within a state that may not effectively protect national interest and ensure VfM (Heller and Marcel, 2012).

Overall, in contrast to the findings of the literature, the three variables presented showed that respondents were of the perception that the monitoring role of the NNPC does not have the potential to negatively affect the cost performance of the operators. Thus, the null hypothesis  $H_{O5}$  is rejected.

#### **6.3.4.3 Positive Effect of NNPC's Monitoring Role on Cost Performance of Upstream Operators**

The aim of cost performance is to optimise stakeholders' gains across the value chain. The cost processes within an operational chain, otherwise referred to as cost structure, is important for the measurement and analysis of cost performance. Subsequently, this provides a basis for comparison with competitive benchmarks, and help to identify opportunities for improvement (Neely, 1999; Anderson and McAdam, 2004).

Therefore, being that the NNPC's upstream activities are in partnership with the operators that incur expenditure on its behalf, it is assumed that its effective monitoring of cost processes will have a positive impact on cost performance (Johnston, 2007; Penda, 2009). This, in effect, will ensure VfM and generate more revenue to the government. In light of this, three variables, namely: private indigenous oil companies, MOCs and service companies are presented to test hypothesis  $H_{O5}$ .

Firstly, from Table 6.18, the description of responses were shown indicating whether the NNPC's monitoring role in the upstream sector has the potential to positively affect the cost performance of private indigenous oil companies. The descriptive statistics revealed that 37.3% of respondents agreed; 26.2% disagreed and 36.5% were neutral. The strong pattern of agreement was justified with mean and median scores of 2.84 and 3.00 respectively. The Mann-Whitney test did not indicate any significant difference.

Secondly, in the same manner as above, perceptions were sought on the positive potential of the NNPC's monitoring role on the cost performance of MOCs. Of the 126 respondents asked, 48 representing 38.1% agreed that the NNPC's monitoring role in the upstream sector has the potential to positively affect MOCs. There were 36 respondents representing 28.6% who disagreed and 33.3% of respondents were neutral. With mean and median scores of 2.83 and 3.00 respectively, it is indicated that the respondents averagely agreed on the issue of discourse. Further investigation revealed no significant differences between the groups.

Thirdly, with regards to the potential of the NNPC to positively influence the cost performance of the service companies through its monitoring role in the upstream sector, 45.2% of the respondents agreed. While 34.9% of respondents disagreed, 19.9% remained neutral. This strong agreement is justified with mean and median scores of 2.65 and 3.00 respectively. The Mann-Whitney test, however, indicated no differences between individual groups.

Respondents generally remained neutral on the three variables presented to check the potential positive effect of the NNPC's monitoring role on cost performance. Since monitoring entails necessary checks on processes to detect defects and correct them (Johnston, 2007; Penda, 2009), and the respondents had previously opined that the NNPC's monitoring role does not have adverse effect, it is logical to conclude that the NNPC has the potential to positively affect the cost performance of the various operators. Hence, the null hypothesis  $H_{O5}$  is rejected.

#### **6.3.4.4 NNPC's Capability to Improve Cost Performance**

Ensuring economy in the upstream activities requires the capability of the NNPC in identifying areas where costs are not efficiently applied; to measure cost performance and provide mechanisms for improving cost performance. With good fiscal incentives in place, and knowing that the NNPC has the capacity to control effectively their operations, the MOCs subjective beliefs will be that it is in their interest to take into account the NNPC's prerogatives

(Rossiaud, 2007). In the light of this, three variables were tested in relation to null hypothesis  $H_0$ .

Firstly, the perceptions of group respondents were sought to determine if the NNPC has the capability to measure the cost performance of the MOCs. Of the 126 respondents, the descriptive statistics revealed that 35.8% agreed; 38% disagreed and 26.2% were neutral. The mean and median results were 3.04 and 3.00 respectively; thereby indicating that on the average the respondents held a neutral opinion. The Mann-Whitney test carried out to ascertain the differences between groups at a 5% level of significance; revealed differences in three cases (see Table 6.21).

In terms of the NNPC's capability to measure cost performance of the MOCs, the Mann-Whitney test revealed differences between the perceptions of the NNPC's respondents who agreed (58.4%), and the disagreeing perceptions of the NEITI (61.6%), the LOC (57.1%) and the RMAFC (50%). The disagreeing groups may have perceived that the NNPC is incapable based on the NNPC's human, process and technological deficiencies (Thurber et al., 2010). For instance, monitoring, control and information and communication technology (ICT), in which the NNPC have been reported to be deficient, greatly contributes to productivity and cost reduction (UNCTAD, 2006).

**Table 6.21: Mann-Whitney Tests on the NNPC's Capability in Cost Management**

Mann-Whitney tests				
<b>i) Measuring cost performance of MOCs</b>				
<b>Groups</b>		NEITI	LOC	RMAFC
NNPC		.023	.041	.037
<b>ii) Identifying problematic cost areas</b>				
<b>Groups</b>				CS
PAF				.044
<b>iii) Assisting with improving the cost performance of MOCs</b>				
<b>Groups</b>		MOC	CBN	CS
NNPC		.038	.042	.034
FMPR		.043	.041	.048

**Note:** NNPC=Nigerian National Petroleum Corporation; FMPR=Federal Ministry of Petroleum Resources; MOC=Multinational Oil Companies; LOC=Local Oil Companies; RMAFC=Revenue Mobilisation Allocation and Fiscal Commission; PAF=Public Accounting Firms; NA=National Assembly and CS=Civil Societies

However, in consistence with the literature, the agreement expressed by the NNPC can be attributed to its stride from being a cost-centre to profitability (Okoye, 2010). The corporation demonstrated this through the introduction of NIPEX, an electronic bidding platform created to measure the cost of materials and ensure that optimum economic value is derived from upstream operations (Gboyega et al., 2011). In addition, the corporation introduced the usage of System Application Products (SAP), an ICT device designed to help it to integrate, standardise and streamline its systems and processes in line with industry best practices (NNPC, 2011).

While the arguments above demonstrated the effort of the NNPC in cost management, it can be argued that its deficient human and technical capabilities do not provide the incentive for cost ineffectiveness. This supports Andrew and Boyne's (2009) argument that achieving economy within the VfM framework requires the combination of all relevant factors of production. Hence, the disagreement expressed by the NEITI, the LOCs and the RMAFC is considered most appropriate and the null hypothesis  $H_{05}$  is accepted.

Secondly, the responses regarding the capability of the NNPC to identify problematic cost areas in the upstream sector indicated that 32.6% of respondents were in agreement, while 41.3% of the respondents disagreed. The neutrality score stood at 26.2%. Overall, the mean and median scores of 3.09 and 3.00 respectively indicated the respondents' disagreement. The investigation for statistically significant difference at the 5% level of significance revealed a difference between two groups.

The difference revealed in Table 6.21 is between the PAF and the CS. While the PAF agreed with 50% that the NNPC has the capability to identify problematic cost areas in the Nigerian upstream sector, the CS disagreed with 62.5%. The CS may have based its perceptions on the NEITI and the KPMG reports that showed lapses in the NNPC's monitoring and control functions. These lapses may not be solely due to the managerial incapability of the NNPC's employees, but also because of corrupt tendencies (Gillies, 2009).

However, the PAF may have agreed, given that the NNPC recently outlined a seven point plan of action that will help detect high cost areas and reduce them. It is an industry-wide standardisation of processes and evaluation mechanisms for the estimation of drilling and drilling services' costs, using a common template across the MOCs (Alike, 2013). Other previous efforts demonstrated by the NNPC include it's strive on profitability through the NIPEX, the TQM and the Project PACE (Makeri, 2009; Okoye, 2010).

In addition to these favourable points raised on the NNPC's capability, the PAF's perception can also be considered on the basis of its audit work on both the NNPC and the MOCs. When compared with the CS who perceived from afar, the perception of the PAF can be argued to be knowledge-based given its role as the auditor to both the NNPC and the MOCs.

However, as earlier argued, the various initiatives mentioned have the potential of helping the NNPC to identify problematic cost areas, but also requires a sound administrative and financial system, backed by the appropriate human and technical resources to be successful. On this basis, the disagreement expressed can arguably be considered as the most appropriate perception. Thus, the null hypothesis  $H_{05}$  is accepted in relation to the statement tested.

Thirdly, the perception of respondents sought on the capability of the NNPC to assist in improving the cost performance of the MOCs indicated that 49.2% of respondents disagreed. It was also revealed that 23% agreed on the notion, while 27.8% held a neutral opinion. On average, the respondents were neutral with a median score of 3.00. Further investigation for significant differences between groups revealed differences in several cases.

As shown in Table 6.21, significant differences at the 5% level of significance were revealed in six cases. The NNPC and the FMPR, on the one side agreed that the NNPC has the capability to assist with improving the cost performance of the MOCs with 41.6% and 50% respectively. In contrast, the MOCs, the CBN and the CS disagreed on the notion with 58.3%, 62.5% and 75% respectively.



Again, the disagreed opinions of the MOCs, the CBN and the CS can be attributed to the NNPC's human, process and technological deficiencies, which the transformation programmes, are tackling. Possibly, it is in this vein that the NNPC and the FMPR agreed. Their perception may have been based on efforts being made towards ensuring VfM in the petroleum industry, such as the NIPEX joint qualification system. As reported in the literature, the system has, since inception, acted as a working catalyst for upstream activities through which cost saving increased and cost processing cycle time reduced (Kupolokun, 2006; Gboyega et al., 2011). Also, in line with the global benchmark trend, the NNPC introduced new measures that will focus on life cycle costs and unit technical costs. The aim of this is to “develop synergy among operators by pooling common services and resources to avoid duplication of costs often associated with stand-alone projects – rig share programmes, vessels and pipelines” (Alike, 2013).

Therefore, in conclusion, the NNPC in recent years have been demonstrating its capability by rolling out new initiatives that will assist in improving the MOCs' cost performance, ensure VfM and enhance accountability. Based on this, the agreed perception of the NNPC and the FMPR is considered as the most appropriate. Hence, the null hypothesis  $H_{O5}$  is rejected in relation to the statement tested.

Summarily, the respondents' perception showed that the NNPC is incapable in measuring cost performance and identifying problematic cost areas. However, the respondents perceived that the NNPC have the potential capability to assist the MOCs to improve cost performance. On this basis, the null hypothesis  $H_{O5}$  is accepted.

On a general note, of the four main set of statements tested in Section Four of the questionnaire, hypothesis  $H_{O5}$  was rejected in three instances and accepted in one instance.

## **6.4 Conclusion**

In this chapter, the analyses of the data collected for the study was presented. This was done with the aim of ascertaining whether, in the opinion of the stakeholders, the operations of the NNPC in the upstream sector of the Nigerian oil and gas sector is being managed in an efficient, effective and economical manner, and VfM is achieved. In general, the result of the analysis suggests that the stakeholders perceived that the NNPC's management of upstream operations were inefficient, ineffective and uneconomical; VfM was not achieved. Specifically, the organisational decision-making structure of the NNPC is defective; financial management system is not suitable for commercial purpose, monitoring and compliance procedures are inadequate, and there is a dearth of human and technical capability.

## **CHAPTER SEVEN**

### **ANALYSIS OF INTERVIEW RESULTS**

#### **7.1 Introduction**

The previous chapter presented and interpreted the results of the questionnaire administered to twelve groups of stakeholders. The purpose of this chapter is to present and analyse the result of the interviews conducted with sixteen experts drawn from stakeholders' groups earlier consulted in the questionnaire survey. The interviewees<sup>90</sup> were carefully selected on the basis of their experience and level of managerial cadre they have achieved. While this section provides an introduction of the chapter, Section 7.2 presents and analyses the interviews; Section 7.3 concludes the chapter.

#### **7.2 Interview Survey Analysis**

As earlier indicated in Section 5.6.3.2.2, the purpose of employing the interview research tool for this study is to further ascertain the issues that emerged from the findings of the questionnaire. Consequently, the five, key, broad areas designed in the questionnaire were used to interview the evidently abled experts. The five broad areas and questions are summarised as follows:

1. Standardised indicators of value addition and their applicability to the upstream operations of the NNPC.
2. Environmental factors that affect the value adding objectives of the NNPC.
3. Operational efficiency of the NNPC in the upstream sector.
4. The effectiveness of NNPC in the upstream sector.
5. The NNPC ensuring economy in the upstream sector (see interview questions in appendix E).

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<sup>90</sup> The interviewees were coded from S1 to S12. Those groups with more than one interviewee further differentiated with alphabetical letters.

### **7.2.1 Responses relating to Value Addition to Hydrocarbon Resources in the Nigerian Oil and Gas Industry**

As generally evident from the literature, the NOCs unlike the MOCs have the dual responsibilities of maximising profit and ensuring sustainable development in the spirit of the national mission (Lahn et al., 2007). Although the significant indicators for achieving these two components of the NOC's value adding responsibilities are often not clearly defined, six indicators were identified in the literature, namely: i) discovery of oil and gas; ii) high production of oil and gas; iii) high oil and gas revenue; iv) development and application of research; v) local capacity building; vi) increase the participation of local companies. These indicators are perceived to be of a global standard (Wainberg and Foss, 2007; Robinson, 2009).

Being that the assessment of the NOCs can appropriately be done based on their objectives (Al-Naimi, 2004; Tordo et al., 2011), the value indicators were presented to Nigerian stakeholder groups in the questionnaires administered. Subsequently, further enquiries were made on the appropriateness of the value adding indicators through interviews. The opinions of the interviewees are consistent with the findings of the questionnaire except in one of the variables, the development and application of scientific research. The assertions of the interviewees are related as follows:

i) Discovery of new oil reserves: in several instances the interviewees identified the discovery and addition of oil reserves as a form of adding value to hydrocarbon resources. Below are some of the pronouncements of the interviewees.

One interviewee from the MOCs (S5A) said:

“Value is added in term of revenue generation and the discovery of new frontiers, where there have been a lot of enhanced recovery”.

In concurrence, interviewee (S1A) was quoted to have said:

“The starter for adding value to hydrocarbon resources is the exploration for the resources”.

Further affirmation of the discovery of oil reserves as an indicator for adding value to oil and gas resources was given by interviewee (S3B) who said:

“For me I will say value addition is in two folds. Firstly, how to enhance the recovery of the hydrocarbon in the earth, and secondly, how to improve the products you get from the hydrocarbon”.

An assertion that further buttresses the place of oil and gas discovery as a form of value addition was interestingly delivered by interviewee (S11) who said:

“It is imperative to continue to add value through new discoveries. Currently a new bill titled “A Bill for act to establish the National Frontiers Basins Exploration Agency” is being debated in the National Assembly, with the aim of seeking value from the inland sedimentary basins in the northern part of Nigeria”.

Similarly interviewees (S9) and (S12) concurred that the discoveries of oil and gas fields indicate adding value to hydrocarbon resources.

ii) High production of oil and gas: the interviewees also indicated that successful production of oil and gas express that value is added to hydrocarbon resources. Some of the assertions of the interviewees in this respect are stated below.

An interviewee (S1B) asserted that:

“Nigeria depends on hydrocarbon 90%. It is only when upstream activities are undertaken and production is optimised that we can say value is added”.

Another interviewee (S2A) concurred to this view through this assertion:

“The expectation of Nigerians hinge on the level oil production, because as the mainstay of the country high production of oil translate to value addition”.

Interviewee (S11) argued the case of adding value through high production in an interesting way, that:

“As you can see the level of production influences the kind of the budget the president presents to the National Assembly for appropriation. In the recent past, production level reduced due to the militancy in the Delta production, and

this was costly for the economy. Therefore, as it is I will say high level of oil and gas production is very important for the survival of Nigeria”.

The view that high production represents value addition to hydrocarbon resources is also shared by interviewees (S7), (S6) and (S4).

iii) Higher revenue from oil and gas resources: although some of the opinions earlier stated point to the fact that revenue generated from oil and gas is considered as value addition, specific assertions are stated below.

One interviewee (S7) shared his views on the relevance of oil and gas revenue by saying:

“It is only when we increase our reserves that we cash in on the hydrocarbon. So the revenue we expect as a country is what we use to sustain our development”.

Correspondingly, interviewee (S8) said:

“When we look at the hydrocarbon itself, it does not have any value except it is explored and developed and produced. The value that is created manifest in the oil and gas revenue we get”.

As well, interviewee (S2B) reiterated this view by saying that:

“Value comes in the form of the oil and gas revenue that constitute the bulk of fund that is shared to the federal, states and local governments from the federation account”.

In conclusion, in the course of the interviews many interviewees have indirectly emphasised the importance of oil and gas revenue to Nigeria.

iv) The increase in local capacity to explore, develop and produce oil and gas: being that oil and gas activities in Nigeria are dominated by the MOCs, the development of local capacity was also indicated as value addition. The assertions of the interviewees are related as follows.

Interviewee (S1A) was of the view that:

“Value will seem to have been added, if we attain self-sufficiency in upstream activities. We are already doing that through the NPDC and other local companies such as Oando and SAPETRO”.

The same view was related by (S11) who said:

“Nigeria is deriving value from the fields ceded to local companies as a result of the Marginal Fields Act”.

A good number of stakeholders perceived the increase of local capacity in the oil and gas upstream sector as value adding. Amongst them are (S1C), (S4), (S7) and (S12).

v) Creation of stronger economic linkages within the oil and gas value chain: creation of value within the oil industry and even the multiplier effect of oil and gas activities to other sectors of the economy, according to the literature, addresses some aspect of a NOCs national mission (Lahn et al, 2007). In this regards, some of the assertion of interviewees are stated.

In the first instance, interviewee (S6) said:

“Nigeria could have added value to the hydrocarbon resources by setting up functional and effective refineries that are working optimally; we would not have cause to export crude and import petroleum products. In that case, the 1.7 billion dollars that the subsidy is claiming will not even arise. So if we look at it effectively we are not adding value optimally to hydrocarbon resources in Nigeria”.

Although the interviewee suggested that there is need for improvement in this aspect, it is confirmed that economic integrations are considered as adding value. This is further affirmed by interviewee (S1B) who said:

“We are adding value enormously through the activities of IDSL and NETCO in the upstream sector. In fact some other local companies in the service sector are now benefiting hugely. Lest I forget, there are plans to add value through the power sector”.

Interviewees (S4) and (S10) are also in agreement on the perception that linking economic activities within and without the oil and gas value chain denotes value addition.

vi) The development and application of results of scientific research: regarding this, the argument is that the output of the investment in research and development will create an intangible asset; the organisation's knowledge base from which oil and gas exploration, development and production will be enhanced; from which future profit will be made (Hall, 2002).

However, this important value driver that is most necessary for reducing dependency and enhancing self-sufficiency, in contrast to the findings of the questionnaire, was not out rightly recognised by the interviewees. The closest to acknowledging this value indicator was the expression of interviewee (S1A) who said:

“Some of our strategies to achieve the mission statement are that we want to improve technology”.

This arguably explains the overbearing dependence syndrome of the NNPC in the upstream sector. Although the variable is accepted as a value adding indicator in the questionnaires, the lack of regards in the interviews suggests that the NNPC is not capable to add value in this respect.

**Table 7.1: Summarised Interview Findings in Relations to Value Adding Indicators**

<b>Question:</b> Can you please give your opinion on the outcomes that signify that value is added to hydrocarbon resources in the operations of NNPC?	
<b>Codes:</b> S1A,S3B,S5A, S9,S11,S12	i) Discovery and replacement of new reserves
S1B,S2A,S4,S6, S7,S11	2) Higher than budgeted production
S1A,S1B,S1C,S2B, S7,S8,S10,S11,S12	3) High than budgeted revenue
S1A,S1C,S4,S7, S11, S12	4) Increase in local capacity to explore, develop and produce oil and gas
S1B,S1C,S4,S8,S8	5) Economic linkages
None	6) Development and application of scientific research

Source: Author



### **7.2.2 Responses on the Impact of Environmental Factors on the Performance of the NNPC in Adding Value to Hydrocarbon Resources**

The performance of an organisation depends on its interaction with the dynamic environment in which it operates (Tordo et al., 2011). A good match of organisational action and the environment produces a successful outcome, while the contrary is experienced in the event of a mismatch (Sheppard and Chowdhury, 2005). The environments are categorised into internal and external environments; whereby, the former relates to the role of the internal management of the organisation and the latter deals with the conditions within which the organisation is immersed.

These conditions that influence the actions of the organisation include the technological, legal, economic, political, social, ecological and cultural factors (Rainey, 2003; Mellahi and Wilkinson, 2004). As such, a mixture of environmental factors, peculiar to the oil and gas industry, were identified and presented to the respondents in the questionnaire, and the findings were overwhelmingly in the negative. This prompted the further enquiry through the interview and the findings turned out to be consistent with those of the questionnaire. The following are the assertions of the interviewees.

i) Political interference: the political factor has been long identified as a major cause for patronage, rent seeking and low performance in public organisations (see Thurber et al., 2010; Tordo et al., 2011). The perception of the interviewees, below, validates the findings of the questionnaire.

While emphasising the negative impact political meddlesomeness has on NNPC's performance, interviewee (S9) said:

“Well, there is a lot of government interference in every government company. However, it is actually intense in the NNPC”.

Further confirmation of the adverse government interference was related by interviewee (S12) who narrated that:

“Globally, governments influence oil production, especially through taxation. However in countries that depend highly on crude oil like Nigeria, the situation is bad. This is because individuals and corporate organisations within government are using political interference for personal gains and benefits. In other words, there are side-tracking it for their own personal profit and not for the benefit of government and the people”.

In subsequence, one interviewee (S2A) related that:

“In Nigeria, government interference has impacted negatively against the people, environment and even the oil industry. That explains the lack of accountability and bad performance on the side of the NNPC”.

As well, interviewee (S1A) expressed that:

“Where we have issues most of the time is when you are depending on who is in power and all that. You can have an idea which if taken forward will not pass through because of personal interest. The PIB is an example”.

Finally, interviewee (S1B) dramatically concluded by saying:

“I wonder why people expect high performance from NNPC. With the frequent politically motivated change of leadership and management we experience in NNPC, there is no way we can achieve much”.

ii) Fiscal regime: the literature suggested that a properly designed fiscal regime is one that finds optimum balance in the interest of both government/NOC and the MOCs. In other words, it is a regime that has sufficient progressivity and guarantees favourable revenue to partners against any deterrent effect on investment (Davis et al., 2003). It is in this regard that the views of the interviewees are stated.

Despite the quest for the introduction of a new oil and gas fiscal policy in Nigeria through the PIB, similar to the findings of the questionnaire, the interviewees are of the opinion that the present fiscal regimes are favourable to both the government and the MOCs. In assertion, Interviewee (S1C) said:

“Nigeria has a robust fiscal arrangement for exploration and production. We have a lot of concessions given; there are tax reliefs and fiscal incentives for offshore and inland basins”.

This perception is further affirmed by interviewee (S10) who related that:

“The Nigerian petroleum fiscal terms are good, and that explains the presence of the MOCs despite the high risk involved in the Nigerian oil and gas operations”.

Even though interviewee (S12) acknowledged that the fiscal regimes are balanced, he expressed some concern about the utilisation of the generated revenue. He expressed that:

“The fiscal regimes are favourable to both NNPC and oil companies. It’s a win-win situation but the government is not using its own part very well. They are getting good revenue”.

Other interviewees that agreed that the fiscal regimes positively influence NNPC performance include (S1A), (S4), (S7) and (S8).

iii) Stability of petroleum operations: an instable and risky operational environment is well-acknowledged to breed uncertainty which hinders economic development (Frynas, 1998). In response to this, the findings of the questionnaire suggested NNPC’s recent poor performance should partly be attributed to Niger Delta militant crisis. Nine interviewees related this view and some of the assertions are thus stated below.

An interviewee (S5B) who had first-hand experience of the instable environment said:

“The security situation in the Niger Delta is a major hindrance to performance. It leads to a high cost of production. For instance, I worked on a project which currently I will say is the most expensive pipeline project in the world, 1.3 billion for a 98 kilometres trunk line. If you look at it, the big chunk of the 1.3 billion is factored to security”.

Likewise in support, another interviewee (S1C) related that:

“In terms of the contract because when you have an environment that is not peaceful there will always be premium. There will be premium on the expatriate that want to come and premium on the contract. So there will be increase in cost. In this situation contractors may take advantage and inflate prices. All those come to play so it affects our performance”.

The responses drawn from the interviews are consistent with the findings of the questionnaire and the conventional analysis of organisational studies. This is

despite the fact that Frynas (1998) argued that the crisis in the Niger Delta has had much impact on the operations of Shell.

iv) The commercial expertise: it is generally assumed in the literature that a lack of professionalism and commercial oversight undermines the NOC's performance. While on the other hand, commercialisation is associated with good governance, transparency, accountability and oil industry best practice (McPherson, 2004; Wainberg and Foss, 2007). In this regard, responses from the questionnaire showed a general agreement that the NNPC lacks commercial expertise to add value to the hydrocarbon resources. The perceptions of the interviewees are as follows:

While buttressing the point that commercialisation will drive NNPC to perform positively in adding value to oil and gas resources, interviewee (S1B) related that:

“Commercialisation will help us as a corporation. We need to be unbundled from government totally. If we look at other national oil companies such as PETRONAS, there is separation between government and the oil company. It is delineated”.

Correspondingly, commercialisation is suggested to entail the independence of operations. This is the view portrayed by interviewee (S1A) who said:

“We want to be commercialised without unnecessary government interference, where we can hire and fire, and we can use the carrot and stick, then I think we will get there. Then the government can hold us accountable in terms of dividends, taxes and revenue”.

From another perspective which showed that the NNPC has not been run with much commercial consideration, interviewee (S2A) related that:

“This is not about the government appointing politicians to the board of the NNPC. We need to have people that know the business and can add value to the business. Even of recent, we saw decisions that were taken without looking at the commercial implications”.

Finally, unlike some other NOCs like Petrobras and Statoil who are reputed for professionalism, interviewee (S12) suggested that NNPC's value adding

performance is greatly undermined for lack of commercial professionalism, by relating that:

“Regarding the issue of adding value to hydrocarbon resources, in my candid view I don’t think the NNPC is really adding value because there is issue of doing business and declaring profit or loss. This is what I don’t see the NNPC doing. In fact, what I am saying is that the NNPC business is not real business”.

These responses confirmed the findings of the questionnaire. However, it seems the government is making effort to address this issue by incorporating the JV arrangements through the PIB.

v) Transparency and disclosure: As shown in Section 4.2, transparency is a vital tool for enhancing and ensuring accountability (Boyne, 2002). It is central to improving the governance of NOCs, which in effect is instrumental to mitigating the agency problem; increases performance and provides a platform for effective communication with stakeholders (Indreswari, 2006; Iyoha and Oyerinde, 2009). The findings of the questionnaire regarding transparency in revenue, oil production and cost suggested that the NNPC is negatively affected. These findings are reiterated in the interviews conducted by all the interviewees engaged.

For instance, interviewee (S8) who represents an important government agency stated that:

“One of NNPC’s major problems is its lack of transparency and accountability. Its secretive nature has led the people to perceive it as corrupt and inefficient. You can hardly pin down an accurate figure for its volume of production, revenue and expenditure”.

In addition, further responses suggested that even within government circles, the NNPC is poorly perceived in terms of transparency and accountability. This undermines its essence to reduce the information gap between government and the MOCs. Representing another government agency, interviewee (S7) opined that:

“The NNPC’s problems go down to accountability, responsibility and optimal use of either cost or benefit”.

This perception is further confirmed by a representative of the civil society, interviewee (S12), who opined that in the NNPC:

“Transparency is not there, but there is hope that with the passage of the Freedom of Information bill things will improve. Probably NNPC will be more transparent. DPR and other agencies in the petroleum sector will be able to be more accountable and everybody will see the books better. But currently nobody can explain the actual revenue made and how they are disbursed”.

vi) The existing oil and gas laws: this represents the legal framework upon which oil and gas activities are governed with the aim to add value optimally (Omoregbe, 2001). Furthermore, as related in Section 4.7, these laws and rules are vital to ensuring VfM, given that they are the crux of the operational system that provides for rewards, compliance and sanctions (Dubnick and Justice, 2002). Responses from the questionnaire suggested that the existing oil and gas laws are obsolete and ineffective. However, contrary to this finding, the interviewees have perceived that the existing oil and gas laws have had positive influence of the NNPC’s performance.

The first response in favour of the existing laws is expressed by interviewee (S7) who said:

“The legal framework upon which the NNPC operates is alright, but the operation, structure and processes of implementing the framework are faulty. This leads to misplacement of resources in terms of human and capital resources”.

Correspondingly, interviewee (S5A) responded in support by saying:

“Even though the PIB is to replace the Petroleum Act if passed by the National Assembly, it is my sincere view that the existing Act has all it takes to judiciously help the NNPC to operate. After all it has been in use for over four decades”.

Finally, interviewee (S6) concurred by saying that:

“The Nigerian petroleum laws are appropriate for oil and gas operations. However, the NNPC and the DPR need to enforce some of the provisions of the laws so as to encourage local participation”.

Interviewees (S9) and (S12) also shared the same perception that the oil and gas laws that govern upstream operations in Nigeria have been effective in adding value. In conclusion, the views of the interviewees differed with the findings of the questionnaire.

**Table 7.2: Summarised Interview Findings on the Environmental Factor that Affect the NNPC**

<b>Question:</b> Based on the findings of the analysis of my questionnaire, the experts seemed to hold the opinion that there are factors that have had positive and negative effect on NNPC's development of hydrocarbon resources. Do you share this view? If so, can you please comment on the factors?	
<b>Codes (Interviewees)</b>	<b>Positive Effect</b>
S1A,S1C,S4,S7,S8,S10,S12	<b>i) Fiscal regimes</b> <ul style="list-style-type: none"> <li>• Tax relief</li> <li>• Fiscal incentives (MoU)</li> <li>• Balanced tax system</li> </ul>
S5A,S6,S7,S9,S12	<b>ii) Petroleum laws and regulations</b> <ul style="list-style-type: none"> <li>• Appropriateness</li> </ul>
<b>Codes (Interviewees)</b>	<b>Negative Effect</b>
S1A,S1B,S2A,S9,S12	<b>i) Political interference</b> <ul style="list-style-type: none"> <li>• Patronage</li> <li>• Rent seeking</li> <li>• Politically influenced appointment of managers</li> <li>• Politically influenced change of leadership</li> </ul>
S1A,S1B,S1C,S4,S5B,S7,S8,S11 S12	<b>ii) Unstable environment for petroleum operations</b> <ul style="list-style-type: none"> <li>• Insecurity</li> <li>• Sabotage</li> <li>• Militancy</li> </ul>
S1A,S1B,S2A,S6,S7,S11,S12	<b>iii) Lack of commercialisation</b> <ul style="list-style-type: none"> <li>• Lack of administrative autonomy</li> <li>• Lack of financial autonomy</li> <li>• Lack of professionalism</li> </ul>
All interviewees	<b>iv) Lack of transparency and accountability</b> <ul style="list-style-type: none"> <li>• Secrecy</li> <li>• Lack of disclosure <ul style="list-style-type: none"> <li>- Revenue</li> <li>- Production</li> <li>- Expenditure</li> <li>- cost</li> </ul> </li> </ul>

Source: Author

### **7.2.3 Responses on the Efficiency of the NNPC in Upstream Management**

In the quest to ascertain the NNPC's performance within the perspective of VfM, the efficiency of the NNPC was sought in the questionnaire. Efficiency, in this respect, denotes the outcome of the appropriate use of administrative principles in directing and controlling the internal mechanisms of an organisation (Murshid, 1988). These mechanisms include the structure, the administrative system, the financing network and the control apparatus.

The general findings of the questionnaire showed that the NNPC has not been efficient in managing its upstream activities. Thus, in order to examine further and seek validation of the findings, interviews were conducted. The assertions derived are categorised and stated below.

i) The administrative procedures: as stated in Section 3.6.1, this is concerned with the organisational structure, the administration system and other essential inputs that are requisite for achieving efficiency (Richard et al., 2009). Below are some of the assertions of the interviewees.

a) The corporate resources are mobilised, allocated and utilised through the organisational structure (Obiwuru et al., 2011). With respect to NNPC, interviewee (S5B) related that:

“The NNPC's administrative structure for actualising the upstream objectives and strategies is flawed, because it is not well-defined”.

To further emphasise this point, interviewee (S3) who represents the regulator remarked that:

“For goodness sake, how do you expect a company that is involved in oil and gas exploration, upstream, downstream, marketing, transportation and everything under the leadership of one person to work? It is practically impossible. Therefore the issue of structure and processes will have to be revisited”.

While arguing that the frequent change of the NNPC's leadership is the reason for its administrative failure, interviewee (S8) said:



“I will say on paper, that the NNPC has a good structure, but the issue is consistency. Another man comes on board and for some reason they start a new policy; they start a new roadmap while another man comes on board and change it; that affects progress. Building on the progress made by others, based on a roadmap will bring operations to be more effective and economic”.

In relation to the assertion above, interviewee (S12) said:

“The NNPC is supposed to be a prestigious company doing its business and at the same time providing service to the nation just like Petrobras in Brazil, Statoil in Norway and Petronas in Malaysia. It has to be an independent organisation that can attract expertise worldwide to make money for the country. It has to be split and restructured to follow laid down processes”.

Finally, the structural problem is perceived to be beyond the NNPC, but rather the whole oil and gas industry. In relation to this, interviewee (S11) related that:

“The structure in place for the industry is wrong”.

In consistence with the findings of the questionnaire, the interviewee held the view that the structure upon which NNPC operates is defective. Thus, conveying economic information within such a structure undermines accountability and the achievement of VfM and efficiency.

b) Regarding NNPC’s efficiency in upstream decision-making, the views of the interviewees remained consistent with the finding of the questionnaire. The positions drawn from the interviews are as stated below.

The interviewee (S3) reported that:

“By the arrangement of the NNPC, the Minister of Petroleum Resources is the Chairman of the corporation, and there are some board members appointed by government. Probably it is only the GMD who represents the entire corporation as a professional in the board, and the board is to decide the fate of the corporation. So, this is the largest and most important corporation owned by government being managed by politicians that may not have required knowledge of the industry. Ironically, every critical decision for the corporation will be made by the board, therefore there is a problem”.

From another perspective, the NNPC’s decision-making process was doubted, as interviewee (S1C) narrated that:

“One area we have government interference is when the board decides on contracts. For example in the NNPC, contracts are given to the lowest bidder and the lowest bidder may not necessarily be the best. There are politicians; whenever there is a big contract the minister is interested”.

Similar perceptions are held by interviewees (S7), (S9) and (S12). This suggests that the finding of the questionnaire is reaffirmed by the interviewees.

c) Appropriate human capacity: having the adequate quality and quantity of human resources is also an important requisite for corporate governance. In this respect, the finds of the questionnaire indicated that the NNPC has not appropriately utilised it human resources, or even lacks the adequate capacity. The interviews conducted revealed the following assertions:

Interviewee (S3) briefly said that:

“The NNPC have qualified staff but they are not being used wisely. They are not well-placed”.

In relation, interviewee (S5A) related that:

“I know the NNPC have good hands, but they are not used rightly. Site visits are rarely held as scheduled due to non-availability of their personnel. This is a major factor that contributes to slowing down progress”.

The assertion of interviewee (S10) reiterated the point that NNPC have qualified staff but use them inappropriately by saying:

“I will say the capacity is there but the deployment of capacity is a challenge”.

Emphasising the lack of adequate utilisation of human capacity as one of the NNPC’s deficiencies and describing the way it affects the NNPC’s performance, interviewee (S9) asserted that:

“Another problem is that the NNPC reshuffle their staff frequently. For instance, personnel that have worked in the downstream sector all his career may find himself in the upstream sector at the decision making level. How then do we expect the right decisions to be taken”?

The issue is also asserted in a different perspective by interviewee (S1C):

“Again, the issue of training, they are so many misplacement of priorities. There is no deliberate and conscious effort by NNPC to train certain group of personnel to manage those areas that are critical to their business”.

Overall, the assertions of the interviews conducted agree with the findings of the questionnaires; as such, the result is validated that the NNPC’s administrative procedures are deficient and causes inefficiency.

ii) Financial management: the processes of sourcing, managing and expending fund are also critical to organisational efficiency. Findings of the questionnaire suggested that the NNPC is also deficient in this aspect. Further probe through the interviews conducted revealed the assertions below.

Regarding the sourcing of finances for upstream projects, a respondent from an operating company, coded as interviewee (S5B) declared that:

“The fact that the NNPC will have to source funds for reinvestment from the government is a major challenge to oil and gas operations in Nigeria. The fund does not come in time and this affects our lead time performance. We know that in big corporations, bureaucracy cannot be eliminated but they will have to be improved. When it comes to projects they will have to cut some of the processes to enable efficient and effective management of the projects”.

Interviewee (S5A) also asserted in a similar manner by giving this example:

“For instance, there is the Afam project which Shell funded in Nigeria without the agreed contribution of the Nigerian government. The government share was released by President Yar’adua long after the project had been completed. If Shell had waited for the government’s share, the project would not have taken off”.

Similarly a representative of the regulator, interviewee (S3) affirmed this position by saying:

“The NNPC is a company like Shell, Chevron and others. To make it efficient and effective they have to make it and its units autonomous, so as to enable them make profit and retain some of the earnings for reinvestment without having to go to the government. The oil companies go through a long bureaucratic process to secure funds for further investments. In most cases they rarely get what is need for reinvestment”.

Interviewee (S1A) also emphasised the point that:

“I feel as a company we can do far better than we do presently, but because of unnecessary bureaucracy we are still where we are. Take for instance, an MD of

a NNPC subsidiary cannot approve an expenditure of five thousand pounds; then how are you going to be efficient? Then imagine a situation where a line manager cannot approve a thousand dollars”.

A picture of the NNPC’s system for distributing funds for upstream operation was captured by interviewee (S5A) who said:

“Most times the bureaucratic process is too much that by the time the primary action is to be taken, it doesn’t serve the purpose again. For instance, about three years ago when I was working on a major project in Nigeria, one of the oil servicing companies executing the project came up with some quotations of some foreign materials which we needed and the prices really were high. We have our procurement team in house which looked at it and reported that the prices were high. Eventually the contractor reduced it reasonably and we forwarded it to the NAPIMS’ board for approval. There was so much bureaucracy, after several meetings and reviews it took four months to get the approval and at that time the contractor could not abide by the quoted prices because time has overtaken the validity of the quotation. Therefore, the approval for funding does not meet the need and this seriously affected the project schedule”.

In this respect, similar views were held by interviewees (S1C), (S2) and (10). Therefore, overall, the assertions of the interviewees are consistent with the findings of the questionnaire where it was perceived that NNPC’s procedures for sourcing, utilising and expending funds are flawed, and contributes to inefficiency.

iii) Efficient use of control tools: a good control mechanism is vital for an efficient operation, in that it helps in ensuring that actors within and outside the organisation undertake functions in the best interest of the organisation. The findings of the questionnaire portray a negative perception on the NNPC’s efficient use of control tools. The follow up interviews conducted have the following declarations.

With regards to budgetary system, interviewee (5A) asserted that:

“The NNPC’s budgetary procedures need to be reformed. Can you imagine that a budget plan given in January might not be approved till in June? Often the operator takes the risk to bear the cost as long as there is an understanding on paper. Most times the excuse the NNPC gives is that the budget is tied to the National budget which will have to be appropriated by the National Assembly before the presidency approves. So the whole thing is like a chain reaction”.

Another interviewee (S12) specifically emphasised on NNPC's procurement procedures by stating that:

"I don't think the tendering and contracting processes are efficiently used because of the large scale of fraudulent transactions that we have uncovered over time. For instance, some companies that lift our crude oil were discovered not to be on the tender list. That is just one case; there are several cases that can be mentioned".

This view is supported by interviewee (S2):

"During our auditing exercise, it was discovered the procurement procedures lacked transparency. This is one area where politicians have much interest, so high corruption prevails".

While acknowledging the availability of controls tools in NNPC, interviewee (S1B) asserted on the utilisation of the tools as stated:

"We have control tools in place such as AFE's, budget and auditing. The challenge is that, you can alike the budgetary procedures to the computer, its garbage in garbage out. We are not the operator but we try within our capacity. For example, we collect medium and long-term strategic plans. On a yearly basis, we build up a profile for exploration, development, production and new business upon which the budget is based. That is a way of controlling what we are doing in the industry".

Although, interviewee (S1B) did not declare out-right that the control tools are used efficiently, the statement infers so. However, a clearer perception is asserted by interviewee (S10).

"For the JV and compliance audits, there are provisions for them in the joint operating agreements. We do periodic audits. However, what the auditors see is what the International Oil Companies want them to see. They qualify based on the documents the International Oil Companies give to them. For example, if you come to my house you will be limited to what I want you to see".

Similar to the findings of the questionnaire, the assertions of the interviewees suggested that, in general, the control tools are not efficiently used - possibly due to inadequate human resource.

Overall, the perception of drawn of the interviews conducted concurred with the findings of the questionnaire, where it was generally perceived that NNPC has not been efficient in managing its upstream oil and gas operations.

**Table 7.3: Summarised Findings of Interview on the Efficiency of NNPC in the Upstream Sector**

<b>Question:</b> From the analysis of the questionnaire earlier administered, it appears that the respondents believe that the NNPC has not managed its upstream operations efficiently. Do you share this view? If so, please can you mention the reasons for its managerial inefficiency?	
<b>Codes (Interviewees)</b>	<b>Responses</b>
S1A,S1C,S2B,S3,S5A,S5B,S7,S8,S9,S10,S11,S12	<b>i) Administration</b> <ul style="list-style-type: none"> <li>• Unclear objectives</li> <li>• Defective organisational structure</li> <li>• Defective administrative system</li> <li>• Excessive bureaucracy</li> <li>• Lack of independence in decision making</li> <li>• Human and technical incapacity</li> <li>• Inappropriate use of available manpower</li> <li>• Lack of adequate training and development</li> <li>• Nepotism and corruption</li> </ul>
S1C,S2,S5A,S5B,S10	<b>ii) Financial Management</b> <ul style="list-style-type: none"> <li>• Lack of financial autonomy</li> <li>-Funds depend on government budget</li> <li>-Controlled approval limits</li> <li>-Cannot retain profit</li> <li>• Unnecessary bureaucracy in processing fund</li> </ul>
S1B, S2, S5A,S10,S12	<b>iii) Efficient use of control tools</b> <ul style="list-style-type: none"> <li>• Defective budgetary procedures</li> <li>• Deficient human and technical capacity used for doing audit work</li> </ul>

Source: Author

#### **7.2.4 The Responses on the Effectiveness of the NNPC in the Upstream Sector**

As stated in Section 3.6.2, effectiveness is another component of the VfM which is concerned with achieving organisational targets and objectives (Aktas et al., 2011). In this light, the questionnaire focused on the NNPC's operational targets and national mission targets. In general, the findings of the questionnaire suggested that the NNPC was not effective in its upstream operations. Investigations were further conducted through interviews and the assertions drawn are as related below.

Some assertions were made on NNPC's operational targets. On the issue of meeting its reserves and production targets, interviewee (S1A) said:

“Actually, our target was to achieve a reserve base of 40 billion barrels and produce 4.5 million barrels of crude oil per day. We have not been able to meet up because of several reasons, which are not mainly our fault. I’m sure you are aware of the problems in the Niger Delta. Another reason is the non-passage of the PIB. The oil companies are not doing much of exploration because of the uncertainty involved”.

This assertion, which confirmed the targets set was not attained; were also expressed by interviewees (S1C), (S2), (S3), (S4), (S5B) and (S8).

Regarding cash flow targets, interviewee (S5A) said:

“You see, when you talk of cash flow targets then the whole NNPC case becomes a joke. Did you not hear of the debate on the NNPC’s solvency some years back? The truth is that the NNPC survives on government; it does not really earn anything for keeps. That is why its investments are funded by government. In fact, one can conclude that the NNPC’s business is that of a messenger who conveys messages between the government and the oil companies. It does not have money of its own”.

In a similar manner, interviewee (S3) asserted that:

“The NNPC business is not real business. It is not run like companies like Shell or even contemporaries like PETRONAS and Aramco where there is some sort of control over income and cash flow. This is one of those areas the PIB is designed to address”.

The ineffectiveness attributed to the NNPC in this aspect can be linked to the design of the oil and gas industry, rather than the NNPC. However, other aspects of the NNPC’s operational targets were also commented on.

Regarding the NNPC’s effectiveness in controlling oil sharing and lifting, interviewee (S1C) asserted differently from the perception drawn from the questionnaire, as such:

“It has always been alleged that we don’t know what we produce and what is lifted. I can tell you that this is not true. The jetties have a metering system that ascertains what is taken. Yes, there will be bunkering which is an international thing but generally we are in control. Nigeria produces over 2.5 million barrels per day, but when we vandalise; when there are have shut-ins; when there are operational issues we don’t get that volume”.

However, interviewees (S2), (S9) and (S12) disagreed with the assertion. For instance, interviewee (S2) declared that:

“I don’t think that the NNPC really know what the oil companies’ produce because from our physical audits, we have has consistently pointed out this fact.

The volumes the NNPC give us are usually different from those of the oil companies. Besides, it is no secret that the NNPC do not have the technological capacity to monitor the oil companies”.

With regards to the performance of the NNPC in the area of the Nigerian content objectives, several assertions were made. In response to the development of local skills, interviewee (S6) said:

“Nigeria has so much skilled and unskilled manpower that can run the oil industry. The NNPC have some programmes that are aimed at developing skills. Some are in the form of attachments with the oil companies”. As well, a lot of wealthy Nigerians have started getting involved. Having said that, I am 100% in support of the way the local content agenda is being implemented”.

In concurrence, interviewee (S1B) said:

“The NNPC has done well in the development of local skilled workers. We ensure that there is shop placement with the oil companies, and we have worked closely with the PTDF to develop more hands. However, we still need to do better if we want to expand”.

However, a different view was declared by interviewee (S5B) who said:

“In terms of manpower, the NNPC often allows you to go ahead on projects based on your past experience without coming to check what they are supposed to check. This is mainly due to a shortage of qualified manpower. Sometimes they send the wrong personnel who are not qualified to go offshore and therefore the inspection does not go ahead. We need to improve the interface”.

The views of these respondents correspond with the findings in the previous chapter. It confirmed that despite the NNPC’s stride towards the development of local skills, targets were not met.

The perception is not different on the effectiveness of the NNPC in ensuring the use of local manpower, and the transfer of technological expertise. In this respect, Interviewee (S3) said:

“The NNPC, the DPR and all petroleum agencies are currently driving to improve local content involvement in Nigeria. But there are problems. Look at the high number of unemployed local skilled workers available in the market. The MOCs are not willing to give the skilled Nigerians the chance to take over. To be honest, this is not good for Nigeria. The main issue here is corruption...I encountered several companies (I don’t want to mention their names) that bring in Document Control Officers, that is another name for ‘secretary’. I asked the company the difference between the two, and couldn’t be given a convincing answer. Do you mean out of 160 million Nigerians you cannot find a capable secretary? I mean a graduate that will take care of documents. There are so



many loopholes in the system. The MOCs are here for business and at the same time to create jobs for their people at our expense. In order to achieve their objectives they are ready to pollute the minds of even the unpolluted Nigerians.”

Similarly, interviewee (S12) asserted that:

“We have an increasing number of foreigners coming to Nigeria at the expense of qualified skilled Nigerians. This increases the number of unemployed skilled Nigerians. This is not done elsewhere in the world. For example, in the UK, for a foreigner to be employed it will have to be proved that there is no qualified citizen to take the job. In Nigeria it is not so”.

Although interviewee (S5A) also acknowledged that there is need for improvement in the use of local manpower, he singled out the high level of compliance in one of the MOCs. He asserted that:

“For the use of local, skilled and unskilled workers, I will also give kudos to Shell, because about 85 to 90% of Shell personnel are Nigerians. As a result, Shell gets annual awards. This is not the case with ExxonMobil, Chevron and Total”.

While attesting to the ineffectiveness of the NNPC, in ensuring that technological expertise is transferred to local companies including the NNPC itself, interviewee (S1C) said:

“We have technological challenges. We do not have the kind of technology the MOCs have. I believe it is not because we cannot have them but, when we need to acquire them, we will still have to go through a long bureaucratic process. In fact, if it is not of priority to those at the top - despite its importance - you won't get approval. If these areas are looked into, we will perform more efficiently”.

Similarly, interviewee (S1A) who declared that:

“For me you acquire technology based on the way you approach it. We need to say this is where we want to be. For example like China, you have to steal it. We have had money over the time that would have helped acquire technology through planning, but we have wasted it”.

This assertion is equally shared by interviewee (S1B) who declared that:

“You can't acquire the technology without the resources. It is for us to have a deliberate strategy that at some point will lead to acquiring the technology, which we have. But as a country we don't follow through. Since 1958, when we started, it is expected that some Nigerians would have gotten to the level of understanding and handling petroleum business on our own. If you look at PTDF, the brain behind the policy is to train Nigerians abroad but the lapse of that policy is that the people do not come back contribute to the industry”.

Regarding the increased participation of local companies in the upstream sector, responses drawn from the interviews are mixed. For instance, interviewee (S5A) asserted that:

“For example, we in Shell, the NNPC has compelled that marginal fields be handed over to upcoming, small scale oil companies. Some of the fields were not operated for 8 to 10 years, and the government believed they can still get something out of the fields. It will amaze you that fields that were projected to have the capacity to produce 20,000 barrels per day, now, under some small indigenous oil companies, produce up to 40,000 barrels through some side-tracking and enhanced recovery”.

This opinion is also held by interviewee (S5B) who expressed:

“Regarding participation of local oil servicing companies, there is a lot of improvement. Take Nestoil for example, they did a fantastic job for Shell recently, months ahead of schedule. The company employs over two thousand Nigerians and has even succeeded in buying one of Shell’s marginal fields. So gradually the company is turning to an operator. In addition, from its profit in the oil sector also the company set up a reputable construction company. This is all because Shell took it on board in partnership with government to increase local content. There are a few oil servicing companies like that, and it is very good for the economy. In a way we can say technology is being transferred gradually”.

In contrast, interviewee (S7) responded differently by saying:

“Can we really call what we are seeing ‘local participation’? Most of the local service companies are fronting for foreign companies and the products they supply are sourced abroad. As far as I know, the level of capital flight is still very high. But then, we should know that we cannot really participate without the requisite technology because the oil and gas industry is different from other industries”.

Another respondent, who had earlier accepted that there is increased local participation in the oil and gas industry, pointed out some areas that need to be improved on. Interviewee (S5B) said:

“There are areas I am not pleased with in terms of the implementation of the content act. The NNPC now force on the operators some local companies that are not capable. For instance, on a recent project I worked on, a company which failed the technical and commercial bid, a company which was not even second or third on the list was enforced on the operator by the NNPC. Whereas there were other qualified Nigerian firms. This is extremely bad for oil project management. It will reduce efficiency and effectiveness of the operations. And at the end of the day it will not be economical”.

Despite the NNPC's effort and improvement on local content, in general, the assertions of the interviewees are consistent with the findings in the previous chapter, where the NNPC's ineffectiveness was declared.

Issues on the effectiveness of the NNPC in monitoring the compliance of the upstream sector activities were sought in the interviews. Some of the assertions made are stated below.

One experienced respondent, interviewee (S1A) said:

“Even in most of our agreements that were signed, the PSC for example, have the provision where Nigerians that work need to understudy the expert. It is even provided that at some point Nigerians will head those companies. In the JV agreement, there is a proportion of people we need to have on different cadre. Actually this is on paper, but in terms of compliance with some of these provisions we still have a lot to do”.

Interviewee (S5B) related the NNPC's effort in the following words:

“The NNPC has some effective control tools. If we take auditing, the NNPC have qualified team to do the job. And that has kept us to set up to make sure our books are well-balanced. In fact, there were instances where audit staffs were sacked because NNPC found their team wanting. But the problem is that the team is overworked, and getting them to do the audits is difficult due to their tight schedule. In that regard we can say that the NNPC need to recruit more and improve on its manpower training and development”.

The assertions above suggest that the NNPC is not effective since the MOCs have to pursue them to perform their duty. A similar comment was made regarding compliance to the provisions of the carry agreement.

In responses to the issue of carry agreement, interviewee (S1C) related this:

“At the initial stage, best decisions were not taken regarding the carry agreements we signed with the MOCs. We had problems with the way it was implemented and we could not really monitor the activities. I can tell you that we have improved greatly, that is why we now have the modified carry agreements”.

Commenting on compliance with industry best practice, interviewee (S3) who represents the regulator confirmed the findings of the questionnaire by saying:

“Regarding the application of best practice in the industry, I will answer in two ways, one leading to the other. On paper the standards are there but practically it is often not followed”.

Furthermore, interviewee (S5A) and (S12) related that the NNPC does not have the capacity to effectively monitor compliance to environmental laws and regulations. Although, there are other government agencies that are also responsible for ensuring compliance in this aspect, since the NNPC is a major partner, and one that bears loss when the environment is damaged, it should be able to monitor activities.

In this respect, the assertion of interviewee (S5A) states the position of the NNPC:

“Last year we had a spill and we were trying to get the NAPIMS people to come around so as to reconcile what the community and the media are saying regarding the spill. It was supposed to be an all-inclusive survey of the spill, including Rivers and Bayelsa state governments, NAPIMS and the environmental people, but NAPIMS couldn't come, thereby couldn't have had a clear understanding of the actual situation. Some of these spills are actually as a result of sabotage on pipelines in order to make claims from government and MOCs. The end result is that it reduces efficient and effective project management”.

On a general note, the statements drawn from the interviews on the NNPC's effectiveness in monitoring compliance on various upstream activities are consistent with its ineffective performance derived from the findings of the questionnaire.

Communication is an important element of organisational effectiveness because it helps to coordinate activities (Makinde, 2005). In this respect, the findings of the questionnaire suggested that the NNPC has an ineffective communication and feedback system. Further investigation through the interviews affirmed this position as shown in these statements.

Interviewee (S5A) related that:

“The NNPC need to improve on mainly interfacing with the oil companies, and especially in terms of bureaucratic processes. They should set up liaison offices within the operator's premises to improve the interface. Sometimes it takes up to a month to chase after personnel to get approvals”.

From the perspective of another stakeholder group, interviewee (S2B) stated that:

“Getting information from the NNPC is usually a herculean task. They are so secretive, and by so doing they alienate others who have dealings with them. The NNPC is not in any way transparent and this is an issue of concern”.

One other respondent, interviewee (S1C) related that:

“In the cause of doing our jobs there are procedures for how we communicate. But then we cannot say it is perfect, because everybody has got his own interest. Sometimes if something is not in one’s favour one is likely to keep mute. In general, I think we have good relationship with the IOCs, and we do that through various meetings like the sub-committee, technical committee and management committee meetings. Also, we communicate and pass information through other official and unofficial channels”.

Interviewees (S7), (S9), (S11) and (S12) also stated the difficulty of communicating and assessing information from the NNPC. Therefore, the general conclusion is that communication between the NNPC and its other partners is ineffective.

Overall, the assertions of interviewees, as in the findings of the questionnaire suggested that the NNPC has not been effective in meeting its operational and content targets. This is possibly one of the reasons for the NNPC’s perceived, poor performance.

**Table 7.4 Summarised Findings of Interviews Concerning NNPC's Effectiveness in the Upstream Sector**

<b>Question:</b> The findings of my questionnaire suggest that NNPC have not done well in achieving its upstream goals and objectives. Do you have a similar opinion? If so, please can you comment on the reasons for the ineffectiveness?	
<b>Codes (Interviewees)</b>	<b>Responses</b>
S1A,S1C,S2A,S3,S5A,S5B,S8,S9,S12	<p><b>i) Oil and gas operational targets</b></p> <ul style="list-style-type: none"> <li>• Unstable environment for operations</li> <li>• Non-passage of the PIB</li> <li>• Lack of financial autonomy and solvency</li> <li>• Delay due to structural and process defect</li> <li>• Human and Technical incapacity to monitor and control MOC activities</li> <li>• Lack of effective interface between NNPC and other stakeholders</li> </ul>
S1A,S1B,S1C,S2B,S3,S5A,S5B,S6,S7,S9,S11,S12	<p><b>ii) National mission targets</b></p> <ul style="list-style-type: none"> <li>• Inadequate capacity to develop local skills and use the available manpower</li> <li>• Structural gap between the top management and middle managers</li> <li>• Lack of technical capacity</li> <li>• Lack of human capacity to control and monitor compliance in the activities of MOCs with the provisions stated for: <ul style="list-style-type: none"> <li>- Procurement</li> <li>- Auditing</li> <li>- Budgeting</li> <li>- Environment</li> <li>- Health and Safety</li> <li>- Best practices</li> <li>- Employment</li> </ul> </li> </ul>

Source: Author

### **7.2.5 Responses on NNPC's Economic Considerations in the Management of its Upstream Activities**

As stated in Section 6.3.4, economy, which is the third component of VfM, is concerned about the economic decisions taken where cost is minimised; output is optimised and quality is not compromised in the case of achieving objectives (Daujotaite and Macerinskiene, 2008; Lee, 2008). In the light of this, the opinions of interviewees were sought on how well the NNPC has ensured economy in its upstream operations.

On the issue of optimum outcome to be achieved from the choice of petroleum contractual arrangements, these responses (below) were drawn from the interviews.

While showing that the three petroleum arrangements presented in the questionnaire can produce optimally in Nigeria, depending how they are used, Interviewee (S3) asserted that:

“Depending on how we look at it, all of the contractual arrangements are beneficial. Technically, there are areas where JV is the best option to use, while in some areas it’s the PSC and Service Contract”.

Supporting this view, interviewee (S1A) also said:

“The choice of contract depends on some factors which we have to put into consideration. For instance, in the areas where there is the need to induce production up through the use of a pump in the well, the JV is likely the best option having checked the cost effectiveness of the technology. However, the PSC is more accepted in deeper waters because huge money is involved. It makes sense to bring in investors to invest while we share the discovered product for a certain period of time after which it all become ours. So because we have a lot of PSCs and, afterwards it all becomes solely the property of the country, we can use the Service Contractor to continue production. Therefore they are all useful and beneficial”.

Some other respondents dwelled on the problems of the different arrangements and settled for the option they perceived as optimal in terms of costs and output.

Interviewee (S4) asserted that:

“All the arrangements have their pros and cons. The JV is good, but the challenge is the ability of government to fund its share of the venture. That is the cash calls. For the PSC, to our advantage the exploratory risk is on the MOC, however if you don’t manage it properly you could be short-changed. If the fund is available to us, I think with due diligence the JV is better. Specifically the incorporated JV will be most appropriate”.

In concurrence, interviewee (S7) said:

“Now looking at the major contracts we have in Nigeria, which are the JV and PSC. The JVs were signed a long time ago when the government does not have the manpower and technical ability to run oil operations. It was the right decision then and government still gets benefit from it. But, for the issue of funding, it is a very good contract. This led to PSC. So the PIB will incorporate

the ventures and it will help the economy. Government will make more and it will trickle down to other aspects of the economy”.

Finally, interviewee (S2B) also asserted that:

“With the current situation of cash calling in Nigeria, I will say the PSC is the most preferable. It minimizes the risks on government. And there is less interference from the NNPC in the PSC contracts. Also, because most PSCs are offshore where there is no community interference, they are more efficiently and effectively run. But then, being operated offshore the cost of running the PSC is far higher. However, both the PSC and JV are good depending on how you use them”.

Based on these assertions, it can be concluded that the various petroleum arrangements in use in Nigeria produce optimally, considering the means available to the NNPC, and the circumstances in which they are used. This conclusion is consistent with the findings of the previous chapter.

One other issue that was investigated through the interviews conducted is the effect of NNPC’s monitoring role on the cost performance of oil companies and service companies. Since the NNPC mainly operates in the upstream sector through other parties, it is vital for it to monitor and control cost performance. However, there is a need to carry out this function without undermining the overall objective of value creation. In this respect, assertions were drawn from interviewees.

Interviewee (S5B) responded by saying that:

“Any contract that is over 500,000 dollars must be presented to the NAPIMS. They will scrutinize the contract, see the value in it, assess the bidders, and carry out technical and commercial evaluations before the MOCs release it to the public to invite for bidding. But for the excessive bureaucracy, I will say the process is good”.

In concurrence, interviewee (S5A) also related a similar view:

“Monitoring cost or cost control is good management practice, and over the years the NNPC have adopted and used the concept vigorously. However, one of the issues with their approach is that of enforcing incapable companies on us because they are the principal partners in the venture, thereby causing delay in the progress of the project. Our engineers end up doing the job because the companies don’t even understand the basic things there are expected to do. This causes inefficiency, ineffectiveness and it doesn’t make economic sense. Logically, one wonders how such companies get through the NNPC’s screening in the first place”.



While emphasising on the effect of the NNPC's conflicting role on monitoring cost performance, interviewee (S3) stated that:

I think it is wrong for the NNPC who is also a player in the industry to measure cost performance; rather it should be done by the regulator. That's why we have institutional structural changes in the PIB. For instance, the NNPC is a partner in JVs with MOCs, how are they going to regulate the MOCs? That is where we have a conflict of interest."

The assertions drawn from the interviews acknowledged that the monitoring role of the NNPC has the potential to positively affect the cost performance of the oil and service companies. However, it was also shown that the conflicting role of the NNPC in the upstream operations and other processes and human deficiencies adversely affect cost performance. This latter position negates the findings of the questionnaire.

The investigation on the capability of the NNPC to identify problematic cost areas and measure the cost performance of the MOCs drew the various assertions. In one instance, interviewee (S1A) emphasised the NNPC's capability of identifying and measuring cost by saying:

"We need to think commercial and assess the implication of what we are doing. The reason why our group was formed is to do a valuation for any business we want to do. That is the objective of the Economic Decision Support Group. All quotations are consistently assessed in course of implementing any project".

In support of this view, interviewee (S6) said:

"Since the NNPC established a joint qualification portal called NIPEX, it has been able to compare cost effectively. Bidders must qualify in NIPEX to bid for jobs, thereby eliminating the issue of pre-qualification".

The interviewee (S1C) also affirmed NNPC's measures of capability while bringing to fore the challenges involved through this statement:

"We follow the international standard. The Nigerian accounting standard board also do provide accounting regulations. We are conscious of the cost of materials and equipment which we benchmark based on the global market. But remember, in Nigeria the cost is determined by uncertainty of our environment; the unrest and political interference does not give us the flexibility to perform".

From contrary perspective, interviewee (S3) who represents the regulator posited that:

“Take for example the NNPC’s Group Executive Director, Exploration and Production (GED Exploration & Production) who is supposed to be in charge of exploration and production activities, can adequately tell you of their portfolio as a company, the reserves they are involved with, their present position and expectations. But, at what cost and benefit are the projects being carried out? That is a question he can hardly answer because there is consistent change in people and policy in the NNPC”.

Mixed positions were taken on the NNPC’s capability to identify problematic cost areas and to measure cost performance. While on the other hand, it was asserted that the NNPC is capable, based on the evaluation system and the benchmark in place; on the other hand, it is not because of the defect in the processes and the unstable operational environment. The latter argument is considered plausible as it aligns with the findings of the questionnaire.

Furthermore, the respondents commented on the capability of the NNPC to assist with improving the cost performance of the MOCs. The respondents generally agreed that the NNPC has the capability, but there are areas that need to be reformed. The assertions are stated below.

Interviewee (S1B) related that:

“The NNPC has done a lot to improve the cost performance. We have introduced SAP to improve communication and compare costs. We have also created a data base for project costs and equipment costs. Also available is the Nigerian Petroleum Exchange (NIPEX) where we pre-qualify contractors; where we have bidding guidelines and requirements for equipment”.

Interviewee (S1A) also said:

We have been able to improve on cost management in our modified carry agreements. As it is now, the MOC need to get to a certain level of a project before they can start carrying us. The project must have gotten to the front-end engineering design level where we can 50-50 predict the cost of the project. Carrying us at this level does not give room for escalation of the cost for the project”.

While these two assertions portrayed the NNPC’s capability in improving cost performance, the next two assertions showed the loopholes in the system. In the first instance, interviewee (S9) related that:

“Regarding cost, we can say that the NNPC have a benchmark for the industry. However, I have a problem with the system because I don’t believe the lowest bidder is the best. There has to be an optimal cost. That is why the system

creates corruption. For instance, a bidder can cut low to get the contract and do the wrong thing afterwards”.

This assertion is supported by interviewee (S3) who said:

“I won’t say we have total control. We have processes. We have procedures in place for procurement, approval and reporting. For me, to some extent that is good. The issue of cost control is very complex in nature. During the bidding process, the lowest bidder might not be the most capable for the project. The lowest bidder may be cheap but not the one that will give least value to the project”.

Eleven of the sixteen interviewees mainly asserted that the NNPC is capable of improving cost performance of the MOCs, while five held a mixed position, thereby suggesting that some further improvement is required to ensure cost effectiveness. Therefore, it can arguably be concluded that the NNPC has the capability to improve its upstream cost performance.

**Table 7.5 Summarised Findings of Interviews in Relation to How Well NNPC has ensured Economy in the Upstream Sector**

<b>Questions:</b> On a general note, the results derive from the analysis of my questionnaire suggests that NNPC did not ensure economy in the management of its upstream operations. Do you share this opinion? If so, can you please mention the where and why economy has not been ensured in the upstream sector?	
<b>Codes (Interviewees)</b>	<b>Responses</b>
S1A,S5A,S5B,S11,S12	<p><b>i) NNPC’s monitoring role in cost performance of oil and service companies</b></p> <ul style="list-style-type: none"> <li>• Adverse effect due to NNPC’s conflict of interest</li> <li>• Deficient human and technical capability that will ensure compliance</li> <li>• Excessive bureaucracy</li> <li>• Enforcing incapable companies on MOCs</li> </ul>
S1A,S1C,S3,S5A,S8,S9,S12	<p><b>ii) Management of cost performance</b></p> <ul style="list-style-type: none"> <li>• Deficient benchmarking</li> <li>• Deficient human and technical capability to measure cost and identify cost problematic areas</li> <li>• Deficient procurement procedures</li> <li>• Unstable operating environment</li> <li>• Patronage and corruption</li> </ul>

Source: Author

### 7.3 Conclusion

In this chapter, the findings relating to the analysis of the interviews conducted were presented. Sixteen interviews were conducted within the realm of the five

broad areas that reflect on the objectives of this study. This was done to clarify and validate the findings drawn from the last chapter.

In relation to the first question, it was shown that most of the interviewees agreed that five of the six indicators presented in the questionnaire are appropriate and applicable as yardsticks for the NNPC's value adding functions. That the development and application of scientific research was not acknowledged as a value adding indicator depicts the NNPC as a NOC that is largely dependent on the MOCs' operations. However, the finding supports the findings in the previous chapter which showed the indicators presented meets global standard measures for adding value in the NOCs. In effect, it also confirms that the indicators are applicable in measuring the performance of the NNPC.

In addition, in response to the factors that affects the value adding performance of the NNPC, the finding of the interviews can be categorised into two parts. On the one hand, the factors that help the NNPC positively to add value were perceived to be the fiscal regimes and the petroleum laws and regulations. On the other hand, the interviewees mostly dwelled on the negative consequences of political interference; instable operating environment; inadequate commercial expertise, and the NNPC's lack of transparency and accountability. Except for the perception that the petroleum laws and regulations impact positively on the NNPC's value addition and the failure to mention the OPEC as a positive factor, the findings of the interviews are consistent with the findings of the previous chapter.

The opinions of the respondents on the questions that were raised based on the VfM components of efficiency, effectiveness and economy, were generally in consistence with the questionnaire's survey findings. In the area of efficiency, the interviewees generally viewed the NNPC as deficient in organisational structure, decision-making and administrative procedures and processes. Other deficient areas are human, technical and financial capacities. Likewise, the interviewees validated the findings, in the previous chapter, by acknowledging the ineffectiveness of the NNPC in meeting its operational and national mission targets.

Regarding economy, the interviewees asserted that all contractual arrangements produce optimally, considering the circumstances in which they are operated. However, in disparity with the findings in the previous chapter, the interviewees asserted that the NNPC's monitoring role has a negative effect on the cost performance of oil companies. This is argued on the basis of the NNPC's process and human deficiencies, as well as its conflicting role in the upstream sector. With regards to the NNPC's capability in managing cost performance, the interviewees acknowledged that the NNPC is trying but the capabilities are still deficient. However, in concurrence with the previous findings, the interviewees share the view that the NNPC is capable of assisting in improving the cost performance of the MOCs.

## **CHAPTER EIGHT SUMMARY AND CONCLUSION**

### **8.1 Introduction**

This chapter summarises the thesis. It is partitioned into four sections. In Section 8.2, a summary of the whole study is presented including the summary of the findings of the study. Section 8.3 discusses the contribution of the study, while Section 8.4 presents the limitations inherent to the study. In section 8.5, recommendations are provided for further research.

### **8.2 Summary of the research**

This thesis has explored the governance practices of the NOCs in relation to their value adding performance. Specifically, the thesis empirically and critically investigated the practices of the NNPC with the aim of determining whether the corporation ensures that VfM is achieved in its upstream sector activities, as stated in the mission statement and desired by the stakeholders. Three research questions were addressed in the study:

1. How well do the stakeholders view the efficiency of oil and gas resources exploitation in Nigeria?
2. How well do the stakeholders view the effectiveness of oil and gas resources exploitation in Nigeria?
3. How well do the stakeholders view the economy of oil and gas resources exploitation in Nigeria?

#### **8.2.1 Summary of the Findings on the Efficiency of NNPC's Roles in Upstream Operations**

The operational efficiency of the NNPC's operations was explored through administrative, financial and control processes, with the aim of ascertaining whether VfM is ensured. On a general note, the findings showed that the NNPC has been inefficient in carrying out its managerial functions in the oil and gas upstream sector. The findings suggested the following implications.

Firstly, although the NNPC had undergone various organisational structural changes to enhance its performance, the respondents still perceived it as inefficient. Arguably, this perception is based on the centralised nature of the NNPC's organisational structure which slows down processes due to its excessive bureaucracy (see Section 3.6.1). This suggests the need for further reform in processing and organisational culture.

Secondly, the decision-making process is not autonomous, and therefore lacked the professionalism required to achieve VfM in upstream investment (Gboyega et al., 2011). It is evident that poor decision-making undermines the early execution of projects because of its negative impact on the planning process. Arguably, this erodes the essence of managerial accountability and creates an atmosphere that is conducive for opportunistic behaviours to flourish.

Thirdly, the perception of the NNPC's inefficiency can be attributed to the inadequacy of qualified human resources (see Section 3.6.1). As shown in Figure 3.4, human resources are an important input for creating value in oil and gas value chain. Therefore, the lack of it undermines the achievement of VfM in NNPC's operations. Arguably, this inadequacy confirmed the insinuation that employment of personnel into the NNPC is driven mainly by nepotism and political patronage, rather than professional expertise (Thurber et al., 2010).

Finally, the respondents also perceived that the NNPC has been inefficient in financial management and control. This can partly be attributed to the fact that the NNPC does not have the necessary autonomy required for efficient financial management. For instance, it depends on the national budget to fund its projects and cannot retain its earnings (Thurber et al., 2010). Another reason for the inefficiency is the excessive bureaucracy involved in getting approvals and payment for projects. This leads to delays in project execution, the realignment and misalignment of budgets and cost overruns. In effect, accountability and VfM can hardly be achieved because the control tools, such as budgeting and auditing, are undermined.

Consequently, the findings in this respect suggest a reform of the NNPC's administrative and financial processes to enable it operate in a manner that will

ensure VfM and portray the existence of managerial and communal accountabilities.

### **8.2.2 Summary of the Findings on the Effectiveness of NNPC's Upstream Operations**

The respondents' perceptions on the effectiveness of the NNPC's upstream activities were spread over six categories; comprising of both commercial and national mission objectives and processes. Firstly, the respondents perceived that the NNPC has been ineffective in meeting its crude oil reserve, production and cash flow targets. The findings suggest that bad governance is the cause of the NNPC's ineffectiveness. However, other causes of the ineffectiveness, such as the unstable operating environment in the Niger Delta and the inadequate funding of projects cannot be linked directly to the NNPC. Nevertheless, this has great implications for a mono-economy like Nigeria, whose socio-economic needs depend on oil and gas revenue.

Secondly, the respondents perceived negatively on the effectiveness of the NNPC's control over crude oil production, sharing and lifting. These findings underscore the NNPC's deficiencies in physical accounting, and the lack of accountability between the NNPC and its partners. The findings suggested that the NNPC will have to enhance its human and technical capabilities, as deficiencies in these areas hinder effective management and control of oil and gas processes and operations. Collusion, patronage and corruption also contribute to the NNPC's ineffectiveness in these aspects of its upstream operations (Thurber et al., 2010).

Thirdly, the NNPC has been perceived to be ineffective in controlling the five oil and gas upstream costs tested. Generally, the respondents' negative perceptions on the NNPC's control over the upstream costs confirm the position of the literature; on realignment and misalignment of budget plans, as well as budget overruns. Ineffective control of costs can provide an avenue for the MOCs to inflate expenses and gold-plate costs (Akinwumi, 2009). As a result, VfM can hardly be ensured because the upstream investments will generate less revenue.



Fourthly, the national mission objectives of developing local skills; the use of local manpower; the transfer of technology and the increased participation of local companies were tested. Despite the enactment of the Nigerian Content Act of 2010, and the various strides of the NNPC in ensuring local content achievement, the respondents perceived that the NNPC has not done enough. The findings confirmed the position of the literature on all four variables. The main points highlighted dwelled on the NNPC's inability to acquire technology and its incapability to ensure that the MOCs use available local manpower.

Fifthly, the NNPC have also been perceived as ineffective in its function of monitoring and ensuring that the MOCs comply with the provisions of contractual agreements, and laws and regulations in all facets of upstream operations. The findings suggested that the relationship between the NNPC and its upstream partners has contractual and managerial accountability problems. Again, the enhancements of human and technical capabilities are necessary for the NNPC to meet up with this challenge. Achieving effectiveness demands the usage of good and appropriate inputs; therefore, the government needs to expedite action to reform the NNPC – possibly, first by ensuring that the PIB is passed into law.

Finally, the perceived ineffectiveness of the NNPC in the area of communication and feedback suggests that the NNPC lacked a sound governance system. The implication of this is that economic decisions will be taken in an ineffective way (Indreswari, 2006), and in effect this will reduce the level of performance (see Section 4.2). In addition, ineffective communication is likely to slow down other administrative and financial processes, and this situation may encourage opportunistic behaviours that will hinder managerial accountability. As well, with regards to external stakeholders, the lack of communication and feedback reduces the incentive for competition and answerability. Furthermore, both contractual and communal accountability will be affected (see Sections 4.1, 4.2 and 4.7).

### **8.2.3 Summary of the Findings on the Economy of NNPC's Upstream Operations**

In this section, findings on the perceptions of the respondents are presented in respect of: i) the cost and optimality of petroleum contractual arrangements; ii) the potential effect of the NNPC's monitoring role on cost performance; iii) the capability of the NNPC in measuring, identifying and assisting the improvement of cost performance.

The respondents perceived that the three contractual arrangements used in Nigeria, namely: JVs, PSCs and SCs, achieve the optimum outcomes relative to the cost employed. This suggests that the optimality and cost effectiveness of the Nigerian petroleum arrangements depends largely on the availability and applicability of inputs (human and financial resources) rather than the contracts themselves. For instance, the increasing usage of the PSC arrangement is mainly to overcome the problem of inadequate cash calling, otherwise the JV evidently generates more revenue to government. However, if the risk shouldered by the PSC operator is considered, then arguably it can be taken that value is derived relative to the risk taken and investment made. This conclusion confirms the position of Johnston (2007).

In terms of the potential impact of the NNPC's monitoring on cost performance of operating partners<sup>91</sup>, the respondents generally perceived that there is no potential adverse effect. This finding may be appropriate in the case of indigenous oil companies because the NNPC have minimal business relations with them. However, this finding of the questionnaire is inconsistent with the findings of the interview and literature, especially in the case of the MOCs and the service companies. Evidence show that some of the NNPC's monitoring processes actually increases the cost of operation because they are deemed to be obstructive and serve as a fulfilment of obligations without competence (Thurber et al., 2010; Heller and Marcel, 2012).

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<sup>91</sup> The operating partners in this respect are: i) private indigenous oil companies; ii) multinational oil companies; and iii) service companies.

Having opined that the NNPC's monitoring role does not have an adverse effect, it is not surprising that the respondents agreed that the NNPC's monitoring role has, in general, the potential to positively affect the cost performance of the operating partners. The implication is that the NNPC will have to enhance its monitoring processes; improve its human and technical resources and devise a more effective communication and feedback process. This will reduce the cost of monitoring and provide an enabling environment for effective monitoring; thereby ensuring that VfM and accountability are achieved.

Subsequently, the respondents perceived that the NNPC lack the capability to measure the cost performance of the NNPC, as well as the ability to identify problematic cost areas, having considered the resources at hand. It was however perceived that the NNPC has the capability to improve the cost performance of the MOCs. Even though the contractual arrangements are perceived to achieve optimal outcomes, there is uncertainty regarding the extent to which VfM has been achieved. Therefore, the NNPC needs to improve its mechanisms for benchmarking and cost estimation.

### **8.3 Contribution of the Study**

This thesis explored the performance of the NNPC's management and processes in the upstream sector of the Nigerian oil and gas industry. The thesis has made a number of contributions.

Firstly, this thesis is unique in that it is the first empirical research to have utilised the concept of VfM to assess the performance of a NOC, which is the NNPC. This thesis is also the only one known to have provided direct evidence on the performance of the NNPC's managerial processes in its upstream activities on the basis of documented perceptions of relevant stakeholders.

Secondly, this thesis employed both quantitative and qualitative methods to carry out its assessment, putting into cognisance both commercial and national mission objectives. This makes it different from the few known empirical studies on NOCs' performance that utilised secondary data and the quantitative

approach to assess NOCs' performance with a main focus on commercial indicators.

Thirdly, given the importance of the NNPC's role in the Nigerian economy, this study contributes by bringing to the attention of policy makers, law makers and other stakeholders a basis for judging the performance of the NNPC; not solely from the lens of profitability but also on how well VfM has been achieved.

Finally, this thesis contributes to the existing body of literature on the governance of the NOCs. It helps to build up the understanding of the relationship between NOC governance, VfM concept and stakeholder's perceptions. Therefore, the study may be useful to those interested in undertaking research on NOCs, in that it introduced a new dimension of assessing NOC performance using VfM and organisational processes rather than financial data.

#### **8.4 The Limitations of the Study**

While the key findings of this thesis are believed to have adequately answered the questions addressed by the study, there are some limitations which should be acknowledged.

Firstly, there is a general lack of literature on the performance of NOCs. Also, as NOCs can be reluctant to disclose information about their activities, difficulties were encountered in the process of gathering the theoretical and financial information required to satisfactorily assess the NNPC's performance.

Secondly, as usual with the use of questionnaire and interview methods, there are inherent limitations such as non-response bias; the possible insincerity of respondents and the possibility of interviewer's bias which can affect the results. However, appropriate steps were taken in designing the questionnaire and conducting the interviews, along with the identification of all reliability and validity threats to help minimise these limitations.

Finally, there is also the limitation of generalising the findings of the study to other NOCs. However, the findings of the study may be applied to other NOCs from developing countries that are, by nature, similar to Nigeria, and those that operate in a similar context to the NNPC and its stakeholders.

### **8.5 Recommendations for Further Research**

Considering that the findings of this research have adequately addressed the questions raised in the research, other areas relating to the performance of NOCs can be further investigated. In particular, emphasis can focus on the following areas:

Firstly, since the focus of this research was on the upstream sector of the Nigerian oil and gas industry; the VfM analysis can be replicated in assessing the performance of the NNPC in the other streams of the oil and gas value chain.

Secondly, the VfM concept can be used to investigate the performance of another NOC, especially one that is not quoted in the stock exchange. Accordingly, further development of the VfM concept can be used to investigate financial issues based on financial information, unlike the processes used in this study.

Thirdly, the VfM concept can be further developed and standardised as the lens for investigating and comparing the performance of many NOCs in a multi-country approach.

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## APPENDICES

### Appendix A

#### (The subsidiaries of NNPC)

No	Subsidiaries
1	Nigerian National Petroleum Investment Management Services (NAPIMS)
2	Nigerian Petroleum Development Company (NPDC)
3	The Nigerian Gas Company (NGC)
4	The Products and Pipelines Marketing Company (PPMC)
5	Integrated Data Services Limited (IDSL)
6	Nigerian LNG Limited (NLNG)
7	National Engineering and Technical Company Limited (NETCO)
8	Hydrocarbon Services Nigeria Limited (Hyson)
9	Warri Refinery and Petrochemical Company Limited (WRPC)
10	Kaduna Refinery and Petrochemical Company Limited (KRPC)
11	Port Harcourt Refinery Company Limited (PHRC)
12	Eleme Petrochemical Company Limited (EPCL)

**Appendix B**  
(Supervisor's introductory letter and questionnaire's covering letter)



**30<sup>th</sup> January, 2012**

.....

Dear Sir/Madam,

**Introduction to Ibraheem Adam**

My name is Professor Alex Russell. I am Head of the Department of Management at Robert Gordon University and a professor of petroleum accounting. I very much hope that you can assist with a research project that my excellent research student, Ibraheem Adam, is undertaking. We are aware of your expertise in the research areas under investigation and your input will be invaluable to us.

If you wish to discuss this request with me please do not hesitate to contact me by email [a.russell@rgu.ac.uk](mailto:a.russell@rgu.ac.uk) or by telephone on +441224263489

Please find attached a letter to you from Mr Adam.

Yours sincerely

A handwritten signature in black ink that reads 'Alex Russell'. Below the signature is a horizontal line.

Alex Russell  
Professor of Petroleum Accounting  
Head of Department of Management  
Aberdeen Business School  
Chair of the Oil Industry Finance Association



**ROBERT GORDON  
UNIVERSITY•ABERDEEN**

January 2012

.....  
Dear Sir/Madam

I am a research scholar based in Robert Gordon University, Aberdeen, United Kingdom. My research interest and speciality is governance practices in the petroleum sector. I am particularly interested in governance issues related to National Oil Companies. I attach a questionnaire relating to the upstream performance of the NNPC.

I would be very grateful if you can complete the questionnaire so that we can have the benefit of your expertise. Please, be assured that your responses will be treated in strict confidence and that your identity will not be revealed at any time. I am happy to let you have a summary of my findings in due course, should you request one. Information on completing the questionnaire can be found at the beginning of each section.

I would be glad to be contacted any time about the survey or procedures on: +44(0) 741358301. Alternatively by email at: [i.s.adam@rgu.ac.uk](mailto:i.s.adam@rgu.ac.uk)

Many thanks for your time and cooperation

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Ibraheem Adam'.

Ibraheem Adam



**Appendix C**  
**(Codification of Questionnaire Response)**

Variable	Variable Label	Value
PI	Personal Information	1=NNPC,2=NEIT,3=DPR,4=FMPR,5=MOCs,6=LOCs,7=CBN,8=RMAF,9=AGF,10=PAFs,11=NA,12=CS
Sec1Q1a	Discovery of new reserves	1=SA,2=A,3=N,4=D,5=SD
Sec1Q1b	Production higher than budgeted	1=SA,2=A,3=N,4=D,5=SD
Sec1Q1c	Revenue higher than budgeted	1=SA,2=A,3=N,4=D,5=SD
Sec1Q1d	Development and application of scientific research	1=SA,2=A,3=N,4=D,5=SD
Sec1Q1e	Increase in local capacity	1=SA,2=A,3=N,4=D,5=SD
Sec1Q1f	Stronger economic linkages	1=SA,2=A,3=N,4=D,5=SD
Sec1Q2a	Limited political interference	1=SA,2=A,3=N,4=D,5=SD
Sec1Q2b	Power conferred on NNPC for upstream operations	1=SA,2=A,3=N,4=D,5=SD
Sec1Q2c	Petroleum contractual arrangements	1=SA,2=A,3=N,4=D,5=SD
Sec1Q2d	Favourable tax systems to oil companies	1=SA,2=A,3=N,4=D,5=SD
Sec1Q2e	Unfavourable tax systems to oil companies	1=SA,2=A,3=N,4=D,5=SD
Sec1Q2f	Stability of petroleum operations	1=SA,2=A,3=N,4=D,5=SD
Sec1Q2g	OPEC Membership	1=SA,2=A,3=N,4=D,5=SD
Sec1Q2h	Commercial expertise	1=SA,2=A,3=N,4=D,5=SD
Sec1Q2i	Disclosure and transparency of production	1=SA,2=A,3=N,4=D,5=SD
Sec1Q2j	Disclosure and transparency of revenue	1=SA,2=A,3=N,4=D,5=SD
Sec1Q2k	Disclosure and transparency of production cost	1=SA,2=A,3=N,4=D,5=SD
Sec1Q2l	Petroleum laws for upstream operations	1=SA,2=A,3=N,4=D,5=SD
Sec2Q1a	Robust administrative system	1=SA,2=A,3=N,4=D,5=SD
Sec2Q1b	Appropriate decisions for upstream operations	1=SA,2=A,3=N,4=D,5=SD
Sec2Q1c	Appropriate number of staff for monitoring	1=SA,2=A,3=N,4=D,5=SD
Sec2Q2a	Full utilisation of available fund	1=SA,2=A,3=N,4=D,5=SD
Sec2Q2b	Utilisation of fund according to budget	1=SA,2=A,3=N,4=D,5=SD
Sec2Q2c	Good system for distributing fund	1=SA,2=A,3=N,4=D,5=SD
Sec2Q3a	Budgetary system	1=SA,2=A,3=N,4=D,5=SD
Sec2Q3b	Authorisation for Expenditure	1=SA,2=A,3=N,4=D,5=SD
Sec2Q3c	Compliance audit	1=SA,2=A,3=N,4=D,5=SD
Sec2Q3d	Joint venture auditing	1=SA,2=A,3=N,4=D,5=SD
Sec2Q3e	Procurement procedures	1=SA,2=A,3=N,4=D,5=SD
Sec2Q3f	Carry agreement auditing	1=SA,2=A,3=N,4=D,5=SD
Sec3Q1a	Achieve oil reserves targets	1=SA,2=A,3=N,4=D,5=SD
Sec3Q1b	Achieve production targets	1=SA,2=A,3=N,4=D,5=SD
Sec3Q1c	Achieve cash flow targets	1=SA,2=A,3=N,4=D,5=SD
Sec3Q2a	Capacity to monitor and control oil production	1=SA,2=A,3=N,4=D,5=SD
Sec3Q2b	Capacity to monitor and control sharing of oil	1=SA,2=A,3=N,4=D,5=SD
Sec3Q2c	Capacity to monitor and control oil lifting	1=SA,2=A,3=N,4=D,5=SD

Sec3Q3a	NNPC's control over direct operating cost	1=SA,2=A,3=N,4=D,5=SD
Sec3Q3b	NNPC's control over cost recovery	1=SA,2=A,3=N,4=D,5=SD
Sec3Q3c	NNPC's control over Monitoring cost	1=SA,2=A,3=N,4=D,5=SD
Sec3Q3d	NNPC's control over Development cost	1=SA,2=A,3=N,4=D,5=SD
Sec3Q3e	NNPC's control over Overhead cost	1=SA,2=A,3=N,4=D,5=SD
Sec3Q4a	Development of local skills	1=SA,2=A,3=N,4=D,5=SD
Sec3Q4b	Use of local manpower	1=SA,2=A,3=N,4=D,5=SD
Sec3Q4c	Transfer of technological expertise	1=SA,2=A,3=N,4=D,5=SD
Sec3Q4d	Increase in participation of local companies	1=SA,2=A,3=N,4=D,5=SD
Sec3Q5a	Compliance with JV provisions	1=SA,2=A,3=N,4=D,5=SD
Sec3Q5b	Compliance with PSC provisions	1=SA,2=A,3=N,4=D,5=SD
Sec3Q5c	Compliance with CA provisions	1=SA,2=A,3=N,4=D,5=SD
Sec3Q5d	Compliance with laws and regulations	1=SA,2=A,3=N,4=D,5=SD
Sec3Q5e	Industry best practice	1=SA,2=A,3=N,4=D,5=SD
Sec3Q5f	Compliance with environmental laws and regulations	1=SA,2=A,3=N,4=D,5=SD
Sec3Q5g	Compliance with joint operating decisions	1=SA,2=A,3=N,4=D,5=SD
Sec3Q5h	Compliance with Health and safety rules	1=SA,2=A,3=N,4=D,5=SD
Sec3Q5i	Compliance with local content Act	1=SA,2=A,3=N,4=D,5=SD
Sec3Q6a	Effective communication system between stakeholders	1=SA,2=A,3=N,4=D,5=SD
Sec3Q6b	Appropriate use of feedback	1=SA,2=A,3=N,4=D,5=SD
Sec4Q1a	Utilisation of JV gives optimum outcome	1=SA,2=A,3=N,4=D,5=SD
Sec4Q1b	Utilisation of PSC gives optimum outcome	1=SA,2=A,3=N,4=D,5=SD
Sec4Q1c	Utilisation of SC gives optimum outcome	1=SA,2=A,3=N,4=D,5=SD
Sec4Q2a	Monitoring affects IOC's cost performance negatively	1=SA,2=A,3=N,4=D,5=SD
Sec4Q2b	Monitoring affects MOC's cost performance negatively	1=SA,2=A,3=N,4=D,5=SD
Sec4Q2c	Monitoring affects service companies cost performance negatively	1=SA,2=A,3=N,4=D,5=SD
Sec4Q3a	Monitoring affects IOC's cost performance positively	1=SA,2=A,3=N,4=D,5=SD
Sec4Q3b	Monitoring affects MOC's cost performance positively	1=SA,2=A,3=N,4=D,5=SD
Sec4Q3c	Monitoring affects service companies cost performance positively	1=SA,2=A,3=N,4=D,5=SD
Sec4Q4a	Capability to measure cost performance	1=SA,2=A,3=N,4=D,5=SD
Sec4Q4b	Capability to identify problematic cost areas	1=SA,2=A,3=N,4=D,5=SD
Sec4Q4c	Capability to improve cost performance	1=SA,2=A,3=N,4=D,5=SD

**Note:** SA=strongly agree, A=Agree, N=Neutral, D=Disagree, SD=strongly disagree

**Appendix D**  
**(Research Questionnaire)**

**Survey on certain aspects of the performance of the Nigerian National Petroleum Corporation (NNPC)**

**Personal Information**

**1. Please tick the box that represents your organisation:**

<b>1</b>	Nigerian National Petroleum Corporation (NNPC)	
<b>2</b>	Nigerian Extractive Industries Transparency Initiative (NEITI)	
<b>3</b>	Department of Petroleum Resources (DPR)	
<b>4</b>	Federal Ministry of Petroleum Resources (FMPR)	
<b>5</b>	Multinational Oil Companies (MOCs)	
<b>6</b>	Local Oil Companies (LOCs)	
<b>7</b>	Central Bank of Nigeria (CBN)	
<b>8</b>	Revenue Mobilisation, Allocation and Fiscal Commission (RMAFC)	
<b>9</b>	Office of the Auditor-General for the Federation (AGF)	
<b>10</b>	Public Accounting Firms	
<b>11</b>	National Assembly	
<b>12</b>	Part of Civil Societies	

**Section One**  
**Performance of the Nigerian National Petroleum Corporation (NNPC)**

1. Please indicate your opinion on whether or not the listed outcomes signify "adding value" to hydrocarbon resources as per NNPC's mission statement:

**(1=strongly agree, 2=agree, 3=neutral, 4=disagree, 5=strongly disagree)**

<b>Statement</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
a) Discovery of new oil and gas reserves to replace production.					
b) Higher than budgeted oil and gas production levels.					
c) Higher than budgeted oil and gas revenue to government.					
d) Development and application of results of scientific research in upstream operations.					
e) Regular increase in local capacity to explore, develop and produce oil and gas.					
f) Creation of stronger economic linkages within the oil and gas value chain.					

2. Please tick the box that best indicates your opinion on whether the following factors have assisted NNPC to develop Nigeria's hydrocarbon resources:

**(1=strongly agree, 2=agree, 3=neutral, 4=disagree, 5=strongly disagree)**

<b>Statement</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
a) Limited political interference in decision making.					
b) Oil production, refining and regulatory power conferred on NNPC.					
c) Provisions of existing petroleum contractual arrangements used in Nigeria.					
d) Taxation and fiscal systems which are favourable to oil companies.					
e) Taxation and fiscal systems which are unfavourable to oil companies.					
f) Stability of petroleum operations.					
g) Membership of OPEC.					
h) NNPC's commercial expertise.					
i) NNPC's disclosure and transparency relating to production.					
j) NNPC's disclosure and transparency relating to revenue.					
k) NNPC's disclosure and transparency relating to cost of production.					
l) Existing laws governing oil and gas exploration and production in Nigeria.					

### **Section Two NNPC's efficient management of upstream petroleum operations**

1. Please indicate the extent of your agreement with the following statements regarding NNPC's efficiency in their management of the upstream sector by ticking the appropriate box:

**(1=strongly agree, 2=agree, 3=neutral, 4=disagree, 5=strongly disagree)**

<b>Statement</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
a) NNPC has a robust administrative system for managing the upstream petroleum sector.					
b) NNPC in general make appropriate decisions for overseeing Nigeria's upstream operations.					
c) NNPC has an appropriate number of qualified staff for monitoring upstream operations.					

2. Please indicate your view on the following statements regarding NNPC's use of available funds for upstream activities:

**(1=strongly agree, 2=agree, 3=neutral, 4=disagree, 5=strongly disagree)**

<b>Statement</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
a) NNPC makes full use of its available finance for upstream operations.					

b) NNPC ensures that funds released for upstream operations are spent as planned.					
c) NNPC' has a good system for distributing funds for upstream operations.					

3. Please indicate the extent of your agreement that each of the following control tools is used efficiently by the NNPC in upstream operations:

**(1=strongly agree, 2=agree, 3=neutral, 4=disagree, 5=strongly disagree)**

Statement	1	2	3	4	5
a) Budgetary system.					
b) Authorisation for Expenditure (AFE).					
c) Compliance audit.					
d) Joint venture auditing.					
e) Procurement procedures.					
f) Auditing of Alternative-funded projects (Carry agreement)					

### **Section Three NNPC's Effectiveness in upstream petroleum management**

1. The NNPC has been effective in meeting its targets in the following areas:

**(1=strongly agree, 2=agree, 3=neutral, 4=disagree, 5=strongly disagree)**

Statement	1	2	3	4	5
a) Growth in crude oil reserves.					
b) Monthly crude oil production targets.					
c) Operational cash flows.					

2. Please express the strength of your agreement that NNPC's control over the following aspects of petroleum upstream operations has been effective:

**(1=strongly agree, 2=agree, 3=neutral, 4=disagree, 5=strongly disagree)**

Statement	1	2	3	4	5
d) Crude oil production.					
e) Sharing of oil.					
f) Oil lifting.					

3. Please indicate the strength of your agreement that NNPC's control over the following petroleum upstream costs has been effective:

**(1=strongly agree, 2=agree, 3=neutral, 4=disagree, 5=strongly disagree)**

Statement	1	2	3	4	5
a) Direct Operating costs.					
b) Cost recovery in Production Sharing Contract (PSC).					
c) Monitoring costs.					
d) Development costs.					
e) Overhead costs.					

4. Please indicate how you would respond to the statement that the NNPC has done well with respect to Nigerian content objective of the Nigerian government in the following areas:

**(1=strongly agree, 2=agree, 3=neutral, 4=disagree, 5=strongly disagree)**

<b>Statement</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
a) Development of local skills.					
b) Use of local manpower.					
c) Transfer of technological expertise to local companies.					
d) Increased participation of local companies in upstream operations.					

5. Please express the strength of your agreement with the statement that the NNPC has been effective in monitoring the following aspects of upstream petroleum operations:

**(1=strongly agree, 2=agree, 3=neutral, 4=disagree, 5=strongly disagree)**

<b>Statement</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
a) Compliance with provisions of JV (joint venture).					
b) Compliance with provisions of PSC (Petroleum Sharing Contract).					
c) Compliance with provision of alternative funding arrangements (Carry agreements).					
d) Compliance with petroleum laws and regulations.					
e) Compliance with industry best practice.					
f) Compliance with environmental laws and regulations.					
g) Compliance with joint operating decisions.					
h) Compliance with Health and Safety procedures.					
i) Compliance with Local Content Act.					

6. Please express the extent of your agreement with respect to each of the following statements:

**(1=strongly agree, 2=agree, 3=neutral, 4=disagree, 5=strongly disagree)**

<b>Statement</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
a) In general, there is effective communication between the NNPC and relevant stakeholders on all material issues relating to upstream operation.					
b) In general, NNPC makes good use of all feedback it receives relating to upstream operations.					

#### **Section Four**

#### **The Economy of NNPC's upstream petroleum operations**

1. Please indicate the strength of your agreement with the statement that, in general, the cost of using the following petroleum contractual arrangements is optimum for the outcome achieved:

**(1=strongly agree, 2=agree, 3=neutral, 4=disagree, 5=strongly disagree)**

Statement	1	2	3	4	5
a) Joint ventures (JV).					
b) Production sharing contracts (PSC).					
c) Service contracts (SC).					

2. The NNPC's monitoring role in the upstream petroleum sector has, in general, the potential to adversely affect the cost performance of the following categories of operators:

**(1=strongly agree, 2=agree, 3=neutral, 4=disagree, 5=strongly disagree)**

Statement	1	2	3	4	5
a) Private Indigenous oil companies.					
b) Multinational oil companies (MOCs).					
c) Service companies					

3. The NNPC's monitoring role in the upstream petroleum sector has, in general, the potential to positively affect the performance of the following companies:

**(1=strongly agree, 2=agree, 3=neutral, 4=disagree, 5=strongly disagree)**

Statement	1	2	3	4	5
a) Private Indigenous oil companies.					
b) Multinational oil companies (MOCs).					
c) Service companies					

4. How would you respond to the suggestion that the NNPC has the capability of:

**(1=strongly agree, 2=agree, 3=neutral, 4=disagree, 5=strongly disagree)**

Statement	1	2	3	4	5
a) Measuring cost performances of MOCs.					
b) Identifying problematic cost areas.					
c) Assisting with improving the cost performance of MOCs.					

**Please use the space below to relate any further comments**

**relevant to this research:**

.....

.....

.....

**Thank You**  
**End of Questionnaire**

**Appendix E**  
**Questions used for interviews**

<b>Broad Areas</b>	<b>Questions</b>
1) Value adding indicators	<p>It is generally accepted that National oil companies should be evaluated on the basis of their own objective (Tordo et al., 2011; Al-Naimi, 2004). This stemmed from the argument that the recognition of value objectives is the first requirement for the measurement of organisational performance (Glendinning, 2002).</p> <p>Can you please give your opinion on the outcomes that signify that value is added to hydrocarbon resources in the operations of NNPC?</p>
2) Environmental factors	<p>It is well recognised in the literature that an organisation's value adding performance greatly depends on its interaction with the internal and external dynamic environments in which it operates (Tordo et al., 2011).</p> <p>Based on the findings of the analysis of my questionnaire, the experts seemed to hold the opinion that there are factors that have had positive and negative effect on NNPC's development of hydrocarbon resources. Do you share this view? If so, can you please comment on the factors?</p>
3) Efficiency	<p>Efficiency represents the use of appropriate administrative principles and mechanisms to derive desirable value adding outcome (Murshid, 1988). This involves the structure, administrative system, financing network and control apparatus.</p> <p>From the analysis of the questionnaire earlier administered, it appears that the respondents believe that the NNPC has not managed its upstream operations efficiently. Do you share this view? If so, please can you mention the reasons for its managerial inefficiency?</p>
4) Effectiveness	<p>There is a general acceptance that effectiveness is the extent to which an organisation can achieve its pre-set goals/objectives (Aktas et al., 2011).</p> <p>The findings of my questionnaire suggest that NNPC have not done well in achieving its upstream goals and objectives. Do you have a similar opinion? If so, please can you comment on the reasons for the ineffectiveness?</p>
5) Economy	<p>Within the realm of VfM, the concept of economy can be considered as the minimisation of the cost of human, financial and material resources used for an activity while having regard to appropriate quality (Flynn, 2012).</p> <p>On a general note, the results derive from the analysis of my questionnaire suggests that NNPC did not ensure economy in the management of its upstream operations. Do you share this opinion? If so, can you please mention the where and why economy has not been ensured in the upstream sector?</p>