LINKING HOST COMMUNITY SATISFACTION TO OPERATIONAL PERFORMANCE IN THE OIL AND GAS INDUSTRY

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Abstract

Purpose

Motivated by the reported link between the management practices of the oil and gas industry in Nigeria and the continuous conflict situation in the Delta region of the country, this study is an original attempt to comprehensively describe the complex relationships between Quality Management Practices, Corporate Social Responsibility, National Culture, Host community Satisfaction, and Operational Performance in the context of the oil and gas industry. The major aim is first, to investigate the management factors that impact on the satisfaction of the host communities and secondly, identify the significance of host community satisfaction in the relationship between Quality Management Practices, Corporate Social Responsibility and Operational Performance in the industry.

Methodology

With the use of a quantitative research approach, a conceptual framework, developed from literature and showing the hypothesised relationships was tested. A total of 221 responses were collected using a survey-based questionnaire. The respondents were management staff members of the oil and gas industry in Nigeria, which is the context of this study. The choice of the research context was informed by the uniqueness of the industry in Nigeria in terms of its operational peculiarities and in relation to the impact of the industry's operational activities on the host communities. Data analysis was done using SPSS and Structural Equation Modelling techniques in AMOS computer software where the proposed conceptual framework was statistically tested.

Findings

The result has revealed that host Community Satisfaction significantly mediates the effect of Quality Management Practices and Corporate Social Responsibilities on Operational Performance. Further, the result has shown that although Quality Management Practices impact on Community Satisfaction, however, this is achieved indirectly through the effectiveness of the Corporate Social Responsibility initiatives of the industry, involving actions such as: showing more transparency, greater focus on ethical behaviour, more seriousness with environmental protection issues and greater concern for community involvement and development. Furthermore, the findings show that National culture has a significant influence on the operations management practices in the industry in Nigeria, indicating the need for industry practitioners to utilise the principle of cultural-specificity in the development and implementation of operational systems in the industry. The major and original contribution to knowledge is the developed conceptual model, describing the relationships considered as critical success factors in the oil and gas industry.

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Dedication

I dedicate this thesis to God, my wife Aken and my children Ozayem and Henkeshi

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ABBREVIATIONS

Bbls – Barrels

CFA – Confirmatory Factor Analysis

CS – Community Satisfaction

CScf - Community feedback

CScrm - Community Relations Management

CSfc - Less Formal complaint

CSmu - Mutual Understanding

CSR – Corporate Social Responsibility

CSRcid - Community Involvement and Development

CSReb - Ethical Behavior

CSRec - Environmental Considerations

CSRtra - Transparency

DPR - Department of Petroleum Resources

EFA – Exploratory Factor Analysis

EPCL – Eleme Petrochemical and Company Limited

GDP – Gross Domestic Product

GLOBE - Global Leadership Organisational Behaviour Effectiveness

IEA - International Energy Administration

IMF - International Monetary Fund

IMF - International Monetary Fund

JV - Joint Venture

JVC – Joint Venture Companies

KMO - Kaiser-Meyer-Olkin (measure of sampling)

KRPC – Kaduna Refining and Petrochemical Company

MFC - Marginal Field Concession

MNC - Multi-National Corporations

MNC – Multi-National Corporations

MOC – Multi- National Oil Company

NC – National Culture

NCfo - Future Orientation

NCho - Humane Orientation

NCua - Uncertainty Avoidance

NDDC – Niger Delta Development Commission

NLNG – Nigerian Liquefied Natural Gas

NNPC – Nigeria Petroleum Development Company

OML - Oil Mining Lease

OP – Operational Performance

OPco - Continuous (uninterrupted) Operation

OPEC - Organization of Petroleum Exporting Countries

OPpcr - Production Cost Reduction

OPpe - Process Effectiveness

PHRC – Port Harcourt Refining Company

PPMC – Pipelines and Products Marketing Company Limited

PSC - Production Sharing Contracts

QC – Quality Control

QM – Quality Management

QMP – Quality Management Practices

QMPcf - Customer (community) Focus

QMPci - Continuous improvement

QMPfadm - Factual Approach to Decision Making

QMPip - Involvement of people

QMPld - Leadership

QMPmbsr - Mutually Beneficial Supplier Relation

QMPpa - Process Approach to Management

QMPsa - System Approach to Management

SC - Service Contract

SEM – Structural Equation Modelling

TQM – Total Quality Management

TQM – Total Quality Management

US EIA – United States Energy Information Administration

WBCSD - World Business Council for Sustainable Development

WRPC – Warri Refining and Petrochemical Company

Chapter 1

Introduction

1.1.Introduction

This study is an original attempt to provide greater clarity with regards to the nature and significance of the relationship between host community satisfaction and operational performance in the oil and gas industry in Nigeria. The study empirically evaluates the effect of Quality Management Practices (QMP) and Corporate Social Responsibility (CSR) on host Community Satisfaction (CS) with the aim of identifying how the interaction between these elements directly or indirectly impact on the Operational Performance of the oil and gas industry. Also, the influence of the sociological concept of National Culture (NC) on QMP and CSR is evaluated, with the objective of identifying the level of compatibility that exists between the Nigeria's dominant cultural values and the generally recommended operations management models. The main focus of the study is to identify how the industry can optimize its operational performance through a better understanding of the potential business opportunities available with a well-managed industry/host community relationship.

The motivation for this study has been informed by two factors: firstly, the minimal research attention received by the oil and gas industry in the developing countries with regards to the interactions between their operations management practices and the effect on host community satisfaction, as well as the company's operational performance. Secondly, the reported link between community conflict and the operational activities of the oil and gas industry in Nigeria has strongly motivated this study, which has as a major objective: the evaluation of possible ways of improving the industry's community relations management, thereby exterminating the crises situation and optimizing production. These motivating factors are further highlighted below as also constituting the background of this study.

1.2. Background of Study

Operational Performance is generally considered as a key measure of business excellence (Tsikriktsis, 2007). The desire to continuously improve on business management efficiency and effectiveness as well as customer satisfaction, leading to business excellence, is shared among most organizations - companies and government agencies (Morris, 2009). However, the ability to understand the factors that impact on operational performance and the choice, as well as the use of appropriate improvement methodologies for system optimization, differentiate successful organizations or firms from the others.

Accordingly, previous studies have suggested that the commonality existing among different industries with regards to the factors that influence their operational performance, are limited to factors such as: operations management capability (human resources), business environment, and supply chain management (Ekrem et al., 2015; Gallear et al., 2012).

However, in more industry-specific terms, there are several factors that impact on the operational performance of a given industry or group of different industries sharing basic organizational structure or culture. For example, in the manufacturing and service industries where customer satisfaction is a major shared objective, many research studies have strongly suggested significant positive correlation between operational performance and the implementation of some operations management drivers such as quality management practices, with a focus on enhanced customer relations (Parast and Adams 2012). Similarly, other researchers (e.g. Saeidi et al. 2015; Abu Bakar & Ameer, 2011; Oeyono, et al, 2011; Sisodia et al., 2007) have suggested a significant relationship between CSR and operational or firm performance.

Nonetheless, while there is an abundance of reported empirical studies on these performance factors in relation to the operations of many manufacturing and service industries, the oil and gas industry has comparatively received little attention in this respect. Indeed few empirical investigations on the factors that significantly impact on operational performance in the oil and gas industry have been previously reported, but not much have been focused on the effect of host community satisfaction on operational performance in the industry. For example, Parast and Adams, (2012) in

their attempt to relate some quality management practices such as benchmarking, top management support, and information availability, alongside cooperate social responsibility to organizational performance in the petroleum industry, have suggested that some of the factors with significant influence on operational performance in the industry include: benchmarking, top management support and quality citizenship. Similarly, Nouara, (2015) argues that the key elements that significantly influence operational performance in the oil and gas industry include: asset management, and the use of partners. However, there is a clear gap in literature regarding the link between host community satisfaction and operational performance in the industry.

1.2.1. Host Community Satisfaction and Operational Performance

Among the stakeholders of the oil and gas industry, the host communities are the most affected by the operational activities of the industry both environmentally, socially and economically (Obi, 2010). However, while most operations management studies have focused on other stakeholders such as the end-user customers and their satisfaction measures, there is a conspicuous absence of empirical research studies with emphasis on community satisfaction within the context of its relationship with operational performance especially in the oil and gas industry.

From the perspective of operations management, the oil and gas industry is characterized by some operational peculiarities which include: limited interface with some of its stakeholders such as the end-user customers (Parast and Adam 2011). In this regard, the influence of the end-user customers on the operational activities of the oil and gas industry is limited to certain issues of common interest such as: environmental responsibilities (e.g. reduced emission) and product pricing. There is therefore little consideration to the needs and expectations of this type of customers in the design and implementation of operational systems in the industry. Conversely, other manufacturing and service industries have the “voice of customers” as a major strategic feature in their operations management. This is because of the huge influence the end-user customers exert on the industries’ product design processes, which justifies the significant amount of research evidence supporting a strong relationship between customer satisfaction and operational performance or business success in those industries (Merino-díaz De Cerio, 2003). Hence, most research

studies on customer relations management (e.g. Wen-Yi Sit, 2009; Chung et al., 2015) have been concentrated on such industries that have direct interface with end-user customers. The oil and gas industry is therefore overly excluded in this regard.

Although, some studies have implied that the relationship between the industry and the host communities enable community satisfaction (e.g. Idemudia 2009), however, the significance of such influence in empirical terms is yet unclear. This lack of clarity therefore presents a need for an empirical study to identify the level of significance of the effect of host community satisfaction on the operational performance of the oil and gas industry, especially within the context of its operations in a developing country.

Again, the satisfaction of host communities is linked to effective management practices in the industry such as QMP and CSR practices (Sila, 2007). However, while there is substantial evidence in literature showing that these management practices impact on operational performance (e.g. Wen Ye Sit et. al. 2009; Idemudia 2009), there is a clear gap in literature with regards to the role of host community satisfaction in this link. Further, empirical research on the synergistic relationship between QMP and CSR and the resultant effect on the industry under study is sketchy, indicating a research need in that respect.

1.2.2. QMP and CSR

Quality Management has been described as one of the most enduring management paradigm in the past few decades, and thus implemented in various sectors globally such as manufacturing, service, health and other sectors in both large and small scale organizations (Ghobadian et. al., 2007). On the other hand, although presented as a more recent management phenomenon, CSR is known to affect every area of business (McAdam and Leonard, 2003).

The link between these two important management paradigms continues to generate interest among many scholars. In their evaluation of the QM and CSR Nexus, Ghobadian et al., (2007) have suggested that the two concepts share similarities in the lines of philosophical background and the expected outcomes of implementation. They further concluded that the overlaps of the essential elements that define the two concepts are substantially significant. This conclusion therefore informs an inference

of a considerable similarity between both concepts. However, the variation in their specific implementation needs and their nature of mutual dependency has also been recognized. Consistent with this conclusion of co-dependency of the QMP and CSR, McAdams et al., (2007) suggest that an integration of CSR into the QM framework will facilitate a rapid advancement of the CSR phenomenon which they argue to be yet without strong roots.

While these studies have presented Quality Management as the more advanced management concept with well-developed implementation framework, it is not clear how CSR as a more recent concept can take advantage of the nexus between the two concepts to achieve successful impact on operational performance in an extractive industry such as the oil and gas industry. In other words, research on the relationship between QMP and CSR and the resultant synergistic effect on community satisfaction and operational performance in the industry under study is sketchy, indicating a research need in that respect.

Another related theoretical relationship considered in this study, having received considerable attention in the literature, is the influence of National Culture on QMP.

1.2.3. QMP and National Culture

The initial development of the Quality management theory has been mainly based on the business cultural background of Japan and the USA. The concept however, has since gained a wide application by various organisations in many countries around the globe. However, there has been a persistent argument among many researchers as to whether the application of quality management principles should follow the universalist approach (context-free) or the local-content perspective (context-dependent) based on the recognition of the differences in national cultures (Sousa and Voss, 2001; Rungtusanatham et al., 2005; Flynn and Saladin, 2006). In other words, the underlying questions that need to be answered by researchers are: can the quality management practices, developed in specific countries or regions and in specific industries, be applicable to other countries/regions or industries? What level of influence does National culture have on QM? (Parast et al, 2011).

The relationship between culture and quality management has generated a considerable amount of research interest among scholars. Some have suggested that

the success of Quality Management initiatives will require a significant change in the value orientation and established norms of the organization in order to ensure harmony with the values expressed by the quality management principles (Boggs, 2004; and Lillrank 2004). For these scholars, quality management is considered as a culture itself, embedded in its own beliefs, values, and norms, which does not incline toward any particular national cultural orientation (Roney, 1997).

But for others, national culture should be seen as the 'super-ordinate' value system; hence the theoretical and implementation frameworks of QMP should be designed to be congruent with the existing cultural disposition (culture-specific) of the particular country of operation. For example, Noronha, (2000), suggests that the effective implementation of quality management principles in a specific cultural context is achieved when the underlying framework is made to be culture-specific. This, according to the author, is achieved through a fusion between the national cultural values and the underlying quality management principles. From these theoretical arguments, it can therefore be concluded that national culture wields a significant influence on the effectiveness of quality management practices in organisations.

Noronha (2002) in his study on "Culture-specific TQM in China" proposed a theoretical model in an attempt to explain the influence of national culture on quality management practices. The study concluded with the assertion that meaningful cross-cultural study is achieved only when discoveries are made through the analysis of managerial concepts based on principles that are specific to a particular national culture.

In view of these theoretical assertions, the need for a study involving QMP to be done within the context of a specific national culture is considered important and hence recommended, rather than making regional or global generalisations (Kull and Narasimhan, 2010). However, not much is known in literature regarding the relationship between QMP and national culture in developing countries such as Nigeria with considerably different cultural values from those of the countries where QM literature was earlier developed. Furthermore, the effect of such relationship on Operational Performance in the oil and gas industry is considered essential and therefore forms an important part of this study.

1.2.4. The Oil and Gas Industry and Host Community Resistance in Nigeria

The oil and gas industry is considered as a very important industry, not only to the national economy of producing countries such as Nigeria, but also to the global economy. For example, according to Ernst and Young LLP, (2008), between 2004 and 2007, the oil and gas (Petroleum) industry created about 2 million jobs in the US alone. It also supported more than 9.2 million jobs and contributed about 7.5% to the nations GDP. Going by the forecast by the International Energy Administration (IEA), $9.6 trillion dollars is to be spent in the industry out of the total $22 trillion dollars investment planned for the overall energy sector during the period between 2006 – 2030, in order to sustain the world's ever growing demand for energy (Ernst and Young LLP. 2008). The oil and gas industry therefore plays a very key role in shaping the economic, political and social well-being of nations. Accordingly, with the significant influence of the industry on the global economy, it therefore implies that any study that serves to improve on the operational performance of the industry could have a significant positive impact on the regional, national and global economy (Parast and Adams, 2012).

In Nigeria, oil and natural gas resources are the major drivers of the economy. According to the International Monetary Fund (IMF) report for 2014, the country's oil and natural gas industry typically accounts for 75% of government revenue and 95% of total export revenue. Nigeria's marginal fields' reserve has increased from 141.01million barrels, in 2004 to 302.62million barrels in 2013 with an aspiration to grow reserve to 40 billion barrels and earn much more revenue from the sector by 2020 according to the Department of Petroleum Resources (DPR) in Nigeria. Also as a member of OPEC, Nigeria is responsible for about 6.3 percent of the organization's overall production according to the OPEC Annual Statistics Bulletin (2014). This therefore positions the country as significantly influential among other producers and by extension, a major determinant of the world's energy driven economy.

The United States' Energy Information Administration (EIA) report shows that Nigeria is the largest oil producer in Africa and is among the world's top five exporters of Liquefied Natural Gas (LNG). However, the report further states that, "despite the relatively large volumes of oil it produces, Nigeria's oil production is

hampered by instability and supply disruptions." These supply disruptions mainly result from communal conflicts and installations vandalism by the host communities (Obi, 2010). For example, according to the 2014 annual statistical bulletin of the Nigerian National Petroleum Corporation NNPC, Cases of pipeline vandalism increased to a total of 3,700 line breaks, representing 4.54% increase from the previous year, resulting in a loss of 355.69 thousand metric tons of petroleum products worth about N44.75 billion ($224.82 million) and 1.08 million barrels of Crude oil worth about N14, 846.71 million was lost in the same period. Also, according to the IMF report, in 2015, Nigeria earned $52 billion from oil and gas exports, which was $35 billion, less than what it earned in 2014. Although this has been mostly attributed to a fall in oil prices, however a significant part of this is reported to be due to the conflicts and restiveness in the Delta region of the country, which have resulted in incessant shut-down of production activities, forcing the companies in many cases to declare "force majeure" on oil shipments (a legal clause that exempt a party from satisfying contractual agreements due to circumstances or occurrences beyond their control). Studies have shown a strong link between the reported conflicts and the dissatisfaction of host communities (stakeholders) in relation to the operational activities of the oil and gas industry, especially with regards to the manner in which CSR initiatives are implemented in the community (Obi, 2010; Nwankwo, 2015). This research therefore seeks to identify the role of QMP and CSR in enhancing host community satisfaction, which then results in less conflicts and continuous uninterrupted production activities in the industry in Nigeria.

1.3. Research Questions

In this research study, there are two main research questions followed by two other minor research questions. The main research questions are:

1. How and to what extent do Quality Management Practices, Corporate Social Responsibility and host Community Satisfaction impact on the Operational Performance of the oil and gas industry in Nigeria?

2. To what extent does National Culture impact on the QMP and CSR in the oil and gas industry in Nigeria?

The two minor research questions include:

1. What is the role of Community Satisfaction in the relationship between QMP, CSR and Operational Performance?
2. To what extent do the Quality Management Practices and the Corporate Social Responsibility practices of the oil and gas industry in Nigeria influence the satisfaction of host communities?

1.4. Research Aims

The main aim of this research study is to develop a conceptual framework for describing the nature and significance of the relationship between QMP, National Culture, CSR, host Community Satisfaction and Operational Performance in the oil and gas industry in Nigeria.

1.5. Objectives

1. To identify the effect of QMP and CSR on host Community Satisfaction
2. To identify the effect of Community Satisfaction on Operational Performance in the industry.
3. To investigate the relationship between QMP and CSR as practiced in the oil and gas industry in Nigeria.
4. To develop a conceptual model for relating QMP, CSR, National Culture, Community Satisfaction and Operational Performance in the oil and gas industry in Nigeria.

1.6. Significance of Study

This research is considered to be a very useful study for both researchers and practitioners. The major objective of the research is to develop and propose a conceptual framework for describing the link between the QMP influenced by national culture, CSR, community satisfaction and operational performance. From the academic perspective, this framework will be a significant addition to the body of knowledge that exists with regards to the described relationships. For the first time the different model elements will be comprehensively linked together in a web of

individual relationships as highlighted in literature in order to demonstrate how, and the extent to which these elements impact on operational performance within the context of the operations of the oil and gas industry in a developing country – Nigeria. This study can therefore be used as a standpoint for further research studies within the given or similar context. Also for practitioners, the significance of this research will be its ability to demonstrate the link between Community Satisfaction and Operational Performance which is currently unclear in literature, as well as identify the essential management practices that serve as enablers to community satisfaction in the industry. Further, this research will provide the bases for operations management decisions, as they involve the optimization of operational performance through ensuring community satisfaction. Furthermore, operators in the industry will benefit from the knowledge of the effect of national culture in the operationalization of QMP and CSR in Nigeria. Hence the findings of this study will be significantly useful to both practitioners and academic researchers accordingly.

1.7. Need for the Study

The need for this study is accentuated by the following: firstly, the high-level dependence on oil and gas for energy by the international community requires that the critical factors that impact on the operational success of the industry be emphatically evaluated. Oil and gas are considered by many as the major world sources of energy, hence, access to them and their use have become closely connected to national security policies (Salameh, 2003). There is therefore an evident need to continually validate the operational theories of the industry. This study therefore serves the purpose of evaluating some critical factors of the industry in order to enrich the available knowledge and further serve as a system-optimization driver within the context of the operations management practices of the oil and gas industry, especially in the developing countries, reportedly possessing a considerable amount of oil and gas reserves.

Secondly, the fallen price of oil has had an adverse effect on the economies of countries that are solely dependent on oil for national earnings such as Nigeria. It is therefore imperative to conduct studies that will optimise the potentials of the industry with a view to sustaining or improving production capability.

Furthermore, in literature, there is evident lack of focus on the link between community satisfaction and operational performance, which is what this study aims to evaluate. It is the expectation of the researcher that this study will produce a systematic framework for enhanced system performance with specific interest in the synergy between QMP, CSR and National Culture to produce Community Satisfaction, resulting in reduced community conflicts and uninterrupted production activities, which are seen as invaluable factors in ensuring continuous operational success in the oil and gas industry in Nigeria.

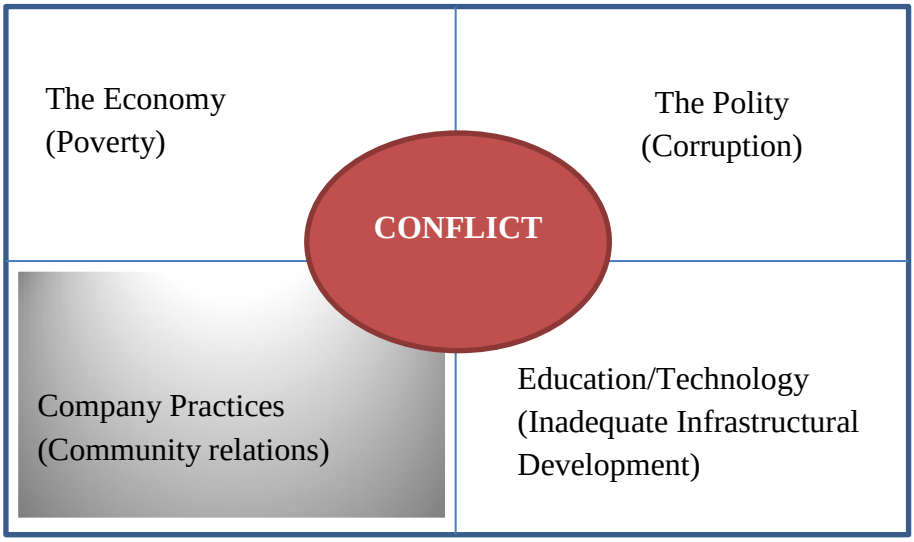
Thus, in this study, Quality Management Practices, National Culture, Corporate Social Responsibility, and the Operational Performance theories are for the first time integrated within a model as proposed, in the context of the oil and gas industry's operations in Nigeria.

1.8. Scope of Study

The challenges that impact on the operational performance in the oil and gas industry in Nigeria can be said to be multi-faceted as they include: government co-operation; technical co-ordination; and security. However, according to Abdullahi (2002), one of the most challenging issues that impact on the operations of the industry is host community attacks whereby pipelines and other major installations are continually being vandalized. The cause of these community conflicts and attacks has been contentiously debated by stakeholders. For example, Anugwom, (2005) aligns his argument to the resource control standpoint, which has undoubtedly created an environment of suspicion among the host communities, essentially claiming that they have been marginalised and constantly mistreated by both the Government and the oil companies operating in their communities. However, others like Abdullahi (2002) strongly argue the case of environmental degradation as a direct result of the operational activities of the industry, resulting in destruction of the eco-system and the agricultural landscape, which is the major source of livelihood for the communities. Further he insists that the attacks are a response to health threat and economic deprivation being experienced by the communities. While these arguments may in many ways provide a better understanding of the motivations behind the attacks, it is clear however that these attacks have direct impact on the operational performance and consequently the overall business performance of the industry in

Nigeria (Obi, 2010). As a result, optimising the operational performance in the industry will require a clear understanding of the many factors that create the environment for conflict and resistance, which in turn affect its operations. This can be done only through empirical studies. Following the suggestions of Aluko (2003), some of these factors include: the economic situation of the country: The political environment: education and technology; and the management practices of companies in the industry. While all of these factors require empirical evaluation, the scope of this study is however limited to the issue of company practices which is represented by the shaded potion of Figure 1 below.

Figure 1. Factors that create environment for conflict and community resistance in Nigeria



This study therefore seeks to specifically evaluate the extent to which the management practices of the oil and gas industry, such as QMP and CSR impacts on host community satisfaction and also, the role of community satisfaction in the optimization of operational performance in the oil and gas industry in Nigeria.

1.9. Structure of Thesis

There are 7 chapters in this thesis. These chapters capture the different aspects of the research in order to demonstrate the structural path followed to achieve the objectives of the study. Below is a brief description of the chapter contents:

Chapter 1

This chapter provides an introduction to the thesis, presenting the background to the study as it relates to the factors that impact on Operational Performance, and the relationship between such factors as QMP, CSR, National Culture and Community Satisfaction. Furthermore, identification of the research gap and a brief description of the research problem as well as the research questions are contained in this chapter. Finally, the chapter highlights the main aim and objectives of the study within the context of its importance and contribution to the body of knowledge on the operations of the oil and gas industry particularly in a developing country.

Chapter 2

This chapter presents an overview of the oil and gas industry in Nigeria, describing the geographical locations and how this impacts on their operational activities. It also describes the existing relationship between the industry, the government and the host communities thereby highlighting the underlying questions that has formed the need for this study, which is essentially focused on producing a framework that will enhance such relationships thereby optimizing the operational performance of the industry in Nigeria.

Chapter 3

In this chapter the review of relevant literature was presented as it regards to the various elements that are linked to Community Satisfaction and Operational Performance. The existing body of literature on these elements is discussed within the context of their individual and collective impacts on the optimization of operational performance in the oil and gas industry in Nigeria.

Chapter 4

This chapter contains the development of the conceptual framework used by the researcher to describe the relationships between QMP, CSR, National culture, Community Satisfaction, and Operational Performance. The development of the framework, based on existing theoretical relationships between the model elements, formed the bases for the development of research hypothesis which is intended for use in testing and validating the theory relating to the extent of the impact that Community Satisfaction has on Operational Performance in the oil and gas industry. Also, this chapter presents detailed discussions of the assumptions and preconditions made in this study with regards to the Nigerian people and culture.

Chapter 5

This chapter provides detailed explanation on the research methodology, which involves the research philosophy, approach, strategy and time horizon. The choices of the adopted research methods are justified. The chapter also describes the data collection method and processes involving the questionnaire design, the questionnaire validation through a pilot study, and the distribution processes. Also explained are the research population, the sample size and the procedure for sampling. Furthermore, the detailed discussion of the conceptualization and operationalization of all model variables were presented. Again, the scaling of the questionnaire items to represent adequate measure of the concepts it intends to measure is explained, followed by a discussion on the methods used for data analysis and the statistical techniques of factor analysis, both exploratory and confirmatory.

Chapter 6

The findings of the research, resulting from the analysis of the data are presented in this chapter. The analysis of the data, which was done with the use of different computer applications, is presented in this chapter along with the statistical implications, with the aim of showing the evidences of the relationships between the model elements and Operational Performance. The discussion of the results, based on the analyzed data, was also presented. The applications used for data analysis as explained in this chapter include SPSS and AMOS software.

Chapter 7

The focus of this chapter is to link the findings and arguments shown in the previous chapters to the aims and objectives of this research study. The implications of the findings to theory and practice in the oil and gas industry are also discussed in this chapter. Furthermore, the contributions of the study to the body of knowledge are outlined in this chapter, followed by the research limitations. Finally the chapter closes with recommendations for further research questions emanating from this study, taking due consideration of its limitations.

1.10. Chapter Summary

This chapter has presented the background to the study, the research questions, the aim, and objectives as well as the significance of the research study on the link between Community Satisfaction and Operational Performance in the oil and gas industry.

The next chapter presents an overview of existing operational framework of the oil and gas industry in Nigeria and the theoretical background of Nigerian socio-economic climate in order to provide the context for which this research study is based. The major objective is to highlight the peculiarity in the operations of the oil and gas industry in a unique environmental setting. Also to be highlighted is the nature of the existing relationship between the industry and its stakeholders including the government of Nigeria, thus, providing a clearer understanding of the socio-economic challenges faced by the industry and the general impact on operational performance in the industry in Nigeria, which constitutes a major motivation for this study.

Chapter 2

The Oil and Gas Industry in Nigeria- An Overview

2.1. Introduction

In this chapter, an overview of the oil and gas industry in Nigeria is presented in order to provide an understanding of the existing administrative structure in the industry and to highlight its operational framework within the context of the relationship between the operating companies in the industry and their host communities. Also, the geographical features and environmental challenges in the operating area, which informs the developmental needs of the host communities, are presented in this chapter. Furthermore, the operational challenges resulting from the socio-economic issues in the host communities as presented in literature, which forms part of the motivation for this study is reviewed accordingly.

2.2. The Oil and Gas Industry and its Peculiar Operational Features

The oil and gas industry is characterised by its high capital-intensive nature of business. With regards to its operations management, the industry is seen as unique in several ways when compared to other industries (Varma et. al., 2008) Some of the identified unique features according to Parast and Adams, (2012) are as listed below:

- The oil and Gas industry is tagged: ‘a seller market’ as its number of suppliers is limited.
- In the industry, several products (petroleum) are created or extracted from crude, whereas in many other industries, a new product is made by assembling various other components.
- There is no opportunity for product variation through intentional design in the oil and gas industry, therefore profits are usually made through improvements on production and transportation processes thereby reducing the cost of operation and increasing savings from improved system efficiency.

- The production processes follow rigidly standardised operation protocols with little or no room for flexibility or making changes to schedules especially when the system is in operation. Although the standardisation of production processes result in relatively low unit cost, however any form of disruption has serious operational consequences due to the high cost of system set-up.
- The cost of product transportation in the oil and gas industry is relatively high when compared to other industries due to the nature of the products.
- In quality management terms, the voice of the end-user customer in relation to making an input to the product quality is not considered because of the nature of the product, which is not designed by the industry operators, and therefore no design input is needed from the customer. This is contrary to the conventional product design processes in other industries where the customer is involved

These peculiarities highlight the oil and gas industry as most suitable for testing and validating various operations management theories or models that involve the interactions between a wider range of stakeholders, such as the host communities and the impact of their preferences on operational performance. Previous research on the concept of stakeholder satisfaction and its impact on operational performance have been mainly focused on end-user customers. However, following the afore-mentioned peculiar features of the oil and gas industry, it is therefore considered pertinent to recognise the "voice of the host communities" as the "voice of customers". In light of this perspective, this research therefore seeks to identify the extent to which the satisfaction of the host communities impacts on the operational performance of the oil and gas industry in Nigeria.

Furthermore, although the evolution of the oil and gas industry and the subsequent socio-economic impact on the host communities have received a considerable attention in the relevant management literature, (e.g Nwankwo 2015; Frynas, 2000), however the impact of the operations management practices of the industry on the satisfaction of its stakeholders, particularly the host communities, has remained unclear, hence necessitating a review of the industry's practices in order to optimise its operational performance in Nigeria.

2.3. The oil and Gas Industry in Nigeria

Nigeria is reported to be the largest producer of oil in Africa with a reserve of about 37 billion barrels, which has been ranked by the EIA (2016) report, as the tenth-largest oil reserve in the world. The country also holds about 180 trillion cubic feet of natural gas reserve making it the eighth largest in the world and the largest on the African continent. In 2015, Nigeria was also the fourth largest exporter of liquefied natural gas (LNG). In Nigeria, oil and gas have been described as the mitochondrion of the country's economy. It is the major source of the country's export earnings. For example, according to the US EIA 2016 report, in 2014, 95% of Nigeria's total exports were oil and natural gas. According to the International Monetary Fund (IMF), the revenue from the export of oil and natural gas was about $87 billion in 2014, representing 58% of the total government revenue of Nigeria in that year. Thus, revenue from Oil and natural gas is Nigeria's main source of foreign exchange. However, despite leading in oil production in Africa, the EIA also report that sporadic supply disruptions have affected production, resulting in losses of about 500,000 barrels of oil per day. Thus, these disruptions constitute a major challenge for the industry. However, in an attempt to provide for a better understanding of the state of the industry in Nigeria and the possible causes and effects of the disruptions to operational activities, a succinct review of the history and the operational dynamics of the industry in Nigeria are presented.

2.3.1. History of the Oil and Gas Industry in Nigeria

Historically, exploration activities first began in Nigeria in 1905 around Araromi area of Ondo State by the Nigerian Bitumen Corporation NBC. The exploration was initially for bitumen but subsequently for oil. In 1906, another company joined the oil exploration business in Nigeria. This company was known as the Nigerian Investment Company, which was later replaced by British Colonial Petroleum Corporation BCP. Due to the First World War, oil exploration in Nigeria was suspended. It was later in 1937 that Shell D'Arcy began operations in Nigeria. In 1946, after the Second World War, it partnered with British Petroleum BP and was known as Shell-BP Development Company of Nigeria. However, it was not until 1956 that crude oil was discovered by the Shell Group. Thus production of crude oil

in significant commercial quantities began in 1958 with about 1.88millon barrels produced. By 1965 this figure had significantly risen to 10 million barrels of oil and a further 558.9 million barrels in 1971 (Ogri, 2001). Also, since the historic drilling of crude oil in 1956, Nigeria's reserve has continuously increased. For example, in 1974, the country's proven reserves of crude oil had increased from 17million barrels in 1958 to an estimated value of 4.8 billion barrels (NNPC, 1990). Currently Nigeria holds a proven reserve of about 37billion barrels of oil with a possible increase in value in the future (DPR, 2015). In 1971, over a decade after oil was discovered, Nigeria joined the Organization of the Petroleum Exporting Countries (OPEC) and was ranked as the sixth largest producing country among member states, a position the country has continuously maintained.

From the early years of oil discovery by the Shell Group, the oil and gas industry in Nigeria has remained vibrant. The industry in its early years was mostly dominated by Multinational Corporations (MNCs). However, the 1990s saw Nigerian indigenous companies begin to invest in the sector. Participation of local companies was indeed boosted when the Nigerian Government implemented a Local Content Directive through the NNPC. Also, another factor that improved local participation was the promulgation of the Nigerian Oil and Gas Industry Content Development Act (2010) seeking to promote the use of Nigerian companies in awarding oil licences and contracts (NNPC, 1990).

According to the NNPC, there are now a total of 169 companies that are registered with it in both the upstream and downstream sectors of the oil and gas industry in Nigeria (NNPC 2015). These companies include multinational companies and local or indigenous companies. Among the major operators in the industry are five multinational companies: Shell, Agip, Chevron, Exxon Mobil, and Total Fina Elf (Idemudia, 2007). These companies have been classified into two categories namely: first generation and second-generation companies. This classification is a reflection of the dates when concessional agreements (granting of the licence to operate) were signed with the FGN, According to Idemudia, (2009) the first generation companies (see Table 2.1) jointly account for about 90% of total production in the industry in Nigeria. These companies have taken advantage of their position as "first movers" to consistently dominate the industry thereby confining the activities of the second

generation industries to newly discovered oil blocks or to fields that have been left behind by the first generation companies (Frynas, 2000).

First Generation		**Second Generation**	
Company	Year licensed	Company	Year licensed
Shell	1937	Statoil/BP Alliance	1992
Mobil	1955	Esso	1992
Chevron	1961	Total Nigeria	1992
Texaco Overseas	1961	Amoco	1992
Elf	1962	Conoco	1992
Philip	1962	Abacan	1992
Pan Ocean Oil	1972	Addax	1992
Bought Over Ashland Oil	1973		
Agip	1979		

Table 2.1: Classification of Oil Companies in Nigeria by Generation
Source: Idemudia, (2007)

Although some companies have merged with others in the last few years (e.g. Elf taken over by Total) and there has been a large number of new entrances into the industry, these first and second generation companies have remained dominant in the operations of the industry in Nigeria. This is primarily due to the wide field they control and also their sizes compared to other relatively new companies in the industry (NNPC 2007).

The next section briefly highlights the uniqueness of the industry's operational structure in Nigeria.

2.3.2. Organisational Structure of the Industry in Nigeria

The oil and gas industry is organised into upstream and downstream sectors. Although some authors include a third category such as: midstream sector or service sector (e.g. KPMG 2014). Whatever the choice of categorization, the two major groups of activities of the industry involve exploration and production on one hand, transportation and refining on the other.

2.3.2.1. Upstream Sector

Oil and gas exploration and production activities characterize the upstream sector. It is considered as the most important sector in the Nigerian economy as it accounts for more than 80% of the Federal Government's export revenue

According to the NNPC 2014 report, the companies currently produce crude oil from three main basins namely: the Niger Delta basin (shallow and deep offshore); the onshore Anambra basin, and the offshore Benin/Dahomey basins (deepwater and ultra-deepwater). However the Niger Delta and Benin basins are considered as the richest basins as the vast majority of the country's proven reserves are held in them and these basins currently constitute a greater portion of the current production fields. About 65% of Nigeria's oil has very low sulphur content, making it a preferred brand among many. The country's major export crudes are Bonny Light and Forcados (KPMG 2014).

Also, with regards to natural gas, Nigeria has been described by many as a 'gas province' with some oil, because the undiscovered gas reserves is estimated to range from 300 – 600 trillion cubic feet of gas (NNPC 2014). The gas is of a high quality: low in sulphur and rich in Liquid. Although about 75% of the gas associated with production activities is currently flared and only about 12% of it is re-injected. This is mainly due to lack of the needed gas infrastructure for adequate utilisation of the product in Nigeria (KPMG 2014).

In the upstream sector of the industry a major government policy states that: "all mineral resources, including hydrocarbons, belong to the nation, and persons or companies are not allowed to explore for oil without a license granted by the Federal Government" (Ogri, 2001). Following from this policy therefore, and the fact that the

Federal Government of Nigerian, through the NNPC, is not only a regulator but also a major player in the operations of the industry, four major operational arrangements have been put in place between the FGN and the operating companies in the industry. They are:

- Joint Venture (JV)
- Production Sharing Contracts (PSCs)
- Service Contract (SC)
- Marginal Field Concession (MFC)

Under the joint venture arrangement the FGN through its operator - the NNPC, and one or more multinational oil companies (MOC) enter into an agreement to co-fund the field operations of jointly held Oil Mining Lease (OML) according to the percentage of their equity holdings, and thus follow the same sharing ratio in receiving the crude oil that is produced. Six companies operate the existing seven joint-venture partnerships with the NNPC. The companies are: Shell, Mobil, Chevron, Agip, Elf and Texaco (See Table 2.2 below). They are jointly responsible for about 97% of the total crude oil production in Nigeria (Idemudia, 2007). The joint venture arrangement is therefore considered as the most important among others.

	Partners	Equity Interest	Operator	No. of OMLs
1	Shell Agip Elf NNPC	30% 5% 10% 55%	Shell	58
2	Mobil NNPC	40% 60%	Mobil	4
3	Chevron NNPC	40% 60%	Chevron	16
4	Agip Philips NNPC	20% 20% 60%	Agip	N/A
5	Elf NNPC	40% 60%	Elf	14
6	Texaco Chevron NNPC	20% 20% 60%	Texaco	6
7	Pan Ocean NNPC	40% 60%	Pan Ocean	1

Table 2..2: The JV operators and their partnership interests
Source: Idemudia, (2007). (Own Elaboration)

With the PSC arrangements, the Federal Government of Nigeria through the NNPC holds the concession and engages the oil company as a contractor to carry out operational activities for itself and the NNPC while bearing the financial burden alone. In the event of a successful exploration, the cost of operation is then recovered as an entitlement when commercial production commences. However, with the SC arrangement, the contractor-company takes on exploration, field development, and production activities at its own risk and is not entitled to the oil it produces. The re-imbursement of the incurred cost of production is done only from the proceeds of the

sold product. However the contractor is paid a periodic remuneration as stipulated in the terms of contract.

With regards to marginal field concession, the Federal Government of Nigeria encourages marginal field operators, mostly MNCs, through certain incentives to surrender their marginal fields in order to assign them to indigenous concession holders, local empowerment, following the government's local content policy. In this context, any field that has confirmed reserves which is reported annually to the DPR, but has not been utilised for the purposes of oil production for over 10 years is regarded as a Marginal Field.

2.3.2.2. Downstream Sector

The major aspects of the downstream sector in Nigeria include: transmission and conveyance; refining; distribution and marketing; and the Liquefied Natural Gas (LNG) project. The transmission and conveyance aspect is carried out through a pipeline network running from the oil wellheads to designated refineries or plants. Other transportation means sometimes include purpose-built vessels and tankers.

With regards to refining, Nigeria has four functional refineries operated through the NNPC. These refineries are strategically linked to depots and other terminals through a comprehensive network of pipelines throughout the country. The refineries and their installed capacity per day are as shown in Table 2.3. However, according to the KPMG review 2014, the refineries are functioning at about 30% of its combined installed capacity.

Refinery	Installed Capacity (bpd)
Kaduna Refinery	110,000
Warri Refinery	125,000
Port Harcourt Refinery 1	60,000
Port Harcourt Refinery 2	150,000
Total	445,000

Table 2.3: Oil refineries in Nigeria and their installed capacities
Source: NNPC, (2014)

Through its subsidiary: the Pipelines and Products Marketing Company (PPMC), the NNPC manages the distribution and marketing of petroleum products from the refineries to the regional storage or sales points across the country using the pipeline network and other modes of transportation such as coastal vessels and road trucks also known as tankers.

Some of the products from the refineries and plants linked to them include: heavy alkylate, benzene, linear alkyl benzene, deparafinated kerosene, polypropylene and carbon black.

Also, with regards to the natural gas project, Nigeria has an ambitious liquefied natural gas facility operating with a total of six gas trains. The total annual capacity is 31 billion cubic meter of gas. From the current output of this facility, Nigeria is increasingly becoming an important exporter of LNG to buyers in Europe (KPMG, 2014).

2.3.3. The oil and Gas Industry and its Stakeholders in Nigeria

There are three major stakeholders in the oil and gas industry in Nigeria. They include: The Federal Government of Nigeria (FGN); the oil companies – both local and Foreign multinational oil companies (MOCs); and the host communities. However, the industry has been dominated by two of the three stakeholders. Thus it is considered as a relatively new phenomenon to have the host community described as a major stakeholder in the industry in Nigeria (Nwankwo, 2015). Following the dominant position of the other stakeholders, the trend of relegating the host

communities to the background in relation to decision-making is seen as prevalent in the oil and gas industry (Idemudia, 2009). This trend is often justified by referencing the existing laws and decrees that empowers the FGN as the only legitimate authority to grant oil and gas exploration concessions to any company whether international or local. Indeed, going by the provisions of such laws and decrees, (e.g. Land use act of 1978 and the Petroleum Act of 1969), the FGN is the sole owner of all lands and any form of minerals found within its territory. Also, by virtue of these legal provisions, the FGN is considered as having the strongest influence on the operational directions of the industry. Furthermore, as the sole lawful owner of the commodities, taxes and other royalties are remitted directly to the FGN which makes it the most important stakeholder in the oil and gas industry in Nigeria Idemudia, 2009). Therefore, the primary role of the FGN as a major stakeholder is to regulate and supervise the activities of the companies in the industry through its proxy: the NNPC. The relationship between the other stakeholders is also influenced by the FGN. Due to the operational arrangements between the FGN and the operating companies, such as the JV arrangement where the FGN through its proxy: NNPC, holds an average of 57% in the partnership, it therefore has the responsibility of dictating the pace and direction of the industry (Nwankwo, 2015).

The oil and gas companies, on the other hand, dominate the private and technical part of the industry while the host communities, as the third group of stakeholders consist of the communities that are directly or indirectly affected by the activities of the companies operating in the industry. These communities according to Agim, (1997), can be divided into three main groups.

Producing communities: These are the communities where oil and gas exploration and production activities actually take place.

Terminal communities: These are communities located along the coast where the companies that engage in offshore exploration and production activities situate their terminal facilities or ports.

Transit communities: This used to describe communities where oil and gas pipelines in the NNPC network pass through.

Other communities also claiming the status of host communities include those situated within the region generally classified as oil and gas producing regions such

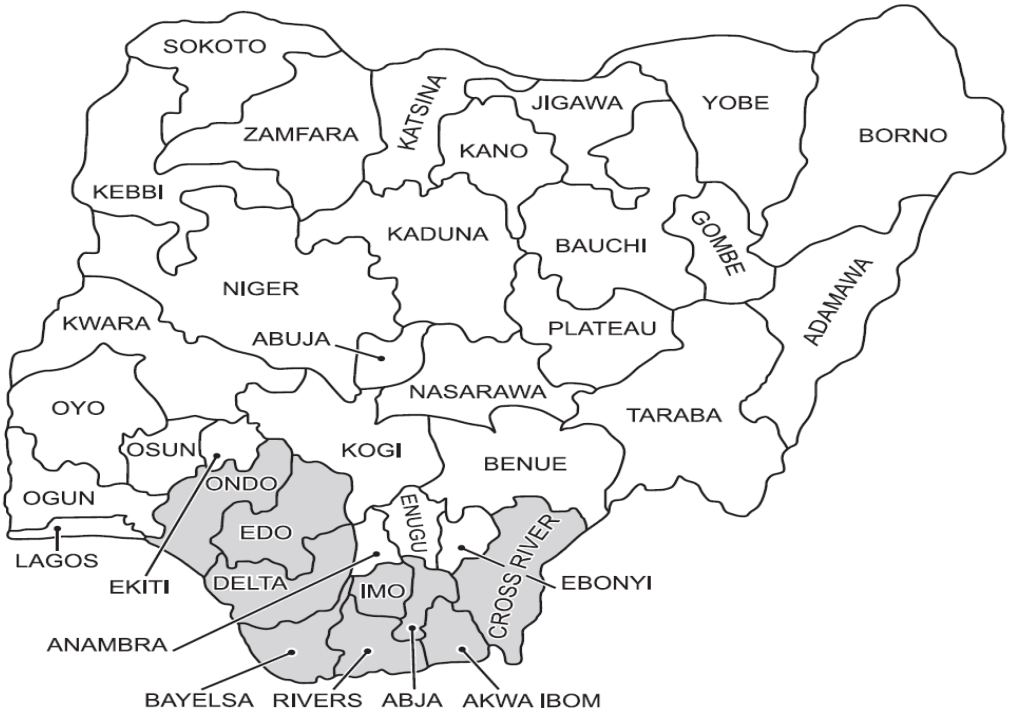
as Niger Delta region (Agim, 1997). All these communities share a common desire to be duly recognised and involved in decision making as legitimate and equal stakeholders with the FGN and the private companies in the oil and gas industry in Nigeria, a desire that has largely remained unfulfilled resulting in evident dissatisfaction (Obi, 2010).

The operations of these companies are mainly concentrated in the Niger Delta region of Nigeria, thus the next session describes the region in light of its geographical features and socio-economic challenges linked to the activities of the industry.

2.4. The Niger Delta Region of Nigeria

The geographical position of the Niger Delta is within the southern part of Nigeria (See Figure 3.1). The region is a rainforest zone spread over an estimated 70,000 square metres, covering a coastline of 560km, which is estimated to be about 60% of the entire coastline of Nigeria (NDDC, 2001). The perimeter of the Niger Delta region extends from Imo River in the east to the Benin River in the west and from Aboh in the north where the river divides into two tributaries to the tip point of the south near Akassa. Known to be one of the world's largest wetland, it is mostly identified with lagoons, creeks, marshlands and rivers (NDDC, 2001). While the soil seen along the coast is generally sandy and porous, the inland soil is more of clay and often consists of undecomposed or decomposing plant materials such as leaf falls and felled tree trunks (Okoh, 1996). There are four identified ecological zones in the region: Mangrove swamp zone; freshwater swamp zone; coast sandy/coast inland barrier ridge zone; and lowland rainforest zone (Moffat and Linden, 1995; Aneej, 2004).The physical nature of Niger Delta region has a great influence on the population density and the pattern of settlement is a direct reflection of the available dry land and the topography of the region (Ituen and Inyang, 2000; NDFI, 2003). Also, the region is rich in biodiversity and the abundant rainfall which characterises a rain forest zone make agricultural activities such as fishing and farming the major occupation and source of livelihood for those who live in the Niger Delta region of Nigeria

Figure: 2.1 Map showing the States of Niger Delta Region in Nigeria
Source: Idemudia, (2007)



The estimated population of the Niger Delta inhabitants is about 20million people. There are about 40 different ethnic groups speaking about 250 different languages and dialects across over 3000 communities (NDDC, 2001). Some of the ethnic groups include: the Urhobos, Ogonis, Ijaws, Ikweres, Ogbas, Itsekiris, Efiks, Ibibios, Edos and many others. There are 9 states out of the 39 states of Nigeria that officially define the Niger Delta region in a political sense according to the Federal Government of Nigeria. Most of the 9 states fall within the south-south geopolitical zone of the country. These states include: Abia, Akwa Ibom, Bayelsa, Cross-River, Delta, Edo, Imo, Ondo, and Rivers State. All the MOCs and most of the local oil and gas companies have their operational base in this region hence, the Niger Delta region generates more than 80 per cent of the national resource (Nwankwo, 2015). However, due to the highlighted environmental and socio-cultural peculiarities in this region, the oil and gas industry does not operate without challenges in relation to those peculiarities.

2.5. Challenges of the Industry in Nigeria

Some of the challenges of the oil and gas industry in Nigeria have been listed by Iledare (2007) to include "effective, progressive petroleum fiscal systems; authentic indigenous participation in the domestic oil and gas industry; the rules of law and institutional empowerment; and continual membership of Nigeria in OPEC." He further stated that at the heart of these challenges are the resource control argument and the exclusive right of the FGN to grant permissive licence to companies for the exploration and development of petroleum resources in the country. However, according to the KPMG Nigerian Oil and gas industry brief (2014), the current challenges facing the industry include: government funding options for the JV operations; lengthy processes for contract award; infrastructural issues; and the Niger Delta crises. These are considered as "pressing" in the wake of the decline in oil prices which has consequently reduced government earnings.

With regards to the government funding options, the JV agreements requires the NNPC to meets its obligations in funding the JV operations, however, due to the current drop in government earnings, this has become a challenge for the government. The situation has direct impact on the operations of the companies operating the JV assets. Also the length of time taking in the tedious bureaucratic processes leading to the award of contracts, especially in the upstream sector of the industry, constitutes a challenge for the operators. This is because it delays the commencement of projects thereby affecting the economics of the contractual terms guiding the execution of such projects. Lack of adequate infrastructure, such constant supply of electricity, for effective and efficient operational activities in Nigeria has serious impact on the oil and gas industry. Similarly, due to lack of infrastructure, a significant amount of Nigeria's natural gas (up to 12% in 2014), is currently being flared instead of being commercialize (EIA report 2016)

However, according to the EIA review (2016), the most urgent and difficult challenge of the oil and gas industry in Nigeria is the Niger Delta (community) crises. According to the report, despite being the largest producer of oil in Africa, "production is hampered by instability and supply disruptions" mainly caused by community resistance and vandalism of installations such as distribution pipelines. For example, according to the NNPC 2014 annual statistical bulletin, 3,732 line

breaks on NNPC pipelines were reported and 3,700 out of these were due to vandalism. A total of 355.69 thousand metric tons of petroleum products, valued at N44.75 billion was lost. Indeed there are different arguments among scholars on the actual reasons for these reported conflicts. For some authors such as Umejesi and Thompson (2015), the host communities see themselves as impoverished and marginalised by the actions and activities of the other stakeholders in the industry – the FGN and the oil companies. They further stated that the host communities should be included in the wealth creation processes as a way of resolving the crises. Similar to this view are those of Nwankwo, (2015) who have strongly affirmed the resource control and environmental degradation argument, stating that the crises is the consequence of the untold hardship which the region has been subjected to over time through oil pollution, and the destruction of the entire eco-system that forms the major source of livelihood for the local population. Also, according to Oviasuyi and Uwadiae (2010), oil spillages and gas flaring are major problems facing the Niger Delta region, which has resulted in serious atmospheric pollution and the contamination of soil and ground water. They further state that the heat constantly radiated around the gas flare pits constitute serious health hazard for the residents of the host communities and also affects the plants and animals life cycle in the Delta region. The FGN on the other hand has consistently insisted that the actions of the host communities is motivated solely by criminal mind-set, insisting that those involved should be considered as criminals (oil thieves) and treated accordingly by the state.

However, there is a consensus in literature that the reported disruptive activities and acts of vandalism on oil facilities by host communities can be directly linked mainly to the broken relationship between the host communities and the other stakeholders in the industry: the FGN and particularly the oil companies (Obi, 2010; Idemudia, 2009; Frynas, 2000; Nwankwo, 2015), implying that the management activities of the companies operating in the industry have significant influence on the satisfaction of the host communities which could directly result in less conflicts, less restiveness and more uninterrupted production in the industry. It is this proposition therefore that informs this study which is aimed at identifying the link between the management paradigms of QMP/CSR and community satisfaction as well as the influence of

community satisfaction on operational performance in empirical terms, within the context of the operations of the oil and gas industry in Nigeria.

2.6. Chapter Summary

In this Chapter, the operational peculiarities of the oil and gas industry have been presented, thereby highlighting the gap in literature in relation to the lack of consideration for such peculiarities in most related studies. Also, an overview of the industry in Nigeria has been presented, comprising the history, the operational structure and the relationship between the stakeholders in the industry with the aim of highlighting the need for the satisfaction of the host communities as major stakeholders in the industry. Furthermore, the geographical features and the socio-economic background of the Niger Delta region of Nigeria where most operational activities of the industry are based have been succinctly described, in an attempt to provide a better understanding of the unique nature of the industry's operational activities in Nigeria, within the context of environmental challenges, insufficient infrastructure and communal conflict. In accordance with the objectives of this study, this chapter provides the background for the link between the QMP/CSR initiatives of the companies and community satisfaction on one hand, community satisfaction and operational performance on the other, where the measurement indices of operational performance include: less communal conflicts and uninterrupted operational activities.

The next chapter therefore focuses on the review of relevant literature on the model elements, and the relationships between the elements and Operational Performance.

Chapter 3
Literature Review

3.1. Introduction

This chapter presents a review of the existing literature on the relationships between QMP, CSR and National Culture and the impact of these relationships on operational performance within the context of the operations of the oil and gas industry particularly in a developing country. Various theoretical frameworks establishing the link between the afore-named elements is reviewed with the purpose of highlighting the existing knowledge as it regards their significance in optimizing operational performance. It is within this backdrop that the gaps in literature have been identified and highlighted in the chapter. These gaps are enunciated as a lack of recognition for the role of community satisfaction as an important element in the optimization of the operational performance in the oil and gas industry in Nigeria.

This chapter therefore contributes to the existing literature relating to the concepts of QMP, CSR and National culture, showing the link between them and how they impact on Operational Performance.

3.2. The Host Community as a Stakeholder-Customer

The traditional definition of a customer includes the buyer, user, client who receives a product or service from a supplier, seller or provider for an exchange of valuable returns such as money. However, Juran (1986) in an attempt to provide a more comprehensive description of the concept defines a customer as "anyone who receives or is affected by the products or process" (services) of an organization. A further two point classification of customers accentuates the concepts of internal and external customers. While the former refers to those directly connected to the "production organization" which includes all those up or down the production chain as well as shareholders such as owners, investors and contributors (Kolarik, 1995), "external customers", on the other hand is used to describe mainly those affected by the product or process such as the buyer or the end user of the product or service. However, according to Kolarik, (1995), "in a broad sense, external customers also

include the general public or the society." This view is consistent with the Japanese quality philosophy as seen in expressions such as "respect for humanity" and "loss to society" by Ishikawa, (1985) and Tagushi, (1986) respectively when describing the relationship between firms and it stakeholders.

This broad definition of the term "customer" by implication includes: everyone in the supply chain, employees, and other stakeholders such as the communities where business is done also known as host communities. Therefore in the extractive sector such as the oil and gas industry, the host communities generally referred to as stakeholders, can be regarded directly as stakeholder-customers and treated as such in the context of quality management and its associated practices. This follows the fact that the host communities are directly affected by the operational activities of the industry in various ways.

Furthermore, the stakeholder theory, which is in congruence with the principle of customer satisfaction, promotes a central idea that organizations should focus not only on satisfying the shareholders but also on catering for the interests of a broader group of stakeholders such as the host communities (Miles, 2012). Thus, from the perspective of the stakeholder theory, the above broad definition of customer can be seen as identical to the definition of stakeholder. According to Freeman (1984), "stakeholders are individuals or groups who can affect or are affected by the actions and results of an organization." However, in order to narrow this broad definition of the term, the stakeholder theory has limited it to persons or groups that have major legitimate involvements with the organization thus, excluding some stakeholders whose interests are seen to be distant from the operations or business objectives of the organization (Miles, 2012). Although critics of the theory have argued that there is no clear way of determining the priority of a group's interest or benefits against or over those of the other groups (e.g. Donaldson and Preston, 1995). Similarly, Clifton and Amran, (2011) argue that while some managers may often choose to narrow the classification of stakeholders using attributes such as power, urgency or legitimacy, such narrow categorization of stakeholders often result in significant problems. Nonetheless, similar to the classification of customers, Sirgy, (2002) has divided stakeholders into three categories, which he called: internal stakeholders, external stakeholder and distal stakeholders. While internal stakeholders include: employers,

company departments, and board of directors, the external stakeholders include: suppliers, the local community, shareholders, and the environment. Also the distal shareholders include consumer groups, advocacy groups, labor unions and rival organizations. A stakeholder is therefore defined here as any person or group of persons who can be identified as being able to affect or is affected by the organizations operational activities in a manner capable of influencing the achievement or otherwise of the organizations set objectives.

In view of the similarities between the definitions and categorization of customers and stakeholders, the host community is considered in this research, not only as external stakeholder but as external customer and it is being discussed in this study as a stakeholder-customer, within the context of its role in the optimization of the operational performance in the oil and gas industry in Nigeria.

In the context of this study, a stakeholder-customer is defined as anyone who is affected by the operations management practices or production processes of a firm without necessarily having direct need for the product.

Nonetheless, the host communities as stakeholder-customers are considered as similar to end-user customers with regards to their influence on operational performance, leading to the overall organizational performance of the firm. To buttress this, Donaldson and Preston, (1995) from the instrumental perspective of the stakeholder theory, report that previous studies strongly indicate that firms implementing stakeholder management principles in their operations, which means always considering the interests of their stakeholders, are likely to be more successful than the others in the areas of growth, stability and profitability. However, although the link between the end-user customer satisfaction and firms' operation management practices has been extensively examined in literature, this study focuses on the stakeholder-customer satisfaction otherwise known here as host community satisfaction, and its role in a framework that describes the relationship between the operations management practices of quality management, corporate social responsibility on one hand and operational performance on the other hand in a specific industry.

The next section is an attempt to succinctly describe the quality concept within the context of its evolution into the quality management paradigm and how this resultant management practices relate to CSR and culture as well as its impact on operational performance

3.3. The Concept of Quality and its Development – An Overview

"Quality" is a very familiar term among a variety of management practitioners often used to describe a state of optimum functionality of processes or products. However, providing the true definition of quality in a universal sense remains a challenge for researchers and industry practitioners. This is perhaps as a result of the degree of lexical ambiguity that surrounds the term (Mensah et. al., 2011). Hence, in literature, a variety of definitions have been presented by various researchers.

Beginning from the quality 'Gurus', the concept of quality has often been defined following the individual perception of various authors. This shows the multi-dimensional nature of the term. Definitions of quality are therefore strongly influenced by the author's understanding and personal experience with the concept. Thus, while Crosby defines quality as "conformance to requirements" (Crosby 1979), Juran sees it as "fitness for use" (Juran, 1989). Yet, according to Taguchi, "the lack of quality is the losses a product imparts to the society from the time the product is shipped." (Taguchi and Wu, 1979). Again, for Deming, only the customer's definition of quality matters. In other words, quality should be aimed at the present or future needs of the customer (Deming, 1986). Other definitions of quality include: "meeting or exceeding customers' expectations" [Dean & Evans,1994]; "an effective system for integrating quality improvement efforts of the various groups of the organisation, so as to provide products and services at levels which will allow customer satisfaction" (Feigenbaum, 1983); and "delighting the customer by consistently meeting and continuously improving on his requirements" (Hand,1992). More recently, quality, within the context of products has been defined as the ability of the product to satisfy or exceed the needs and expectations of the customer (Bergman and Klefjo, 2007). Or simply put, quality is the "ability of an organization to satisfy the needs of its customer" (Sandholm, 2000).

A comparative assessment of these definitions reveals two perspectives from which quality is defined: Specification-based perspective and Customer-based perspective. Also, Rao et al (1996) has defined quality using four approaches: the transcendent approach; the product-based approach; the user-based approach; the manufacturing-based approach; and the value-based approach. These differences in approach and perspectives affirm that the definitions of 'quality' are context dependent as earlier suggested. They also support the argument which is consistent with the assertions of Deming that the best description of quality is the definition which shows that "quality lies in the eyes of the beholder" (Mensah et. al 2011), because the definitions fail to provide a clear and consistent description of the concept.

However, the multi-dimensional approach to quality as revealed in the definitions which transcends product-based, user-based, manufacturing-based, value-based and service-based approach presents the concept in a broader sense. Following this broad approach, the international standard for quality systems ISO 9000:2000 has provided a more inclusive and universally acceptable definition of quality. It states that "Quality is the degree to which a set of inherent characteristics fulfil requirements. The term requirements here include the stated needs or expectations whether implied or obligated."

A closer look at the contributions made by the "Gurus" and other authors in an attempt to provide a clear-cut definition of quality can be seen to converge on two key issues: Firstly, that the concept of quality provides the base or serves as the instrument for measuring the system functionality or product performance using set 'requirements' or 'purpose' as calibrations. Secondly, that customer satisfaction in terms of meeting or exceeding expressed/implied needs or expectations is central to the concept of quality. In all, the concept of quality as described is seen as coherent only when operationalized as a management paradigm also known as quality management.

3.3.1 The Evolution of the Quality Management Paradigm

Similar to the concept of quality, it is seen as an arduous task to precisely describe the term quality management. Attempts to describe quality management in a

comprehensive manner have led to the evolution of several theories around the concept, leading to the development of various practical models or implementation frameworks over the course of time. Historically, the initial concept of quality management was heavily manufacturing-based and mainly provided evaluations and technical judgments for product conformity, accompanied by measurement testing or gauging as appropriate (ISO 9000:2000). These measurement processes which were collectively known as inspection, soon evolved into a new process known as Quality Control (QC). The main feature of quality control process is known to be its provision for a better organized system control mechanism, involving a developed quality manual, self-inspection, use of statistics and better documentation control (Dale, 2003). This method of quality control in order to avoid system non-performance was later replaced by another more efficient system known as Quality Assurance. According to Dale (2003), Quality Assurance provided better system confidence due to its central focus on planning and prevention at source. It therefore created an effective platform for system improvement. The described evolution of quality management climaxed at Total Quality Management (TQM).

There are, several definitions of TQM by different authors following their varied somewhat subjective understanding of the term. However there are no significant differences in the definitions in respect to the major values that are highlighted. Below are some of the definitions:

Evans (2005) defines TQM as "a people focused systematic approach with the primary objective of continually increasing the level of satisfaction of the customer at a continually lower cost through the involvement of all employees, departments as well as the suppliers."

Talha (2004) sees TQM as "a broad set of managerial approaches aimed at providing products or services that will achieve customer satisfaction by involving the entire organization and its employees."

Miller, (1996). TQM is said to be "an ongoing process whereby top management takes whatever step necessary to enable everyone in the organization in course of performing all duties to establish and achieve standards which meet or exceed the expectation of customers both external and internal."

Bergman and Klejo (2007), TQM is a constant endeavor to fulfil and preferably exceed the customer needs and expectations at the lowest cost, by continuous

improvement work, to which all involved are committed, focusing on the process in the organization.

Ghobadian and Gallear (1996) in their systematic analysis of TQM concepts defined it as "a structured attempt to re-focus the organisation's behaviour, planning and working practices towards a culture which is employee driven, problem solving, stakeholder oriented, values integrity, and open and fear free. Furthermore, the organisation's business practices are based on seeking continuous improvement, devolution of decision making, removal of functional barriers, eradication of sources of error, team working, honesty, and fact based decision making".

An evaluation of the definitions presented above reveals some similarities, which converge on basic common factors or values. It is based on these values that various quality management implementation frameworks or assessment elements have been developed. For some researchers, these common factors are referred to as the cornerstone of TQM (Bergman and Klefjo 2007), or the principles of TQM (Ala'nge, 1994). Others such as Flynn et. al., (1994), and Ahire et. al., (1996) see them as the critical success factors of TQM implementation. Thus, an acceptable definition or description of TQM is that which includes some or all of such identified values or principles (Mensah et. al., 2011).

However, following their comprehensive review of literature to identify the major difference between other quality management processes and TQM, Heady and Smith (1995) cited in Cook,. (2010) conclude that TQM involves the traditional characteristics of other Quality management processes but with:

- Increased emphasis on top management role.
- Decreased attention to most specific business functions and
- Increased attention to business topics.

Furthermore, there is a consensus among most authors that the most significant feature of TQM is the involvement of all employees, suppliers, and other stakeholders in ensuring quality in all processes and products. In other words, with TQM everyone is responsible for quality, which is a major shift from the traditional model of specific departmental responsibility.

3.3.2. Beyond TQM

There is a substantial agreement in literature that quality management as a management paradigm has developed into maturity in terms of the establishment of its foundational definitions and concepts (Sousa and Voss, 2002), however, like other management concepts, new quality management methods, application frameworks and assessment models seem to continuously generate interests among quality practitioners and academic researchers. Williams et. al. (2006) provides a list of the developments of quality management in a chronological manner beginning from the earlier developments, which they classified as classical quality management, and continues to quality management beyond the basics of TQM. According to them, the last four developments include:

Emergence of approaches such as total productive maintenance, six sigma, Toyota production system and lean thinking. These were sometimes seen as alternatives to TQM and sometimes as complementary.
There was a rise in prominence of benchmarking, business process re-engineering and self-assessment against a quality/excellence model for recognised award status.
Recognition that there is commonality of tools and techniques within improvement approaches.
TQM started to become a faded star, with renewed interest in approaches such as six sigma and lean thinking.

Consistent with the last development as listed, Zu et. al. (2008) in there study of the evolving theory of quality management concluded that techniques like six sigma provides an organisational structure that is not seen in previous methods such as TQM within the context of quality management paradigm and performance. A view also supported by Schroeder et. al. (2008).

Also, major changes in the business environment as observed in recent times means a consequential departure from the business context within which organisations operated at the time the earlier quality management concepts were developed. According to Williams et. al., (2006), some of these observed changes are seen to

constitute major challenges on the future of quality management theory and implementation. According to them, some of the changes include:

Pressures to produce increased profits mean that companies within the supply chain are continuously experimenting with cheaper more effective materials, suppliers, technology, etc. This has increased the opportunities for defects.
In many industries, all simple technological advances have been completed. The pressure is now on innovation with a shift to technological breakthrough (e.g. software has become more important in products/services but software reliability is difficult to test). This drive for technological breakthrough can result in disruption and increased volatility.
Changes in distribution patterns mean that there are fewer buying points with more power in the hands of a small number of suppliers/distributors, with less flexibility in terms of delivery, timing and quality.

In response to these changes, many recent research studies (e.g. Zeng et. al. 2015) have further identified the important need for quality management practices in the human interface aspects of industries. This has been labelled the 'soft' part of QM as against the 'hard' or 'classical' part which is seen as predominantly associated with analytical rigor, involving the use of extensive statistical methods to address quality. This 'soft' part of QM meant reduced inspection and waste, as well as reduced variation in routine situations within a standalone business (Williams, et al 2007). The soft or 'new' aspect of quality management has broadened the scope of quality to involve the supply chain, as well as addressed quality issues dealing with activities and processes between the firms, its suppliers and customers. (Foster, 2008; Kaynak and Hartley, 2008).

Although the 'classical' which is also referred to as 'old' quality management is still considered useful by organisations that operate in certain business environments (Williams et.al.2006), however, it is generally considered as 'limited' in its approach to the general principles of quality management. Therefore, in tackling the challenges emanating from the aforementioned changes and demands in the present day business environment, the 'soft' or 'new' quality management appears to be more

effective in principle. This is because it is seen to be more suited for guaranteeing success in dealing with crises more than it is with reducing routine variations in products or processes within the organisation (Grabowski and Roberts 1999).

3.3.3. New Challenges

Some of the recent challenges faced by organisations while ensuring an effective quality management include: increased competition; increased levels of technological innovation; pressure for result from the money markets; changes in the organisation of manufacturing and service delivery systems and processes (Williams et. al. 2006) and pressure on more customer/stakeholder-relations management initiatives such as Corporate Social Responsibility (CSR). Other challenges are in the area of managing the soft aspect of quality with its emerging complexities. Indeed Williams et. al. (2006) in their study of the new challenges of quality management also identified some other areas that constitute challenges in this respect. Some of these include:

Managing longer term relationship between customers and suppliers
Increased importance on non-technical softer influences on customer satisfaction
The need for closer cooperation both internally between functions and externally between partners in the supply chain.

It is therefore clear that a new and effective definition of quality management must encompass not only the concepts expressed by the old quality management but also with a greater inclination towards the softer aspect of quality management (new quality) which mainly involves people issues such as customer satisfaction, supply chain management, supplier relationship, and stakeholder partnership. In line with this inference, customer satisfaction is strongly considered as the emerged hub of business excellence and sustained productivity if effectively managed with all its complexities (ISO 9000:2000). However, in the context of the local community as a customer, the link between the satisfaction of such stakeholder-customers and sustained productivity or operational performance within the context of the extractive industry is not clearly established and thus requires an empirical evaluation.

3.3.4. Frameworks for Quality Management

Beginning from the works of the quality Gurus, there are several suggested frameworks or models for conceptualising and managing quality in organisations. The earlier development of quality management was heavily influenced by the contributions of the "Quality Gurus", who were American and Japanese quality experts (Kruger 2001, Claver et. al. 2002). The three main Gurus among others are Deming, Crosby and Juran (Cooke, 2000). These have presented useful frameworks that have enhanced the conceptual development of the paradigm as can be seen in Table 3.1. However, while some authors have identified similarities in their messages, others have found some differences (Oakland, 2000). Such differences are seen to reveal a level of inconsistency that tends to diminish the strength of the message when applied in the current business environment. Also, authors such as Bendall, (2000) have argued that the relevance of those messages have faded away in the wake of scrutiny and greater pull of evidence from research. Nonetheless, some other authors (e.g. Bicheno, 1998) believe in the continuous relevance of the messages if used only as appropriate.

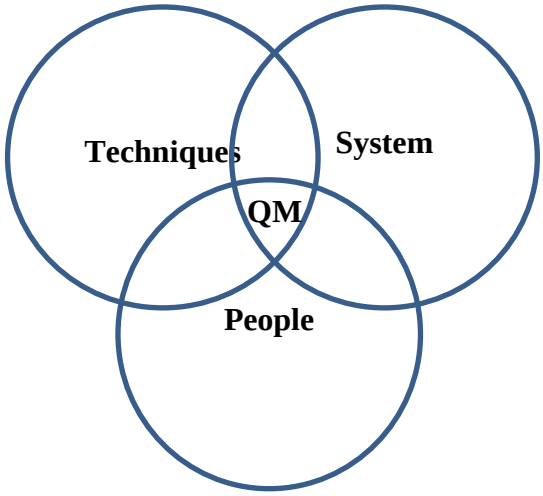
Deming's 14 points for Quality Management	**Crosby's 14-Step Quality Improvement Programme**
Create constancy of purpose for improvement of product and service	Establish management commitment
Adopt the new philosophy,	Form the quality improvement team from representatives from each department
Cease dependence on mass inspection	Establish quality measurement throughout the company
End the practice of awarding business on price tag alone	Evaluate the cost of quality
Improve constantly and forever the system of production and service	Establish quality awareness amongst employees
Institute training and retraining,	Instigate corrective action
Institute leadership,	Establish an a*d hoc* committee for the Zero Defects programme
Drive out fear,	Supervisor/employee training
Break down barriers between staff	Hold a Zero Defects day to establish the

areas	new attitude
Eliminate slogans, exhortations and targets for the workforce	Employee goal setting should take place, usually on a 30-, 60-, 90-day basis
Eliminate numerical quotas,	Error-cause-removal should be set up to follow the collection of problems
Remove barriers to pride of workmanship,	Establish recognition of those who meet goals or perform outstandingly by (non-financial) award programmes
Institute a vigorous programme of education and retraining,	Quality Councils composed of quality professionals and team chairpersons should meet regularly
Take action to accomplish the transformation	Do It All Over Again
Juran's 10 Steps to Quality Improvement	
Build awareness of opportunity to improve Set-goals for improvement Organize to reach goals Provide training Carryout projects to solve problems Report progress Give recognition Communicate results Keep score Maintain momentum by making annual improvement part of the regular systems and processes of the company	

Table 3.1: Quality Management Framework by Pioneers
Source: Several. (Own Elaboration)

However, a comparative assessment of the three quality management theoretical frameworks developed by the pioneering experts as shown in Table 3.1 reveals congruence in three basic factors that constitute the critical foundational features necessary for effective management of quality as listed by Kehoe (1996). They include: people, system and techniques as shown in Figure 3.

Figure 3.: Three Basic Elements of Quality



Building upon this pivotal theme, many quality practitioners have further identified and listed various elements that are basic to the practice of QM. For example, Ho (1995) listed the elements to include:

Leadership commitment
Total customer Satisfaction
Continuous improvement
Total involvement
Training
Ownership
Reward and recognition
Error prevention
Teamwork

Similarly, Dean & Evans (1994) have also identified the following as elements of QM:
Customer focus
Strategic planning and leadership
Continuous improvement and leadership
Empowerment and teamwork

Furthermore, according to the American Society for Quality ASQ, the primary elements of QM include:

Customer Focus

Total employee involvement

Process-centered

Integrated system

Strategic and systematic Approach

Continuous improvement

Fact-based decision making

Communication

Adapted from Mann (1992), Table 3.2, Shows a list of quality management element as identified by other quality practitioners

Pfau (145, **1989)**

Long Term Perspective,
Upper Management Commitment
Employ a System Approach,
Training and Tools,
Participation,
New Measurements & Reporting Systems,
Cross-Organisational Communication
Leadership

Feigenbeum (67, 1982)

Quality Leadership,
Company Wide Introduction,
Continuous Motivation,
Education,
Measurement

Oakland (133, 1989)

Management Commitment,
Quality Management System,
Tools (SPC),
Teamwork

Millar (126, 1991)

Top Management Commitment,
Goal of Customer Satisfaction,
Continuous Improvement,
Quality Belongs to Everyone,
Cost of Quality

Crosby (29, 19791 (14 Steps)

Management Commitment,
Quality Improvement Teams,
Measurement,
Cost of Quality,
Quality Awareness,
Corrective Action,
Zero Defects Plan,
Quality Education,
Zero Defects Day,
Goal Setting,
Error Cause Removal,

Shores (167, 1989)

Customer Focus,
Management Commitment,
Total Participation,
Systematic Analysis

Hutchins (94, 1990)

Systems,
Processes,
Management,
People

Harvey (86, 1988)

People Aspects,
Technology Aspects,
Methodology Aspects

Cullen (31, 1991)

Leadership from the Top,
Effective Management of Cost of Quality,
Focus on Customer Satisfaction,
Continuous improvement in all Operations,
Everyone Involved in Quality Improvement.

Baldrige (189, 1992) (Core Values & **Concepts)**

Customer-Driven Quality,
Leadership,
Continuous Improvement,
Full Participation,
Fast Response,
Design Quality & Prevention,
Long-Range Outlook,
Management by Fact,
Partnership Development,
Public Responsibility

Recognition, Quality Councils, Repeat. **Curry and Kadasah (2002)** Top Management Commitment Customer Focus Quality Data and Information Employee involvement Training Continuous improvement	**Juran (59, 1991)** Identifying customers & their needs, Establishing optimal quality goals, Creating measurements of quality, Planning processes of meeting goals, Producing continuing results in improved market share, premium prices & reduction of errors **Bhat et.al. (2009)** Confidence Training Teamwork Leadership Recognition Commitment

Table 3.2: TQM Elements as defined by Quality Practitioners (Mann, 1992) cited in Adebanjo (1997)

There are more similarities than differences in the various quality management elements as identified by different authors. The most common element is Focus on People; whether they are external customers or internal customers which include staff and suppliers. Consistent with this commonality the International Standard Organisation (ISO) has identified and adopted the following elements as Principles of Quality Management, considering them to be the most significant components for implementing the ideals of quality management. They include: Leadership, Customer Focus, Involvement of People, Process Approach to Management, System Approach to Management, Continuous Improvement, Factual Approach to Decision Making, and Mutually Beneficial Supplier Relationship (see Table.2.3).

However, the pivotal objective of these principles is to achieve customer satisfaction as expressed in ISO 9000:2000 Quality System Standard, which is consistent with aspirations of the "soft quality" or "new quality" proponents. It therefore follows that the satisfaction of the different types of customers including the local community, is and remains as the central focus of quality management practices, which makes evaluating its role in enhancing operational performance, an important venture.

Quality Management Principles	Description
Customer Focus	Organizations depend on their customers and therefore should understand current and future customer needs, should meet customer requirements and strive to exceed customer expectations
Leadership	Leaders establish unity of purpose and direction of the organization. They should create and maintain the internal environment in which people can become fully involved in achieving the organization's objectives
Involvement of People	People at all levels are the essence of an organization and their full involvement enables their abilities to be used for the organization's benefit
Process Approach to Management	A desired result is achieved more efficiently when activities and related resources are managed as a process
System Approach to Management	Identifying, understanding and managing interrelated processes as a system contributes to the organization's effectiveness and efficiency in achieving its objectives
Continuous Improvement	Continual improvement of the organization's overall performance should be a permanent objective of the organization
Factual Approach to Decision Making	Effective decisions are based on the analysis of data and information
Mutually Beneficial Supplier Relationship	An organization and its suppliers are interdependent and a mutually beneficial relationship enhances the ability of both to create value

Table 3.3: Description of the Quality Management Principles
Source: www.iso.org (own elaboration)

From the existing literature, the underlining principles of Quality Management are fundamentally focused on effectively achieving quality in all processes, which culminates in an enhanced overall performance of the organisation both in products and in service delivery. Such principles as those advanced by ISO 9000 quality management system as shown (Table 3.3), have therefore proved to be useful tools

for the assessment of quality management practices by many organisations around the globe.

According to the ISO Survey of Management System Standard Certification, in 2011, there were 1,111,698 organisations in 180 countries in possession of the ISO 9000 certification. This wide acceptance and usage of the ISO quality management system standard strongly indicate that the afore-named principles thus define the global understanding of quality management. They are therefore considered in this study as the most suitable measurement elements for evaluating the relationship between quality management and operational performance through community satisfaction in the oil and gas industry.

3.3.5 Quality Management and Organisational Performance

Based on a substantial pool of empirical evidence that has been drawn from the results of several studies by many authors, there is strong agreement among researchers and industry quality practitioners that successful implementation of Quality management by firms results in higher level of profitability and organisational performance (Kaynak, 2003; Yeung et al., 2006; Santos-Vijande, and A´lvarez-Gonza´lez, 2009; Kull, and Narasimhan, 2010). Quality management is therefore widely accepted in firms as a means of enhancing organisational efficiency and competitiveness (Sila, 2007)

As an example of the positive impact of quality management in companies, Coleman (1992) reported various achievements in Rank Xerox resulting from the implementation of the quality management strategy. These include:

- Enhanced focus on satisfying external customers' requirements
- Completion of large numbers of problem solving and quality improvement projects
- Increased levels of co-operation through teamwork
- Improvement in key managerial and operational processes
- Winning of several national quality awards
- Improved levels of customer satisfaction
- Reduction of product development cycle times

- Reduction of unit manufacturing costs
- Reduction in inventory levels
- Improvement in return on assets
- Regain of market share from competitors

Also, Mann (1992) in a survey conducted in 43 companies implementing TQM reported that 66% of those surveyed believed that their market share had increased due to quality management practices while 43% believed the practices had increased their export market. Furthermore, over 50% of the companies under study had witnessed an increase of 8% in their annual turnover while 37% had established a new customer base.

These are a few examples generally representing many success stories following the successful implementation of quality management in companies, which is echoed by the theoretical evidence as reported by most researchers. These reports indicate that quality management enables operational performance in three major ways, which include:

- Improved productivity and financial performance
- Enhanced customer relation and industry image
- Effective processes for competitive advantage (benchmarking)

However, some authors report a rather pessimistic conclusion that shows Quality Management as unable, as a stand-alone management paradigm, to produce success in any or some aspects of the company processes (Molina et al., 2007; Parast et. al, 2011). In an attempt to provide an explanation for this variation, Parast et.al., (2011) have identified the following factors as significantly responsible for the mixed result reported by various authors in quality management research. They include:

Difference in theoretical framework:
While some researchers define their framework by focusing on the viewpoint of the pioneers such as Deming and Juran (e.g. Anderson et al., 1995; Rungtusanatham et al.,1998), others use the Baldrige criteria as the reference model for quality management (Evans and Jack, 2003; Lee et al.,2003)

- Differences in industry selection: Some authors have focused on manufacturing firms (e.g. Wilson and Collier, 2000) but there are some studies where firms in different industries have been mixed (Saraph et al., 1989; Flynn et al., 1994; Ahire and Golhar, 1996)
- Differences in construct development and research methodology: Measuring performance on single or multiple levels and the use of different techniques for data analysis (Kaynak, 2003: Molina et al., 2007)
- The geographical setting of the study in relation to the influence of national culture, the socio-economic environment and the level of technological advancement in a particular country or region. Indeed some authors have argued that a closer look at the Quality management processes reveals the importance of culture in the implementation (e.g. Lewis 1998; Macnabb and Sepic 1995). Others have gone further to suggest that the failure in the effective implementation of quality management results from the cultural influence on the organisation (Utley, et al. 1997; Bowen and Lawler 1992). These arguments are reflective of the specific need for researchers to recognise in their studies, the peculiarities that exist in different regions or countries occasioned by the variations in values and norms in different geographical enclaves.
- Also, Prajogo and Brown (2004) suggest that it is the actual adoption of quality management practices that matters rather than formal Quality Management programs per se, adding that Quality Management as a set of management principles and practices, is a valuable resource for organisations to achieve high quality performance without much emphasis on the formality of the implementation. Furthermore, Sampson and Terziovski (1999) report that the failure to achieve a high level of organisational performance can be attributed to the quality management implementation process rather than the philosophy. Consistent with this, Douglas et. al., (2001) assert that the reported success in performance and profitability is actually dependent on the extent to which quality management principles are effectively implemented as against mere rhetoric about concerns for quality or the administrative launch of Quality Management as a formal program. Thus it can be inferred here that actual implementation is the most important factor for obtaining the desired quality results in various areas of operations.

The overall findings of a comprehensive overview of research studies conducted on the subject of quality management and firm performance strongly suggests that QMP has a significant effect on firm performance following actual implementation as against formal rhetoric. However, this effect is generally indirect through other variables (Ho et al., 2001) such as customer satisfaction.

In general therefore, the relationship between quality management practices and firm performance measured within the context of actual implementation is strongly considered as positive, although with varying impact on different dimensions of success such as operational effectiveness, financial performance, relative efficiency, employee satisfaction and particularly customer satisfaction

3.3.6 Quality Management and Customer Satisfaction

At the centre of any company process that leads to profitability is the customer. Hence the major aim of the quality management philosophy is generally considered to be customer satisfaction. Deming (1984) and Juran (1991) promote customer satisfaction as the ultimate goal of Quality Management. For Deming, the only definition of quality is that given by the customer. Thus quality can be seen as a management process whereby the desired organisational goal is successfully achieved through customer satisfaction.

Accordingly, several studies have reported strong positive link between quality management practices and customer satisfaction (Choi and Eboch, 1998; Ross 1995), however, there are variations in the results with regards to the particular elements or dimensions of quality management that have greater positive effect on customer satisfaction. For example, Wen Ye Sit et. al. (2009) in their study of TQM argue that the dimensions of Leadership, Customer focus, Human relations, and Information analysis have positive influence on customer satisfaction while Ross, (1995) had earlier identified employee relations and employee involvement as most positively related to customer satisfaction. In all, there is a consensus among researchers on an established congruence between quality management and customer satisfaction.

In today's business environment, customer satisfaction has become a complex term to describe due to the changing nature of customer identity and the continual adjustments by organisations to accommodate the varied physical and virtual

positions of customers such as online customers and other virtual stakeholder communities. However, in an attempt to provide a succinct definition for the term, Kotler et. al. (1996) have defined customer satisfaction as a felt state of a person when comparing the perceived performance of a product or their experience with a process in relation to the person's expectations. This definition indicates that customer satisfaction is not to be seen as an objective statistics but more of an emotional sentiment. Consistent with this, Williams et.al (2006) argue that one of the growing measurement challenges in today's business environment with regards to quality management is concerned with the increased importance of non-technical softer influences on customer satisfaction. Many companies in today's highly competitive markets no longer sell much of products or services but rather they are selling a dream (Pine and Gilmore, 1999), which is difficult to measure. For example, where the customer satisfaction is based on a the company's brand image as advertised, instead of actual products or process functionality, many different and complex variables besides the fitness for use or process efficiency will be expected by the customers which therefore compounds the already existing complexity in customer satisfaction measurement.

Again, there is a growing need among organizations for maintaining long-term relationship with customers through strong partnership (Campbell and Cooper, 1999). This is because the satisfaction of the customer appears to only be achieved and maintained in a sustainable manner within the context of mutual collaboration that protects the future interests of both parties. This concept has also added another complex dimension in the description of customer satisfaction and its measurement.

Nonetheless, despite the complexity of the customer satisfaction concept especially in measurement terms, it is seen to be strongly influenced by quality management practices. Thus customer satisfaction measurement indices are directly derived from the practical elements of quality management (Choi and Eboch, 1998). In other words, customer satisfaction is considered as an output measure of quality management practices. This description is indicative of an inseparable link between them. However, how this link between the two concepts directly or indirectly affects operational performance is unclear, especially within the context of the operations of such industries as those in the extractive sector: oil and gas industry for example.

In summary, this section has highlighted the historic developmental underpinnings of quality management which has impacted on its definitions as a management paradigm. Also a review of the concept has been presented in light of its influential role in the business growth and operational performance of firms. However, whether this role is fulfilled directly or through the indirect effect on customer satisfaction, also seen in this context as host community satisfaction, is unclear and, therefore, constitutes a major objective of this research study.

The next session features a review of the concept of corporate social responsibility and its relationship with operational performance specifically in the oil and gas industry in Nigeria: a developing country.

3.4. Corporate Social Responsibility: A Growing Concept

Achieving community (stakeholder-customer) relations through Corporate Social Responsibility initiatives has now become an essential business strategy owing to the growing influence of community perception and expectation on the operations of companies (Idemudia 2009). The concept of CSR has existed for many years. Some of the practices now considered under the CSR label have been part of business activities since the industrial revolution. Such practices as: providing housing or healthcare and philanthropic donations were considered as necessary activities among the many industrialists in Europe and the USA (Crane et.al. 2014). Also in other places like India, some companies like Tata Steel have over 100 years of practicing responsible business operations such as philanthropic activities and community involvement (Elankumaran et. al. 2005). While these practices might not be new, the major difference between them and CSR is in the ability of CSR to professionally address the responsibility of the organisation within the society in a better and comprehensively coordinated manner (Crane et.al. 2014).

A growing interest in adopting such behaviours or activities that characterise CSR among organisations has been widely reported in recent years (McWilliams et al., 2006; Stainer and Stainer, 2003). According to Pryce (2002), this interest has become more likely due to some current forces such as, changes in business procurement; government legislation and pressure; the rise of socially responsible investment; the changing expectations of employees; and customer pressure. Customer pressure in

this context includes pressure from other stakeholder groups such as, employees, suppliers, community groups, governments and institutional shareholders (McWilliams and Siegel, 2001). More recently, Crane et.al. (2014) argue that the increased popularity of CSR within the business community around the globe comes as a response to the increased expectation for more responsible business practices, occasioned by the recent global economic crises following impudent practices by financial institutions. However, whatever the reason, the increased popularity is evident as many companies, large or small, now feature CSR reports and the concept is increasingly promoted as an essential area of business management next to marketing, accounting or finance. It has also generated a growing interest among practitioners and academics, which has led to the development of standard requirements for implementation (e.g. ISO 26000), process models, and implementation frameworks with the major aim of harmonising the related practices for global acceptability and conformity.

3.4.1 Definitions of CSR

In response to the growing interest in CSR in recent times, a working universal definition that will provide for a unified understanding of the concept has become imperative. However, there appears to be no clear definition or a clear articulation of what organisations aspire to when CSR is adopted as part of management strategy (Hazlett et. al. 2007). Hence, there are a number of varied definitions for Corporate Social Responsibility. This is partly because certain terms such as: corporate citizenship, strategic philanthropy, corporate social responsiveness, good governance, environmentalism and sustainability are often used interchangeably to refer to the relationship between an organisation and the society in a broad sense (Hazlett et. al. 2007). For example, Kok et. al., (2001) defines CSR as: "The obligation of the firm to use its resources in ways that will benefit society through: committed participation as a member of society, taking into account the society at large and improving welfare of society at large independent of direct gains of the company." Also, Brown and Dacin (1997) define it as a company's 'status and activities with respect to its perceived societal or at least stakeholder obligation.' These definitions present the concept as an obligation which raises a debate as to whether CSR is to be seen more as an organisational obligation or as voluntary

concept (Kok et al. 2001). The voluntary view of CSR is reflected in the definition provided by the Commission of the European Communities (2001) Green Paper on CSR. Here it is defined as 'a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis.' Consistent with the 'voluntary' notion, the definition provided by the United Kingdom department for business innovation and skill presents CSR as the voluntary actions that businesses can take, over and above compliance with minimum legal requirements, to address both its own competitive interest and the interest of the wider society (BEER 2009). This definition suggests that adopting CSR means going beyond adherence to the relevant provisions of the law or practice codes and standard requirements of the industry. Other definitions include:

Carroll (1996): Corporate Social Responsibility involves the conduct of a business so that it is economically profitable, law abiding, ethical and socially supportive

Ahmed and Machold (2004:538): "an ethical organisation is one that is able to reflect appropriately and evaluate its actions in the context of an ethical domain, within the process of organisational decision making. In attempting to do so, the organisation must grapple with the problem of multiple agency-constituency roles".

Hopkins (2005): "CSR is concerned with treating the stakeholders of the firm ethically or in a socially responsible manner. Stakeholders exist both within a firm and outside. The aim of social responsibility is to create higher and higher standards of living, while preserving the profitability of the corporation, for its stakeholders both within and outside the corporation"

The definition by Hopkin (2005) among others, is considered more pragmatic in approach due to its acknowledgement of economic performance as an important output of CSR practices, thus, striking a balance between economic performance and responsibility towards society as well as the fulfilment of the expectations of different stakeholders served by the organisation (Ghobadian et al., 2007).

Interestingly however, the most cited definition in literature describes CSR as "…actions that appear to further some social good, beyond the interests of the firm and that which is required by Law" (McWilliams and Siegel, 2001). This definition infers that a socially responsible organization will surpass the basic adherence to legal requirements or some industry-wide prescriptive stipulations in its actions, with the purpose of advancing some social good. This perspective therefore presents the concept of CSR as more discretionary than prescriptive, providing evidence for the reported lack of coherence among many authors with regards to the development of an effective systematic implementation framework for the concept.

Also, it is evident that there is no consensus among authors on the definition for the concept of CSR (Lindgreen and Swean, 2010), and an "exact" definition of CSR may never be achieved, (Snider et al., 2003) due to the varying nature of beliefs and attitudes with regards to its scope and nature, relative to its relevance in current management issues (Pinkston and Carroll, 1996).

Nevertheless, a close study of the various definitions of CSR as presented above reveals some similarities and some differences but the point of convergence is that: CSR is a management concept that is concerned with the incorporation of society and its concerns, be it social, environmental or economic, into business activities.

Although, it is not the aim of this thesis to adopt one of these definitions or provide a new and more comprehensive one, but having recognised that no one definition clearly articulates all the elements of CSR, the interest here is to identify the common theme and the major component of CSR and how they relate directly or indirectly to operational performance. Indeed some of the key elements of Corporate Social Responsibility as identified by Tuodolo, (2007) include:

- Rights: human, employee, stakeholder
- Environmental protection
- Community involvement and relations
- Supplier relations
- Monitoring and communication
- Reporting / disclosures/ transparency

- Principles / codes
- Consumer education / product usage / stewardship
- Corruption prevention

While these elements express the different components of CSR, more important, is the thread of ethical bias that runs through them. This bias is indirectly manifested in the forms of 'furtherance of social good' or 'social concerns for the benefit of society.' Consistent with this, Hopkins (2005) in his definition states that "CSR is concerned with treating the stakeholders of the firm ethically or in a socially responsible manner. It is this ethical base that binds its various elements and provides the synergistic interaction with other management paradigms such as Quality Management.

3.4.2 CSR and Quality Management Nexus

The extent of interaction and synergy between the management concepts of CSR and QM has been an issue of interest among scholars. Indeed some have suggested that with the knowledge of the commonalities between them, QM being the more established management concept can play the important role of a catalyst in the development and facilitation of CSR in a range of organisations (Ghobadian et al., 2007; McAdam and Leonard, 2003). In their study of the similarities and differences between the two important concepts, Ghobadian et al., (2007) have identified the common features of QM and CSR relative to their underlining philosophy which is characterised by their values, elements of their processes, and the outcome or result. The values of CSR and QM are listed in Table 3.4 below:

Values	
CSR	QM
Integrity of individual and collective action Commitment Honesty Openness Respect Participation Honor Striving to understand and meet the needs of a diverse group of stakeholders	Convergence of the interests of divers group of stakeholders is an implicit aim Emphasis on honesty and integrity Attaining stakeholder satisfaction is a major priority People are considered as key internal guarantors of success Management is responsible for creating an environment in which employees can perform to the best of their ability The organisation is viewed as a chain of processes The organisation pursues continuous improvement Emphasis on prevention rather than detection Interaction between employees, customers and suppliers are encouraged Fear is driven out of dealings within the organisation Mistakes are treated as a learning opportunity and the system encourages and allows employers to take responsibility for their own activities The supplier relationship is based on continual interaction, information sharing and collaboration Mutual respect is the basis of all relationships Decisions are based on fact rather than opinions and consensus rather than edicts Functional integration is actively pursued and encouraged Openness is encouraged within and outside the organisation

Table 3.4: The Values of CSR and QM
Source: Ghobadian et al., (2007).

These values are consistent with the principles of CSR as provided in the ISO 26000 quality management system standard which include:

- Transparency
- Accountability
- Fairness
- Respect for stakeholders interest
- Sustainability
- Community involvement and development (ISO 26000)

These principles are also seen to be consistent with the values advanced by Quality Management which include; customer satisfaction; mutual respect for relationships with suppliers; continual improvement; and transparency in information sharing. Consistent with this existing parallel between the two concepts, CSR, and QM are considered as similar concepts because they mean "doing the right things right" Mizaur (1993) cited in (Hazlett et. al. 2007). Therefore, it is inferred that quality management's strong emphasis on ethical practices is a major feature that shows it as having a key influence on CSR (McAdam and Leonard, 2003). In line with this assertion, the principles of Quality management are seen to constitute the structural base for the development of CSR, especially with regards to the development of its implementation frameworks. It is in recognition of the nature of this relationship between both elements that Kok et al., (2001) have suggested that an effective way of incorporating CSR into organisations within a short time could be by using existing Quality Management channels (models and methodologies) and processes. This implies that a relationship of significant influence exists between the two concepts based on their commonalities. However, what this relationship means for a firm in terms of its operational performance leading to the optimisation of business output is unclear, especially within the context of its operations in a developing country where CSR is generally considered as the major community development tool.

3.4.3 CSR and the Developing Countries

Most of the initial works in the conceptual development of CSR were focused on the developed economies, consequently the broad nature of the concept was not fully acknowledged. The theoretical construct was narrowed to the adoption of universally established norms as they relate to a variety of issues such as fair trade and the rights of employees as well as stakeholders (Blowfield and Frynas, 2005).

However, in recent years, providing solutions for challenges of development is viewed by many as a key purpose of CSR. Therefore CSR is often discussed in the context of the connection that it provides between business and society through its contributions to development, which includes the economic growth of society and other issues such as human capacity building and combating diseases. Nonetheless, there are unique aspects to some of these development challenges such as poverty and sustainability that are peculiar to the developing economies and consequently, require tailored solutions different from those applied to the developed economies (Blowfield and Frynas, 2005).

The concept of CSR as practiced in the current business environment is regarded as a west-based construct. Therefore, in a broad sense the meaning of CSR differs between different societies. For example, according to the survey conducted by the World Business Council for Sustainable Development (WBCSD), respondents from different countries as reported, have different understanding of CSR, thus emphasising different issues of CSR according to the specific needs in their countries. While Ghanaians emphasised issues of local community empowerment, for the respondents in Thailand, environmental issues were stressed as paramount (WBCSD, 2000). Therefore, with more attention now being paid to the importance of business-society relationship in the developing economies, CSR is emerging as the management strategy that provides a strong base for the necessary interface between them (Nwankwo, 2015). Hence it has become imperative for researchers to broaden the concept of CSR, such that it includes solutions to the issues peculiar to the developing economies such as poverty and rural underdevelopment.

This inference follows from the argument of Blowfield and Frynas (2005) that the extent to which the developing countries benefit from the CSR initiative is yet to be known. This raises questions about the measurement of the existing CSR approach with regards to its efficiency or its ability to benefit the poor and marginalised, especially as applicable to the developing countries, in a tangible manner. In other words, the pressing questions are: What are the practical consequences of CSR in developing countries and what are the implications of these consequences in relation to the further development of its theoretical framework as an essential business concept? Can the elements of CSR be broadened to accommodate the peculiarities in terms of culture and social values in these countries?

One of the important aspects of CSR that impacts on the developing countries is stakeholder engagement (Idemudia, 2007). This is seen to present major challenges where factors such as culture, education, language, and other social values can considerably influence the processes of communication, negotiation, collective decision making, and other processes requiring dialogue and consultation (ISO 26000). Other issues include: adequate representation of the vulnerable and marginalised such as: children, elderly, women and the physically challenged persons in the communities, following the unfavourable cultural label on them.

Beyond reinforcing the existing norms regarding the adoption and application of CSR concept by companies, the possibility of research bias or limitations in the contemporary approach have not fully been recognised by researchers (Blowfield and Frynas, 2005). Such bias can stem from attempting to understand or predict the impact of CSR when applied in societies with different cultural norms and societal values from the values through which the concept of CSR has been originally defined, assuming such values to be universal, and its operationalization approaches to be applicable in a global sense. These assumptions therefore, legitimises values and approaches that may not cater for the interest of the poor and marginalised, especially in the developing countries (Blowfield and Frynas, 2005) such as Nigeria.

3.4.4. CSR Practices in Nigeria

The tone of the CSR agenda in a country is often defined by cultural, economic and social factors which changes according to the political disposition of the country (Idemudia 2007). In Nigeria, the implementation of the CSR initiative as a business strategy is an emerging concept (Ite, 2004). This emerging and developmental stage of CSR in Nigeria implies that its policies and practices are continually evolving (Idemudia 2007), which further means that companies operating in Nigeria must continuously re-adjust their strategies in response to the increased pressure on them to employ strategies that will have improved impact on the stakeholders, such as the host communities, whose needs and demands have remained dynamic.

Similar to the practices in many other countries, the contextual definition given to CSR by companies in Nigeria determines and drives the CSR agenda and influences either the development or the adoption of implementation strategies. This is due to the variation in the type and nature of the stakeholders in Nigeria who are significantly different from those of other countries as seen in their varied needs and expectations. Although the CSR policies in Nigeria may be similar to those of some other developing countries due to the common challenges between Nigeria and these countries in the areas of social and economic development, however, the actual implementation frameworks are expected to be significantly different from those of the other countries, mainly due to some peculiar challenges in the Nigerian business environment and the unique inherent cultural values that drive management priorities, thereby influencing the development of problem-solving methodologies in the developing country.

Some of these challenges that directly affect the business environment in Nigeria include: Ethnicity issues; lack of infrastructure; non-efficient economic, social and political institutions; and wide spread corruption (Idemudia 2007, Frynas, 2005). These challenges shape the business environment; however, they also provide opportunities for innovation in the management processes and the development of effective implementation models in the country especially as it relates to processes that support company-stakeholders relations such as CSR practices, leading to community satisfaction.

One of the sectors where CSR appears to have taken strong roots in Nigeria is the oil and gas industry. This can be attributed to the position of the industry in the Nigerian economy. The oil and gas industry has been described by many as the heart or the mitochondria of Nigerian economy (Idemudia 2007). The industry therefore attracts more public scrutiny of its management processes such as CSR, which essentially provides for the interface between the industry and its stakeholders-customers (host communities). Although other businesses in Nigeria such as the banking industry do engage in CSR practices (Akwaya, 2004), however, the oil and gas industry, being dominated by the Multi-National Corporations (MNC) is considered the champions of CSR in Nigeria.

3.4.5 CSR and Community Relations in the Oil and Gas Industry in Nigeria

The concept of CSR has evolved to become a useful framework for the management of business strategies and attitudes in respect to building and maintaining good relationship between companies and their stakeholders (Jenkins, 2004). Against historical antecedents of neglect and non-involvement in policy making processes on matters relating to mineral exploration (Mate, 2002), in recent years local communities (also known as host communities) have been recognized as stakeholders in the oil and gas industry (Ballard and Bank, 2003).

In Nigeria, This recognition of host communities results from the realization that the activities of the companies operating in the industry have tremendous negative impact on the host communities (Mbare, 2004), especially in relation to the issues of environmental degradation and economic deprivation. Further to this is the recognition that the level of poverty and the evident lack of social amenities in the communities portend danger of communal conflicts, threatening the industry's ability to sustain continuous operation in the geographical area. Such conflicts as restiveness and resistance from the communities result in regular short-down of operational activities with huge financial and production implications (Obi 2010). It is therefore based on the acknowledgement of this potential impact of conflicts on the industry and the need to maintain a satisfactory community relations protocol that CSR is considered as an invaluable management strategy in the industry. Thus, the

effectiveness of the industry's CSR practices is judged by critics on the bases of community relations and satisfaction. According to Burke (1999), the expectations of host communities now define the operational practices of many companies, noting that ignoring such expectations means danger for the companies. Furthermore, attention to host community relations by companies is seen to provide competitive advantage for businesses in the present day competitive business environment (Humphrey, 2000).

However, critics such as Jenkins (2004) have argued that the motive for the elevated status of CSR is more to do with obtaining 'social license' for continuous exploration of minerals than it is based on any ethical sentiment. Adding that CSR is simply a means of reducing the associated cost of community conflict, while maintaining uninterrupted production activities. This argument comes from the understanding that while companies in the past obtained 'license to operate' from the government, they now need to obtain in addition, a social license to operate from host communities (Burke, 1999), and the terms for social license might demand more from the companies than those of the government legal license, as they are enforced more forcibly by the community through threats of public image smear or resistance activities (Thornton et al., 2003). Consistent with this argument, Idemudia, (2007) has added that the implication is that companies in the oil and gas industry in Nigeria largely adopt CSR policies and practices as a defensive strategy making the concept a mere public relations exercise. Following from this assertion, the effectiveness of CSR as a vehicle for development, particularly in Nigeria is trailed with accusations, counter-accusations, controversies and unanswered questions. Consequently, the reports of its effectiveness are considered contestable. For example, reports of success achieved through CSR practices by Shell (SPDC, 2004), have been contested by an independent report which has shown that more than 70% of Shell's community CSR projects are either not functioning, unsustainable and are unable to address specific needs of the communities. (Idemudia, 2007).

The above arguments provide an insight to the underlying motive for CSR adoption and implementation in the industry, which can be summarized as: 'a strategy for enhancing community relations'. However, whether CSR, as practiced in the oil and gas industry in Nigeria, has a real significant impact on host communities'

satisfaction is unclear in the literature. In order words, there are no clear evidence showing that CSR practices in the industry actually result in the satisfaction of host communities in Nigeria. This gap therefore indicates a strong need to systematically research into the CSR practices of the oil and gas industry in Nigeria, with the aim of identifying how and to what extend it impacts on the satisfaction of stakeholders. Further to this is to evaluate how the community satisfaction it seeks to provide affects the operational performance of companies operating in the industry,

This section has reviewed the concept of Corporate Social Responsibility as an invaluable management strategy for addressing the needs of host communities either directly or through the synergy provided by its nexus with Quality Management Practices. This review has particularly narrowed the understanding of the concept, amidst the various descriptions, to reflect the expectations of a developing country based on its peculiarities in relation to its ever-growing demand for rural development, environmental sustainability and poverty alleviation. However, while the impact of CSR on end-user customer satisfaction has been established in the literature (Saeidi, 2015), this study seeks to evaluate how CSR impacts stakeholder customers (host communities) in the context of the operational peculiarities of the oil and gas industry in Nigeria, as well as how it impacts on operational performance: whether directly or indirectly.

In the next section, the psychological concept of national culture and its theoretical frameworks are reviewed, with the aim of highlighting the gap in literature with regards to the theoretical context that links it to the management paradigms of QMP and CSR as particularly applicable to the oil and gas industry in Nigeria.

3.5. Culture and its Influence on Operations Management

Identifying the relationship between culture and the management strategies of firms is a theme that has attracted the interest of many researchers over the years. The debate has often been centred on whether management practices should be universal in application or adaptable to the cultural peculiarities that exist among different countries or geographical regions. However, variations in the fundamental understanding of the concept of national culture is evident in the different definitions

of culture leading to a level of ambiguity in literature in relation to its manifestation and consequently how it can be measured.

3.5.1 Defining the Concept of National Culture

The various definitions of culture given by different authors have been largely driven by their attempts to succinctly describe culture in a social and philosophical context as the real or perceived differences between nations, regions and people. For example, Schein, (2004) defines culture as an entity with a goal that consists of clearly identified set of unique cognitive behaviour. Similarly, Nakata and Sivakumer (2001) define culture as a system of thinking, feelings, and performances which are rooted in the beliefs and values of a particular group of people. Also, for Goodenough, (1971), the culture of a society consists of all the knowledge that needs to be acquired and the general believes or value-rules that should be adhered to in order for an individual to live and operate in a manner acceptable to other members of a particular group or society. He further asserted that culture is not a material phenomenon and therefore does not consist of things such as behaviour or emotions but rather it actually organises things. In other words, for Goodenough, (1971) culture is the driving force or the enabler of physical manifestations in the way a society is organised. It is what defines the people's mind-set and their model through which things are perceived, related to, and interpreted.

Most common among the descriptions of culture within the context of national culture are those given by Hofstede, (1994b), where he describes culture as the "collective programming" of the mind, which is the distinguishing factor between members of one group from others, developed from shared unique experiences of people living in a particular nation such as their education, legal systems, family structure, religious beliefs and literature. Furthermore, national culture is described as comprising of a wide range of different choices for the state of affairs in a given geographical unit such as what is considered to be good or evil, beautiful or ugly, normal or abnormal. These values are learned in the early years as children and they rarely change in a substantial way after the age of ten (Hofstede, 1997).

These various definitions tend to converge in one objective, which is to accentuate the place of culture as 'mind-shaper' through which collective values, peculiar to a people are recognised and enforced in their choices and actions.

In highlighting the wide-ranging nature of the cultural phenomena, Hofstede, (1980) further stated that understanding cross-cultural phenomena will entail a wide range of interdisciplinary study including such disciplines as: psychology, sociology, political science, law, economics, geography, history and others. This assertion indicates that culture is at the heart of the existence of a given society and thus it is manifested in every aspect of societal endeavours. Consistent with this is the suggestion of Evans and Lindsay (1996) that cultural studies should explore the inclusion of the different constituents of culture such as education, customs, beliefs, art, moral laws, economic frameworks, and political background. This suggestion is also echoed by Pagell et al., (2005) who included to the list: unique language, rules, ethnic heritage, religion and borders. These highlighted facets of culture are generally considered as unique to a society and can directly or indirectly influence decision making processes in every area of a firm or an industry operating in that given society or nation.

Furthermore, some authors in the culture literature have suggested two key manifestations of culture. They are: value and practices (Hitlin and Piliavin, 2004; Segall et al., 1998). While cultural values refer to the things a society considers as important and what should be, cultural practices or behaviours are considered to be a society's observable practices and activities (House and Javidan, 2004). However, since behaviours or practices are driven by values, therefore cultural values is considered as a more important factor for decision-making in the context of a business environment (Detert et al., 2000). From the above discuss, it is evident that the cultural values of any given society will have a significant impact on the manner in which members of that society will prefer to be organised and managed. Thus Dean and Ricks, (1993) have reported that ignoring cultural differences in different societies while making management or operational decisions have shown serious consequences on many businesses. Similarly, Pheng and Yuquan, (2002), have further cautioned that "ignoring or mishandling cultural differences can mean an inability to retain and motivate employees; misreading the potential of cross-border alliance; marketing and advertising blunders; and failure to build sustainable sources

of competitive advantage." Conversely the business results of effectively managing cultural differences include: effectiveness in business, better learning and adaptation to environment, and better business performance (Hoecklin, 1996).

3.5.2 National Culture versus Organisational Culture

While differentiating between national culture and organisational culture, Hofstede, (1980) suggests that organisational culture can be identified by "shared" values within the organisation while in the case of national culture; the "unique" values specific to the country is accentuated.

Many of the reported cultural studies within the context of operations management, have been focused on organisational culture. These studies fail to relate organisational culture to the national culture. Nevertheless, national culture has been identified to be the hub of any other aspect of cultural manifestation. According to Langrosen (2003), there is an intimate relationship between organisational culture and national culture, which is driven by the latter. Thus, organisational culture or values are generally based on the national culture. Also, Hofstede, (1991) in his study of cultural differences among nations, has strongly suggested that cultural differences account for the major observed differences between any one society and others especially in the way members of the society choose to be organised. It is these differences that inform the vast variation between management realities in the business environment of different countries. In order words, organisational culture cannot be developed by companies if it differs substantially from the prevailing cultural norms of the country in which they operate (Langrosen, 2003). Thus organisational or corporate culture can only be defined within the context of national culture; it cannot be developed to be significantly different from the inherent cultural practices or orientation of the country of operation. (Langrosen, 2003). This study therefore focuses in part, on the concept of national culture and its impact on the operations of the oil and gas industry in Nigeria, considering national culture to have a more significant influence than organisational culture in this context.

3.5.3. Linking National Culture to Effective Quality Management Practices

The core of culture essentially constitutes values, which determine the tendencies for choice making and the level of acceptance for a system initiative or an innovative process by members of an organisation or community. Therefore, according to Hofstede (1994) the validity of any theoretical framework is limited to its national boundaries and hence, management practices must be compatible with local conditions. This principle, which is referred to as the "cultural relativity" of management, implies that management processes are directly affected by the culture of the human environment in which the operational activities take place. Accordingly, Utley et. al., (1997) have concluded that the failure in the effective implementation of quality management initiatives results from the influence of national culture on the organisation. Thus, national culture can be a major determinant of the success or failure of management practices (Flynn and Saladin, 2006).

However, some scholars, while focusing on organisational culture have argued that the implementation of quality management principles in an organisation must involve a cultural transformation of the organisation (Atkinson, 1990; Deming, 1986; Drummond, 1992; Schildknecht, 1992). Furthermore, Boggs, (2004) argues that because quality management and organisational culture are closely intertwined, the success of quality management practices and the organisations' performance significantly depend on the organisational culture. This argument follows the understanding that because culture consists of a set of established values and norms, the successful implementation of Quality Management principles will require a change in organisational values and established norms in order to ensure harmony with the values expressed by the quality management principles.

Consistent with this view, the core elements of quality management, which include: leadership, continuous improvement, customer satisfaction, people involvement and process management are seen as values, which can be considered as constituents of an organizational culture. Thus, they are seen to provide the structural base for the formation of the corporate culture of the organization where quality management principles are effectively implemented. Based on this, the 'quality culture'

phenomenon has been inferred, with the understanding that the impact of quality management practices on organisational performance is only possible when the quality management elements are also considered as cultural variables as against a mere set of techniques or practical tools (Boggs, 2004). The implication of this position is that quality management can therefore be viewed as either a set of practices or a specific type of culture or both (Projogo et. al. 2005). Nonetheless, the assertion that quality management is a specific type of culture has been criticised by Zeitz et al.,(1997). They strongly argue that the principles behind the Quality Management Practices are clearly distinguishable from organisational culture even though they are both closely related in practice. They further explain that whereas quality management practices are behavioural, on the other hand, organisational culture refers mainly to attitude, beliefs and situational interactions.

However, according to Sousa-Poza et al., (2001), the relationship between Quality Management and organisational or corporate culture is to be moderated by national culture, implying directly that organisational culture is significantly influenced by the national culture of the country of operation. In other words, organisational culture is only a by-product of national culture which determines the preferences and acceptable systems in an organisation. Again, with regards to the operations of Multi-National Corporations, the national culture of the country where operation activities are carried out is therefore considered to be more influential on the local management practices of the organisation than the company's corporate culture often disseminated down from its head office (Adler, 1997). For example, a Nigerian employee working at the office of Shell Petroleum in Nigeria will be influenced more by the Nigerian culture than the organisational culture consisting of shared corporate values and norms promoted from the Shell head office in London. Therefore, national culture proves to be a more important factor in the successful implementation of management principles such as quality management practices in any organisation. Thus, following the recommendations of Barbara and Brooke, (2005), it is therefore essential to systematically investigate the impact of national culture on the implementation practices of quality management which is an objective in this study.

3.5.4 National Culture and its Dimensions

It is a general understanding that every country is a product of an amalgamation of people with shared history and experiences residing in a given geographical area. Such a country is said to have a homogeneous culture otherwise known as national culture (Bhaskaran and Gligorovska, 2009). Many researchers have studied and reported the cultural differences between different countries using different conceptual frameworks to measure their level of adherence to different cultural dimensions. Among the well-known researchers are: Hall and Hall (1990), Hofstede (1991), Schwartz (1994), Trompenaars (1993) and House et al. (1999). These frameworks and their adopted cultural dimensions are reviewed below with the major aim of providing justification for the choice of the appropriate dimensions for the operationalization of national culture in this study.

3.5.4.1 Hall and Hall Theoretical Framework

In their research assertions, Hall and Hall (1990) categorised countries into the high context and the low context communication cultures according to how knowledge is acquired and how information is received. This, they refer to as distinct cultural dimensions. The underlying theory for this framework as presented by the authors highlights high context communication culture as a cultural dimension that describes people who tend to rely on informal communication channels for information gathering, often through personal network. Such channels include friends, colleagues, and relatives most often without confirmation from an authoritative source or third party. Conversely, the people with low context information culture appear to have a higher tendency to seek information from reliable and verifiable sources. Information received from unauthoritative channels is often verified through formal research methodologies (Hall and Hall, 1990). Over 30 countries were classified in this model. The classification was done on a ranking bases ranging from high to low in a context scale, with the aim of highlighting the cultural differences between participating countries in the context of communication flow differences (Alajmi, 2011). However, most countries especially from the African regions were not appropriately captured in this classification.

3.5.4.2 Trompenaars Cultural Dimension

In trying to replicate and thus verify earlier studies on culture and its dimensions, Trompenaars (1993) conducted a survey involving 15,000 managers in 50 countries. In the course of this study he identified seven dimensions of national culture, which consists of five relational dimensions. They include:

- Universalism Vs. Particularism;
- Individualism Vs communitarianism;
- Neutral vs. Emotionalism;
- Specific vs. Diffuse;
- Achievement vs. Ascription

These dimensions describe the relationships between elements of national culture with regards to people's relationships, while two other dimensions describe their attitude towards time and the environment.

However, Hofstede (1996) has strongly criticised the methodology employed by Trompenaars (1993) in the development of his framework, arguing that only two of the stated cultural dimensions can be clearly confirmed (Alajmi, 2011). As a response to Hofstede's criticisms, clarifications regarding the research approach have been made by Hampden-Turner and Trompenaars (1997). Nonetheless the index developed by Trompenaars (1993) is often used by many researchers to highlight difference in National cultures.

3.5.4.3 Schwartz Cultural Model

The Framework proposed by Schwartz is said to be based on human values (Steenkamp, 2001) In this research, which according to Gouveia and Ros, (2000), was aimed at developing an alternative model to Hofstede (1983) culture model, value preferences of people in 38 countries were surveyed. With a total of 56 values included in the survey instrument, a large data set was collected mainly from students and teachers. Although Schwartz's framework is relatively less applied in business (Steenkamp, 2001), it is considered as an exhaustive framework because unlike others, the survey data included the communist countries and is relatively more recent (Chui et al., 2002). Basing his framework development on two

perspectives: theoretical reasoning and past experiences, Schwartz's (1994) study revealed seven dimensions of culture. Three of these relate to values of conservatism as against flexibility with change, while the other four aligns with the principles of self-enhancement versus self-transcendence. Schwartz Cultural Dimensions include: Conservation; Affective Autonomy; Intellectual Autonomy; Hierarchy; Mastery; Harmony; Egalitarian Commitment

The supporters of Schwartz's model (e.g. Steenkamp 2001), describe the dimensions as having "strong theoretical foundations." Similarly, Brett and Okumura (1989) have suggested three unique features of Schwartz's model that they believe makes it superior to Hofstede's model. These include:

- Logical sampling
- Systematic measurement
- Unique analysis technique

However, the Schwartz's model has been criticised for its inability to show how people prioritize among the different sets of values it provided for decisions relating to achievement (Lan et al., (2008). Also, when compared to the GLOBE framework, Parboteeah et al., (2005) view the model to be too limited in scope.

3.5.4.4 Hofstede's Cultural Dimensions

In an attitude survey conducted for IBM with the initial aim of measuring employee satisfaction, Hofstede (1981) was also able to relate some national attributes to cultural values. With 60000 respondents to the survey questionnaire involving organisations from 53 distinct cultures in 66 countries, the data was subjected to statistical factor analysis alongside theoretical reasoning methodologies to identify and categorise different cultural dimensions (Magnusson et al., 2008). The four cultural dimensions used in the study include: Power Distance, Individualism/Collectivism, Masculinity and Femininity, and Uncertainty Avoidance. The definitions as given by Hofstede (1981) are shown in Table 3.5

Cultural Dimensions	Definitions
Power distance	The extent to which the less powerful members of institutions and organizations within a country expect and accept that power is distributed unequally
Individualism versus Collectivism	Pertains to societies in which the ties between individuals are loose" collectivism is the opposite
Masculinity and femininity	The dominant sex role pattern in the vast majority of both traditional and modern society
Uncertainty Avoidance	The extent to which members of cultural feel threatened by uncertain or unknown situations

Table 3.5: Hofstede Cultural Dimensions and their Definitions
Source: Hofstede (1981); Own Adaptation

Furthermore, Hofstede (1991) developed an index where he provided the scores of the 50 categorised countries on the basis of their strengths and weaknesses measured against each cultural dimension.

According to the supporters of the model (e.g. Sondergaard, 1994; Smith, 2006), Hofstede's national cultural framework is reportedly the most widely accepted and used for cross-cultural studies in various fields such as management studies, sociology and psychology. It has also been described as the most comprehensive and robust in the sampling approach employed which cuts across a large number of national cultures (Smith, 2006). For Sekaran (1983), Hofstede's framework is the most foundational in terms of helping to build scientific theory for cross-cultural researchers. In all, there is a well-expressed support for the model hence it is used in a wide range of research literature, including that of operations management. However, despite the strong support as expressed, Hofstede's cultural framework has been widely criticised on several counts as summarised below (see Table 3.6)

Author	Criticism
Smith et al., (1996)	The study was based on one corporation
McSweeney, (2002)	Data was collected from a single company; IBM. The generalisation of result is therefore questionable. Also, the study was conducted between the years 1969-1973 which questions the relevance of the data to current business environment as it seems out-dated, especially given that national culture is an evolving phenomenon, though slowly, in response to socio-economic changes.
Schwartz (1994)	There were no samples from the communist countries thus the model is viewed as non-comprehensive and the dimensions as in-exhaustive.
Donthu and Yoo (2002)	The assumption that 22 Arab countries share societal similarities with no observed differences and thus grouping them together to assign cultural indices for the four dimensions without analysing the countries individually has been called to question.
Hill (1998)	As the research team mainly consisted of people from the west (Americans and Europeans), the research may have been culturally bound, Also, Hofstede's respondents to the survey questionnaire were workers in a single industry and more particularly, workers within single company.

Table 3.6: Authors and their Criticisms of Hofstede's Cultural Dimensions
Source: Several (Own Elaboration)

In response to the criticisms and in acknowledgement that there were no samples from the communist countries, a fifth cultural dimension has been added which is the dimension of "Long term/Short term Orientation" (Hofstede, 1981). This dimension is used to describe the extent to which an individual can delay satisfaction of needs and wants (whether physical, social or emotional needs). Like the others, this dimension was tested on the employees of a particular company: IBM. It is seen as representative and thus generalizable (Furrer, 2000). Nevertheless, the first four dimensions form the most widely adopted framework as a starting point for research on culture and management in different nations (Peterson et al., 1995)

3.5.4.5. GLOBE Research - House et al., (2004) Cultural Framework

The Global Leadership Organisational Behaviour Effectiveness (GLOBE) research study by House et al., (2004) was based on both cultural values and practices. The research program utilized data from some 17000 managers in 951 different organisations, covering 62 countries around the world (Alajmi, 2011). The main aim is to identify the extent to which national cultural values impact on organisational practices and the various characteristics of leadership. In this study, 9 cultural dimensions were identified as shown in Table 3.7 below.

Cultural dimensions	Descriptions
Future Orientation (FO)	The extent to which individuals engage in future-orientated behaviours such as delaying gratification, planning, and investing in the future. This cultural dimension is directly associated to the perception of the relationship between time and success or reward. It is therefore sometimes described as a cultural orientation that sees the people as being more attracted to the idea of delayed gratification, a belief that current right or positive actions no matter how painful and slow, guarantees future success. Long term planning and an acceptance for short-term failures underpin this cultural dimension (Ashkanasy et al.,2000). Knowledge acquisition, strategic thinking and the development of long-term objectives are highly encouraged in cultures that are high in Future Orientation. (Kull and Wacker, 2010)
Institutional Collectivism (IC)	The degree to which organisational and societal institutional practices encourage and reward collective distribution of resources and collective action. It is hinged on the need to achieve common goals as against individual achievements.
In-Group Collectivism (IG)	The degree to which individuals express pride, loyalty and cohesiveness in society. In this the importance of the groups is strongly highlighted and their plans or processes are to be well respected above individual preferences. The group that a person belongs to forms the main basis for

	identity (Langrosen, 2003). This cultural orientation encourages long-term relations and resolving conflicts through compromise (Kull and Wacker, 2010). It also considers different opinions prior to making a decision, provides support for areas of individual weakness and takes greater pride in group achievements.
Performance Orientation	The degree to which individuals are rewarded for performance improvements
Humane Orientation (HO)	This Cultural dimension refers to the extent to which a culture emphasises fairness, respect and kindness to others. In other words it is the degree to which human emotions of empathy and sensitivity is encouraged. Humane orientation is strongly expressed in cultures that are centred on people as against processes or systems. Where people features such as human right, forgiveness, sensitivity to exceptional situations and less formal approach to work is upheld strongly. Building and maintaining relationships is regarded as more rewarding than maintaining work ethics and principles in a society strong in humane orientation
Uncertainty Avoidance (UA)	The extent to which a society, organisation or group relies on social norms, rules, and procedures to alleviate unpredictability of future events. This dimension is strong in averting any unpredictable eventuality. It discourages risk taking and avoids any process ambiguity. It however encourages creating predictable and controllable systems and processes. Uncertainty Avoidance is associated with formal and strictly structured systems, process control, strong reliance on experts and preferentially maintaining status quo (Kull and Wacker 2010), with a strong resistance for change
Assertiveness (AS)	The degree to which individuals are assertive, confrontational and aggressive in their relationships with others. This describes a cultural preference for a prevalent expression of individual confidence. It celebrates the ability to be confrontational and aggressively defend ones positions (Hartog, 2004). In this, rational thinking and logical actions take pre-eminence over emotional sensitivity. It is always about winning or losing. Assertiveness strongly encourages individualist approach

	to success, driven by a strong desire for personal satisfaction. Accordingly systems in this culture are built around personalities who must assume responsibilities for success as well as errors or failures.
Power Distance (PD)	The degree to which members of a collective expect power to be distributed equally. Power Distance presents a general expectation that leaders know better and therefore make better decisions. It generally accepts the state of conspicuous inequality in power and wealth between different layers of the population (Langrosen, 2003).
Gender Egalitarianism (GE)	The degree to which a collective minimizes gender inequality. In other words, egalitarianism portrays the extent to which a country's culture is inclined to feminine or masculine personality domination. A high dominance of feminine traits tends to favour the softer, holistic and intuitive values while the masculine dominated celebrates the hard, rational and analytical values (Langrosen S., 2003)

Table 3.7: House et al., (2004) Cultural Dimensions and definitions
Source: Several (own elaboration)

The GLOBE study is generally viewed as an extension of Hofstede's (1980) cultural dimensions with the intention of capturing a wider range of cultural orientations in different nations. Both at the organisational level as well as the societal level, the identified cultural dimensions have been used to provide for a quantitative measurement of cultural values and practices. Although, cross-cultural researchers have various other value-based frameworks to aid their studies, nevertheless, the framework provided in the GLOBE study is distinctive in its approach to the study of current values of the society thus, it is considered as a "newer and more theoretically sound" cultural framework (Alajmi, 2011).

However, in his criticism of the GLOBE framework, Hofstede (2006) suggests that the research is flawed because it is centred on the culture of the United States of America USA. In defence to the GLOBE study and its methodology, Javidan et

al.,(2006) rated it to be most comprehensive framework and for them, the scales developed for countries are not only valid but "theoretically sound and empirically verifiable."

The above review of existing cultural frameworks has highlighted the similarities and differences between them especially as it regards the strength of the research methodologies employed in their development; the extent to which they reflect current trend; and how widely the dimensions are accepted and adopted, as well as the validity of the generated country scores. On the bases of these features, the GLOBE framework and its dimensions is considered as most comprehensive in describing the cultural differences between nations (Javidan et al., 2006), thereby highlighting the cultural peculiarities of most nations where cultural studies are sketchy such as Nigeria. Hence, the GLOBE framework is seen to be the most applicable and relevant framework for this study following its coherence with the research objectives.

3.6. Chapter Summary

In this chapter, an attempt has been made to review the literature relating to the theories that informs the relationships between the different elements (latent variables) of the conceptual model being proposed. Reviewing the literature has helped to reveal that firstly, the path followed in the development of the theoretical frameworks describing the operations management elements such as QMP and CSR, appear to be identical. Thus, their nexus in relation to their terms of implementation provides justification for an expectation of a synergistic influence on host community satisfaction and consequently, on the operational performance of the industry. However, in empirical terms, the extent to which that synergy impacts on operational performance is sketchy. Secondly, the link between customer satisfaction and organizational performance through enhanced or efficient operations management practices has been hugely reported in literature. However, these reported studies have mostly been focused on end-user customers within the context of the manufacturing and service industries. The term 'customer' was rarely seen in a broad sense to include other stakeholders such as the host communities especially within the context of the operations of the extractive sector such as the oil and gas industry. Thirdly, the

link between national culture and QMP and their impact on Operational Performance has been well established in literature. However, again this is done in a broad sense, not as it involves the national cultures of specific countries such as Nigeria. This review of relevant literature has therefore led to the identification of the existing research gaps with respect to the nature of the afore-mentioned theoretically established relationships, the significance of such relationships in empirical terms and very importantly, the value of such relationships in relation to their impact in the optimization of operational performance in the oil and gas industry in Nigeria, measured against reduced firm/community conflicts and uninterrupted optimal production activities.

Following from this review, the next chapter is therefore focused on the considerations leading to the development of the conceptual model in relation to the underlying theories and the necessary assumptions in that respect.

Chapter 4
Conceptual Framework

4.1. Introduction

The aim of this study has been clearly stated in the first chapter as an investigation into the impact of the relationship between the elements of cooperate social responsibility, quality management practices and national culture on host-community satisfaction which is regarded as a critical success factor in the oil and gas industry in Nigeria, and how these elements directly or indirectly impact operational performance. Following this was the objectives of the study, which is to test the impact of the afore-mentioned relationships on the operational performance in the industry. Chapter three reviews the existing literature within the relevant contexts to demonstrate the gap in knowledge as in relation to the factors that impact on community satisfaction and its link with operational performance in the oil and gas industry operating in a developing country. Different frameworks and relationship models were reviewed resulting in the chosen framework for this study.

This chapter therefore shows the development of the conceptual framework and the research hypothesis. This is done after a detailed discussion of the necessary assumptions regarding the Nigerian culture and the relationships under study. The central aim is to investigate the link between the impact variables (CSR, QMP and National culture) and community satisfaction as well as how this affects operational performance in the industry. This chapter concludes with an illustration of the developed conceptual framework, which is considered as structural foundation for the final model.

4.2. Defining the Conceptual Framework

Conceptual framework has been defined as graphical illustration which is developed following an order of events where the key elements of a study, major factors, relationships, interactions constructs or variables are explained (Miles and Huberman, 1984)

In developing the conceptual framework for this study, relevant theoretical concepts and frameworks that form the subject for this research have been considered,

especially as they relate to the link between community satisfaction and operational performance. This is done with the intention of producing a model that constructively relates the theoretical concepts to practical management realities within the context of the relationship between the management practices such as QMP and CSR and community satisfaction, considered as a critical success factor in the oil and gas industry. Also, of major interest is the resultant effect of these elements on operational performance, which is essentially measured within the context of maintaining continuous operational activities without disruptions in the oil and gas industry in Nigeria.

4.3. The Driving Factors for Developing the Conceptual Framework

The development of the conceptual framework for this research was largely motivated by the identified theoretical gap in the existing literature with regards to the effect of essential management practices such as QMP and CSR, on community satisfaction, and also the relationship between community satisfaction and operational performance in the oil and gas industry in a developing country- Nigeria. The researcher's theoretical standpoint is hinged on first, the proposition that QMP as implemented in Nigeria has a significant impact on the satisfaction of host communities. Second, that the satisfaction of the host community is crucial to the operational performance of the industry, and finally, that the operational performance in the oil and gas industry can be optimised by employing management practices that are focused on community relations and satisfaction such as CSR, which has often been presented in literature as a mere "social licence", needed by companies in order to secure the right to operate with little or no impact on operational or business performance.

Most essential among the identified gaps in literature which has necessitated both the development of the conceptual model as well as the choice of the context for this research as the oil and gas industry operating in Nigeria include the following:

- The lack of clarity in literature regarding whether the principles of quality management practices as theoretically advanced, demonstrate significant congruency with the national culture of Nigeria. This lack of clarity has potentially left the oil and gas industry among others, with no option but to adopt the management methods developed and propagated down from other

cultures with little empirical evidence of the congruency they demonstrate with the values that are expressed by the local national culture in relation to performance and system evaluation and improvement.

- The impression among many that CSR is mainly a philanthropic gesture to host communities, driven by ethical considerations to the environment, poverty and underdevelopment, especially in the developing countries where oil and gas are being extracted. The discourse in literature for the greater part has not gone beyond this understanding of CSR to include the effective partnership that it potentially empowers, which creates the environment of mutual responsibility and mutual benefit between the host community and the industry. This 'new' approach to the concept as solicited for in this study has therefore resulted in the proposition that the synergistic effect of such a collaborative system can be potentially achieved. In this way, quality management practices can be employed as a driver for effectiveness in CSR processes and projects thereby ensuring host community satisfaction.
- The unclear significance of the relationship between host community satisfaction and operational performance measured against the reduction of operational cost and maintaining continuous operational activities in the industry.

The development of the conceptual framework is therefore driven by the need to feel the aforementioned gaps in literature. It is evident from literature that there is little understanding of the impact of QMP, CSR and particularly Host Community Satisfaction on the Operational Performance of the oil and gas industry. Therefore, the development of the conceptual framework in this study is aimed at providing better understanding on the nature and significance of the relationships between operations management elements and operational performance thereby bridging the gap in the literature within the context of providing a better understanding regarding the crucial and very influential management practices that can be considered as critical success factors due to their impact on the operational performance of the oil and gas industry especially in a developing country – Nigeria.

Also, from the literature as reviewed, it has been shown that there are established separate relationships between the different management elements of QMP, CSR, National Culture, Host community Satisfaction in the form of customer satisfaction,

and Operational performance in various industries operating in mostly the developed countries and other developing countries or geographical regions. Therefore, the conceptual framework being developed and tested in this study reflects the following:

- It is an original attempt to combine the different established relationships in a model to provide a better understanding of the interactions between the model elements in a comprehensive manner.
- While these aforementioned relationships have been tested in other industries and reported with wide generalization, there is the need to test them in a comprehensive nature within the context of the oil and gas industry with its operational peculiarities as an extractive industry.
- Following the acknowledgment of the influence of National culture on management realities in the literature, it is considered imperative to test this theory relative to the Nigerian Culture in a broadened framework as being proposed in this study.

Nonetheless, before providing further justifications for the relational propositions in the framework, certain assumptions about the Nigerian culture are considered necessary by the researcher.

4.4 Assumptions of Nigerian Cultural Homogeneity

To allow for a directional focus and flow in this study, certain assumptions have been made. These assumptions clarify the context of the study thereby providing the basis for the development as well as the implementation of the research processes. According to Simon (2011) Research assumptions are necessary as they provide clarity to the underlying beliefs that have some influence on the research study. A major assumption in this study is in relation to the national culture of Nigeria.

4.4.1 Nigerian People and culture

The recognition of the variations that exist from one country to another in their set of economic, political, and social values has informed the development of the concept of "National Culture" (George and Jones,1996). These variations essentially describe the culture of a nation with regards to how people live and work in that particular nation significantly different from those of other nations.

In the case of Nigeria, from a sociological perspective, there is no such thing as Nigerian national culture like it can be said of many other nations such as those in the Western world (Nnoli, 1980). This is because there are over 300 ethnic groups in Nigeria which makes it a multi-cultural, multi-ethnic, multi-religious and pluralist country without a homogenous culture. However, within the exhibited diversity, there are three dominant ethnic groups namely: Ibo, Yoruba, and Hausa. The researcher will hereby proceed to briefly describe the dominant cultural characteristics of these three ethnic groups in Nigeria with the intention of extrapolating their points of convergence with regards to their cultural values, norms, and practices.

4.4.1.1. The Ibo

The Ibo culture is majorly characterised by the respect for age, tradition and religion on one hand and the struggle for survival on the other. According to Aluko (2003), while the Ibo culture may be generally receptive to change, it is achievement oriented, thus its work ethos models the ideals of individualism and egalitarianism. He further posits that a level of fierceness in the individualistic struggle, driven by a strong determination to succeed, which is accompanied by some levels of aggressiveness, is generally expected at work for the Ibos. The culture admires and celebrates people who achieve fame and greatness through hard work in their chosen vocation and frowns at any form of laziness. A man is looked down on as a weak man or lacking masculinity if he depended or relied on superiors for progress while exhibiting subservience or an unquestionable obedience (Aluko, 2000). Thus self-motivation to hard work, fierce self-seeking competition, an individualistic orientation, and the tendency to challenge superiors to achieve excellence through thrift, hard work, and discipline form the core characteristics of the Ibo culture. However there is also a strong sense of group loyalty accentuated in the Ibo culture.

4.4.1.2. The Hausa

In the Hausa culture, sensitivity, loyalty, and obedience to opinions, interests and demands of one's superiors are very highly esteemed (Nnoli, 1980). In other words, respect and submissiveness to authority or anyone deemed powerful is a major characteristic of the Hausa culture. Therefore, in relation to work attitude, assertiveness is frowned at and individual initiatives towards meeting desired goals

are expected to be certified or sanctioned by one's superior before any form of action is taken (Aluko 2003). This is essentially done as a show of respect. Also, although the Hausa culture generally discourages the act of querying authorities or disagreeing with superiors, it takes an exception in this on the issues of religion and traditional rulers. Furthermore, work productivity is often affected during the annual Ramadan fasting and prayer month as well as the weekly Friday Jumat prayers. Hence in most part of Northern Nigeria, work on Fridays is usually half-day.

4.4.1.3. The Yoruba

The Yoruba culture as it regards to work very much mirrors the principles of collectivism in contrast to the Ibo culture which is reportedly described as highly individualistic in particular regards to work orientation. In fact, according to Aluko (2003) the Yoruba culture tends to be seen as being in a mid-way between the extremes of individualism as seen in the Ibo culture and that of loyalty in the Hausa culture. Furthermore, there is a very high sense of respect for traditional institutions and community hierarchy. However, although there is a strong respect for hard work and excellence, the strong collectivism emphasises high humane orientation which in many cases de-emphasises fact-based or evidence-based decision making.

4.4.1.4. The Minor Tribes

Due to the relatively lower population of the minor tribes, their individual cultures are not usually prominent at work as they naturally tend to be subsumed by the major tribes. Also the cultures of the minor tribes are significantly influenced by those of the major tribes geographically located in close proximity to them, thus there is reasonable resemblance or convergence of values and traditions between these cultures. It is this influences that have resulted in many observed similarities between the major tribes and the minor tribes around them. This therefore justifies the use of the characteristics of the major tribes in most research in social sciences.

It is therefore inferred here that the nature of 'work culture' in Nigeria is shaped by the interweaving of various cultural dispositions of the three main ethnic groups in Nigeria. The areas of convergence with proven consistency across the country generally constitute the work culture of Nigeria. This therefore is what is expressed

here as ‘Nigerian Culture’. Some of the characteristics as identified in literature include;

- achievement oriented through hard work,
- strong emphasis on collectivism and group loyalty,
- respect for traditions rooted in strong religious beliefs,
- respect for age and constituted authority,
- loyalty to relationships above institution,
- high level commitment to materialism,
- low regard for time and timeliness and

generally extrinsically motivated (Mohr 1986; Olugbile 1997; Aluko, 2000, 2003).

These characteristics are partly or fully expressed by all Nigerians in their work environments in the various industries including the oil and gas industry, irrespective of their differences in ethnicity and they generally demonstrate consistency with the cultural dimensions attributed to Nigeria following the findings of the GLOBE study.

4.4.2. Dominant Cultural Dimensions in Nigeria

Following his classification of cultural dimensions, Hofstede, (1984) proceeded to measure the dimensions of national cultures with the aim of identifying the dominant dimensions in different countries. This, he did by allocating measurement scores to individual countries, indicating the levels of coherence between the national cultural practices of the country and the principles accentuated by the different cultural dimensions such as power distance, uncertainty avoidance, individualism and masculinity.

However, Hofstede’s study was conducted with a basic assumption that some countries can be grouped together based on a clustering method, supposing that such countries like the west African countries of Nigeria and Ghana have homogenous cultural practices with little or no differences between them. He therefore allocated same scores for all measured dimensions. In doing this Hofstede has found West African countries to be high in Power Distance and Uncertainty Avoidance among others. Contrary to Hofstede’s assumption of cultural homogeneity among countries, research (e.g. Flynn and Saladin 2006) has revealed significant differences between cultural practices and values between the individual countries.

In support of this country specific culture argument, the GLOBE study (House et.al., 2004), followed the approach of allocating scores to individual countries without clustering, according to the extent to which the country's cultural orientation, both in values and in practices, demonstrate congruency with the cultural dimensions as presented. The empirical findings from this study shows significant differences between the individual countries within the context of leadership, culture, and economical competiveness of the countries involved in the study. The result of the GLOBE study was obtain through a survey-based questionnaire received from 17000 managers drawn from three industries including telecommunications, financial services and food processing industries operating in 62 countries including Nigeria (House et.al., 2004). The survey instrument consists of nine cultural dimensions, some of which were directly derived from Hofstede's five dimensions. Following the categorisation of the results into values (should be) and practices (as is), the different scores for Nigeria on the various cultural dimensions compared to other countries involved in the GLOBE study were obtained as shown in Table 4.1.

Cultural Dimension	**Values (should be)**			**Practice (as is)**		
	Score	Band	Comment	Score	Band	Comment
Future Orientation	6.04	A	4th highest	4.09	B	
Gender Egalitarianism	4.24	B		3.01	B	
Assertiveness	3.23	B		4.79	A	2nd highest
Power Distance	2.69	C		5.80	A	2nd highest
Humane Orientation	6.09	A	Highest	4.10	C	
Uncertainty Avoidance	5.60	A	2nd Highest	4.29	B	
Collectivism	4.14	B	Institutional	5.55	A	In-Group

Table 4.1: The Scores of Nigerian Culture for the Different Cultural Dimensions
Source: House et. al., (2004)

The value scores as against the practice scores is adopted here as a representation of the Nigerian culture in principle. This is based on the argument that values are a better indication of cultural orientation because they consist of the shared beliefs and general mind-set of the given society, which consequentially drives the cultural practices. (Detert et al., 2000; Ricks, 1993)

In this study, the researcher therefore adopts the GLOBE's findings that show Nigerian cultural values as being very high in reflecting the values of Future Orientation, Humane Orientation, and Uncertainty Avoidance.

4.5. Hypothesis Development

Based on the objectives of the study and to demonstrate justification for the proposed relationships in the conceptual model, this section demonstrates development of hypothesis based on the underlining theories from literature.

4.5.1. Relationship between Quality Management Practices and Operational Performance

The development and use of different instruments in measuring quality management practices have provided better understanding on the effect of quality management on the operational performance of organizations. The overall research findings suggest that quality management practices affect operational performance (Parast et al., 2011), although, the elements of quality management practices that have greater influence on this relationship vary among different authors. For example, Customer focus, supplier relationship are seen as the most important predictors of operational performance by Ahire and O'Shaughnessy (1998) whereas for others (Dow et al., 1999; Samson and Terziovski, 1999; and Parast et al., 2010), leadership or top management support are the critical elements of quality management practices that affects operational performance. It is further argued that the 'human relation' aspect of Quality Management Practices (soft quality) such as customer focus, leadership, supplier relationship and transparency through general involvement of people, have greater effect on the operational performance of organizations (Parast et al., 2010). This is consistent with previous findings that shows the soft elements of quality management such as an open culture and top management support as key elements that support operational performance of organizations, particularly in the oil and gas industry (Rahman and Bullock, 2005; Asrilhant et al., 2007). Thus, in general, Quality Management Practices are seen as critical success factors in various organizations as they tend to dictate the operational direction of various organizations. Consistent with this agreement among many researchers, and to test this relationship in the oil and gas industry in Nigeria, the following hypothesis is made in this study:

H1a: Quality Management Practices have significant and positive effect on the Operational Performance of the oil and gas industry in Nigeria.

4.5.2.The Mediating Role of Community Satisfaction (QMP to OP)

However, several studies indicate that the effect of Quality Management Practices on the Operational Performance of firms is indirectly achieved through management elements or factors. For example Sadikoglu and Zehir (2010) in their study on the relationship between Quality Management and firm performance identified the mediating effect of innovation and employee performance in the effect on firm performance. Similarly, Projogo and Sohal (2006) indicate that technology/R&D management can be used as a resource for Quality Management in enhancing performance in an organization. Hence according to Didik, (2011) the impact of Quality Management Practices on performance in a firm depends on the level of mediating factors present in the relationship. In this study therefore and based on the nature of the industry under study, community satisfaction is considered as a mediating element between Quality Management Practices and Operational Performance.

H1b: In the oil and gas industry in Nigeria, the relationship between Quality Management and Operational Performance is significantly mediated by the hos community satisfaction.

4.5.3. Relationship between CSR and Operational Performance.

Mackey et al., (2007), while analyzing socially responsible investment opportunities with the use of a developed theoretical model to ascertain which activities or practices that would have a positive or negative impact on the organization's market value. It was shown that investing in CSR activities has a positive correlation with the organization's performance, thus indicating that CSR can improve an operational performance. This proposition is consistent with the findings of Deckop, Merriman, and Gupta (2006) in their empirical research which indicated that CSR activities (Coporate Social performance) had a positive effect on corporate financial performance which is a key indicator of operational performance. Chung et al., (2015) has suggested that CSR implementation level can indicate the organization's overall operational performance and the kind of organization it is. Further, CSR initiatves are not only driven by its ideological support for positive social change but by the organisation's business returns that potentially accrues from the influence of

CSR practices on the operations of the organization (Du et al., 2010), hence the following hypothesis is made:

H2a: Corporate Social Responsibility practices has significant effect on Operational Performance in the oil and gas industry in Nigeria

4.5.4. The Mediating Role of Community Satisfaction (CSR to OP)

In relation to the role Community Satisfaction in the relationship between Corporate Social Responsibility and Operational Performance, a few studies (e.g. Lev, et. al., 2010; Luo and Bhattacharya, 2006), in their findings have indicated that customer satisfaction is an important mediator of the effects of CSR on its various outcomes. This is consistent with the findings of Saeidi et. al., (2015) that the relationship between CSR and firm performance is mediated by other factors. Therefore, given that Operational Performance is affected by CSR practices which also have an effect on Community Satisfaction, Community Satisfaction is thus considered as a mediator in the aforementioned relationship. In this study, it is therefore hypothesised as follows:

H2b: In the oil and gas industry in Nigeria, Host Community Satisfaction mediates the effects of Corporate Social Responsibility practices on Operational Performance.

4.5.5. Effect of Quality Management Practices on Community Satisfaction

Satisfaction level is a measure of the difference between expectation and perceived performance (Stahl, 1999). According to Boshoff and Gray (2004), satisfaction is not an inherent resultant element of the product or service itself. It rather results from the attributes of the product or process as perceived by the customer or other stakeholders relative to their individual experiences. This is why different stakeholders will express different levels of satisfaction following their different perceptions for the same product, sevice or process encounter (Fornell et al.,2006).

Following this perception complexity of satisfaction level, organisations generally achieve high levels of stakeholder satisfaction only when they place a high value on its stakeholders (Stank et al.,2003; Zhang et al.,2003), thereby employing effective Quality Management Practices in their operational activities. According to Kim (2006), stakeholder satisfaction is a reflection of the effective operational elements employed as they relate to efficient cost management structures, quality products or

processes as well as speed and responsiveness. These operational elements also known as Quality management elements, are therefore considered as the tool that bridges the gap between customer/stakeholder expectation and firm performance. This is because; quality management has customer/stakeholder's satisfaction as its core objective. This is consistent with the suggestions of Cronin and Taylor (1992) that identified quality management as a vital antecedent of stakeholder satisfaction, thereby providing evidence for the effect of quality management practices on the satisfaction of the stakeholders such as the communities. This therefore leads the researcher to the following hypothesis:

H3a: Quality Management Practices in the oil and gas industry in Nigeria has significant and positive effect on the level of satisfaction felt among the host communities.

4.5.6. The Mediating Role of Corporate Social Responsibility

In view of the relationship between QMP and CSR, a common objective is to satisfy stakeholders or customers (Ghobadian et al., 2007). This is consistent with the findings of Shin and Thai, (2015), who in their evaluation of the Impact Corporate Social Responsibility has on Customer Satisfaction, conclude that there is a positive relationship between CSR and Customer Satisfaction. However, following the suggestions of Parast et al (2011) that CSR can be considered as a diffusion agent for QMP, and given the nature of the tripartite relationship between QMP, CSR and Community (customer) Satisfaction which is the commonly desired outcome, CSR is therefore seen as a mediator in this relationship within the context of the operations of the oil and gas industry in a developing country. It is thus hypothesised here that:

H3b: The effect of the Quality Management Practices on Community Satisfaction is significantly mediated by Corporate Social Responsibility practices of the oil and gas industry in Nigeria.

4.5.7. The Effect of Quality Management Practices on Corporate Social Responsibility

The relationship between quality management practices and corporate social responsibility has been described by many authors in the light of their value congruency and shared business management principles such as ethical

considerations, fairness, and accountability. For example, Bernes et al (2007), in their study of corporate social responsibility and corporate ability trade-off, have suggested a link between quality management practices and corporate social responsibility, based on their commonalities in principle, implying that it is more likely for an organisation which implements quality management practices to also address corporate social responsibility issues. According to Mizaur (1993) cited in (Hazlett et. al. 2007), CSR, and quality are considered as similar concepts because they mean "doing the right things right". Also, Ghobadian et al., (2007) identified some commonalities in the underlining philosophy that defines quality management and corporate social responsibilities relative to their values, the elements of their processes, and the expected outcome or result of implementation. However, Parast et al (2011), viewing corporate social responsibility practices from the perspective of diffusion of organisational practices, argue that corporate social responsibility can be seen as a subset of quality management programs or initiatives aimed at achieving customer or stakeholder satisfaction which consequentially enhances organisation's operational performance. Thus, although quality management and CSR may have been presented as sharing common philosophies and following the same trajectory path in their development, this view of CSR indicates a relationship that is driven by quality management practices. In other words, if CSR is a subset of QMP, then CSR can only exist and thrive where there is effectiveness in the implementation of QMP. This therefore provides credence to the idea of a strong link between quality management practices and corporate social responsibility. It is therefore hypothesised as follows:

H4: Quality Management Practices has significant and positive effect on the effectiveness of the Corporate Social Responsibility initiatives of the oil and gas industry in Nigeria.

4.5.8. The Effect of Corporate Social Responsibility on Community Satisfaction

According to the World Bank, corporate social responsibility is defined as "the commitment of business to contribute to sustainable economic development working with employees, their families, the local community and society to improve their quality of life, in ways that are both good for business and good for development." (Carroll and Shabana, 2010). This definition recognises the central role of economic

and social development in improving the lives of both internal and external customers of a firm, thereby enhancing the relationship between the firm and the customers or stakeholders. Thus, achieving stakeholder satisfaction is inferred to be a major goal of Corporate Social Responsibility initiatives. Customers and other stakeholders evaluate firms based on their CSR practices, thus, the impact of CSR on customers, often driven by their perception of the firm is far-reaching (Chung et al. 2015). In other words, the firm's CSR activities are a prerequisite of its reputation (Gupta et al, 2002), and reputation is an important factor for customer satisfaction (Walsh et. al., 2006). However, in this regard, the concept of "customer" is broader in scope, extending to other stakeholders such as the community and society. Community Satisfaction therefore forms a strong objective for CSR activities. With regards to the operations of the oil and gas industry in Nigeria, Nwankwo, (2015) specifically posits that there is a direct relationship between the CSR activities of the industry and the satisfaction of its host communities. In this study, a hypothesis in this regard has been stated as follows:

H5: Corporate Social Responsibility activities of the oil and gas industry in Nigeria have significant effect on the satisfaction of the host communities.

4.5.9. Effect of Community Satisfaction on Operational Performance

Operational performance can be described as the strategic business elements or dimensions by which an organization chooses to compete (Narasimhan and Das, 2001). Some studies have identified that certain factors have significant effect on the operational performance of organisations. Such factors include the level of satisfaction among the stakeholders (e.g. Zhang et al., 2003; Lai and Yang, 2009). By definition, Stakeholders are individuals or groups who are affected by the actions of an organization and/or affect an organization's performance (Freeman, 1984). Also, in their study of the role of stakeholder satisfaction on firm performance conclude that the satisfaction of stakeholders such as the host community plays a key role in ensuring operational performance. This study therefore provides strong support for the position that stakeholder satisfaction is ultimately in the best interest of the organisation as it significantly affects operational performance. Also, the stakeholder theory suggests that certain unacceptable activities of an organization can cause stakeholders to apply pressure on the organization to effect change in their system

thereby influencing organizational practice (Sarkis et al., 2011). Furthermore, it has been suggested that the success of an organization and its ability to survive in a given business environment depends significantly on its ability to satisfy its stakeholders (Freeman and Liedtka, 1991).

In order to test this effect of community satisfaction on operational performance in the context of the oil and gas industry, the researcher makes the following proposition as a hypothesis:

H6: In Nigeria, the satisfaction of the host communities significantly impacts on the operational performance of the oil and gas industry.

4.5.10. Influence of National Culture on Quality Management Practices

The influence of national culture on QMP is well documented in literature. For example, Bates et al. (1995) reports a strong link between culture and the successful implementation of quality management initiatives. Similarly Naor et. al., (2008) claim that Quality Management success in an organization is determined by the existing culture. Although many studies on this relationship has been conducted in relation to organizational culture, however, a few such as Lagrosen (2003), has focused on National Culture. With the use of case studies across four countries in Europe, he found that the interpretation of quality and the understanding of the quality ideals differ significantly among these countries, thus, their Quality Management implementation challenges and their problem solving methodologies differ also. Flynn and Saladin (2006) also tested the Hofstede cultural dimensions against the Baldridge Award criteria and found a significant correlation between QM and the cultural dimensions of collectivism and masculinity. These studies have not only shown the evident link between culture and Quality management but have also demonstrated the importance of National culture to its successful implementation. According to Noronha (2002) the success or failure of Quality management in any cultural setting is significantly dependent on the extent to which it is adapted to the relevant national culture of the area of operation. He further argues that due to cultural differences among different countries, the implementation strategy of Quality Management will differ among nations accordingly. Consistent with this argument, research has shown that companies, especially multinational corporations encounter several problems resulting from cultural misunderstandings (Hoecklin,

1995). This is because, although Quality Management practices in every organisations are driven by the need to achieve or improve effectiveness in all aspects of business in order to ensure maximum productivity, when viewed from a sociological perspective, Quality Management as a management philosophy boils down to human interactions within the context of their cultural peculiarities (Lagrosen, 2003).

In light of the above discuss, a direct link between national culture and quality management is inferred. It is therefore hypothesised here that:

H7: The National Culture of Nigeria has a significant influence on the Quality Management Practices as employed in the oil and gas industry**.**

4.5.11. The Influence of National Culture on Corporate Social Responsibility

National Culture, following the definition of Hofstede (1994), comprise of a wide range of choices for the state of affairs in a given nation such as what is considered to be good or bad, normal or abnormal. Consistent with this definition, Sivakumer and Nakata (2001) describes culture as a system of thinking, feelings, and performances, rooted in the beliefs and values of a group of people living in a particular country. These beliefs determine how management processes are viewed and related to. Thus the understanding and interpretation of the concept and practice differs depending on the context and the beliefs or value system in the firm's geographical area of operation (Thanetsunthorn, et. al., 2015). According to Campbell (2007, p. 950), CSR "may mean different things in different places to different people and at different times." Also, in their study on the the impact of national culture on Corporate Social Performance, Ringov and Zollo (2007) conclude that certain cultural dimension have more effect on CSR than others indicating that the effectiveness of the different aspects of CSR is dependent on the values and norms of a national culture thereby extenuating the need for organizations to apply the cultural specificity theory in implementing CSR. It is therefore hypothesized as follows:

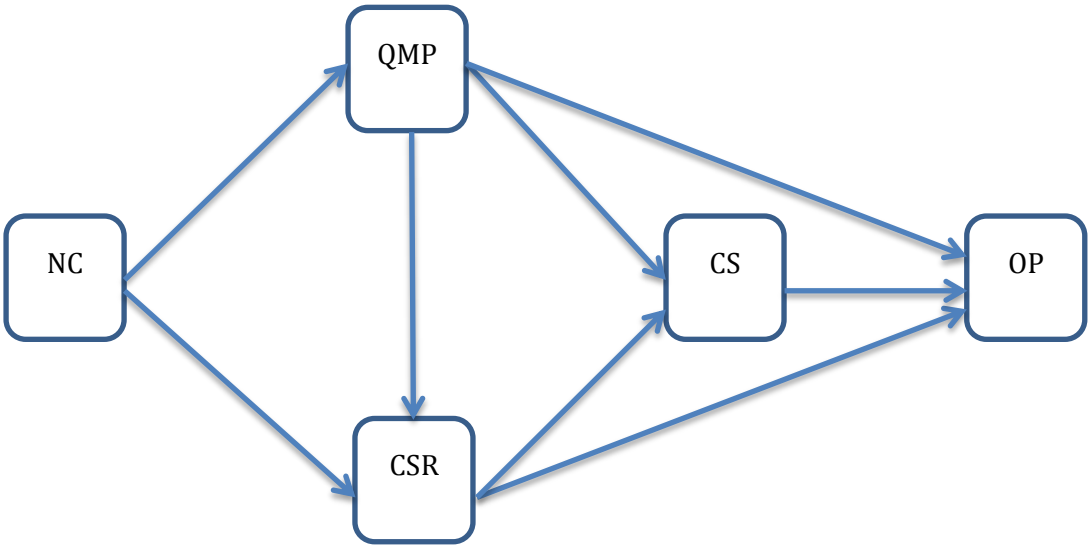
H8: The National Culture of Nigeria has a significant influence on the Corporate Social Responsibility practices in the oil and gas industry.

4.6. Pictorial Illustration of Conceptual Framework to be Tested

From the hypothesized relationships above, a conceptual framework was developed with the aim of demonstrating how the afore-named elements of operations management are linked together and how they in turn impact on Operational Performance in the oil and gas industry

Figure 4.1 is a diagrammatic summary, illustrating the research approach, the key elements of the model and the hypothesized relationships to be tested in order to achieve the desired aim of this study.

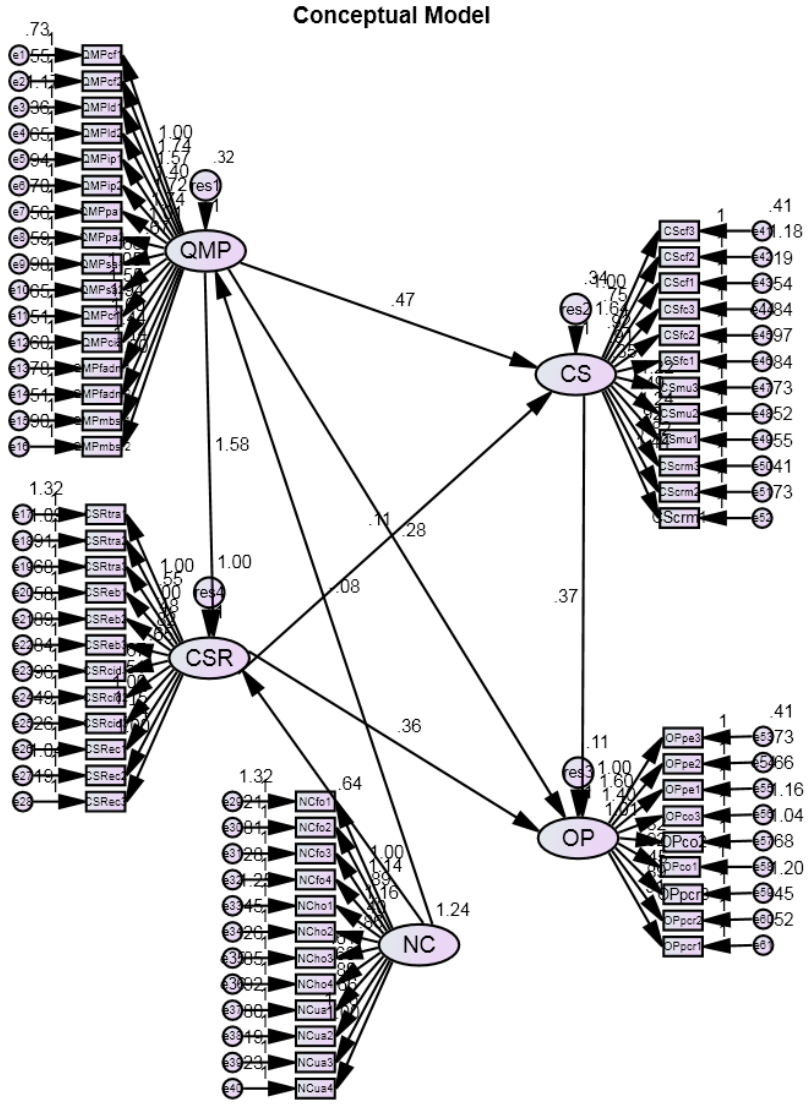
Figure 4.1: Conceptual framework showing the interaction between model elements



From the diagram, it follows that the optimization of the Operational Performance of the industry (endogenous variable) is the desired major output in this research. However, the mediating effect of Community Satisfaction (CS) has also been highlighted. Furthermore, the proposed influence of National Culture in the model is considered very significant in the context of the uniqueness of the country's culture.

Testing of the hypothesis for statistical significance is done using Structural Equation Modelling with AMOS computer package, which provides the advantage of a visual illustration of the proposed relationships and an easy understanding of the model-fit indices. Below (Figure 4.2) is a diagrammatic view of the proposed model showing the latent variables, the error functions and the covariance between the latent variables of the path diagram.

Figure 4.2: Visual Illustration of the Proposed Conceptual Model
Source: AMOS output (Path Diagram)



4.7. Chapter Summary

Following the theoretical background which links the elements of culture, quality management practices, corporate social responsibility and customer satisfaction to operational performance both directly and indirectly, this chapter concludes with the development of a conceptual model which shows the connections between the variables as being hypothesized. However, the development of the hypothesis, which

the researcher intends to test, was done with due reference to existing literature on the proposed relationships between the different elements of the model. The assumption of cultural homogeneity was discussed in light of the theoretical background with respect to the geographical context of the study: Nigeria – a developing nation. In this, the dominant cultural orientation as a product of the amalgamation or integration of ethnically diverse social and religious dispositions, glued together by historical narratives and common challenges of the people was highlighted.

The conceptual framework as developed is to be tested on a primary data collected from the oil and gas industry in Nigeria with the aim of capturing empirical evidence relating to the relationships between the various elements of the proposed model. This is done within the context of seeking to identify the factors that impact on operational performance in the oil and gas industry in Nigeria in order to ensure its optimization.

In the next chapter, the methodology employed in this research to achieve the earlier stated aim is discussed in detail, showing the methods and tools used for data collection and analysis.

Chapter 5
Research Methodology

5.1 Introduction

The primary aim of this study is to investigate the interaction between such management practices as CSR, QMP, and culture as well as the impact of these relationships on Operational Performance through the mediating effect of customer satisfaction otherwise known as Host Community Satisfaction within the context of the operations of the oil and gas industry in a developing country – Nigeria.

Although many studies have been carried out on the factors that influence Operational Performance in manufacturing industries, not much is seen in literature regarding the operational dynamics of the extractive sector such as the oil and gas industry, which proves to be peculiar in many ways. Also, while most of the available literature indicate general consensus in the idea that customer satisfaction is a critical factor in determining the operational performance of organizations, however, these research studies have been extensively focused on the end-user customer with little attention to the other stakeholders such as the host community. These gaps therefore justify this study.

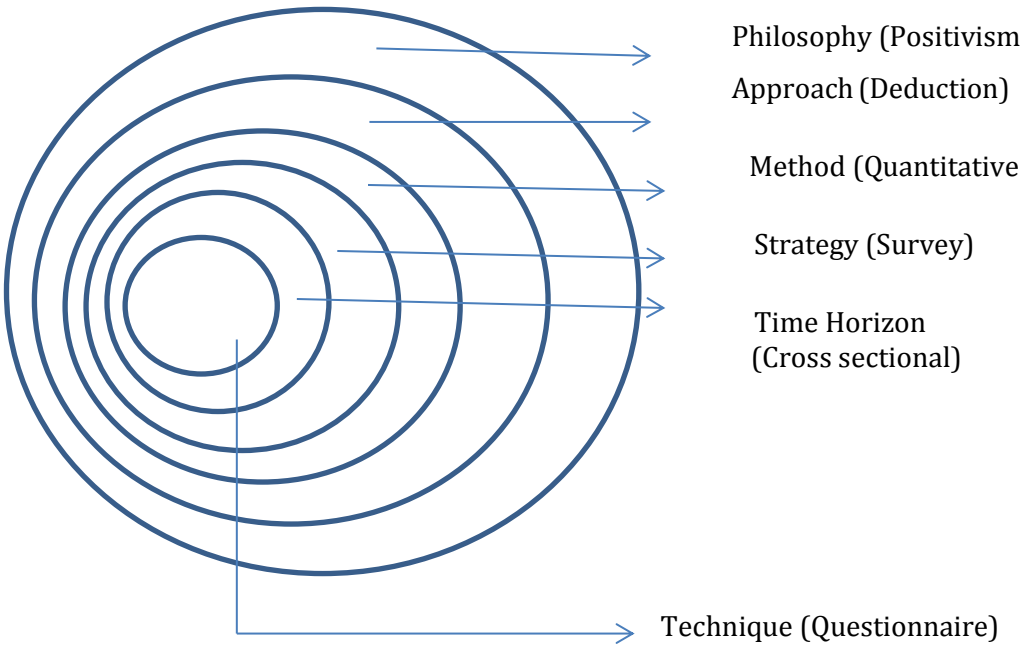
Having previously developed the conceptual model based on the established theoretical framework, in this chapter therefore, the researcher intends to investigate the most suitable research methods and methodology to employ in testing the developed hypothesis, thereby providing answers to the research questions. The choice of method is informed by the nature of the study, which in turn leads to: the development of the measurement instrument; the selection of appropriate sample demography; and the identification of the right measurement variables. Furthermore, the strengthening of the measurement instrument for suitability and validity through a pilot study is demonstrated

The techniques and methods used for data analysis are well detailed and justified in this chapter as well as the limitations and complexities encountered in the cause of this research study.

5.2. Research Methods

The choice of methods for this research followed the 'research onion' process as recommended by Saunders et.al. (2016). With the use of this onion the research philosophy; the research approach to theory development; the methodological choice; the research strategy; the time horizon for the research and the research techniques for data collection and analysis have been demonstrated. Figure 5.1 below shows the research onion and indicating the different choices of methods in each segment of the onion.

Figure 5.1 Research Onion
Source: Adapted from Saunders et al. (2016)



5.2.1. Research Philosophy

In considering the philosophy to be adopted in this research, the researcher examined the major differences between two common philosophies in literature, which are: the Interpretivist and Positivist philosophies. Onwuegbuzie and Leech (2005) have presented a summary of the differences based on ontological, epistemological, and axiological assumptions as presented in Table 5.1

Theory	Interpretivism	Positivism
Ontology	Believe in multiple constructed realities that generate different meanings for different individuals, and whose interpretations depend on the researcher's lens	Whereas positivists believe in a single reality that can be measured reliably and validly using scientific principles
Epistemology	Argue that qualitative researchers should take advantage of their relationship with the object or subject being researched to better understand phenomena	Whereas positivists assert that researchers should separate themselves from the object of study
Axiology	Posits that research is influenced to a great extent by the values of the researcher	Positivists maintain that research should be value-free

Table 5.1 The Difference between Interpretivist and Positivist research philosophies
Source: Onwuegbuzie and Leech (2005)

Based on the above differences, the researcher has chosen the positivist philosophy approach in this study. This is because the positivist philosophy is seen to be more appropriate and consistent with the nature and objective of the study, which involves an objective analysis of the links between elements of the proposed model with no external influence on their interpretation. Also according to Johnson and Duberley, (2000) Positivist philosophy enables the use of scientific approach in generating causal relationships between variables, an approach that is associated with quantitative research methodology. Furthermore, the positivist research philosophy allows for the operationalization of concepts in a form that enables quantitative analyses of information (Easterby-Smith, 2002).

Another reason for the choice of the positivist approach in this study is its proven usefulness in identifying the consistency or lack of consistency in the relationship between variables using the quantitative methodology, whereas the interpretivist approach is mainly synonymous with qualitative research methodology (Robson, 2002). Positivist philosophy is associated with quantitative research methodology, therefore, the sequence follows that a positivist approach is always linked to the quantitative methodology (Bryman et al., 2008). Given that this research study follows the pattern of formulating and testing hypothesis with the use of quantitative methodology to scientifically confirm the postulated relationships between variables in the conceptual model, the positivist philosophy is deemed most appropriate and hence adopted in this study. The next session explains the research approach and justifies the choice for its adoption in this study.

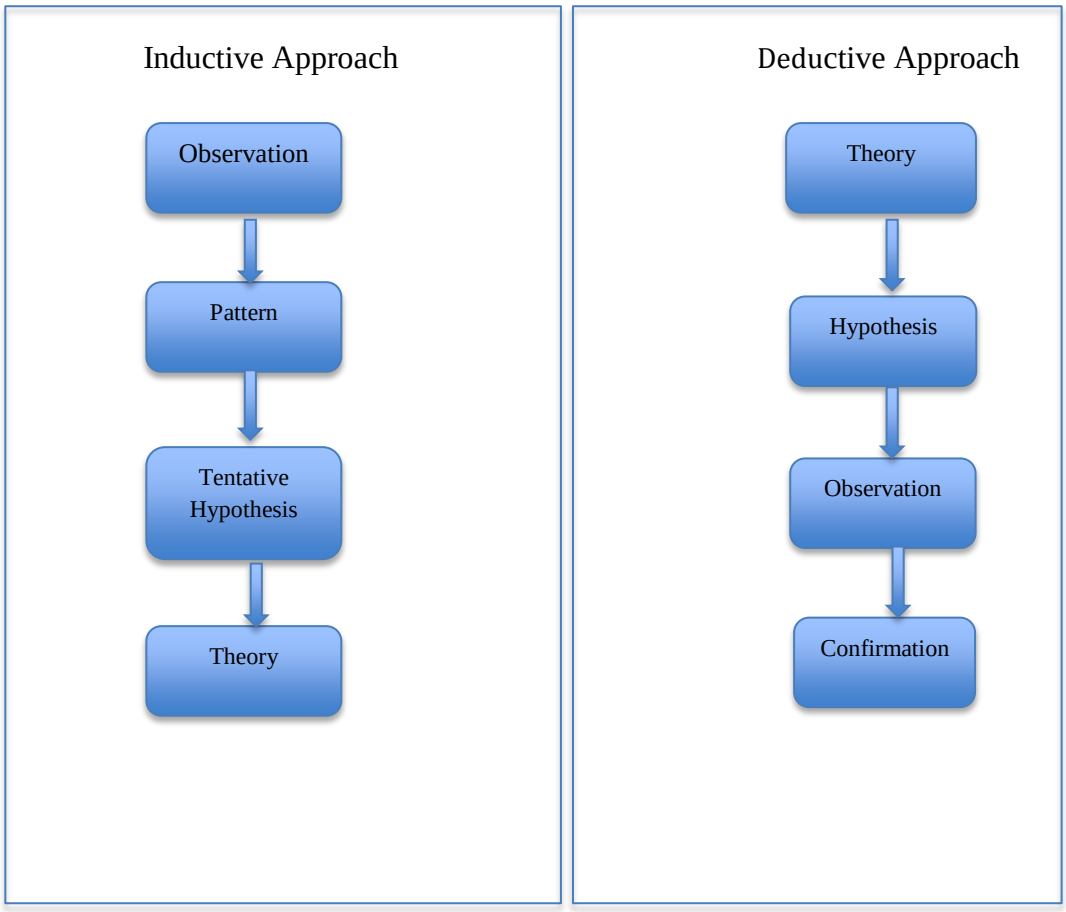
5.2.2. Research Approach

The choice of approach in this research is between the Deductive Approach and the Inductive Approach. Deductive research relates to hypothesis testing with the aim of modifying or providing support for an existing theory. It uses numeric figures to measure variations between variables, thereby providing for clarity in the observation by which theory confirmation can be achieved (Alajmi, 2011). Whereas, according to David and Sutton, (2004), inductive research seeks to investigate a field with the aim of exploring specific observation in a data by which generalization can be made leading to the generation of new theories without requiring the initial establishment of measures and any counting method. Although, inductive and deductive approaches can be combined in studies where facts are used to generate a theory, which is an inductive approach, but the theory is then tested following a deductive approach, thus, in this regard, both approaches are not mutually exclusive (Gray, 2009).

However, the approach chosen in this study is the deductive approach. This choice is directly influenced by the proven congruency between deductive approach and quantitative research method which has been adopted in this study. According to Bryman (2004), quantitative research is usually associated with deductive approach while qualitative research is associated with inductive approach. Also, this study is

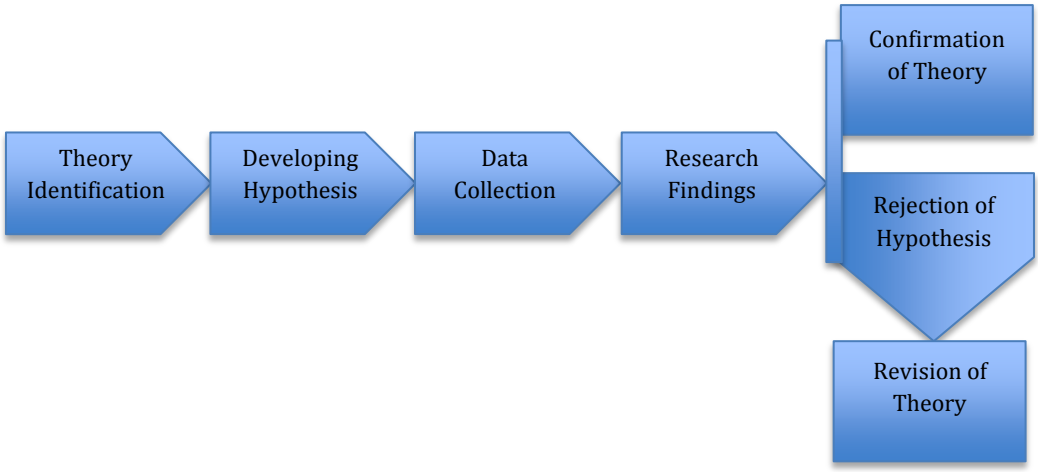
theory-driven, which involves the confirmation of theory, followed by the generalization of the findings. This sequence reflects a deductive research approach. Conversely, Inductive approach follows a pattern that involves an observation of a particular phenomenon and a subsequent development of theory around the observed phenomenon (Gelo et al., 2008) as shown in Figure 5.2 below:

Figure 5.2. Difference between Inductive and Deductive Research Approach
Source: Own Elaboration based on Remenyi et al., (2003)



Based on the above, the inductive approach is not used in this study as it does not apply to the nature of the study where the researcher is detached from the research. Whereas the deductive approach is chosen for this study, as it involves developing hypothesis from theory to be tested with a sample data with the aim of answering the research questions raised. The sequence adopted in this study therefore follows the steps of the deductive research approach, beginning with the identification of a theory down to the confirmation or rejection of the theory as shown in Figure 5.3

Figure 5.3. Steps in Deduction Research Approach
Source: Own Illustration based on Alajmi (2011)



5.2.3. Research Methodology

The choice between qualitative and quantitative research methodology is always left as an academic exercise for scholars to justify what they believe to be appropriate following the nature of their research (Gelo et al., 2008). Some of the major differences between qualitative and quantitative research methodologies are presented in the Table 5.2 below

Quantitative Research Approach	Qualitative Research Approach
Deduction	Induction
Theory-driven	Data-driven
Hypotheses-testing	Hypotheses-generating
Verification-oriented (confirmatory)	Discovery-oriented (exploratory)
Correlational	Case-study (narrative)
Correlational–comparative	Discourse analysis
Correlational–causal–comparative	Conversation analysis
	Focus group
	Ethnographic
Statistical conclusion validity	Descriptive validity
Construct validity	Interpretative validity
Causal validity	Explanatory validity

Table 5.2: Differences between Quantitative and Qualitative Research Approaches
Source: Gelo et al., (2008)

In light of the nature of this study, which requires an empirical validation of a proposed conceptual model, and based on the link between the research questions; the intended outcome; and the quantitative methods of data collection and analysis, the methodology considered most appropriate for this study is therefore the quantitative methodology. This choice is also informed by the advantage offered by the quantitative methodology with regards to utilising mathematical calculations to test the theoretical findings without any form of interference by the researcher (Dodd, 2008).

5.2.4. Research Strategy

The identification of the appropriate research strategy is known to be a very important element in conducting a research study. According to Bryman (2008), research strategy can be defined as the "general orientation to the conduct of research" (pg. 698). Similarly, for Remenyi et al,.(2003) the overall direction of the research, including the processes followed in the course of conducting the research, is what is referred to as research strategy. The selection of an appropriate research strategy for a particular research study is generally based on four factors, namely: the research questions and objectives; the amount of existing knowledge regarding the subject matter being researched; the available time and other resources; and the philosophical foundations of the researcher (Saunders et al., 2009). Based on these criteria, a researcher can select from the various different research strategies available according to their distinctive characteristics. Saunders et. al., (2009) have also suggested that there is a significant overlap among the various research strategies available to a researcher, therefore it is vital to select a strategy based on the superior advantages it provides to the particular research study. Some of the commonly used research strategies include: case study, experiment, action research, survey, grounded theory, ethnography, cross-sectional studies, participatory inquiry, archival research and longitudinal studies (Collis and Hussey, 2009; Saunders et al., 2009)

From the various research strategies as listed above, this research adopts the survey strategy as the appropriate strategy. The survey research strategy refers to a research approach that follows the methods of quantitative analysis where data is collected from a large pull of respondents in different organizations through various methods such as telephone interviews, questionnaires, or from published statistics, and the analysis of these data is done using robust statistical techniques (Gable, 1994).

The rationales for the choice of survey strategy over others as the preferred research strategy in this research study include:

Survey strategy has been widely applied and proven to be a good mechanism that allows for the collection of sizeable data from a large population in an economically efficient way, hence allowing for better control of the process (Saunders et .al, 2009).

The generalisation of findings is well supported by the survey strategy based on the fact that the sample data is a true representation of the organizations being surveyed (Gable, 1994).

Survey based questionnaires are commonly used in operations management related researches owing to the ease it provides with regards to the collection of large data sets which are used to test various types of research questions (Remenyi et al.,1998).

Another important reason for the choice of survey strategy is its association with the deductive approach and quantitative methodology which are also chosen for this research study following the suggestions of Saunders et. al, (2009).

However, the type of survey strategy to be chosen for a given research study depends on the time horizon. The cross sectional survey is used for studies that involve snap shots of the studied phenomena at a particular time, while longitudinal survey strategy is used for research conducted over a period of time (Wedawatta, et al.,. 2010). Therefore in the next section, the time horizon for this research study is explained.

5.2.5.Time Horizon

The time constraint on the completion of this study makes it a cross-sectional study. The time period for this project was limiting, as it was planned to be within a period of three years. However, despite efforts made and the time spent on this project, it still could not be completed on time as earlier planned. Much of the time was spent on concept development, developing and testing the measurement instrument, data collection, and result analysis.

In contrast to the time limitation of cross-sectional studies, longitudinal research studies require pre-measurement and post-measurement. Due to this repetitive measurement carried out in different occasions, it is conducted over long period of time (Saunders et. al., 2009; Fitzmaurice et. al, 2004). The time horizon for this research is not consistent with the nature of longitudinal research and hence it is considered not appropriate for this study. The next section describes the questionnaire development process.

5.2.6. Data Collection Techniques - Questionnaire Development

The use of questionnaire is one of the popular methods employed in many research studies for data collection. Information obtained from questionnaire can be analyzed and applied in different ways depending on the objectives of the study and the research questions. The questionnaire is constructed and used based on its traditional significance as an instrument that objectively operationalizes research while separating the researcher from the research findings (Bryman, 2004). It is a common belief among researchers (e.g. Burgess, 2001; Saunders et al., 2009) that the development of a high-quality research can be linked to the design and use of a questionnaire that adequately addresses the objectives of the research and allows for the collection of the precisely relevant data that directly answers the research questions. However, the use of questionnaire as an information-gathering instrument has the major disadvantage of producing low response rates (Kumar, 2014). Therefore, to improve on the response rate in this research study, the questionnaire design paid particular attention to the length and layout of the questionnaire, as well as the tone and quality of the introductory statement which explains the purpose and relevance of the research study.

The questionnaire for this study was developed through extensive literature review of the various elements which constitute the variables in the conceptual model. This approach was to allow for the actual conceptualization, and operationalization of each element. The reviewed elements include:

- Quality management Practices
- Corporate Social Responsibility
- National Culture
- Community Satisfaction
- Operational Performance

Based on the above elements of the model, the questionnaire was divided into five sections. For each section, the corresponding items on the questionnaire were generated based on the reviewed literature on the concepts being measured with the aim of providing answers to the research questions. An additional section was used to capture the demographic information of the respondents. The next section explains

the conceptualization and operationalization of the elements that constitute the model variables.

5.3. Conceptualization and Operationalization of Model Elements

In conceptualizing the model elements, it was important to consider that there are different definitions for any one element as shown in the review of literature. However, the adopted definitions or descriptions of each element are those that directly relate to the context of this research study.

5.3.1. Quality Management Practices

Conceptualization

From the review of literature, the concept of quality is generally defined either from a specification-based perspective or a customer-based perspective. In the context of this study, the customer-based perspective is adopted as most applicable; hence, following this approach, quality means the "ability of an organization to satisfy the needs of its customers" (Sandholm, 2000). Consistent with this definition, Quality Management Practices in this context is thus conceptualized as the activities or management actions carried out by an organization to achieve quality in products, processes or services with the main goal of satisfying a wide range of customers including other stakeholders.

Operationalization

This was patterned after the tested and validated instrument of quality management measurement developed by Rao et al. (1999). However, while this instrument was based on the Malcolm Baldrige National Quality Award Model, the operationalization of quality management practices in this study was based on eight measurement indices derived from the ISO 9000 Quality Management System standard generally referred to as the "Quality Management Principles". The measures for each of the principles were obtained from reviewing relevant literature. Due to the popularity and universal adoption of the ISO 9000 quality management system standard as the "voice of quality", the principles it expresses are therefore seen to be the most recognisable elements for assessing quality management implementation in organizations around the globe especially in the developing countries such as

Nigeria. This was therefore considered most appropriate for this study, which focuses on the oil and gas industry in Nigeria.

The measurement derivatives are as shown in Table 5.3 below:

Operationalization elements (Quality Management Principles)	Antecedents
Customer Focus (stakeholders including host communities)	The extent to which customer needs are measured, understood and met The strive to exceed customer expectations
Leadership	The measure of how much the direction of the company is established by leaders How conducive is the operational environment for general involvement in achieving company's objectives
Involvement of people	What is the extent of involvement of people in order to make use of their skill and abilities for the company's benefit in a synergistic manner
Process Approach to Management	The extent to which activities and resources are effectively managed and controlled as a process
System Approach to Management	The ability to identify, understand and manage interrelated processes as a system
Continuous improvement	The level of consistency in the company's commitment to continuously improve on overall performance measured against its set objectives
Factual Approach to Decision Making	The extent to which decisions are made using appropriate information and data analysis methods in an effective manner
Mutually Beneficial Supplier Relation	The drive to enhance the relation of the company and its suppliers for the purposes of consistency in value addition in the interest of all

Table 5.3: Operationalization Elements of Quality Management Practices and the Antecedents. Source: ISO 9000:2000

5.3.2. Corporate Social Responsibility CSR

Conceptualization

Due to the subjective nature of CSR as a belief or value-driven concept as revealed from reviewing the relevant literature, there appears to be little consensus among authors with regards to providing an exact definition for CSR as a management concept, a view consistent with that of Lindgreen and Swean, (2010). However the provided definitions appear to converge on the idea that CSR is mainly concerned with incorporating societal concerns, whether social economic or environmental, into the business actions of an organization. Therefore, in the context of this study, the conceptualization of CSR directly follows the definition provided by McWilliams and Siegel, (2001) where CSR is referred to as practices or "actions that appear to further some social good, beyond the interests of the firm and that which is required by Law"

Operationalization

The operationalization of CSR follows the principles and core subjects of corporate responsibility as itemized in ISO 26000 Quality Management system standard requirement. Some of the principles of social responsibility as listed include: Transparency and ethical behavior. However, an important aspect of this study is to understand and establish the impact of CSR practices on the satisfaction of host communities, thus other vital elements in the operationalization of CSR are the elements of community involvement and development, as well as environmental issues, which are also considered as core subjects of social responsibility (ISO 26000). These elements are particularly chosen as they constitute the major CSR practices directly relevant to the relationship between the oil and gas industry and the host community in a developing country. Table 5.4 below therefore shows the elements of CSR practices being measured and the corresponding items used to develop the survey instrument.

Operationalization elements (Corporate Social Responsibility)	Antecedents
Transparency	The level of openness in communicating the known and likely impacts of the decisions and activities of the organization on its stakeholders How transparent is the criteria and procedures used in engaging stakeholders How much is known about the sources, amount and management of funds in the organization How open are the decision making, implementation and review processes
Ethical Behavior	The extent to which conflicts of interest is prevented or resolved The level of respect for all parts of the eco-system affected by operation activities The extent to which honest commitment is shown in the communication and adherence to international standards of ethical behavior as it regards equity and integrity. The level of honesty shown in the preservation of local cultural identity in governance structures
Community Involvement and Development	The level of involvement by the community in decision making as it regards community development and engagement procedures The level of partnership with the community for the exchange of experience and creation of wealth The level of support by the organization on the issues of education, skill acquisition and employment for the

	community The level of commitment to the health and general wellbeing of community members
Environmental Considerations	The extent to which environmental impact assessment is carried out The level of interest on 'cleaner' production and eco-efficiency The extent to which sustainable procurement principle is adhered to The extent to which pollution prevention is taking seriously The level of awareness and education on environmentally sustainable work ethics in the organization

Table 5.4: Operationalization elements of Corporate Social Responsibility and the antecedents. Source: ISO 26000

5.3.3. National Culture

Conceptualization

The conceptualization of national culture in this study was adopted from the description given by Hofstede, (1994b), which is most common in literature, where he discusses culture as "the 'collective programming' of the mind that distinguishes members of one group from the others, developed from shared experiences of inhabitants of a nation such as education, legal systems, family structure, religious beliefs and literature." Furthermore, according to Hofstede (1997), national culture "…comprises a wide range of preferences for the state of affairs in a given geographical unit such as what is considered to be good or evil, beautiful or ugly, normal or abnormal"

Operationalization

The dimensions of culture to be measured in this research study have been chosen based on the national scores as shown in the GLOBE study (House et. al., 2004). The Table 5.5 below shows the measurement scores of Nigerian culture in the listed

cultural dimensions both in values and in practice when compared to other countries included in the GLOBE study.

From Table 4.1, the national culture of Nigeria is seen to be high in three dimensions when assessed from the perspective of values (should be). They are: Future Orientation, Humane Orientation, and Uncertainty Avoidance. Table 5.5 shows the operationalization of national culture based on the listed dimensions:

Cultural Dimensions (Nigerian National Culture)	Antecedents
Future Orientation	The extent to which individuals engage in future-orientated behaviours such as delaying gratification, planning, and investing in the future
Humane Orientation	The degree to which a collective encourages and rewards individuals for being fair, altruistic, generous, caring, and kind to others
Uncertainty Avoidance	The extent to which organisation rely on social norms, rules, and procedures to alleviate unpredictability of future events

Table 5.5: Operationalization elements of Nigerian National Culture and the Antecedents
Source: House et. al., (2004) (own elaboration)

5.3.4. Host Community Satisfaction

Conceptualization

Satisfaction level is simply an expression of the difference between desired or expected performance and perceived or actual performance (Stahl, 1999). Host communities are stakeholders of the oil and gas industry in Nigeria thus community satisfaction is synonymous with the stakeholders or customers satisfaction, which has

been defined as the level of felt state of an individual or a group as a direct result of comparing the perceived performance of a firm relative to expectations (Wen-Yi, 2009).

Operationalization

The measurement elements for community satisfaction on which the questionnaire items were based as shown in Table 5.6 below, were developed following from the assertions that communities are stakeholders

Elements of Operationalization (Community Satisfaction)	Antecedents
Community Relations Management	The level of effectiveness of community management initiatives The extent to which tensions between company and community are quickly and easily resolved How much corporation the company enjoys from the communities in managing difficult situations
Mutual Understanding	How much of mutual understanding is expressed during engagement sessions The level of understanding expressed in the existing company/community Memorandum of Understanding (MoU)
Less Formal complaint	The volume of formal complaints received in the past 3 years The extent to which complaints were effectively addressed to the satisfaction of communities in the past 3 years
Community feedback	How much positive feedback is received from the community with regards to the company's operational procedures.

Table 5.6: Operationalization elements of Community Satisfaction and the antecedents. Source: (Parast and Adams, 2012; Idemudia, 2009; ISO 26000:2010) (Own Adaptation)

However, in this study, community satisfaction is measured as perceptions of the industry operatives about the satisfaction level of its host communities based on the recommendations of Rungtusanatham et al., (2005). Thus each item on this section of the questionnaire was written as a perceptual statement with the assumption that the elements are significantly valid indicators of community satisfaction in the industry. Since community satisfaction, like customer satisfaction is a measure of the state of mind, exact measurement may not be realistic; therefore a level of probable adaptation is required (Anton 1997)

5.3.5. Operational Performance

Conceptualization

Operational Performance is conceptualized in this study as the performance of a firm or an industry when measured against such prescribed pointers as efficiency and effectiveness as well as environmental responsibility. These measures are often achieved through the use of certain factors which include: the level of consistency in productivity, the cycle time, how much waste was reduced and the level of compliance to regulatory standards.

Operationalization

Operationalization of Operational Performance was done using three of the key indicators of successful operations in the oil and gas industry as elements of measurement. For example, due to the capital-intensive nature of the operations of the oil and gas industry, any reduction in the production cost indicates a positive score on the operations performance. These indicative elements for measuring operational performance are shown in Table 5.7 below with their corresponding focal measures.

Elements of Operationalization (Operational Performance Indicators)	Antecedents
Production Cost Reduction	The extent to which production cost was reduced based on lower ad-hoc expenditure due to community conflicts or restiveness and lower cost of maintaining damaged facilities. The level of variation shown in the production overhead expenditure compared to the standard projections or budgetary provisions over the past few years
Continuous (uninterrupted) Operation	How much production targets are met in a given timeline The extent to which the company production activities are not affected by forced interruptions
Process Effectiveness	The level of effectiveness recorded in company processes The performance perception of the industry processes and management procedures compared to other industries

Table 5.7: Operationalization Elements of Operational Performance and the Antecedents

The next section describes the conduct of a pilot study and the analysis of the results from the study.

5.4 Pilot Study

Pilot studies are considered as crucial element of a good study design as they help in ensuring that consistency and relative accuracy is expressed in the ability of the questionnaire items to adequately measure the particular concept of interest. It is also employed to provide for face validity, helping the questionnaire appear logical to

respondents (Alajmi, 2011). In other words, pilot studies help in the development or testing the efficacy of the research questionnaire to identify and discard misleading or confusing items. Furthermore, they help to check that the researcher maintains maximum objectivity. The major aim of pilot study in this research study therefore is to ensure that the pre- tested instrument is fine-tuned appropriately and made free of any ambiguity. This will allow the respondents to answer the questions with relative ease which will enhance accuracy in the measurement as intended (Presser et al., 2004).

In conducting the pilot study, a random sample of 20 participants was selected. 4 participants were chosen from each of the 5 major multinational companies in the oil and gas industry in Nigeria namely:

- Shell Petroleum Development Company of Nigeria Limited (SPDC)
- Chevron Nigeria Limited (CNL)
- Mobil Producing Nigeria Unlimited (MPNU)
- Nigerian Agip Oil Company Limited (NAOC):
- Elf Petroleum Nigeria Limited (EPNL) (Also known as Total E&P)

According to Presser et al., (2004), pilot studies often utilise random samples that can allow for reasonable generalization of the total sample.

To test the reliability of the questionnaire items, exploratory factor analysis were conducted on the results from the pilot study. This is shown in the next section.

5.4.1. Reliability Test of Questionnaire Items

The ability of a questionnaire item to consistently reflect the measured construct determines its reliability. Thus, testing for reliability means assessing consistency in the results if the same object or phenomenon is repeatedly measured with the same instrument (Eastrby-Smith et al. 2002). According to Tavakol and Dennick (2011), reliability is a fundamental element in evaluating measurement instruments for internal consistency. The importance of reliability test of questionnaire items is expressed in its ability to guide the researcher in identifying the items that do not represent correct measurement of the construct as intended, thereby misleading respondents into providing uninterpretable responses which are considered

inconsistent.

According to Field (2009) the most common measure of construct reliability is the Cronbach's alpha, α. The generally accepted values of the Cronbach's alpha to establish reliability is between .7 and .8. Lower values are seen to represent unreliable scale or item for true measurement (Nunally and Bernstein, 1994). However, according to Kline (1999) when the measurement is for a psychological construct, or when the research is exploratory, the reliability coefficient values below .07 can be acceptable in realistic terms because the construct being measured is usually of a diverse nature.

From the results of the pilot study which is intended to test and validate the questionnaire items, the reliability test result shows the 5 constructs having Cronbach's alpha of between .86 and .93 as can be seen in Table 5.9. Following the recommendations of Field, (2009), Values of Cronbach's Alpha > .8 is considered as good. The reported values in Table 5.8 below are above the minimum acceptable levels and thus strongly indicate the reliability of the questionnaire items and the measurement instruments.

Constructs	No. of Items	Cronbach's Alpha α
Quality Management Practices QMP	16	0.924
Corporate Social Responsibility CSR	12	0.905
National Culture NC	12	0.939
Community Satisfaction CS	12	0.898
Operational Performance OP	9	0.861
Overall Reliability Index	61	0.951

Table 5.8: Construct Reliability

5.4.2. Exploratory Factor Analysis

Factor analysis helps to reveal patterns within a given data set such as the commonalities between the observed variables as well as the strength of the relationships between set of measures which in turn assists the researcher to assess

the level of coherence between items in the measurement instrument. According to Bernard (2006), factor analysis highlights the extent to which each loaded item fit into the measured factors. Following this, items of the questionnaire which are considered as 'bad fit' based on a sample result are deleted by the researcher in other to protect construct validity.

Factor analysis has been performed in this study using the SPSS. Giving that the factors have been already identified through the review of existing literature, the focus was mainly on identifying questionnaire items that appear incoherent with the measured factors through their loading outputs.

Following this, the factor analysis was conducted using the principal component method as seen suitable for this nature of study where the factors are already identified. However, due to the small sample size in this pilot study the result of the factor loading was limited to the commonalities and percentage of variance extracted. With regards to the commonalities extracted, the result revealed that the minimum extracted value was .353 which is greater than the minimum acceptable commonality value of .25 (Raubenheimer, 2007). Commonality values are representative of the amount of variance an item shares with others (Field, 2009), thus, they indicate how much an item is relevant to the construct. From the result, all items were thus considered to significantly contribute to the factor it is intended to measure following the suggestions of Hair, (2010). Also from the result of the extracted sums of squared loading, the total variance extracted was 70.31%. All factors have Eigen value > 4.

The detailed result of the factorial analysis can be found in the Appendix 1A-B

5.4.3. Confirmatory Factor Analysis

The use of Confirmatory Factor Analysis CFA helps the researcher to test the validity of a proposed model developed from the researcher's knowledge of existing theoretical relationships between latent variables (Byrne 2010). In other words, CFA allows for the assessment of the degree to which the observed variables correctly measure or relate to the underlying factors as postulated in a model within the context of establishing fitness of model. Hence using AMOS computer software, CFA was conducted in this pilot study. The questionnaire items for measuring each

factor were specified and the paths coefficient was produced by the AMOS software

However, due to the very small sample size used in the pilot study, the result of the CFA was not adequately interpretable. Its relevance in this respect was to assist the researcher in identifying any form of inconsistency in the data, which could highlight a potential challenge in the analysis of the main study. From the result of the CFA however, there were no such inconsistencies like multi-collinearity or non-positive definite-ness, judging from the results of the standardised regression weight and the modification indices. Hence the questionnaire items where upheld as valid and consistent.

Details of the CFA results for the pilot study as obtained from the AMOS software can be found in the Appendix 1C

5.5. Hypothesis and the Corresponding Questionnaire Items

The questionnaire used as a measurement instrument in this study has been developed based mainly on extensive review of the existing literature relevant to the relationships between the model variables as proposed. However, industry practitioners were also engaged to access the instrument for content and face validity. All items of the questionnaire are related to the hypothesis that they are expected to test. Table 5.9 below shows the hypothesis and the corresponding questionnaire items. Also included in the table are some of the corresponding primary sources for the hypothesis. Again, the final questionnaire was checked for face validity to ensure that it allows for logical flow for the respondents as well as show consistency in reflecting the intent of the study. Having verified the ability of the questionnaire items to answer to the corresponding hypothesis, the questionnaire was certified ready for data collection. The full copy of the questionnaire can be found in Appendix 1D.

The next session describes the data collection methods used in the study.

Hypothesis	Description	Sources	Item No.
H1a	Quality Management Practices have significant positive effect on the Operational Performance of the oil and gas industry in Nigeria.	Parast et al., 2010; Terziovski, 1999; Ahire and O'Shaughnessy, 1998; Asrilhant et al., 2007	1 – 16 53 - 61
H1b	In the oil and gas industry in Nigeria, host Community Satisfaction significantly mediates the relationship between Quality Management and Operational Performance.	Projogo and Sohal, 2006; Sadikoglu and Zehir, 2010; Didik, 2011.	41 - 52 1 – 16 53 - 61
H2a	Corporate Social Responsibility practices has significant effect on Operational Performance in the oil and gas industry in Nigeria	Chung et al., 2015; Du et al., 2010; Gupta et. al., 2002; Mackey et al., 2007.	17 – 28 53 - 61
H2b	In the oil and gas industry in Nigeria, Host Community Satisfaction mediates the effects of Corporate Social Responsibility practices on Operational Performance.	Saeidi et. al., 2014; Lev, et. al., 2010; Luo and Bhattacharya, 2006	41 – 52 17 – 28 53 - 61
H3a	Quality Management Practices in the oil and gas industry in Nigeria has significant and positive effect on the level of satisfaction felt among the host communities	Kim, 2006; Stank et al., 2003; Zhang et al., 2003; Cronin and Taylor, 1992	1 – 16 41 – 52
H3b	The effect of the Quality Management Practices on Community Satisfaction is significantly mediated by Corporate Social Responsibility practices of the oil and gas industry in Nigeria.	Ghobadian et al., 2007; Shin and Thai, 2015; Parast et al, 2011 Cronin and Taylor, 1992	17 – 28 1 – 16 41 – 52

H4:	Quality Management Practices has a significant and positive effect on the effectiveness of the Corporate Social Responsibility initiatives of the oil and gas industry in Nigeria.	Bernes et al, 2007; Hazlett et. al. 2007; Mizaur, 1993; Ghobadian et al., 2007; Parast et al, 2011	1 – 16 17 - 28
H5	Corporate Social Responsibility activities of the oil and gas industry in Nigeria have significant effect on the satisfaction of the host communities.	Chung et al. 2015; Carroll and Shabana, 2010; Gupta et al.,, 2002; Walsh et. al., 2006; Nwankwo, 2015	17 – 28 41 - 52
H6	In Nigeria, the satisfaction of the host communities significantly impacts on the Operational Performance of the oil and gas industry.	Sarkis et al., 2011; Freeman and Liedtka, 1991; Barrone et al., 2007; Zhang et al., 2003: Lai and Yang, 2009)	41 – 52 53 - 61
H7	The National Culture of Nigeria has a significant influence on the Quality Management Practices as employed in the oil and gas industry**.**	Lagrosen, 2002; Hoecklin, 1995; Noronha, 2002; Flyne and Saladin, 2006; Naor et. al., 2008.	29 – 40 1 - 16
H8:	The National Culture of Nigeria has a significant influence on the Corporate Social Responsibility practices in the oil and gas industry.	Ringov and Zollo, 2007; Thanetsunthorn , et. al., 2015; Sivakumer and Nakata, 2001; Campbell, 2007; Hofstede, 1994	29 – 40 17 - 28

Table 5.9: Hypothesis and the Corresponding Questionnaire Items

5.6. Data Collection Method

Data collection in this study was done using a survey-based questionnaire. Due to the difference in geographical location between the researcher and the respondents, the questionnaire distribution took advantage of the Internet. This method allowed for easy and speedy response as the questionnaires were sent directly to the respondents through their email addresses. It was also made assessable to the respondents through an on-line link sent to their face book pages. In addition to the online method and in order to cater for those with limited Internet access, the traditional mailing method was also utilised. Two administrators with considerable knowledge on the research theme and general research ethics were recruited as local facilitators. According to Kumar (2014), the selection of method(s) of administering a questionnaire in a particular study depends mainly on the realistic ease in reaching the respondent population and the researcher's knowledge on their preferential method of participation. The sampling method used is described below:

5.7. Sampling

The ability to generalize research findings is a fundamental goal of researchers (De Vaus, 2002). The two basic types of generalization include Statistical generalization and Replication. Statistical generation involves the use of probability theory, which assumes a small sample to be a direct representation of larger population and therefore the findings from the sample will be the same for the larger population. However, replication on the other hand involves the use of experimental methods to replicate certain research findings in a different circumstance and with different participants (De Vaus, 2002). This research study followed the path of statistical generalization where the sample mirrors the larger population that it intends to represent. This type of generalization is consistent with the nature of the study which does not involve experimentation as in the case of replication.

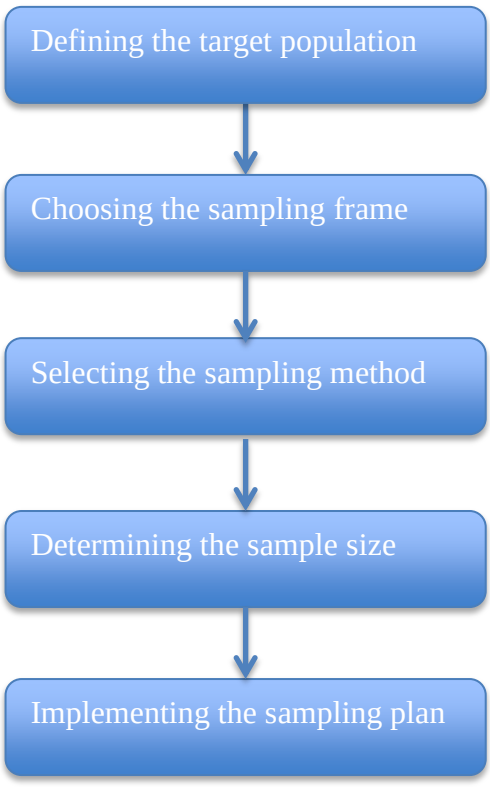
Saunders et al (2016) provide explanation as to the need for sampling which include: the budget and time constraints in surveying the larger population, the time limitations, especially when there is an urgent need to obtain results, the difficulty of accessing the entire population, and the impracticability in coordinating a survey

involving a large population. These factors are seen to be applicable to this research study. Also, studies (e.g. Ghauri et al, 2005) have shown that the use of a sample rather than the entire population in studies could enhance the quality of results due to the relative ease of handling smaller numbers in the rigorous analysis process.

2.8. Sampling Process

A sample is usually expected to be a true representation of the population it is drawn from. Therefore to obtain a representative sample usually requires the use of a well-defined sampling process or procedure (Hair et al., 2009). Figure 5.4 shows a sampling process.

Figure 5.4: Research Sampling Procedure
Source: Saunders (2016); Own Illustration



5.8.1. Target Population

The target population for this study comprises all indigenous management staff members with at least 5 years working experience in the sample companies of the oil

and gas industry in Nigeria. Consistent with the research objectives, which involves the evaluation of the operations management elements of the oil and gas industry in Nigeria, the relevance of this population is in the ability of the sample units to provide the desired reliable information for the validity of the research study. Following the suggestions of Hair et al., (2009), in defining the target population of this study, other practical factors that influence the choice of a target population were also considered, some of which include: the level of knowledge within the target population regarding the topic of interest in the research, assess to the companies, and the availability of required individuals within the stipulated timeframe for the study.

5.8.2. Sampling Frame

According to Wilson (2013), the most important feature of a sampling frame is that it must be representative of the target population. Thus a sampling frame is usually obtained from public listings of companies giving specific details. However, due to the unavailability of such publications with the required level of details, the sampling frame for this research has been limited to of all major oil and gas companies operating in Nigeria (First and second generation oil companies) as presented in alphabetical order below. (Figure 5.12) This frame has been drawn from various sources including direct contact with the Human Resources departments of the companies of interest. The companies listed in the frame are considered as the major companies in the upstream sector of the industry because they constitute the Joint-venture companies and the production sharing companies that collectively produce an average of 20099724 barrels of oil per day (bbls/d) out of 22,564,071 total daily average representing 89% of average daily production in 2014 according to the NNPC report. Also, 2,503,985,423 million standard cubic feet (mscf) of gas was produced by these companies out of a total production of 2,524,268,444 mscf. Out of this; these companies alone jointly produced a total of 104577824 mscf, which was lifted in 2014.

	Company	Assigned Random Numbers	Average Number of indigenous employees
Upstream Sector	Abacan	1	700
	Addax	2	
	Agip	3	1100
	Amoco	4	
	Chevron	5	1200
	Conoco	6	
	Elf / Total Nigeria	7	1300
	Esso	8	
	Mobil	9	2000
	Pan Ocean Oil	10	
	Philip	11	600
	Shell	12	
	Statoil/BP Alliance	13	620
	Texaco Overseas	14	
TOTAL			7520
Downstream Sector	KRPC	1	1050
	NLNG	2	
	PHRC	3	828
	PPMC	4	
	WRPC	5	1100
TOTAL			2978

Table 5.10: Sampling Frame

5.8.3. Sampling Method

In general the two basic sampling methods or techniques have been described as: probability or random sampling, and non-probability or non-random sampling (Wilson, 2013).

Probability sampling is a sampling technique where the representative sample is drawn from the population based on an 'equal chance' case (Saunders et al., 2009). This technique is considered as the least biased of all sampling techniques, as it does not allow for subjectivity. Also it is a common assumption that employing probability sampling technique in a population is more likely to produce a true representative sample (Ghauri and Gronhaug 2005). Probability sampling, according to Wilson (2013), further involves five methods namely: simple random sampling; stratified random sampling; cluster sampling; systematic sampling; and multi-stage

sampling (Saunders et al., 2009). However, one drawback of probability sampling is that it can lead to a significantly poor representation of the overall population due to the tendency for omissions where the study is carried out in a large area, and it is constrained by the practicalities of available time and resources. Nonetheless, it is considered most effective in producing generalizable outcomes in research studies.

Non-probability sampling technique on the other hand is, in most cases, associated with qualitative or case study research design where the chance of selecting units or cases does not necessarily need to be equal because the objective does not usually involve making statistical generalizations (Ghauri and Gronhaug 2005).

Hence, from the nature of this study, which involves the development and testing of a conceptual model through quantitative data analysis methods with a view to generalizing the findings within the specific industry, probability-sampling technique has therefore been employed as the appropriate technique for this study. In particular, owing to the need for a sampling technique that will provide for a reliable means of ensuring true representation of the study population in order to achieve a consistent level of accuracy, a combination of systematic random sampling and cluster sampling was adopted based on the following advantages which they offer:

- The simplicity or ease of use while still ensuring that every unit has an equal chance to be drawn
- The selection of cases allows for an even spread in the sample frame for better representation
- Most appropriate for research involving an area considered to be dispersed geographically
- Elimination of bias in sample selection

Using cluster sampling ensured that all cases were evenly distributed for an equal chance of being drawn (Sanders et al., 2016). This was achieved by dividing the target population into clusters namely: Upstream and Downstream sectors of the oil and gas industry as shown in figure 5.11. From these clusters, covering the various companies operating in these sectors, companies were chosen by applying systematic sampling technique to ensure greater representation of target population in the sample (Wilson 2013). Consequently, the sample frame was constructed to reflect the

clusters where the company listings were organized in an alphabetical order and numbers were assigned to each company. With the listed companies as sample units, the sampling fraction was calculated by applying the sampling fraction equation as shown below:

Sampling Fraction = Actual Sample Size / Target Population

Sampling Fraction = 9/19

Sampling Friction = 1/2

With the use of a sampling fraction of 2, and by selecting a random number as a starting point, every 2^{nd} company was subsequently selected as a sample unit. The resultant number of selected companies was 7 from the upstream sector and 3 from the downstream sector of the oil and gas industry in Nigeria. Subsequently, from these 10 selected companies in both clusters, the total number of target population was found to be 10498. Following from this, the minimum sample size was chosen as shown in the next section.

5.8.4. Sample Size

Depending on the research objectives, sample size is generally expected to be representative of the target population as shown in the sampling frame (Saunders et al., 2016). This is because a representative sample size enhances the quality of the research result with regards to the extent to which it can be generalized. Although large samples do not guarantee research precision (Bryman 2004), Saunders et al (2016) has recommended a minimum valid sample size table which provides a standard sample size for any given target population. Table 5.11 below shows the different sizes of target population and their corresponding sample sizes as recommended. Following this recommendation, and given that the total number of the target population as shown in the sample frame is 10498, the sample size for this study within 5% error margin is concluded to be 370.

However, to maximize the response rate due to the distance barrier between the geographical position of the researcher and the respondents, a total of 400 questionnaires were distributed to the target population

	Margin of Error			
Target population	5%	3%	2%	1%
1000	278	516	706	906
2000	322	696	1091	1655
5000	357	879	1622	3288
10000	370	964	1936	4899
100000	383	1056	2345	8762

Table 5.11: Sample Size for Different Sizes of Target Population at 95% Confidence level
Source: Saunders et al.,(2016)

Furthermore, the questionnaire distribution was done using both online and personal distribution methods. With the online method, the identified respondents were contacted directly by email, explaining the aim and objectives of the research and the link to the questionnaire was also contained in the email. A word document version of the questionnaire was also attached to the email for those who would prefer to print and respond to it manually. A copy of the email can be found in Appendix 1C. Due to distance challenges, the researcher employed local researchers with a good knowledge of research ethics and expectations to act as facilitators in distributing the questionnaires and following up the respondents with the aim of maximizing the response rate within the given timeline.

5.9. Measurement Scaling

A 5-point likert scale was used in this study for measuring all the items of the different elements in the conceptual model. The classification was as follows: [1] = Strongly Agree, [2] = Slightly Agree, [3] = Neither Agree nor Disagree, [4] = Slightly Disagree, [5] = Strongly Disagree. The choice of the likert scale for construct measurement in this research was informed by its ability to reduce measurement bias usually due to the respondents choosing the "undecided" option when they consider a question to be sensitive (Alajmi 2011)

5.9.1. Response Rate and Method Bias

A total of 221 usable responses were received out of the targeted 370, indicating a 60% response rate. To minimise non-response bias, concerted effort was made by the employed facilitators to frequently visit the companies and follow up identified respondents with phone calls. Also the survey instrument was made simple and unambiguous. When a common method is used for data collection, there is usually a tendency for respondents to deviate in their response creating a bias known as common method bias (Podsakoff et al., 2003). To minimise the effect of this in the data analysis, each observed variable was measured with a group of items and the average of these were taking and used in the analysis. By this any bias associated with single respondent and common method were duly accounted for in the data analysis.

5.10. The Use of Structural Equation Modeling

Since its initial conception by Wright (1918), the acceptance and adoption of structural equation modelling (SEM) as a research tool has increased over the years in various research disciplines (Kline, 2005). This increase in popularity has generally been seen to result from the development of software such as AMOS, LISREL, Mplus etc. that have provided for the increase in the ease of its usage by many researchers who consider it as very useful in testing their research propositions, and addressing their various research questions appropriately (Teo et al 2013). According to Byrne (2010), as a statistical tool, SEM is considered to be most appropriate approach for testing hypothesis particularly where they involve relationships with latent or and observed variables. Also it is a theory driven

statistical technique by which a theory-based hypothesized model is tested with the purpose of verifying the level of consistency between the proposed model and the obtained data, making it the most appropriate technique for this research study

5.10.1. The Underlining Principle of SEM

Structural equation modeling (SEM) is a term used to refer to a family of related statistical techniques or procedures including Factor Analysis and Multiple Regression. Basic to SEM is the covariance statistics. For two observed variables X and Y it can be defined as follows:

$Cov_{xy} = r_{xy}\, SD_x\ SD_y$ ---------- (5.1)

where r_{xy} represents the Pearson correlation

SD_x and SD_y represent their standard deviations

Covariance is therefore the representation of the strength of the relationship between the two variables X and Y and the measure of their variabilities with a single number. Thus, based on the covariance statistics, SEM analysis seeks to achieve two main objectives: "to understand patterns of covariance among a set of observed variables and to explain as much of their variance as possible with the researcher's model" (Kline, 2011).

As a multivariate technique, SEM generally follows similar principles as those of multiple regressions. Thus, according to Byrne (2010), SEM can be seen as "a multivariate extension of the multiple linear regression model" illustrated by the formula below with one dependent variable (Y):

$y = i + Xb + e$ ---------- (5.2)

Where y is a measure of the independent variable, i is the y intercept, X is the independent variable, b is th regression weight and e is the residual error.

Although unlike SEM, with multiple regression, analysis generally involve observed variables only, however they both share some basic common features such as the Ordinary Least Square Estimation, Regression Weights, Specification Error and

some assumptions including the following:

- Multivariate normal distribution: With the maximum likelihood method, it is assumed that the distribution is normal.
- Linearity: A linear relationship is assumed between dependent and independent variables
- Sample size: A large sample size ≥ 200 cases is assumed (Kline, 2005).

5.10.2. Structural Equation Modelling over other Multivariate Techniques

The selection of appropriate research method that can assist in answering the research questions adequately is considered as a major factor in achieving research success (Stephens 2002; Saunders et. al., 2016). SEM has been chosen in this research due to its advantage over other multivariate techniques in reducing measurement error by using the confirmatory factor analysis approach which provides for multiple indicators for every latent variable. Further to this advantage, Byrne (2001) have provided a comparative list of four features differentiating SEM from other multivariate techniques, they include:

With SEM, data analysis is performed using a confirmatory approach where the relationships among variables which are being studied are well specified as a priori whereas other multivariate techniques such as exploratory factor analysis are descriptive, making it comparatively difficult to test hypothesis.

The estimates of error variance parameters are clearly shown with SEM. Conversely, other multivariate techniques are incapable of showing or correcting for measurement errors, thus, possibly leading to incorrect inferences or conclusions resulting from regression estimates that are misleading.

While other multivariate technique base there analysis on the observed measurements only, SEM incorporates both observed and latent variables in its approach.

SEM can estimate the direct and indirect effects of the variables being studied and it is also able to model multivariate relations. Consistent with this, Hayes, (2009) posits that one advantage of SEM over other techniques is that it has the ability to model mediating variables and by testing the relationship between a predictor and outcome variable through a mediating or intervening variable

These advantages therefore provide strong justification for the choice of Structural Equation Modelling as the preferred technique for this research study. However, of the four types of SEM commonly found in literature namely: Path Analytic model (PA); Confirmatory Factor Analysis model (CFA); Structural Regression model (SR); and Latent Change model (LC), this study has mainly applied the CFA model type of SEM which is consistent with its objectives as they relate to testing a proposed model for consistency with the underlying theory within the context of its application in a particular industry: the oil and gas industry in Nigeria.

5.11. Chapter Summary

This chapter has presented the methodology adopted in this research, highlighting the justification for the choice of methods and how they support the researcher in achieving the research aim and objectives. Thus, by following the research onion framework, the research philosophy, approach, strategy, and time horizon were identified consistent with the nature of this study. The data collection method employed as well as the development of the instrument used have been described also. The pre-testing of this instrument followed the use of a sample data collected for the pilot study in which 20 participants responded. These participants were drawn from the target population, which include indigenous employees of the oil and gas industry in Nigeria with working experience in the industry of 5 years and above. Using exploratory and confirmatory factor analysis, the measurement instrument was reassessed and modified to ensure that the measurement items adequately reflect their appropriateness for measuring the corresponding element in the model. The choice of sampling methods and techniques applied, as well as the sample size, has also been justified in this chapter. Thus, in the next chapter the emphasis will be on the detailed discussion of the results obtained from the collected data with a view to providing answers to the research questions as raised.

Chapter 6

Data Analysis and Discussion

6.1. Introduction

Having presented the methods used in this study as well as the processes followed to collect the relevant data in the previous chapter, this chapter therefore presents the analysis of the collected data with the use of a wide range of statistical methods to seek for trends or patterns that will lead to useful inferences in keeping with the research objectives. Furthermore, the observed results from the analysis are discussed as they relate to the answers they provide to the research questions. The various stages involved in the data analysis include: collecting and organising the data, coding and data entry, and analysing the data. To effectively achieve this, in all the stages, various computer applications that support such processes of analysing quantitative data were utilized. Foremost among the specialist applications used were: the Statistical Package for the Social Sciences (SPSS) and the accompanying Analysis of Moment Structure (AMOS). These specialist data analysis software operate in the windows environment. The version used is version 18. Some of the statistical techniques used with the SPSS in the research include: factor analysis, reliability tests and correlations analysis with the main aim of ensuring the adequacy and reliability of the data to be used for hypothesis testing. Following this was the use of Structural Equation Modelling SEM in testing the proposed conceptual model, which describes the nature and the strength of the hypothesised relationships between the different elements of the model including QMP, CSR, NC, CS and Operational Performance. The purpose was to confirm or reject the various hypotheses that constitute the proposed model based on theory. While model testing can be achieved with the use of several other computer software, the choice of the AMOS software as the most appropriate application for testing hypothesis has been informed by the following:

- Ease of use
- Pictorial representation for better clarity
- Most appropriate where the hypothesis are developed from theory

It is the researchers belief that the results of the data analysis as presented in this chapter provide clear answers to the research questions.

6.2. Analysis of Collected Data

In this study, there are five latent variables. Each of these variables consists of a number of constructs. For each construct, there are a number of indicators or measurement items. In the measurement instrument, the variables are organised in an order that will ensure face validity starting with constructs relating to the particular variable. The constructs and corresponding items are as shown in Table 6.1 below:

Constructs	Item No	Questionnaire Items
Customer (Community) Focus (QMPcf)	1	There is a clear system for identifying the needs of the company's host communities
	2	The company is focused on meeting the expectations of the host communities
Leadership (QMPld)	3	Senior management sets clear directions for the company's operations
	4	Management ensures that conducive work environment is provided for all employees
Involvement of People (QMPip)	5	Everyone is involved in achieving company objectives
	6	The abilities of employees are well utilised
Process Approach to Management (QMPpa)	7	Related activities are well organised as a process
	8	Resources are usually tied to related activities for efficient management
System Approach to Management	9	Interrelated processes are grouped and managed as a system

(QMPsa)		
	10	The interdependence between departmental/sectional operational processes is well managed
Continuous Improvement (QMPci)	11	The company is consistently committed to the continual improvement of its operational processes
	12	Improving on overall performance against set targets is a constant objective in the company
Factual Approach to Decision Making (QMPfadm)	13	Figures from reports form the primary data for evaluating system performance
	14	Statistical/graphical techniques are often employed to analyse data for decision making
Mutually Beneficial supplier Relationship (QMPmbsr)	15	Suppliers/contractors are regarded as vital business assets to be managed for a long time
	16	There is mutual transparency in information sharing with suppliers/contractors for training and development

Table 6.1: QMP Constructs and there Corresponding Measurement Items.

Following the QMP is the Corporate Social Responsibility variable, which consists of 4 constructs, measured with 12 questionnaire items as shown in Table 6.2 below:

Constructs	Item No	Questionnaire Items
Transparency (CSRtra)	17	The company is open in communicating the impacts of its activities on host communities
	18	The company is transparent in its engagement procedures with the host community
	19	The company's decision-making and implementation processes are open to all
Ethical Behavior (CSReb)	20	The company operates a robust system for resolving conflict of interest with host communities
	21	The eco-system is highly respected in operational activities
	22	The company honestly preserves the local cultural identity in its operational structure
Community Involvement and development (CSRcid)	23	The host communities are well involved in deciding the procedures of engagement with the company
	24	The company views the host communities as partners for wealth creation
	25	There is strong support for the host communities in capacity building, and employment
Environmental Considerations (CSRec)	26	The company takes pollution prevention very seriously
	27	The company promotes environmentally sustainable work ethics in all activities
	28	There is a high interest in eco-efficiency in the production processes

Table 6.2: CSR Constructs and their Corresponding Measurement Items

With regards to the next variable, which is National Culture, the constructs represent the three dominant cultural dimensions in Nigeria. They include Future Orientation, Humane Orientation, and Uncertainty Avoidance (House et al 2004). In all, there are a total of 12 observed variables or measurement items for the exogenous variable:

National Culture. Table 6.3 shows the constructs ant their corresponding items accordingly.

Constructs	Item No	Questionnaire Items
Future Orientation (NCfo)	29	Employee's effectiveness is generally driven by future gains of individuals such as their growth in the company
	30	Future outcomes of company operational decisions should be a major cause for concern for all employees of the company
	31	Future results are more important than short-term gains
	32	Forecast of system performance can only be made with the use of existing data
Humane Orientation (NCho)	33	Effective operational decisions are usually those driven by high sensitivity to emotional relationships
	34	Informal relationships among co-workers that highlight the humane aspects of kindness, respect and social relations usually have positive impact on operational activities
	35	Departmental or group performance is better driven by the emotional desires of employees to achieve team goals or targets
	36	Decisions based on trust and loyalty to social relations are usually more rewarding
Uncertainty Avoidance (NCua)	37	Maintaining system control should be a highly emphasized responsibility for all in the company
	38	Ability to work within and protect company rules and policies is the greatest strength of an employee
	39	It is important for processes to follow well established procedures with strict boundaries to avoid ambiguity
	40	Having a formal format for decision making and the official ratifications by superiors are generally advisable

Table 6.3: National Culture Constructs and their Corresponding Measurement Items

Furthermore, for the Community Satisfaction variable, 12 questionnaire items were used to measure its 4 constructs which reflect the four key satisfaction indicators used to operationalize the variable, based on the operator's perception. They include:

community relations, mutual understanding, formal complaints, and community feedback. Table 6.4 shows the item numbers and their corresponding constructs.

Constructs	Item No	Questionnaire Items
Community/Company Relationship Management (CScrm)	41	The company enjoys a cordial relationship with the communities
	42	All tensions between company and communities are easily resolved
	43	The communities are usually co-operative with the company in ensuring peaceful environment for operational activities
Mutual Understanding (CSmu)	44	A high level of mutual understanding exists between the communities and the company with regards to decision making processes
	45	Engagement sessions with the community are usually peaceful and productive
	46	The communities express high-level satisfaction in the execution of existing Memorandum of Understanding MoU
Reduced Formal Complaint (CSfc)	47	The number of formal complaints received from the communities is significantly low
	48	The frequency of Community Street-protests or demonstrations against the company is minimal
	49	The communities have continually shown high-level satisfaction with the company's efficiency in addressing their complaints
Community Feedback (CScf)	50	Most feedbacks from the communities regarding company's operational activities are generally positive
	51	The community relation's processes of the company are highly rated by the community
	52	The communities generally approve of the community development programs of the company

Table 6.4: Community Satisfaction Constructs and their Corresponding Measurement Items

Following this also is the Operational Performance variable, considered in this study as the endogenous variable. This variable consists of 3 constructs, which reflects the key performance indices linked to the operations of the oil and gas industry. These were measured with 9 questionnaire items. The constructs and measurement items are shown in Table 4.5

Constructs	Item No	Questionnaire Items
Production Cost Reduction (OPpr)	53	There are less ad-hoc expenditures which are usually due to community-company conflicts
	54	The overall production overhead cost is consistent with the company's standard projections
	55	There has been continuous reduction in cost of production over the last 3 years
Continuous (uninterrupted) Operation (OPco)	56	Production targets are usually met within given time-lines
	57	The company maintains a high-level production output
	58	There are no interruptions leading to unplanned shut –down of operational activities
Process Effectiveness (OPpe)	59	Company processes are adequately effective
	60	General system-efficiency is of a high standard
	61	Compared to the companies in other industries, production processes are well managed to produce desired outcomes in the company

Table 6.5: Operational Performance Constructs and their Corresponding Measurement Items

6.3. Exploratory Statistics

The sample data for this study was explored for internal consistency with the necessary statistical assumptions for valid analysis such as measurement reliability and the adequacy of the sample data.

6.3.1. Construct Reliability

According to Field (2009), the consistency of a measure in reflecting the construct that it is measuring or the repeatability of a research measure to produce same or equivalent result is otherwise known as reliability of measurement. A reliability coefficient therefore demonstrates the level of consistency in the instruments ability to provide correct measurement according to the intentions of the researcher (Alajmi 2011). The Cronbach coefficient (Cronbach's α) is generally known to be the most commonly used measure for scale reliability or to indicate internal consistency in measurement instruments (Field, 2009). The value of Cronbach's α is generally reported to range from 0 to 1. Where 0 indicates no internal reliability and 1 shows perfect internal reliability, however, according to Kline (1999), the acceptable values depend on the type of research. Thus while .80 would be the acceptable value for cognitive test, a Cronbach Alpha value of .70 is more suitable cut-off point for measurements involving psychological constructs. Others such as Eastrby-Smith et al. (2002) have recommended that the value of .60 be considered as acceptable reliability coefficient value. However, the generally acceptable value of Cronbach's α for measuring internal consistency is .70 and above, but less than 1 (Field, 2009). In this research study, the Cronbach's Alpha (α) has been used to assess the internal reliability of all the factors in the measurement instrument also known as the model elements, which include: QMP, CSR and NC factors, as well as Community Satisfaction and Operational Performance factors. Table 6.6 shows the Cronbach's α of all the model elements and their corresponding number of items in the instrument. This result strongly indicates internal consistency in the measurement instrument with regards to its ability to provide valid measurement accordingly.

Model Element	Cronbach's Alpha	No. of Item
Quality Management Practices (QMP)	.928	16
Corporate Social Responsibility (CSR)	.921	12
National Culture (NC)	.864	12
Community Satisfaction (CS)	.930	12
Operational Performance (OP)	.883	9

Table 6.6: Cronbach's Alpha Values for the Measured Variables

6.3.2. Reliability Test of Questionnaire's Items

Table 6.7 below shows the communalities extracted for all questionnaire items. According to Raubenheimer (2007), the minimum value generally accepted in the communality extraction is .25. However, higher values indicate the ability of the construct to better explain variances and internal consistency in the instrument. Thus from Table 6.7 the average extracted value of communality is .65 which is above the threshold following Kaiser's rule for extracting valid number of factors (Field 2009). This indicates that virtually all of the items have extraction loadings that explain a good percentage of the common variance that is present in the extracted variable.

Factors	Extn.	Factors	Extn.	Factors	Extn.	Factors	Extn.	Factors	Extn.
QMP		**CSR**		**NC**		**CS**		**OP**	
QMPcf1	.672	CSRtra1	.772	NCfo1	.215	CScrm1	.606	OPpcr1	.739
QMPcf2	.872	CSRtra2	.872	NCfo2	.735	CScrm2	.808	OPpcr2	.802
QMPld1	.712	CSRtra3	.585	NCfo3	.611	CScrm3	.488	OPpcr3	.448
QMPld2	.702	CSReb1	.646	NCfo4	.378	CSmu1	.670	OPco1	.456
QMPip1	.707	CSReb2	.749	NCho1	.564	CSmu2	.425	OPco2	.331
QMPip2	.562	CSReb3	.620	NCho2	.599	CSmu3	.838	OPco3	.447
QMPpa1	.704	CSRcid1	.602	NCho3	.755	CSfc1	.236	OPpe1	.732
QMPpa2	.805	CSRcid2	.559	NCho4	.500	CSfc2	.567	OPpe2	.662
QMPsa1	.741	CSRcid3	.705	NCua1	.811	CSfc3	.672	OPpe3	.538
QMPsa2	.716	CSRec1	.794	NCua2	.592	CScf1	.713		
QMPci1	.741	CSRec2	.584	NCua3	.863	CScf2	.753		
QMPci2	.810	CSRec3	.732	NCua4	.857	CScf3	.593		
QMPfadm1	.759								
QMPfadm2	.760								
QMPmbsr1	.581								
QMPmbsr2	.676								

Table 6.7: Communalities loadings of Questionnaire Items

6.3.3. Test for Adequacy

According to Field (2009), the test for adequacy is the first and necessary step in factor analysis as it indicates whether it is necessary to continue with the analysis. In this study, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and the Bartlett's Test of Sphericity were used to determine the data adequacy. Table 6.8 shows the value of the KMO test to be greater than 90%. This value is well above the acceptable limits of .6 following the recommendations of Kaiser (1974). This value is therefore considered as 'good' indicating adequate correlations between items;

hence, factor analysis is expected to result in distinct as well as reliable factors (Field 2009). Also, the Bartlett's Test shows a value less than 1 (p-value < .001), indicating significance in the sphericity measure.

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.912
Bartlett's Test of Sphericity	Approx. Chi-Square	10104.103
	df	1830
	Sig.	.000

Table 6.8: Result for Sampling Adequacy

In this study, the factors were identified directly from reviewing the literature. Hence Confirmatory Factor Analysis was more appropriate over Exploratory Factor Analysis (Byrne (2010). However, in the initial data exploratory processes with the use of SPSS computer program, five factors were manually, selected corresponding to the number of factors already identified. The value of their cumulative extraction sums of squared loadings was 56.134, indicating that the total variance explained by the five factors was 56%. This provides an assurance that the factors are consistent with the provided data. All extracted factors have eigenvalues greater than 2.

6.4. Confirmatory Factor Analysis (CFA)

As a multivariate statistical procedure CFA is used for the purposes of testing the extent to which the measured variables truly represent the specific number of constructs, which are determined priori based on existing underlying theory. The procedure allows researchers to specify the exact number of factors or the measured variables and the relationship between these variables as well as with their corresponding observed variables. According to Byrne (2010) Confirmatory factor analysis (CFA) is used as a tool for confirming or rejecting the measurement theory. The major difference between confirmatory factor analysis and exploratory factor analysis (EFA) can be summarized as the following:

Exploratory factor analysis is commonly used as a simple procedure to explore data with the aim of identifying the number of factors that are correctly represented in the data. In other words, EFA is used in situations where the connections between the latent and the observed variables are uncertain or unknown (Byrne, 2010). According

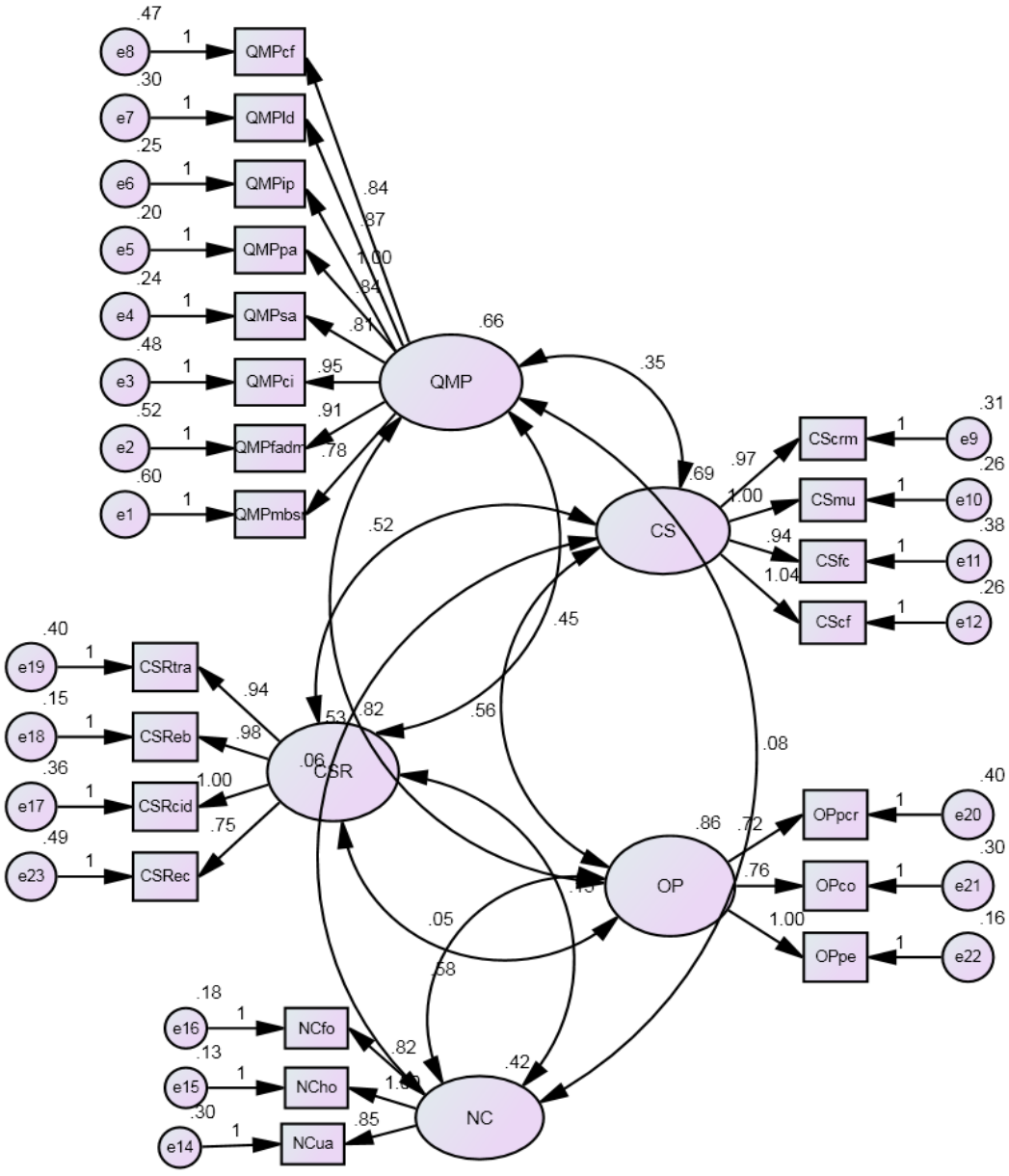
to Williams et al (2010), examining the structural relationship between variables and detecting or assessing for uni-dimensionality in a theoretical construct are some of the objectives of exploratory factor analysis. The detection of these factors is usually based on the observed patterns or magnitude of loadings of items specific to measurable relevant constructs.

However, with CFA, the specific number of factors is determined based on theory and then specified priori. Confirmatory Factor Analysis is conducted to essentially test for consistency in the ability of the available data-set to adequately measure the theoretically deduced factors (Hair et al,. 2009). Consistent with the nature of this study, Confirmatory Factor Analysis was adopted as the most appropriate technique for statistical testing of hypothesis involving theoretically identified measurement constructs.

6.4.1. The CFA Model Specification

According to Byrne (2010) the first step in carrying out a CFA is to specify the conceptual model. This specification involves a clear expression of the hypothesised relationships between the various variables, both endogenous and exogenous, as well as the observed variables with their measurement error functions. To specify the measurement model for this study, first, with the use of the data reduction tool in SPSS, the average values of the responses to the group of questionnaire items measuring a specific construct were obtained. Following from this, the researcher then proceeded to adopting and rearranging the constructs to now represent individual observed variables for a more valid analysis. For example, QMPcf, which was a construct with two measurement items as its observed variables, was reduced to the status of an observed variable. Hence, the QMP exogenous variable was therefore measured by 8 observed variables, which represent the averages of the initial 16 items. The specified measurement model in this study has been diagrammatically presented in Figure 6.1 below as developed in the AMOS computer application for SEM.

Figure 6 1: Specified Measurement Model



6.4.2. Goodness-of-fit Statistics

The major objective of the SEM is to assess the extent to which the specified conceptual model adequately fits the sample data. According to Byrne (2010), the absolute measure of model fit adequacy is the chi-square (x^2) value relative to the degree of freedom and the p-value. In other words, the x^2 simultaneously measures the discrepancy or the extent to which the unrestricted sample covariance matrix is

equal to the restricted covariance matrix. Hence, a higher probability value p-value indicates greater likelihood ratio of less discrepancies and in essence, represents a good fit.

However, the likelihood ratio test is sensitive to sample size. According to MacCallum et al.,(1996), large sample sizes are critical to obtaining parameter estimates with reasonable precision in SEM. Thus the use of the x^2 value as an absolute model fit value has proved to be unrealistic in many studies involving SEM. This limitation has been addressed with the development of several goodness-of-fit indices. The selection for the goodness of fit indices appropriate to this study was based on the recommendations of Hair et. al., (2009). These are listed below.

Goodness-of-fit Indicators	Description	Recommended Values for good fit
x^2/df (CMIN/DF)	Chi-square/degree of freedom (Normed Chi-Square	1-5 (1-2 most ideal)
RMR	Root Mean square Residual	0.05
GFI	Goodness-of-Fit Index	Closer to 1 (.90)
PGFI	Parsimony Goodness-of-Fit Index	> .50
TLI	Tucker-Lewis Index	Closer to 1 (.90)
CFI	Comparative Fit Index	Closer to 1 (.90)
RMSEA	Root Mean Square Error of Approximation	0.06

Table 6.9: Selected Goodness-of-fit Indicators

According to Marsh et al., (2004), these goodness-of-fit indices have become very popular in its usage for assessing model fits due to its golden rule promises of absolute cut-off values with broad generality, covering different research conditions and size of samples, thereby allowing researcher to decide how good a model fits the data with relative precision. However, "postulated models, no matter how good, can only fit real-world data approximately and never exact" Byrne (2010. Pg.76)

For the measurement model in Figure 6.1, the result for the goodness-of-fit estimate is shown in Tables 6.10 - 6.13 below. Following the recommendations of Hair et.

al.,(2009) that the normed chi-square value between 2 and 5 is acceptable but a value below 2 is preferred, the value of the CMIN/DF (ratio of Chi-Square and the degree of freedom) is within the recommended value of < 5 and therefore considered acceptable as a good model fit indicator.

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	54	664.425	199	.000	3.339
Saturated model	253	.000	0		
Independence model	22	3683.252	231	.000	15.945

Table 6.10: Chi-square and the Related Values

Model	RMR	GFI	AGFI	PGFI
Default model	.079	.782	.722	.615
Saturated model	.000	1.000		
Independence model	.375	.209	.134	.191

Table 6.11: Goodness-of-fit Index Table

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.820	.791	.866	.844	.865
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Table 6.12: CFI and Related Values

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.103	.095	.112	.000
Independence model	.261	.253	.268	.000

Table 6.13: RMSEA and the Related Tolerance Values

However, from Tables 6.10 – 6.13 above, the result of the measurement model indicates a very poor fit with the data, relative to the minimum required values as adequate model fit indicators. By examining the modification indices the researcher discovered large correlation values between the error functions attached to some observed variables. Such variables were deleted accordingly in an attempt to modify

and re-specify the model in order to improve the goodness of fit. The deleted variables and their constituent items were all from the QMP factor. They include:

Continuous Improvement (QMPci)	11	The company is consistently committed to the continual improvement of its operational processes
	12	Improving on overall performance against set targets is a constant objective in the company
Factual Approach to Decision Making (QMPfadm)	13	Figures from reports form the primary data for evaluating system performance
	14	Statistical/graphical techniques are often employed to analyse data for decision making
Mutually Beneficial supplier Relationship (QMPmbsr)	15	Suppliers/contractors are regarded as vital business assets to be managed for a long time
	16	There is mutual transparency in information sharing with suppliers/contractors for training and development

Table 6.14: Deleted Items from the Specified Measurement Model

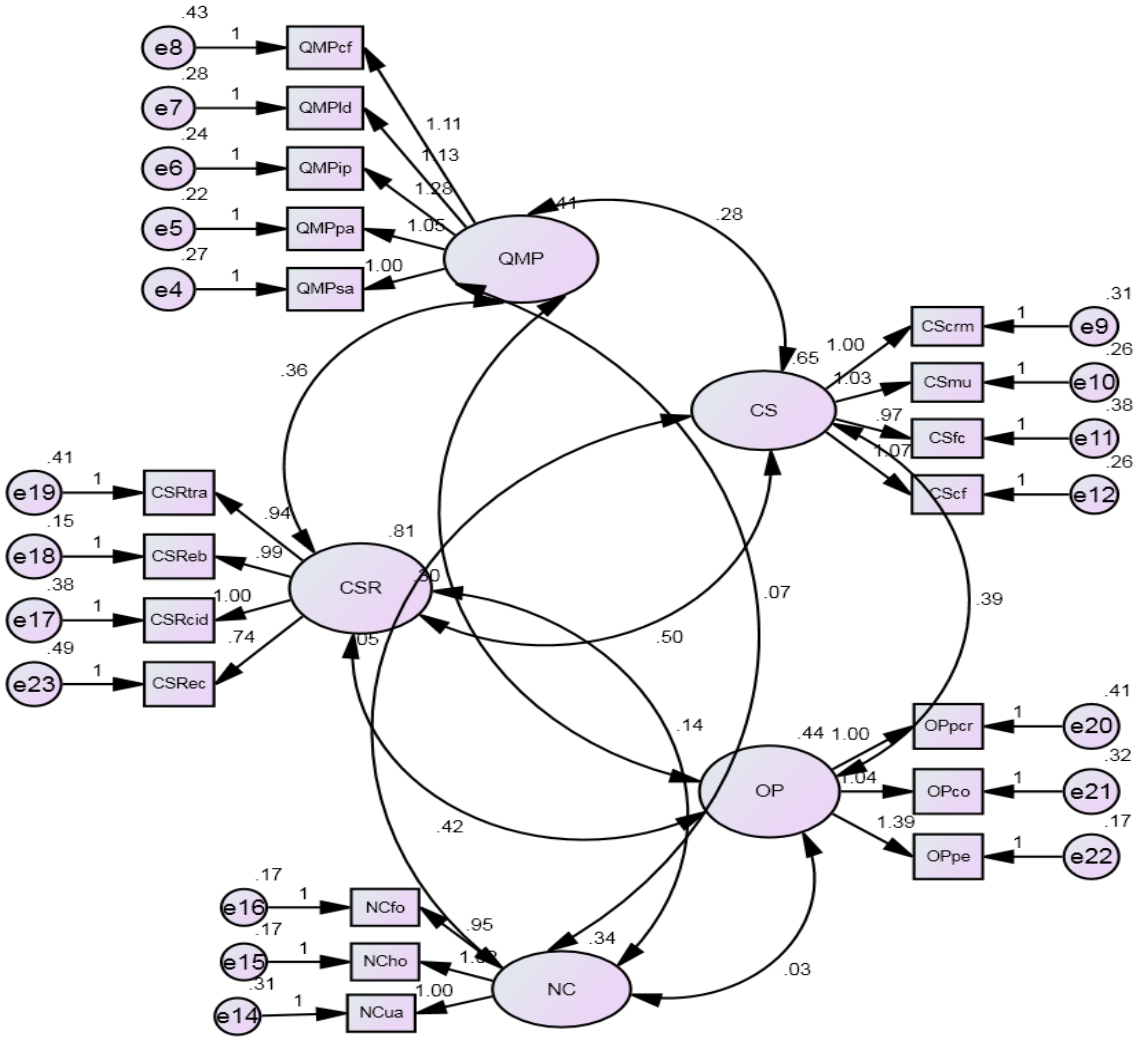
The reliability coefficients (Cronbach's Alpha) for the measurement constructs, after the data reduction process and the deletion of some items accordingly, have retained a minimum value of 82% as shown in Table 6.15 below.

Construct	Cronbach's Alpha	No. of Item
Quality Management Practices (QMP)	.896	5
Corporate Social Responsibility (CSR)	.877	4
National Culture (NC)	.821	3
Community Satisfaction (CS)	.900	4
Operational Performance (OP)	.851	3

Table 6.15: Revised Construct Reliability Table

Figure 6.2 shows the re-specified measurement model with a reduced number of observed variables for the QMP construct.

Figure 6.2: Re-specified Measurement Model



6.4.3. Model Fit Statistics

The result of the model estimation shows an improvement on the normed chi-square value, which has significantly reduced to below 3.0 as shown in Table 6.16, indicating a better model fit.

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	48	411.888	142	.000	2.901
Saturated model	190	.000	0		
Independence model	19	3010.946	171	.000	17.608

Table 6.16: Chi-square and the Related Values

Also, consistent with the acceptable fits recommended by Enns et, al,. (1988) the GFI (Goodness of Fit) value of .83 is now within the acceptable range for a good fit as shown in Table 6.17 below.

Model	RMR	GFI	AGFI	PGFI
Default model	.057	.834	.778	.624
Saturated model	.000	1.000		
Independence model	.371	.233	.147	.209

Table 6.17: Goodness-of-Fit Index Table

Furthermore, with regards to the baseline comparisons, the CFI value is above the recommended value of .90, as shown in Table 6.18 below. Also, the RMSEA value is now less than .10 (Table 6.19) as recommended by Byrne, (2010) for a good model fit. As a rule of thumb, with regards to the baseline comparison, the RMSEA and the CFI together allows for evaluation of the 'badness-of-fit' in a model (Hair et. al.,2009). Other comparative index values are considered supportive. Therefore, having reasonably met most of the criteria for a good model fit, the measurement model (Figure 6.2) can be accepted as "good" in relation to the extent to which the hypothesised model fits the data.

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.863	.835	.906	.886	.905
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Table 6.18: CFI and Related Values

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.093	.083	.103	.000
Independence model	.275	.266	.283	.000

Table 6.19: RMSEA and the Related Tolerance Values

Having evaluated and established the goodness-of-fit of the specified measurement model, the assumptions of normality and the absence of multi-collinearity in the data was then examined by the researcher, leading to the test for construct validity.

6.4.4. Assessment of Normality

Structural Equation Modeling is performed with the assumption of normality in the data distribution (Byrne 2010). According to Awang, (2012), normality is established when the value of the skewness for each of the measurement items are ≤ 1.0. However, when the model estimation follows the Maximum Likelihood method, skewness greater than 1.0 is acceptable if the sample size is above 200

In the result of the assessment as shown in Table 6.20, the values shown for the skewness are considered acceptable as the size of sample data is more than 200 in this study and the estimation followed the Maximum Likelihood method. Also the values of the skewness and those of the kurtosis are all less than the corresponding values recorded for the Critical Region for each observed variable as shown, therefore, the data can be said to have satisfied the criteria for a normal distribution which is eccentual for Structural Equation Modelling to produce valid results

Variable	min	max	skew	c.r.	kurtosis	c.r.
CSRec	1.000	5.000	-.187	-1.138	-.737	-2.237
OPpe	1.000	5.000	-.084	-.511	-.617	-1.872
OPco	1.000	5.000	-.012	-.075	-.454	-1.379
OPpcr	1.000	5.000	.245	1.487	-.397	-1.203
CSRtra	1.000	5.000	.189	1.150	-.666	-2.021
CSReb	1.000	5.000	.089	.538	-.353	-1.071
CSRcid	1.000	5.000	.266	1.617	-.717	-2.175
NCfo	1.250	5.000	-1.106	-6.715	2.367	7.183
NCho	1.250	5.000	-1.339	-8.129	2.467	7.487
NCua	1.000	5.000	-2.100	-12.742	4.775	14.491
CScf	1.000	5.000	.319	1.933	-.932	-2.830
CSfc	1.000	5.000	.302	1.834	-.917	-2.782
CSmu	1.000	5.000	.207	1.256	-.684	-2.076
CScrm	1.333	5.000	.412	2.502	-.844	-2.561
QMPcf	1.000	5.000	-.655	-3.976	-.140	-.423
QMPld	1.500	5.000	-.702	-4.259	.150	.455
QMPip	1.000	5.000	-1.074	-6.517	1.228	3.725
QMPpa	1.500	5.000	-.957	-5.808	.650	1.972
QMPsa	1.500	5.000	-.778	-4.720	.360	1.093
Multivariate					61.327	16.137

Table 6.20: Normality Assessment Table

6.4.5. Multicollinearity

In testing for Multicollinearity in the sample data, the construct correlation table was examined for high correlations between factors. From Table 6.21 below, there are no highly correlated variables with r > .900 therefore the researcher concludes that there are no problems of multicollinearity in the data.

Correlations			Estimate
QMP	<-->	CS	.512
QMP	<-->	CSR	.624
NC	<-->	CSR	.267
CS	<-->	CSR	.668
QMP	<-->	OP	.711
CS	<-->	OP	.706
NC	<-->	OP	.080
CSR	<-->	OP	.698
CS	<-->	NC	.099
QMP	<-->	NC	.186

Table 6.21: Construct Correlation Table for Multicollinearity Check

6.4.6. Construct Validity

Construct validity refers to the degree to which a set of measurement items or observed variables truly represent the theory-based variable which they are intended to measure (Hair et al., 2009). It is the comparative measurement of the extent to which the items in the measuring instrument is consistent with the underlying theory, which the researcher intends to test in the study. Three components of construct validity, which allow for quantitative assessment, are used in this analysis to measure construct validity. They are: convergent validity, discriminate validity and nomological validity. These have been demonstrated in this study as shown below:

6.4.7. Convergent Validity

The concept of convergent validity demand that items that are theoretically related should be actually seen as related when tested with a real life data, and this can be demonstrated through the results of the CFA measurement model.

From the standardised regression weight (factor loadings) for the constructs, the Composite Reliability (CR) is calculated for each construct using the formulae below (Hair et al 2009):

$$CR = \frac{\left(\sum_{i=1}^{n} \lambda_i\right)^2}{\left(\sum_{i=1}^{n} \lambda_i\right)^2 + \left(\sum_{c=1}^{n} \delta_i\right)} \quad \text{----------(6.1)}$$

Where λ =factor loading

And δ = error variance

Also, to calculate the Average Variance Extracted (AVE) for each construct, the formula below was used

$$VE = \frac{\sum_{i=1}^{n} \lambda_i^2}{n} \quad \text{----------(6.2)}$$

Where λ =factor loading

And n number of observed Variables

As shown in Table 6.21, the values of all Average Variance Extracted for each construct are above the recommended threshold of .50. Also consistent with the

suggestions of Hair et al., (2009), the reliability coefficients exceed .70. This result therefore indicates convergent validity.

Also, from Table 6.22, the regression weight (factor loading) for all the items was found to exceed the minimum acceptable value, which is 0.25 (Raubenheimer, 2007). However, following the recommendations of Stephens (2002) who has related the acceptable loading to the sample size used in the study, the acceptable limit is considered relatively higher. According to him, for a sample size of 200, a loading of .364 and above should be considered significant, while for a sample size of 300, a lower value of .298 can be accepted as the lowest cut-off value for a significant loading on factors. Therefore, as the sample size for this study is over 200, the lowest factor loading of .691 recorded is clearly above the recommended limit. These relatively high loadings of items on their specifically prescribed theory-based factors therefore demonstrate convergent validity of the constructs.

	QMP	CSR	NC	CS	OP	Item CR
QMPfc	.734					0.539
QMPld	.810					0.656
QMPip	.858					0.736
QMPpa	.823					0.677
QMPsa	.779					0.607
CSRtra		.797				0.635
CSReb		.918				0.843
CSRcid		.825				0.681
CSRec		.691				0.477
NCfo			.803			0.645
NCho			.819			0.671
NCua			.723			0.523
CScrm				.823		0.677
CSmu				.853		0.728

CSfc				.787		0.619
CScf				.860		0.740
OPpcr					.719	0.517
OPco					.777	0.604
OPpe					.915	0.837
AVE	.643	.659	.613	.691	.653	
Composite Reliability	.900	.884	.826	.899	.848	

Table 6.22: Values for CR and AVE for Assessing Convergent Reliability

6.4.8. Discriminant Validity

The discriminant validity represents the extent to which unrelated items are truly shown to be unrelated. To check for discriminant validity, the squared inter-construct correlation is compared with the Average Variance estimate as extracted. Table 6.23 shows the inter-construct correlation obtained from the AMOS output of the CFA.

Matrix					
Construct	QMP	CSR	NC	CS	OP
QMP	1				
CSR	.624	1			
NC	.186	.267	1		
CS	.537	.692	.115	1	
OP	.711	.698	.080	.727	1

Table 6.23: Inter-construct Correlation Table

Furthermore, the values of the squared inter-construct correlations are as shown in Table.6.24 below

Matrix					
Construct	QMP	CSR	NC	CS	OP
QMP	1				
CSR	.389	1			
NC	.035	.071	1		
CS	.288	.479	.013	1	
OP	.505	.487	.006	.528	1

Table 6.24: Squared Inter-construct Correlation

In Table 6.25 below, the average variance (AVE) for each factor or construct has been compared with the obtained squared inter construct correlation (SIC) that is associated with that factor.

Construct	AVE	CR	SIC			
QMP	.643	.900	.389	.035	.288	.505
CSR	.659	.884	.071	.479	.487	.389
NC	.613	.826	.013	.006	.035	.071
CS	.691	.899	.528	.288	.479	.013
OP	.653	.848	.505	.487	.006	.528
The AVE for all constructs are larger than the corresponding SIC estimates						

Table 6.25: Comparison of AVE and SIC

From the above result the average variance extracted (AVE) estimates for the constructs are larger than all the corresponding square inter-construct correlation (SIC) estimates. This result therefore demonstrates discriminate validity.

6.4.9. Nomological Validity

Nomological validity essentially seeks to demonstrate that the expressed correlations and covariance between constructs are logical, relative to the theory driving the study (Kline, 1999). To assess the nomological validity, the covariance matrix from the AMOS output of the CFA is used.

Table 6.26 shows the covariance between the different variables of the model. From the regression estimates, most of the relationships represented by the regression paths appear to be significant consistent with the underlying theories. However, from the p-values it was observed that the relationships between NC and OP as well as between CS and NC have high p-values (> .05) and thus are not significant. Nonetheless, this result is consistent with the underlying theory therefore, nomological validity is established.

			Estimate	S.E.	C.R.	P	Label
QMP	<-->	CS	.278	.047	5.914	***	par_15
QMP	<-->	CSR	.359	.055	6.518	***	par_16
NC	<-->	CSR	.139	.043	3.241	.001	par_17
CS	<-->	CSR	.503	.071	7.064	***	par_18
QMP	<-->	OP	.303	.046	6.601	***	par_19
CS	<-->	OP	.392	.058	6.799	***	par_20
NC	<-->	OP	.031	.031	1.017	.309	par_21
CSR	<-->	OP	.418	.063	6.667	***	par_22
CS	<-->	NC	.054	.037	1.459	.145	par_23
QMP	<-->	NC	.069	.030	2.312	.021	par_24

Table 6.26: Regression Estimate for Nomological Validity

Nonetheless, on a theoretical level, the evidence of correlations or interdependence between the factors, Regression coefficients) although relatively low in this case, underscores the nature of this study as mentioned earlier, which involves measuring Psychological constructs with proven difficulties in obtaining absolute values (Field, 2009).

In all, the above results strongly indicate that construct validity has been retained, hence the model is considered as having a good fit and can be further analysed for hypothesis testing, giving that the data has demonstrated construct reliability and validity.

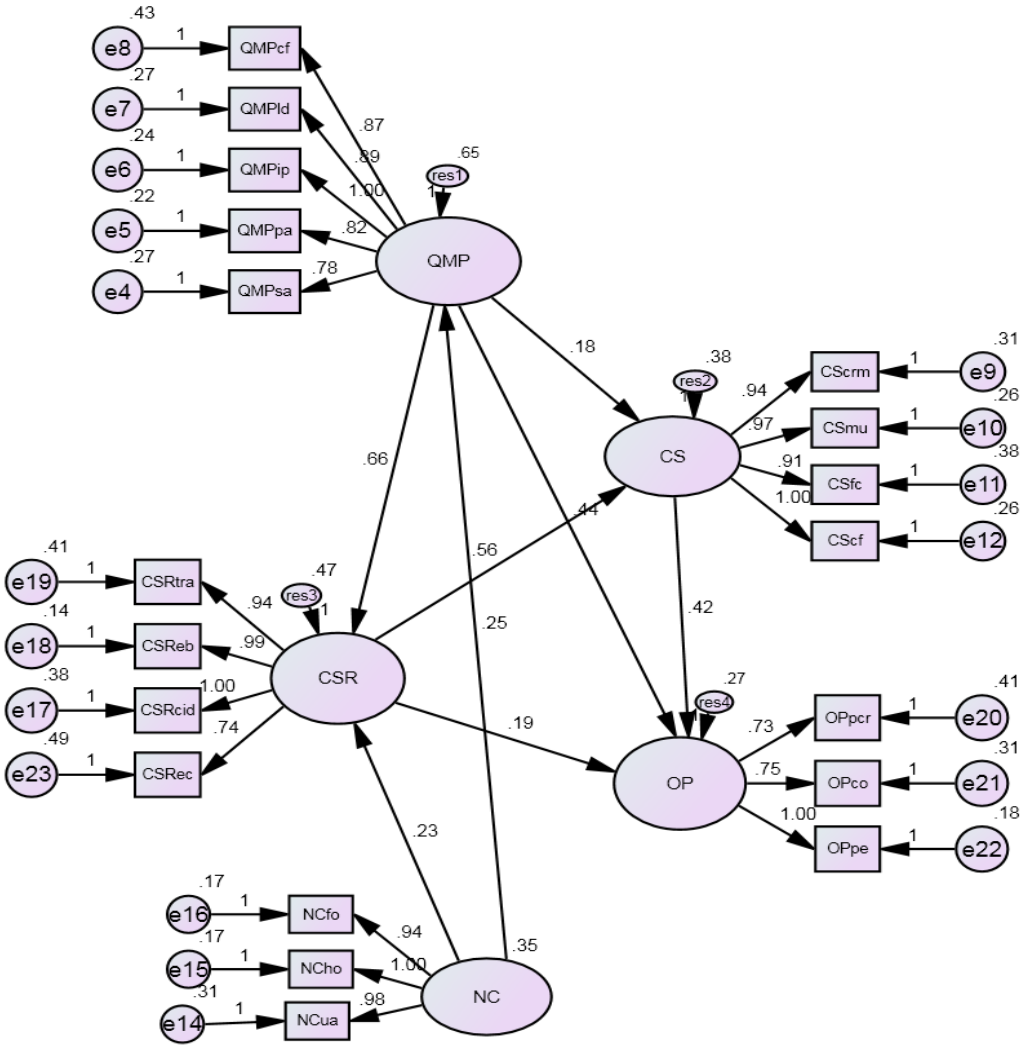
6.5. Testing Hypothesis by Structural Equation Modelling

Structural Equation Modelling is a statistical approach to data analysis involving hypothesis testing to confirm a structural theory about some phenomenon or theoretical relationships between certain variables (Byrne, 2010). The SEM methodology has been described as a combination of various statistical data analysis techniques such as multiple regression, confirmatory factor analysis and path analysis (Alajmi 2011). The choice of SEM for the hypothesis testing in this study was informed by its nature as a theory-driven statistical technique. The SEM technique usually requires that the pattern or nature of relationships between investigated variables is fully based on the relevant theory driving the study. These relationships which are to be tested are therefore clearly specified a priori in the analysis. Hence SEM lends itself well as the appropriate confirmatory statistical methodology that is consistent with the objectives of this study, which involves testing certain theoretical phenomena expressed as hypothesis to confirm the extent to which they apply to the operational dynamics of a particular industry. In this study, the central thrust is on evaluating the role of CS in the relationship between QMP, CSR and OP. these theoretical relationships has been presented as hypothesis and tested accordingly with the SEM hypothesis testing technique using AMOS computer software as detailed below.

6.5.1. Full Hypothesised Structural Equation Model

In order to test hypothesis with a CFA model, the causal relationships are clearly indicated in the model. According to Byrne (2010) the major difference between a measurement model and a structural model in a CFA is: while the measurement model with covariance is essentially useful in testing for measurement validity and evaluating correlations between unobserved variables, the structural model is most useful in testing causal relationships between variables. Hence for this study, which involves testing hypothesis of causal relationship, a structural model has been employed. Figure 6.3 below shows the structural model with single headed arrows showing the hypothesised relationships and their proposed directions of effect accordingly.

Figure 6.3: Structural Model Showing Hypothesised Relationships



6.5.2. Model Fit.

In testing the goodness-of-fit for the full structural equation model, the main interest of the researcher is to test the extent to which the specified relationships can be explained by the sample data. Therefore the hypotheses are considered supported only when the model displays good fit with the sample data. Accordingly, the result of the model fit estimation shows that the normed Chi-square value is below 3, which is well within the generally recommended range for a good fit. Tables 6.36 to 6.39

provide the summary result of the model fit estimation, highlighting the essential goodness-of-fit indices. Although most recommendations favour a GFI value greater than .90, however, some researchers (e.g. Enns et al., 1998) have suggested that a lower value is acceptable as a representation of good fit based on cumulative performance of other model indices. Consistent with this, Hu and Bentler, (1999) argues that the difficulty in assigning a specific minimum value for each model fit index is that it does not work well across the various types of model fit indices, different sample sizes, different estimators and sample distributions. Also it has been reported that with most psychological theory-based studies that utilises newly developed measurement instruments, it is usually difficult to obtain absolute goodness-of-fit values therefore the interpretation of model fit depends on how close the reported values are to the recommended values in a cumulative sense (Byrne, 2010). Following from this assertion, the researcher concludes that the specified structural model (Figure 6.3) demonstrate a good fit with the sample data. This is because most of the model fit indices show values within the acceptable range. For example, the CFI is above 90% while the RMR is less than .060. as shown in Tables 6.28 and 6.29 below.

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	46	416.614	144	.000	2.893
Saturated model	190	.000	0		
Independence model	19	3010.946	171	.000	17.608

Table 6.27: Chi-square and the Related Values

Model	RMR	GFI	AGFI	PGFI
Default model	.059	.833	.779	.631
Saturated model	.000	1.000		
Independence model	.371	.233	.147	.209

Table 6.28: Goodness-of-fit Index

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.862	.836	.905	.886	.904
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Table 6.29: CFI and Related Values

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.093	.082	.103	.000
Independence model	.275	.266	.283	.000

Table 6.30: RMSEA and the Related Tolerance Values

Furthermore, The regression estimates (Table 6.31) reveal consistency in the hypothesised directions of the relationships, indicating that all effects on the endogenous variables are positive. Also with regards to the significance of the relationships, the p-values are all less than .05 again strongly indicating that all the regression coefficients represent relationships that are considered to be statistically significant in a two-tailed probability.

			Estimate	S.E.	C.R.	P	Label
QMP	**<---**	**NC**	**.246**	**.108**	**2.286**	**.022**	**par_20**
CSR	**<---**	**QMP**	**.655**	**.078**	**8.405**	*******	**par_17**
CSR	**<---**	**NC**	**.229**	**.099**	**2.316**	**.021**	**par_21**
CS	**<---**	**QMP**	**.184**	**.082**	**2.231**	**.026**	**par_15**
CS	**<---**	**CSR**	**.559**	**.081**	**6.888**	*******	**par_16**
OP	**<---**	**QMP**	**.436**	**.079**	**5.544**	*******	**par_18**
OP	**<---**	**CSR**	**.189**	**.085**	**2.231**	**.026**	**par_19**
OP	**<---**	**CS**	**.422**	**.082**	**5.149**	*******	**par_22**
QMPsa	<---	QMP	.781	.057	13.706	***	par_1
QMPpa	<---	QMP	.823	.055	14.934	***	par_2
QMPip	<---	QMP	1.000				
QMPld	<---	QMP	.888	.061	14.641	***	par_3
QMPcf	<---	QMP	.869	.069	12.591	***	par_4
CScrm	<---	CS	.938	.063	14.997	***	par_5
CSmu	<---	CS	.966	.061	15.886	***	par_6
CSfc	<---	CS	.906	.065	13.972	***	par_7
CScf	<---	CS	1.000				
NCua	<---	NC	.978	.097	10.087	***	par_8
NCho	<---	NC	1.000				
NCfo	<---	NC	.942	.088	10.669	***	par_9
CSRcid	<---	CSR	1.000				
CSReb	<---	CSR	.993	.060	16.491	***	par_10
CSRtra	<---	CSR	.937	.069	13.595	***	par_11
OPpcr	<---	OP	.727	.058	12.628	***	par_12
OPco	<---	OP	.750	.054	14.012	***	par_13
OPpe	<---	OP	1.000				
CSRec	<---	CSR	.745	.066	11.218	***	par_14

Table 6.31: Regression Estimates for Full Structural Model

The implication of this model fit result is that all the hypotheses tested by the proposed model (H1a, H2a H3a, H4, H5, H6, H7, and H8) are fully supported,

indicating that the path direction and significance of all the relationships are consistent with the sample data.

However, the complexity of the mediating interactions between different exogenous variables and the endogenous variable is not fully explained by the model. Therefore, to test for the mediating effects on the hypothesised relationship in terms of statistical significance, the different units of the model are evaluated separately. Where a good model fit is established, the initial result is confirmed along with the effect of mediation on the relationship

6.6. Assessing Mediation with Sobel Test Statistics

Mediation occurs when the hypothesis involves a causal chain of relationships where the effect of a variable X on another variable Y is conveyed fully or partially via a third variable M. The intervening variable is the mediator. (see Figure 6.4) Testing for mediation with SEM involves calculating the indirect effect and then testing for its significance. In this study, the Sobel test was chosen as appropriate for this analysis because comparatively, Sobel's (1982) approach differs from that of Baron and Kenny (1986), which requires the various paths to be tested for significance first before calculating the indirect effect. With the Sobel test, the following equations are used to determine the indirect effect, which he calls product coefficient, by multiplying two regression coefficients. It is this value that indicates mediation in the relationship.

$M = B + aX + e$ ----------*(6.3)*

$Y = B_i + bM + cX + e_i$ ----------(*6.4)*

$Y_{indirect} = (a)(b)$ = Product Coefficient ----------(6.5)

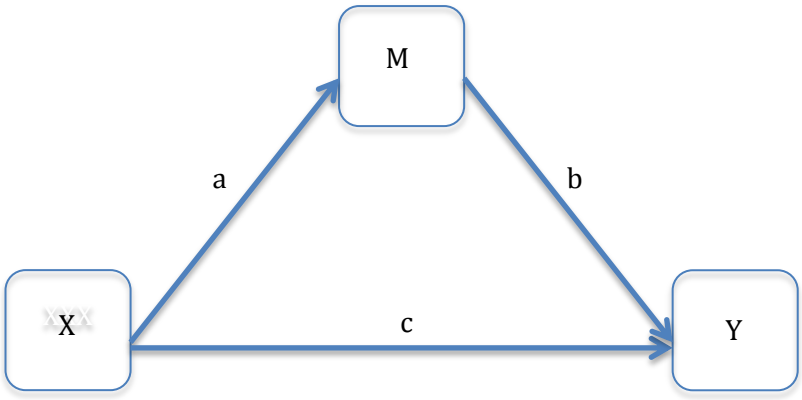
M = Mediator Variable

Y = Dependent Variable

X = Independent Variable

B and B_i = Intercepts for each model

Figure 6.4: Mediation Illustration



When the product coefficient is less than the path coefficient of the direct relationship in the absence of the mediator, the mediating effect is said to be partial. It is considered full mediation when the product coefficient is greater than the regression coefficient of the direct relationship and or the direct relation becomes insignificant at the introduction of a mediator. Also, According to Shrout and Bogler (2002), complete mediation is established when product co-efficient of the regression of the mediated path is equal to the total effect of the direct regression path. However, when the product coefficient is less that the total effect partial mediation is established.

However, in this analysis, with the use of AMOS application the model is estimated and the regression coefficients displayed alongside the corresponding standard errors. Therefore to estimate the significance of the indirect effect, the following equation was employed to find the standard deviation (z-value) from the standard mean value of 1.96. This then provides the estimate of significance (p-value < 0.05) with a two-tailed probability.

$$\text{Z-value} = \frac{a*b}{\sqrt{(b^2*sa^2 + a^2*sb^2 + sa^2*sb^2)}} \quad \text{---------- (6.6)}$$

Where a = regression coefficient of X on M

b = regression coefficient of M on Y

sa and sb are the associated error functions

In the following sections, the hypothesised mediating effects and their respective significance are tested, leading to the confirmation of the earlier result of the previously tested full hypothesised structural equation model.

6.6.1. The Effect of Quality Management Practices on Operational Performance

Having reviewed the theoretical relationship between QMP and OP and the nature of such relationship within the context of the oil and gas industry, a hypothesis was developed as follows:

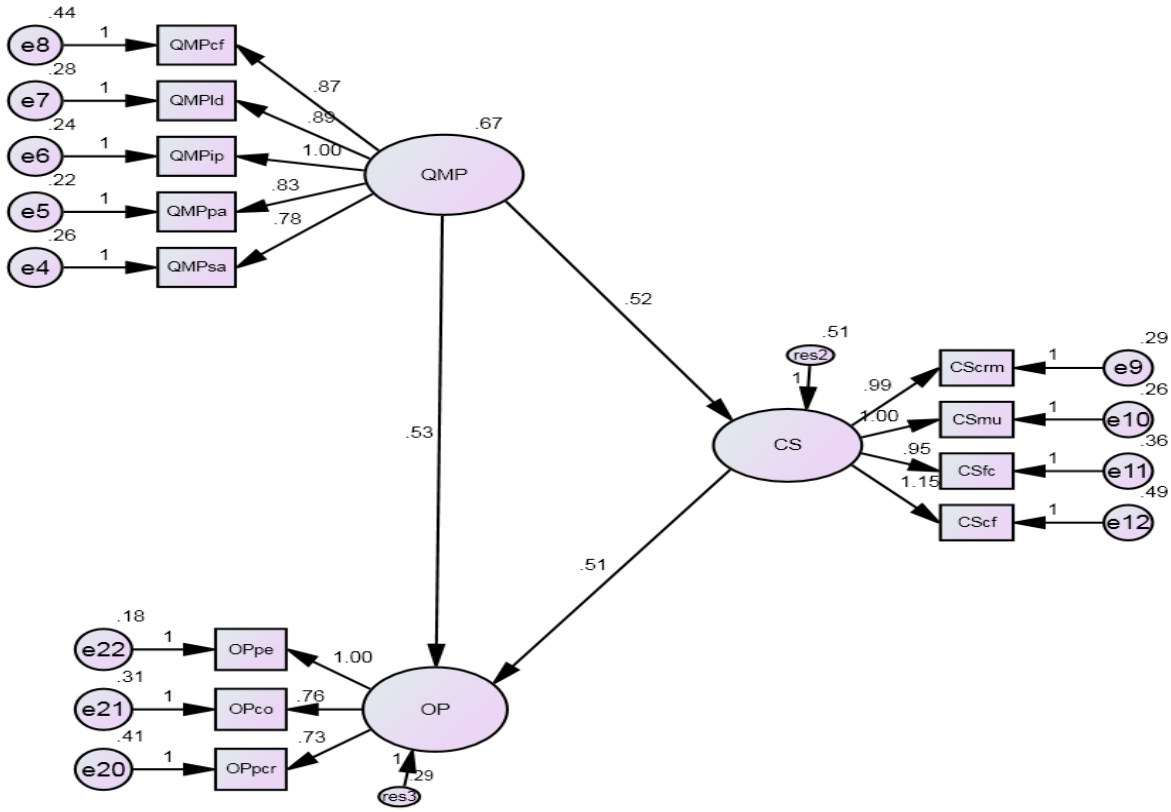
H1a: Quality Management Practices have significant and positive effect on the Operational Performance of the oil and gas industry in Nigeria.

H1b: In the oil and gas industry in Nigeria, host Community Satisfaction significantly mediates the relationship between Quality Management and Operational Performance.

To test these hypotheses, a mediation model was proposed by the researcher using the SEM technique in AMOS. The model shown in Figure 6.5 was used to test the following relationships between three constructs in the context of the operations of the oil and gas industry in Nigeria:

The effect of Quality Management Practices on Operational Performance
The effect of Quality Management Practices (mediator) on Host Community Satisfaction and
The effect of Host Community Satisfaction on Operational Performance

Figure 6.5: Mediated Structural Model for Relationship Between QMP and OP Through CS



6.6.1.1. Model Fit Statistics

Table 6.32 shows a summary of the model fit estimate for both the direct relationship between QMP and OP and when CS mediates the relationship. Following the recommendations of Hair et al., (2009), the result of the model for testing the direct relationship between QMP and OP can be considered as a reasonably well-fitted model. This is because the normed chi-square (x^2/df) is within the 1-5 range, the Goodness-of-Fit Index (GFI) is 93% and the Root Mean Square Residual is below .05. Also, the TLI and CFI are all above 90% indicating that the data reasonably fits the stipulated model.

Furthermore, the standardised regression estimate shows a regression weight of .708 in the hypothesised direction with a significant p-value. This result therefore strongly indicates a significant effect of Quality Management Practices on Operational Performance in the oil and gas industry in Nigeria, thereby confirming that Hypothesis 1a is valid as earlier concluded from the result of the full model testing.

Hypothesis 1a is supported

Model Element	Direct Relationship Model	Mediated Relationship Model
CMIN	64.010	150.324
CMIN/DF	3.369	2.948
RMR	.044	.055
GFI	.935	.904
PGFI	.493	.591
TLI	.938	.926
CFI	.958	.943
RMSEA	.104	.094

Standardised Parameter Estimate	Direct effect model (S.E)		Mediated Model (S.E)	
OP <--- QMP	.708 (.075)	Significant	.474 (.073)	Sig.
CS <--- QMP	Not estimated		.512 (.086)	Sig.
OP <--- CS	Not estimated		.463 (.064)	Sig.

Table 6.32: Model Fit Summary for Testing Mediation

In relation to the mediated relationship model (Figure 6.5 above), similar to the direct model, Table 6.32 shows that the model exhibits characteristics of good fit relative to the recommendations of Hair et al., (2009) regarding the goodness-of-fit statistical

requirements. For example, the GFI, TLI and CFI are higher than the minimum recommended values of 90% while the RMSEA is below .10. However, it was observed that by introducing a mediating variable to the initial direct relationship model, there was a considerable change in the normed chi-square thus suggesting mediation accordingly.

Nonetheless, to test for mediation, the magnitude of the total, direct and indirect effects of the three regression models are shown in Table 6.33 below.

	Unmediated	Mediated		
	QMP On OP	QMP on OP	QMP on CS	CS on OP
Total Effect	.708	.712	.512	.463
Direct Effect	.708	.474	.512	.463
Indirect Effect	.00	.00	.237	0.00

Table 6.33: Direct and Indirect Effects for Testing Mediation.

Therefore, for the tested model, Table 6.33 shows the product coefficient (.237) to be less than the total effect of QMP on OP, indicating partial mediation. The significance of the mediation was hence established with the Sobel test method using formula (6.5) above.

From the calculation, the Sobel test statistics yielded a Z-value of 4.597 with a two-tailed probability value of < 0.001. Therefore it was concluded that the partial mediation is significant. In other words, the effect of Quality Management Practices on Operational Performance in the oil and gas industry in Nigeria is partially mediated by the satisfaction of the host communities which also confirms the initial result from the full model testing.

Hypothesis 1b is supported

6.6.2. The Effect of Corporate Social Responsibility on Operational Performance

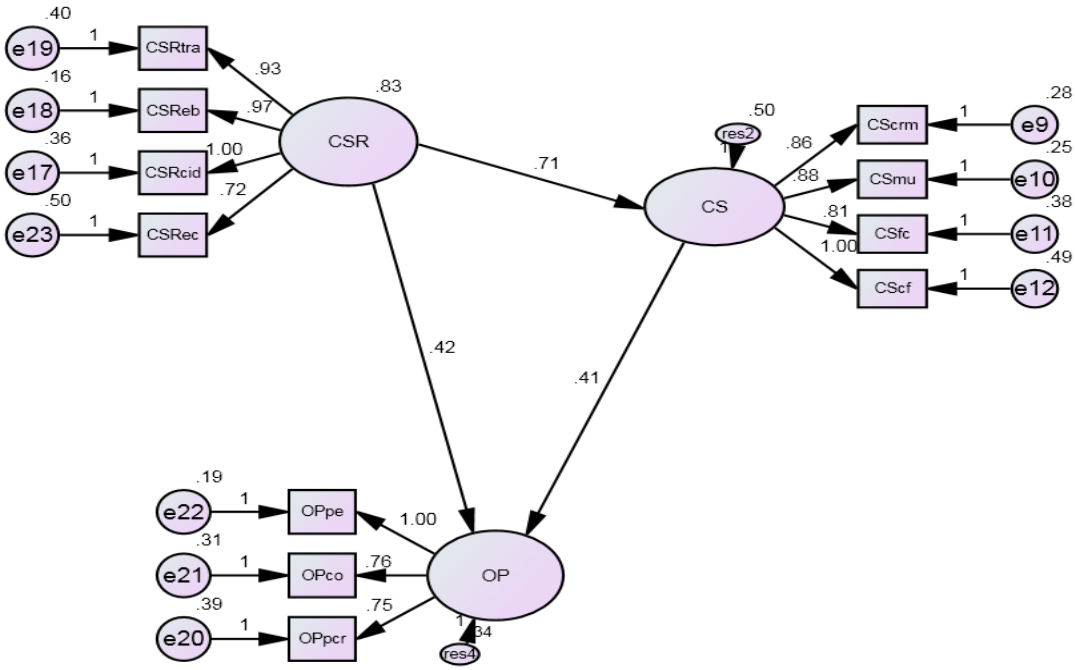
To statistically test the nature and significance of the relationship between CSR and OP, the following hypotheses were developed.

H2a: Corporate Social Responsibility practices have significant effect on Operational Performance in the oil and gas industry in Nigeria.

H2b: In the oil and gas industry in Nigeria, Host Community Satisfaction significantly mediates the effects of Corporate Social Responsibility practices on Operational Performance.

Figure 6.6 below shows the structural model for testing the proposed theoretical relationships.

Figure 6.6: Mediated Structural Model for Relationship Between CSR and OP Through CS



6.6.2.1. Model Fit

The result of the model estimation for the structural model used in testing the direct relationship between Corporate Social Responsibility and Operational Performance as shown in Table 6.34 indicates good fit with the data. Although the RMSEA value is the exact minimum recommended threshold of .10 (Byrne, 2010), all other selected model fit indices such as the GFI, TLI, and the CFI are all above .90, which is the target value for a good model fit. Furthermore, the normed chi-square of 3.2 falls

within the acceptable range of 1-5, and the Root Mean Square Residual value is < 50%.

	Direct Relationship Model	Mediated Model
CMIN	41.458	148.39
CMIN/DF	3.189	3.619
RMR	.041	.053
GFI	.949	.896
PGFI	.441	.557
TLI	.949	.912
CFI	.969	.934
RMSEA	.100	.109

Standardised Parameter Estimate	Direct effect model (S.E)	Mediated Model (S.E)		
CS <--- CSR			.672 (077)	Significant
OP <--- CSR	.695 (.071)	Significant	.413 (.082)	Significant
OP <--- CS			.428 (.079)	Significant

Table 6.34: Model Fit Summary for Testing Mediation

Also, in relation to the magnitude of the regression coefficient and the significance of the tested relationship, the standardised parameter estimate shows the regression weight of 69% with a p-value of < .0001 in the right direction as proposed. This result therefore shows that the Corporate Social Responsibility practises of the oil and gas industry in Nigeria has a significant effect on the Operational performance of the industry.

Hypothesis 2a is supported

However, with the introduction of the mediator variable to the model, there was a considerable difference in the values of the model fit indices. Nonetheless, the overall result of the model estimation shows a relatively good fit with the data. Thus, while the RMSEA may appear to be slightly above the recommended minimum value of .10 (Byrne, 2010), the normed chi-square value was still within the acceptable range (x^2/df = 3.62). Similarly, the CFI, RMR, and the GFI values of .934, .053, and .896 respectively are acceptable values for a good model fit (Byrne, 2010).

To test the mediating effect of Community Satisfaction in the relationship between CSR and Operational Performance, The Sobel statistical technique was employed. Thus from Table 6.35 below, the indirect effect, also known as the product coefficient has been obtained as .288 indicating that mediation occurred. This value is less than the direct effect (.413) signifying partial mediation.

	Unmediated	Mediated		
	CSR on OP	CSR on OP	CSR on CS	CS on OP
Total Effect	.695	.701	.672	.428
Direct Effect	.695	.413	.672	.428
Indirect Effect	.00	.288	0.00	.00

Table 6.35: Direct and Indirect Effects for Testing Mediation

However, on further evaluation with the use of formula (6.2) above, the value of the Sobel test statistic was 4.6 and with a two-tailed probability is < 0.0001. The direction of the regression path has remained consistent; therefore, the researcher concludes that the satisfaction of host communities of the oil and gas industry in Nigeria partially mediates the effect of the corporate Social Responsibility practices on the industry's Operational Performance.

Hypothesis 2b is supported

6.6.3. Effect of Quality Management Practices on Community Satisfaction

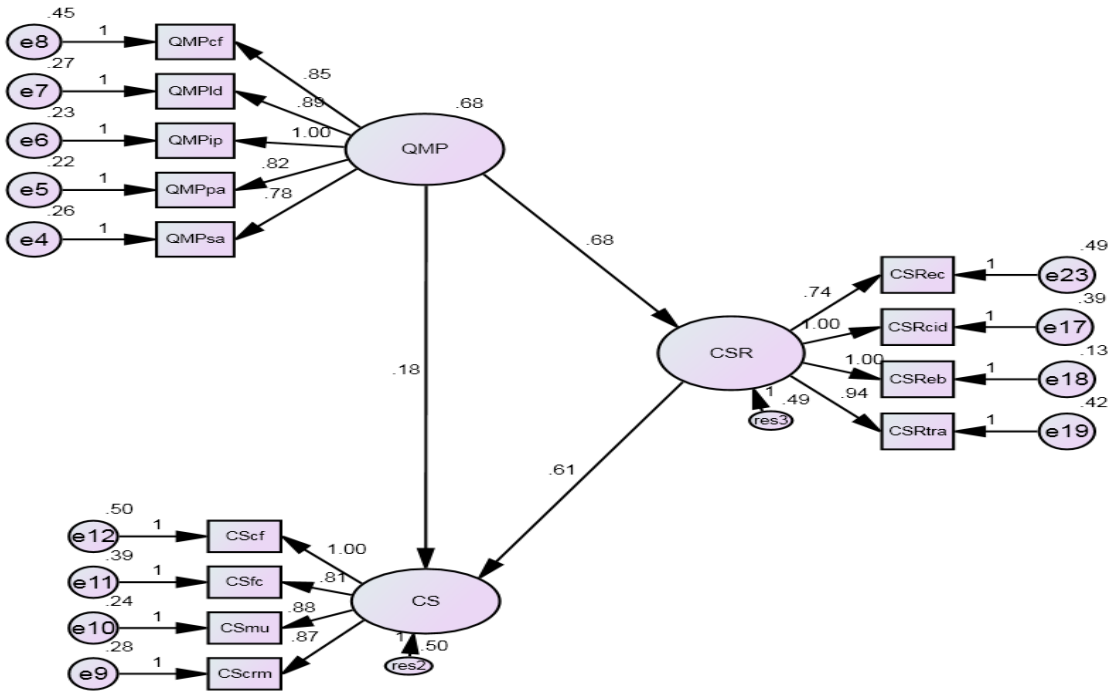
In this study, the host communities of the oil and gas industry in Nigeria have been described as a stakeholder-type customer, as they are directly affected by the activities of the industry. Thus following from the vastly reported relationship between QMP and end-user customer satisfaction in literature, the researcher decided to test validity of this relationship in relation to the host community satisfaction within the context of the operational peculiarities of the oil and gas industry. The following hypothesis were used to test the nature and statistical significance of this relationship

H3a: Quality Management Practices in the oil and gas industry in Nigeria has significant and positive effect on the level of satisfaction felt among the host communities

H3b: The effect of the Quality Management Practices on Community Satisfaction is significantly mediated by Corporate Social Responsibility practices of the oil and gas industry in Nigeria.

Figure.6.7 below shows the hypothesised relationships represented pictorially with the use of AMOS structural equation modelling software.

Figure 6.7: Mediated Structural Model for Relationship between QMP and CS through CSR



6.6.3.1. Model Fit

The result of the model estimation for the direct and mediated relationships is shown in Table.6.36 below. With the GFI of 91% and the RMR at an acceptable value of about .05, the first model testing the direct relationship between QMP and CS (without a mediator) shows evidence of a good fit. Although the Root Mean Square Error of Approximation (RMSEA) appears to be rather higher than the recommended minimum, nonetheless, considering that the other model fit indices such as the normed chi-square, the CFI and the TLI are very good; the researcher concludes that the model exhibits good fit with the sample data.

	Direct Model	Mediated
CMIN	91.751	215.659
CMIN/DF	3.529	3.478
RMR	.056	.062
GFI	.917	.869
PGFI	.530	.592
TLI	927	.902
CFI	.948	.922
RMSEA	.107	.106

Standardised Parameter Estimate	Direct effect model (S.E)		Mediated Model (S.E)	
CS <--- QMP	.509 (.085)	Significant	.155 (.093)	Significant
CSR <--- QMP			.624 (.078)	Significant
CS <--- CSR			.567 (.094)	Significant

Table 6.36: Model Fit Summary for Testing Mediation

Furthermore, the regression coefficient and the estimated p-value indicate that QMP has a significant direct and positive effect on the satisfaction of their host communities (CS) in Nigeria.

Hypothesis 3a is supported

However, when the mediator variable was introduced into the direct model, the result revealed a comparative reduction in the values of the incremental model-fit measurement indices such as the GFI, the TLI and the CFI. Also, the RMR increased to .062. Nonetheless, the normed chi-square (x^2/df) showed a small reduction of .051. In spite of the recorded reduced values, the overall result of the model fit statistics supports the inference made by the researcher that the model is of a good fit.

Furthermore, to statistically establish mediation effect in this model, the product coefficient was calculated from the regression coefficients of the two mediating regression paths. (Shown as 'a' and 'b' in figure 6.4). The obtained value (.354) as shown in Table 6.37, which also represents the magnitude of the indirect effect, indicates that the tested relationship was mediated.

	Unmediated	Mediated		
	QMP On CS	QMP on CSR	QMP On CS	CSR On CS
Total Effect	.509	.624	.509	.567
Direct Effect	.509	.624	.155	.567
Indirect Effect	.00	.00	.354	0.00

Table 6.37: Direct and Indirect Effects for Testing Mediation

Also, although this regression path of the direct model (without a mediator variable) was significant, however, in the mediated model, this path was not significant as the p-value was > 0.05, indicating full mediation effect. The researcher therefore conclude that the effect of the Quality Management Practices of the oil and gas industry on the satisfaction of their host communities is fully mediated by the Corporate Social Responsibility activities of the industry in Nigeria.

Hypothesis 3b is supported

In summary, Table 6.38 shows all hypotheses and the results of the various mediation tests as well as the level of mediation indicated by the results.

Test Hypothesis	Result	Level of Mediation
H1a	Supported	
H1b	Supported	Partial
H2a	Supported	
H2b	Supported	Partial
H3a	Supported	
H3b	Supported	Full
H4	Supported	
H5	Supported	
H6	Supported	
H7	Supported	
H8	Supported	

Table 6.38: Results Summary of Hypothesis Testing and Analysis

The results of the test hypothesis have shown consistency with the theory driving this research as all of the hypothesised causal relationships were supported by the sample data. Also, the mediating nature of the relational effects among variables are a direct reflection of the nature of this study which involves the interactions of psychological constructs that are often linked together in complex relationships. According to Field (2009) this is an occurrence that is usually expected in studies involving psychological constructs where items often tend not to be restrictively related to only a particular factor

6.7. Data Driven Model

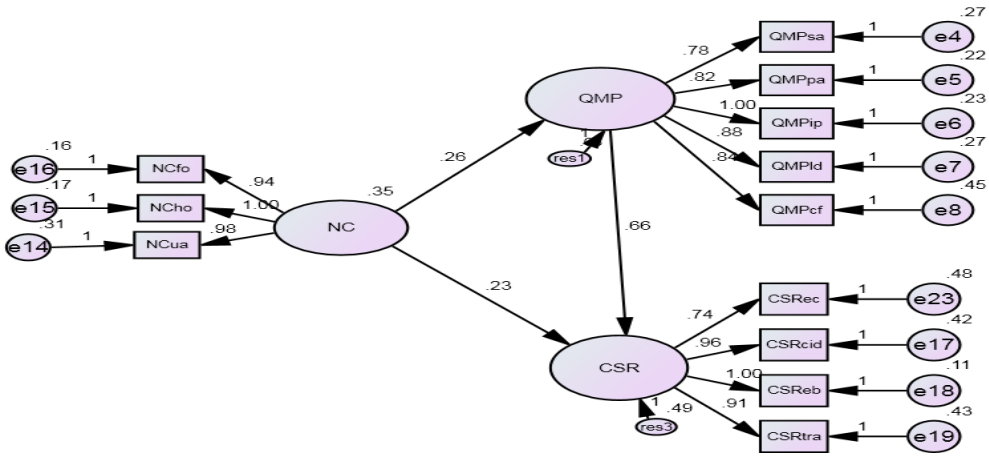
Based on strong evidence in the operations management literature, the relationship between National Culture and other management practices such as CSR have often been reported as a direct relationship. However, in the course of exploring other implied relationships in the structural model, the researcher tested for mediation in

the relationship between National Culture and Corporate Social Responsibility. The tested proposition is as follows:

In the context of the operations of the oil and gas industry in Nigeria, the influence of national culture on CSR is mediated by the cultural influence on QMP.

This proposition is represented with the path diagram in Figure 6.8 below

Figure 6.8: Mediated Structural Model for Relationship between NC, QMP and CSR



6.7.1. Model Fit

From Table 6.39, the structural model for testing the direct relationship between National Culture and Corporate Social Responsibility shows a good model fit with the sample data. All the recommended minimum values of a good fit have been exceeded, thus, the researcher concludes that the model has a good fit.

Furthermore, the parameter estimate indicates the regression weight as having a corresponding probability ratio of less than 0.05, which shows that the regression

coefficient is significant. With this result, the researcher therefore concludes that the National culture of Nigeria has a significant influence on the Corporate Social Responsibility in the oil and gas industry. This is consistent with the result of the full structural Model.

Similarly, the result of the model estimation for the full model involving the mediator variable (Figure 6.7) shows a normed chi-square value below 5 and an RMR value < 0.05. Although the GFI is slightly less than the 90% mark, the TLI and CFI are above the generally suggested benchmark of 90% thus strongly indicating a good model fit. In other words, these values suggest that the proposed relationships can be reasonably described or supported by the sample data.

	Direct Model (NC to CSR)	Mediated Model (M. Variable – QMP)
CMIN	30.30	160
CMIN/DF	2.33	3.137
RMR	.030	.049
GFI	.962	.892
PGFI	.447	.583
TLI	.963	.910
CFI	.977	.930
RMSEA	.078	.099

Standardised Parameter Estimate	Direct effect model (S.E)	P-Value	Mediated Model (S.E)	P-Value
QMP <--- NC	.191 (.109)	Significant	.188 (.109)	Significant (.016)
CSR <--- NC	.264 (.117)	Significant	.146 (.099)	Significant (.023)
CSR <--- QMP			.598 (.073)	Significant

Table 6.39: Model Fit Summary for Testing Mediation

Again, with regards to the mediation effect, Table 6.40 below provides a value for the indirect effect in the relationship between National Culture and Corporate Social Responsibility. This value (.112) indicates that the influence (effect) of National Culture was mediated. This is also confirmed by the reduction in the magnitude of direct effect after the introduction of a mediator variable. However, the value of the indirect effect is less than the direct effect in the mediated model; therefore, the mediation effect is considered to be partial.

	Unmediated	Mediated		
	NC On CSR	NC on QMP	NC On CSR	QMP On CSR
Total Effect	.264	.188	.259	.598
Direct Effect	.264	.188	.146	.598
Indirect Effect	.00	.00	.112	0.00

Table 6.40: Direct and Indirect Effects for Testing Mediation

Also, with the use of the Sobel test statistics, the mediating effect was found to be significant in a two-tail probability (p-value < 0.05). It is thus concluded that Quality Management Practices mediates the influence of National Culture on the Corporate Social Responsibility practices in the industry in Nigeria.

This result also shows that the direct influence of National Culture on QMP is stronger that the direct influence on CSR, implying that, in terms of cultural value-congruence with management practices, the emphasis should be more on QMP.

6.8. Chapter Summary

In this chapter, the data analysis with the use of SPSS and AMOS computer packages has been presented. Assisted by these statistical software a confirmatory factor analysis was conducted for a specified measurement model, the reliability and validity of the constructs were assessed to ensure internal consistency of the data, which is necessary for obtaining valid results in the hypothesis testing. The main

objective of this chapter was to test the hypothesised relationships against the sample data. Specifying and testing a full structural model achieved this.

The research findings in many cases have demonstrated consistency with the background theory driving the research. It is on this base that the proposed conceptual model was validated as a reflection of the relationships between the model elements and their effect on operational performance in the oil and gas industry in Nigeria. More specifically, it is a major objective of this study to evaluate the mediating role of Community Satisfaction in the relationship between QMP and Operational Performance as well as the relationship between CSR and Operational Performance. From the results of the mediation tests, it is clear that Host Community Satisfaction is an important mediator in both relationships. The researcher therefore concludes that the results of the analysis provide strong validation for the underlying theoretical drivers of this research study. Furthermore, the important role of Community Satisfaction in optimising operational performance in the oil and gas industry in Nigeria has been empirically verified. The next chapter therefore presents the implication of this result both for theory formulators and for the industry practitioners in the context of policy making and better-informed management decisions.

Chapter 7
Conclusions and Recommendations

7.1. Introduction

In previous chapters, the objectives, the need, and the theoretical background of this study have been presented, highlighting the identified gap in literature regarding the role of QMP, CSR, and very importantly host Community Satisfaction in the optimization of operational performance in the oil and gas industry in Nigeria. Also presented was the methodology employed to achieve the research objectives and lastly, the analysis of the results, involving the identification of useful trends and patterns for answering the research questions have been presented. This chapter therefore presents a summary of the main research outcomes and their implications as well as the limitations of the research study. Furthermore, the original contributions to knowledge and practice are highlighted along with some recommendations for further research studies.

7.2. Research Summary

A major source of inspiration for this research is the hugely reported Niger Delta crises. A conflict situation involving the operating companies in the oil and gas industry in Nigerian and their host communities, which continuously cause major interruptions to production activities, thereby affecting the overall operational performance and threaten the future of the industry in Nigeria. The popularly known Niger Delta militant groups representing the host communities have, in many cases, resorted to vandalism, hence, oil installations for both production and transportation operations are constantly being vandalised. This situation often results in severe disruptions to the operations of the industry. The consequence is usually in the form of a drastic reduction in the overall productivity of the industry and by implication, a reduction in Government earnings. This loss of earnings is particularly seen as very detrimental to the countries survival in the context of the current reduction in global oil prices. Studies have shown that there is a strong correlation between the management practices of the industry in Nigeria and the reported conflicts or restiveness (e.g. Obi, 2010), indicative of a strong lack of satisfaction on the part of

the host communities. This research is therefore considered very important, as it provides a better understanding regarding the nature and significance of the relationship between host community satisfaction and operational performance in the industry. Furthermore in the course of reviewing the relevant literature, it was clear that although many studies have been carried out in relation to the relationship between QMP and customer satisfaction as well as QMP and Operational Performance, firstly, these studies have mainly focused on the end-user customer and not the other stakeholders (customers) such as the host communities. Secondly, each relationship has been studied in isolation of the other, with less appreciation for the role of each element in a combined relationship model. Finally, there is an evident lack of consideration for the oil and gas industry by researchers in regards to linking community satisfaction to operational performance and in the identification of management practices that have direct and indirect effects on community satisfaction especially in Nigeria. These identified gaps in literature affirmed the need for this study.

Therefore, the main goal of this research is to provide clarity with regards to the role of host community satisfaction in the relationship between the highlighted operations management paradigms (QMP and CSR) and operational performance in the oil and gas industry. Also, understanding the influence of national culture on the aforementioned management paradigms as they relate to the operations of the industry in a culture-sensitive developing nation such as Nigeria, within the context of cultural specificity theorem, has also constituted a motivating factor for this study. Given the evident lack of empirical studies in these regards, this study is therefore considered very relevant both for academic progression and for policy making by practitioners with regards to ensuring better relationship with host communities and optimising operational performance in the industry.

Based on the review of relevant literature, a conceptual framework was developed, describing the relationship between Quality Management Practices; Corporate Social Responsibility; National Culture; Community Satisfaction; and Operational Performance which is the dependent variable. An important proposition in the model is the mediating role of community satisfaction in the link between the independent variables and the dependent variable.

The research methodology followed a quantitative approach. With the use of a well-structured questionnaire, quantitative data was collected and used for testing the research hypothesis. A total of 221 useful responses from the indigenous management staff members in the upstream and downstream sectors of the industry formed the sample data. The statistical analysis of data was done using structural equation modelling technique with AMOS and SPSS computer packages.

The outcome of this study demonstrates consistency with the aim and objectives. This study is the first to propose a comprehensive conceptual model that provides a clear understanding of the nature and strength of the relationships between the operations management practices of QMP and CSR, the influence of National culture on these management paradigms, and how they in-turn, directly and indirectly affect Operational Performance in the oil and gas industry. More important is the identification of the crucial mediating role of host Community Satisfaction in these afore-mentioned relationships and its level of influence on the Operational Performance of the industry in Nigeria. In the next session, the main research findings and their implications are summarised and linked to the objectives of this study.

7. 3. Major Research Findings and their Implications

In line with the aims and objectives, the main findings of this research study is discussed below in relation to how they show consistency with the nature and significance of the relationships as proposed in the conceptual model thereby providing answers to the research questions.

7.3.1. Community Satisfaction and Operational Performance

This study is aimed at evaluating the relationship between QMP, CSR, National Culture, Community Satisfaction and Operational Performance in the oil and gas industry. However of particular interest is the evaluation of the relationship between Community Satisfaction and Operational Performance in order to identify the extent to which the satisfaction of host communities impacts on the ability of the industry to sustain effective and continuous operational activities in Nigeria. In line with this,

the result of the research has shown that host Community Satisfaction has a significant positive effect on Operational Performance. This finding, which is consistent with the earlier hypothesis, highlights the need to consider the community as an important stakeholder, recognising that satisfying the community is a major success factor in the industry. Furthermore, having described the host community as a type of customer, particularly in relation to the operational nature of the oil and gas industry in a developing country where the local communities are directly and seriously impacted in many ways by the activities of the industry, the research finding confirm the general assertions in literature (e.g. Wen Ye Sit et. al., 2009; Merino-díaz, De Cerio, (2003) that customer satisfaction is crucial to operational performance leading to overall business success. However, the significance of this finding is linked to the peculiarity of the operational features of the oil and gas industry compared to other industries (Varma et al., 2008). For example, the production process is rigidly standardised with little or no room for any flexibility or making any form of changes to operational schedules or protocols (Parast and Adams, 2012), hence, the systems are heavily mechanised, involving less human interaction or customer interface. Also for the oil and gas industry, the "voice of customer", which is a major consideration in the product or process design protocols of other industries, is not a management strategy, indicating that there is little or no significant end-user customer influence on the operational performance of the industry. Thus, positing the host communities as stakeholder-customers whose satisfaction impacts on the operational performance of the industry is a significant output in this study within the stated context.

7.3.2. The Effect of Quality Management Practices on Operational Performance

An important objective in this study, which stems from the main research question, is: to identify the nature and strength of the relationship between Quality Management Practices and Operational Performance. From the data analysis, in relation to the strength of the relationship, the result of this study shows that QMP has a significant effect on Operational Performance. This result is consistent with the findings of Parast et al., (2011) who measured performance by internal and external quality results. However, the performance indicators used as measurement indices for operational performance in this study include: Reduction in production cost;

uninterrupted production activities and the effectiveness of production processes. Due to the nature of the oil and gas industry, these performance measures are considered as crucial to the overall success of the industry. Therefore the result of this study highlights the importance of effective QMP to the industry. It follows that the adequate implementation of Quality Management Practices will result in the optimisation of the elements of operational performance such as the reduction of production cost, which is crucial to the overall business success of the industry.

However, with respect to the nature of the relationship, the result shows that the effect of QMP on Operational Performance in the oil and gas industry is partially mediated by Community Satisfaction. Indicating that in many cases, when the QMP implemented by the industry effectively result in the satisfaction of their host communities, then the created environment of contentment and cordiality will therefore allow for the operational success factors, such as uninterrupted production activities, and consequently, lower the cost of production. Savings from the cost associated with crises management and rebuilding or maintenance of vandalised installations can account in part, for this reduction in the overall cost of operations.

The implication of this result for managers in the industry is that: with the insight it provides in relation to the significance and nature of the relationship between QMP and Operational Performance, managers and other practitioners in the industry are better informed and empowered for decision making within the context of maintaining continuous operational activities and reducing cost of operations in the industry in Nigeria.

7.3.3. The Effect of Corporate Social Responsibility on Operational Performance

The result of this study reveals that Corporate Social Responsibility activities or practices have significant effect on the Operational Performance of the oil and gas industry in Nigeria. In other words, continuous uninterrupted operations of the industry results from the actual implementation of effective CSR practices in the industry. This result implies that CSR is not only for "social good" but also as an operations management paradigm that should be considered as an important tool for

maximising operational efficiency and production capability in the oil and gas industry.

However, according to the result, the effect of CSR on operational performance is partially mediated by Community Satisfaction. This result is consistent with the underlining theory. By design the targeted recipients of effective CSR practices in the context of an extractive industry are the host communities who are directly affected by the activities of the industry. It is therefore not surprising to see a significant relationship between CSR and Community Satisfaction. However, the implication of this result extends to providing a better understanding of the influential role of Community Satisfaction as a mediator, in the relationship between CSR and Operational Performance, indicating that the Communities should not only be seen solely as beneficiaries of CSR initiatives, but also as a medium through which the industry benefits from, in terms of sustaining or even optimising its operational performance.

On the subject of CSR practices and the Multi-National Corporations particularly in the developing nations, where the debates on issues of development, environmental degradation and poverty are rife, most research works have often focused on the elements of philanthropy and the concept of "social licence". Hence till present, the relationship between CSR and Operational performance, particularly in Nigeria, has not been adequately evaluated in the literature. The result of this study therefore provides an important inside for industry practitioners as it represents a shift from the usual narratives, which often presents the industry as the "giver" and the community as the "receiver".

Policy makers in the oil and gas industry, particularly in Nigeria, are therefore expected to benefit from the viewpoint presented by this result in making important operations management decisions.

7.3.4. The Effect of Quality Management Practices on Community Satisfaction

Having previously discussed the relationship between QMP and Operational Performance as mediated my Community Satisfaction; the result of this study further indicates that the effect of QMP on Community Satisfaction is fully mediated by the CSR practises of the industry. The inference of this particular finding is that CSR is the pivotal element in describing the impact of QMP on Community Satisfaction. This is because, according to the result, in statistical terms, the direct effect of QMP on Community Satisfaction is considered insignificant, indicating that it is relatively weak. Thus, the effect of QMP on Community Satisfaction is considered indirect because it is strongly and fully conveyed by CSR. This means that the satisfaction of the host communities is achieved mainly through the effective CSR practices of the industry. Nonetheless, the effectiveness of the CSR practices is driven by the QMP as discussed earlier. This finding places CSR in a very important position of influence in the described relationships.

The elements used for operationalizing CSR in this research include: Transparency; Ethical Behaviour; Community Involvement and Development; and Environmental Considerations. These elements in many ways appear to be a direct representation of the desires and aspirations of the host communities. It is therefore not surprising that the result strongly infers that the strongest impact the industry's practices have on the community that can result in their satisfaction is through its effective implementation of CSR initiatives. Again given that Community Satisfaction has a significant effect on Operational Performance, it is imperative for decision makers to put more emphasis on the management practices, such as CSR, that empowers the industry operators to create and sustain the environment that allows for the actualisation of the aspirations of the host communities.

Furthermore, this result highlights the synergistic impact of QMP and CSR on Community Satisfaction and by extension, on Operational Performance in the oil and gas industry. Consistent with the findings of Ghobadian et.al., (2007), CSR as a

management philosophy, share common ideals with QM and thus, it can be used as a vehicle to implement such Quality Management ideals as customer (community) focus, transparency and ethical considerations.

Managers in the industry should therefore strongly consider incorporating CSR as an operational performance factor as opposed to viewing it as a mere host-community support program with no link to business success in the form of improved productivity and financial profit.

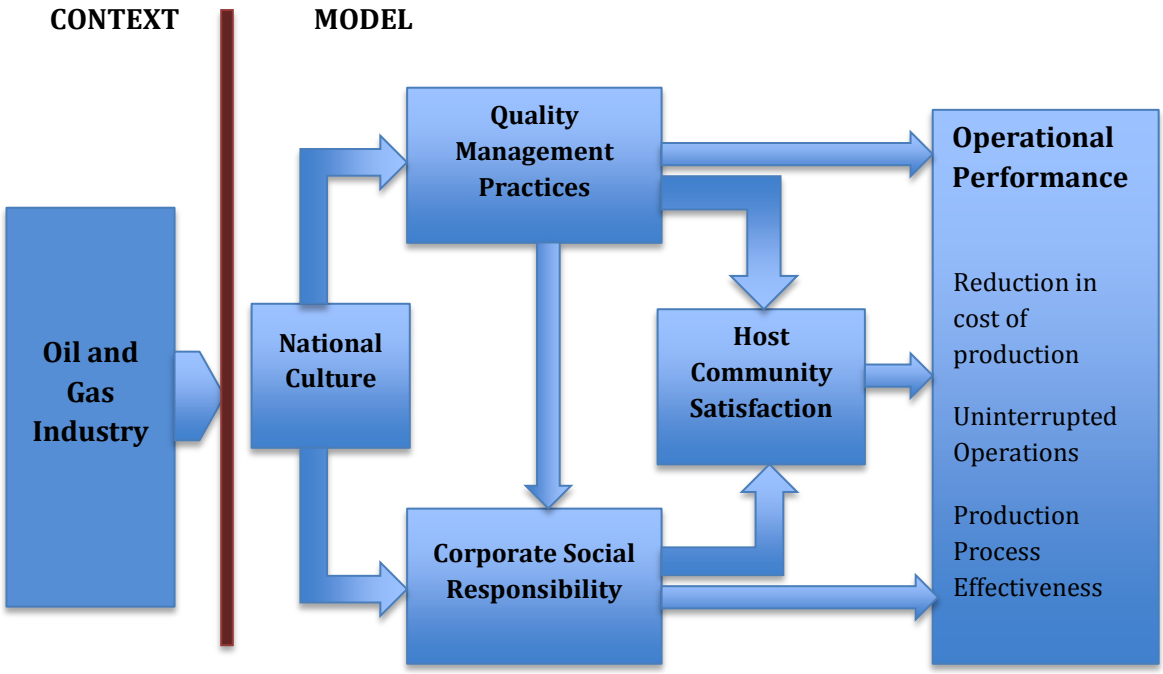
7.3.5. Influence of National Culture on Quality Management Practices and Corporate Social Responsibility

According to the results of this study, National Culture has a significant influence on both QMP and CSR practices. However it‘s influence on CSR was found to be partially mediated by QMP. This result is consistent with the underlining theory of National Culture as it relates to management practices. Hofstede’s (1984) defines culture as the “collective programing” of the mind, which determines the management preferences of members of a society. From this definition, it is a common expectation that the dominant cultural dimension in Nigeria will have a significant effect on the QMP and CSR practices of the oil and gas industry. However, the result also shows that the effect of National Culture on CSR is mediated by the cultural influence on QMP in the industry. This finding is consistent with the earlier findings where CSR practices were seen to be influenced by the QMP in the industry.

7.4. Final Proposed Model

The major objective of this study is to develop and propose a conceptual model that will provide for a better understanding with regards to the relationship between QMP, CSR, National Culture, Community Satisfaction and Operational Performance in the oil and gas industry in Nigeria. Figure 7 shows the final proposed model highlighting the tested relationships accordingly.

Figure 7: Final Proposed Relationship Model



The model shown above has been developed as the final outcome of the tested - hypotheses in this study. These relationships as represented by the one directional arrows were tested and verified within the context of the oil and gas industry particularly in Nigeria but may be replicated in other developing countries and industries sharing similar characteristics with Nigeria and the oil and gas industry respectively. Indeed some developing countries hosting multinational corporations reportedly share similarities with Nigeria in terms of environmental issues and other socio-economic challenges accruing from the exploitation of natural resource. For example according to Idemudia, (2007), there have been reports of conflicts between the multinationals and their host communities following issues of environmental degradation, resource management and other issues of development. Some of these countries include: Brazil, Mexico, Cameron, Colombia and DR Congo.

7.5. Limitations

This research was based on a single industry – the oil and gas industry, which makes it less generalizable. Although all manufacturing industries in Nigeria are considered to share common management themes and challenges, the oil and gas industry was particularly chosen for this study based on its peculiar characteristics, with regards to the effect of its operational activities on the host communities. Also According to Garvin, (1988) focusing on a single industry allows for the precise identification of performance determinants in the industry.

Furthermore, the proposed model was tested in a specific country – Nigeria. Although this does not allow for maximum generalisation of the findings, however, it has allowed the researcher to focus on a specific national culture, thus providing better understanding to the tested relationships in a specific culture (Flynn and Saladin, 2006), thereby avoiding the complex and difficult result interpretation that is often associated with multicultural or regional studies with wide result variations.

Another limitation in this study is in connection with the operationalization of the model elements. These were limited to factors considered to have direct relevance to the context of the study thus, not all the factors used to describe each element in literature was included in the development of the measurement instrument. For example, in the operationalization of Corporate Social Responsibility, other factors that could also be used to describe it for the purposes of measurement include: accountability; respect for rule of law; and respect for human right among others. These factors were not used because, although they may be considered relevant from the legal perspective, however, they do not directly fit into the expressed theme of community satisfaction hence over-complication of the model was avoided and consistent focus on the subject was maintained.

Again, the differences between the cultures of the different major and minor tribes in Nigeria were not considered in this research. Conversely, the researcher assumed the national culture of Nigeria to be homogeneous. This was a necessary assumption, based on the basic common values, norms and beliefs shared among all Nigerians, which exerts huge influence on their work behaviours and management preferences.

This assumption is also consistent with the suggestions of House et al,. (2004), who have identified and assigned specific dimensions to Nigerian culture relative to its areas of weakness and strength following the specified measurement scores.

With regards to research methodology, The reluctance of the companies' human resources managers to release any information regarding the total number of indigenous employees in their companies, insisting that such information are considered as classified, constituted a limitation for the researcher in relation to ensuring the accuracy of the sampling frame. However, to mitigate this situation, the researcher directly contacted company management-level employees of different departments who although could not provide the exact numbers, as the companies are continuously hiring and firing, but provided average figures. The figures were considered realistic by the researcher when compared to the size of the companies as indicated by their individual production outputs.

Self-reported data is often associated with the bias of social desirability where respondents tend to give answers that are deemed to be socially desirable rather than answers that reflect the real situation or practical occurrences in the studied organisation. Some of the questions in the questionnaire appear to potentially have the lure for socially desirable answers. Also, there were some concerns over the possibility of the influence of a common method bias on the data, as the collection was done on one occasion (Hair et al., 2009). To mitigate against these occurrences, the researcher clearly instructed against them in the questionnaire instructions, also specific questions in the questionnaire were not directly used for analysis, instead an aggregate of a group of responses were used to response used in the measurement of a particular observed variable. Hence the possibilities of social desirability bias and common method bias were minimised.

Further, the motivation for this study is to improve on the industry/community relationship through more effective QMP and CSR practices. This involves an attempt into providing a clearer understanding regarding significance of the influence of community satisfaction on operational performance, thereby providing a roadmap for the resolution of community conflicts which reportedly results from host community dissatisfaction, However, although the researcher recognises that there

are other causal factors responsible for the reported conflicts in the region, such as government policies and political choices; wide spread corruption and criminality, as well as agitation for resource control based on low levels of infrastructural development, this research has been limited in scope to focus only on the industry management practices as a major factor responsible for the conflicts. Thus the findings of this study might not represent a holistic solution to the conflict.

In spite of the limitations as discussed above, the study achieved its objectives as well as its major aim which is to empirically evaluate the role of host Community Satisfaction in the relationship between QMP, CSR and Operational Performance in the oil and Gas industry, to provide a better understanding of the influence of Community Satisfaction on the operational performance of the industry in Nigeria.

7.6. Recommendations

This study is an original attempt in identifying the extent to which QMP and CSR practices impacts on host community satisfaction as well as the effect of host community satisfaction on Operational performance in the oil and gas industry in Nigeria. It therefore contributes to both theory and practice in the context of performance optimization in the industry. However, the researcher has in the course of the study identified some areas of further research that can further enrich the body of knowledge in the area of study covered by this research. Also, some managerial implications stemming from the results of this study is highlighted followed by recommendations for practitioners accordingly.

7.6.1 Recommendations for Academics

On account that the conceptual model is the first to be proposed in this context, there are a number of recommendations for further research with regards to model validation and larger generalization. These recommendations are summarised as follows:

The context of this study is the oil and gas industry, thus generalization may be limited to the industry. The researcher therefore recommends a replication of the

study involving other industries such as manufacturing industries where their operations have similar effect on the host communities

During the course of reviewing the literature for this study, an evident lack of focus on the relationship between management practices and community or customer satisfaction in Nigerian industries was revealed. The researcher therefore draws the attention of researchers to the need for empirical studies in this regard to be focused on the operations of the industries in Nigeria. This recommendation is considered necessary due to the much theoretical evidence pointing to a general management practice in Nigeria that appears to be mainly based on the adoption of foreign management practices without consideration to their lack of congruency in many ways, with the local national culture and the need or aspirations of the local communities.

In this study, three cultural dimensions of Humane Orientation, Future Orientation and Uncertainty Avoidance were used to summarily describe the national culture of Nigeria, following the report of the GLOBE study (House et al., 2004), where Nigeria reportedly scores highly on these dimensions. However, there are other dimensions or other models of national culture that may also describe the national culture of Nigeria such as the Schwartz (1994) and the Trompenaars and (1993) models of national culture. The researcher therefore recommends that future research could consider using these other models and their dimensions to test the influence of national culture on management practices in Nigeria.

This study was contextually based on a particular industry in Nigeria with limited generalization. Future research can therefore replicate this study in a broadened sense, to involve other developing nations where oil and gas is extracted for increased generalization and also for purposes of comparative analysis thereby aiming to provide more validity to the model.

The relationships as proposed in the conceptual model should be tested for validity and applicability in other industries such as the banking industry and other service industries in Nigeria that are different from the oil and gas industry in their systems of operation

The relatively low sample size (221) used for analysis in this study limited the researcher from performing more statistical testing using other techniques to further validate the proposed model. A replication of this study with a larger sample size is therefore recommended.

Replication of this study by other researchers using the triangulation method to further confirm or validate the study is also recommended.

7.6.2. Implications and Recommendations for Industry Practitioners

With the continuous increase in the global energy consumption, resulting in a significant continuous increase in demand (EIA report, 2016), the optimization of the operations that lead to constant supply of energy sources such as oil and natural gas has become imperative. Again, due to the drop in the price of oil globally, a reduction in production, resulting from ineffective or continuously interrupted operational activities has great consequences for the industry in terms of loss of earnings and overall business success. It is therefore considered crucial for the industry operators to better understand the critical success factors of the industry, which includes its relationship with the host community. In Nigeria, there are several reports of conflicts between the industry and its host communities which has been linked to the industry practices described as lacking 'human face" (e.g. Nwankwo, 2015), meaning that these practices appear to be insensitive to the needs and aspirations of the industry's stakeholder-customers. The findings of this research will thus assist managers in understanding the nature and significance of the link between their management practices, community satisfaction and operational performance in the industry.

Also, from the findings of this study as shown in the proposed model, host Community Satisfaction occupies an influential position in the relationship between the management practices of QMP, CSR and the Operational Performance of the industry in Nigeria. This implies that a strong interest and focus on community satisfaction is a key step to improving operational performance. The findings also

highlight the importance of effective CSR practices in enhancing community satisfaction, showing that the effect of QMP on Community Satisfaction is indirectly conveyed significantly by CSR. The implication of this finding is that effective QMP has a strong impact on the effectiveness of the industry's CSR practises, which in turn, produces a positive effect on the host communities. It is this positive effect that results in a sense of satisfaction among the communities, which further impacts on the industry's operational performance. It therefore follows that a satisfied community will tend to maintain a good relationship with the operating companies of the industry, resulting in less conflicts and hence lower cost of production. Thus, for managers and other decision makers in the industry, the results of this study have substantive implications in terms of developing effective management systems and enhancement strategies in the industry.

Firstly, given that the result of this study shows that national culture has a significant influence on the choice and implementation strategies of the Quality Management Practices in the industry, it is therefore important that such practices be adapted to reflect or support the values expressed by the dominant cultural orientations or dimensions of the country of operation (Flynn and Saladin, 2006). In Nigeria, most of the operating companies in the oil and gas industry are Multi-National Co-operations (MNCs), thus, the Quality Management Practices, like most other management practices of the industry, follow the global model handed down from head offices in major world cities without much appreciation for the cultural differences between nations as well as their peculiar socio-economic challenges and work ethics, occasioned by their history, education, religion, and political climate. It is therefore recommended from the findings of this study that local managers should pay more attention to developing management systems and strategies that strongly considers the values and expressed social preferences of the Nigerian people, while still upholding the principles expressed in the global best practices of operations management rather than aiming to implement them prescriptively.

Secondly, in relation to the Corporate Social Responsibility, the findings in this study clearly shows the strong need for a re-assessment and restructuring of the CSR strategies of the industry owing to its very importance influence on community satisfaction and operational performance in the industry. It is a general impression

among industry practitioners that CSR practices have no significant impact on the general business success of the industry, hence, such practices are largely considered as merely "societal good" or in some cases, as a mere philanthropic community support program, aimed at image building and achieving a good impression of the organisation's commitment to good deeds as seen in the global context. However, it is evident from the findings that such an approach has lost its grounds resulting in the widely reported dissatisfaction of the host communities. Given that the result has revealed that CSR practices significantly impacts on Operational Performance, it is therefore crucial for managers and decision makers in the industry to strongly consider a different approach to their CSR strategies, recognising the strong need in the industry to work in transparent partnership with their host communities as against relegating them to the background, especially on issues of environmental degradation, community development, wealth creation and ethical considerations in all operational activities. Also the values expressed by the QMP such as: involving the communities in the decision making and operating transparently are affirmed by the finding of this research as guaranteed ways of achieving community satisfaction. It therefore implies that industry practitioners will benefit greatly from enhancing the effectiveness of the Quality Management Practices employed in the industry, recognising that this is a guaranteed way of ensuring successful outcome of CSR practices according to the findings of this study.

Thirdly, Although QMP and CSR practices have been shown to impact on Operational Performance in the oil and gas industry (Barrone et. al., 2007; Parast and Adams, 2012), this research has further revealed that these reported impacts are partly mediated by Community Satisfaction. Thus, Community Satisfaction has significant effect on Operational Performance. The implication for practitioners is that the channel of communication and the overall relationship between the industry and its host communities must be treated as critical in order to sustain or enhance production in the industry. Accordingly, the community relation's management policies and strategies should be pivoted on the concept of mutual understanding and respect for the interest of the different parties. To avert the community conflicts, there is no more room for the 'givers" and "receivers" relationship model between the industry and host communities. It is now imperative to, in recognition of the findings of this study, develop a more inclusive and transparent relationship model,

where all parties are considered as important stakeholders in the industry, with their interests and aspirations well considered in the decision making processes.

Finally, the proposed conceptual model which serves as the significant outcome of this study has been developed based on the interactions between the different elements that impact on Operational performance in the industry, hence the central objective is to provide insight for practitioners in relation to the necessary actions in order to achieve system optimisation in the operations management practices of the industry. Practitioners in the industry therefore need to take advantage of the insightful knowledge advanced in this research study, which clearly provides a roadmap for future negotiations and involvements with their host communities. However, some of the specific Quality Management Practices highlighted as significant in the final model include: leadership, involvement of people, customer (community) focus, and continuous improvement. It is therefore recommended that managers and policy makers in the industry should focus more seriously on these important practices, thereby developing better strategies for their effective implementation, which might involve channelling more resources to the training and development of employees in order to enhance effectiveness in this respect.

7.7. Research Contributions

This research study has significant contributions both to theory and to practice. These contributions are detailed as follows:

7.7.1. Contributions to Theory

This study contributes to theory in four significant ways:
Considered as the most important contribution of this study to theory is the development and proposal of a conceptual model describing the nature and significance of the relationships between the management elements of QMP, CSR, National Culture, host Community Satisfaction and Operational Performance within the context of the oil and gas industry. This model is the first original attempt to provide a comprehensive description of these relationships in the given context. It is therefore considered as the major outcome of this study.

Although there are findings from previous studies that show Quality Management Practices as having significant effects on the Operational Performance of a firm (e.g. Kaynak, 2003), this study not only confirms this reported relationship but has gone further to identify the crucial role of Host Community Satisfaction as a mediator in that relationship. The study therefore provides a new insight in that regard, positing that, in the context of the oil and gas industry, the host communities are not mere external stakeholders but should be seen and treated as customers whose satisfaction is critical to achieving a sustained productivity in the industry, following the general guidelines of ISO 9000 Quality Management Principles.

Further, it is widely reported in literature that Quality Management Practices has a direct effect on customer satisfaction (Wen Ye Sit et. al., 2009), however in the context of the oil and gas industry, the study found that where the host communities are also considered as customers, the effect of Quality Management Practices on the host communities (customers) is significantly conveyed through the Corporate Social Responsibility practices or initiatives of the industry. Hence host community satisfaction is considered as a product of effective CSR practices, which is influenced by the QMP of the industry.

Furthermore, the findings of this study affirm the widely advocated concept of cultural specificity in regards to the implementation of universal operations management ideals. However, it has specifically contributed to the theory by providing evidence for the influence of national culture on the management practices of QMP and CSR in the context of a specific country – Nigeria.

7.7.2. Contribution to Practice

With regards to the study's contribution to practice, the findings provide a clearer understanding of the critical success factors of the oil and gas industry in Nigeria, in relation to operations management strategies and their influence on the industry's business success. For example, understanding the significant effect of Community Satisfaction on Operational Performance gives managers and policy makers in the oil and gas industry a better insight for developing a more robust and comprehensive

framework for effectively managing the industry's relationship with the host communities. More specifically, this finding highlights the essence of a more business-minded approach to the CSR actions or practices, with regards to showing more transparency, greater focus on ethical behaviour, more seriousness with environmental protection issues, and greater concern for community involvement and development. The findings also highlight that the most effective way to achieve better community relations, leading to the optimization of operational performance is to view the host communities as partners having significant influence and stake on operational decisions, rather than perpetual "recipients" of philanthropic gestures for the purposes of securing "social licence".

Also, the cultural influence on management practices as shown in the developed model indicates that management practices should be tailored to reflect the cultural realities of the country of operation. This is an important finding for managers in the industry in Nigeria, which is largely populated by multi-national corporations.

7.8. Chapter Summary

In this chapter, the summary of the research study has been presented, highlighting the major findings, which served as answers to the research questions. These findings have been discussed in relation to their implications to theory and practice. Furthermore the limitations of the study were discussed, followed by the recommendations for future research. Finally the contributions of this research both to theory and practice were outlined.

On personal reflection, in the course of this research study, the researcher has had some great learning experiences with regards to both the theoretical content of the subject matter and most importantly, the process of undertaking a research project. Overcoming the challenges of data collection in Nigeria and the analysis with AMOS were major breakthroughs for the researcher. In all, these were reminders of the nature of a PhD research study, which requires resilience and consistent focus on the part of the researcher.

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APENDIX

Appendix 1A: Commonality table for the EFA of the Pilot Study

Communalities

	Initial	Extn.
There is a clear system for identifying the needs of the company's host communities	1.000	.573
The company is focused on meeting the expectations of the host communities	1.000	.805
Senior management sets clear directions for the company's operations	1.000	.516
Management ensures that conducive work environment is provided for all employees	1.000	.799
Everyone is involved in achieving company objectives	1.000	.648
Employees skills are well utilised	1.000	.704
Related activities are well organised as a process	1.000	.678
Resources are usually tied to related activities for efficient management	1.000	.353
Interrelated processes are grouped and managed as a system	1.000	.677
The interdependence between departmental/sectional operational processes is well managed	1.000	.611
The company is consistently committed to the continual improvement of its operational processes	1.000	.766
Improving on overall performance against set targets is a constant objective in the company	1.000	.889
Figures from reports form the primary data for evaluating system performance	1.000	.899
Statistical/graphical techniques are often employed to analyse data for decision making	1.000	.761
Suppliers/contractors are regarded as vital business assets to be managed for a long time	1.000	.640
There is mutual transparency in information sharing with suppliers/contractors for training and development	1.000	.580
The company is transparent in communicating the impacts of its activities on host communities	1.000	.633
The company is open in communicating the impacts of its activities on host communities	1.000	.685
The company is transparent in its engagement procedures with the host community	1.000	.576
The company's decision-making and implementation processes are open to all	1.000	.453
The company operates a robust system for resolving conflict of interest with host communities	1.000	.821
The eco-system is highly respected in operational activities	1.000	.583
The company honestly preserves the local cultural identity in its operational structure	1.000	.555
The host communities are well involved in deciding the procedures of engagement with the company	1.000	.742
The company views the host communities as partners for wealth creation	1.000	.864
There is strong support for the host communities in capacity building, and employment	1.000	.880
The company takes pollution prevention very seriously	1.000	.640
The company promotes environmentally sustainable work ethics in all activities	1.000	.878
Employee's effectiveness is generally driven by future gains of individuals such as their growth in the company	1.000	.752
Future outcomes of company operational decisions should be a major cause for concern for all employees of the company	1.000	.905
Future results are more important than short-term gains	1.000	.751
Forecast of system performance can only be made with the use of existing data	1.000	.920
Effective operational decisions are usually those driven by high sensitivity to emotional relationships	1.000	.459
Informal relationships among co-workers that highlight the humane aspects of kindness, respect and social relations usually have positive impact on operational activities	1.000	.759

Departmental or group performance is better driven by the emotional desires of employees to achieve team goals or targets	1.000	.823
Decisions based on trust and loyalty to social relations are usually more rewarding	1.000	.512
Maintaining system control should be a highly emphasized responsibility for all in the company	1.000	.870
Ability to work within and protect company rules and policies is the greatest strength of an employee	1.000	.811
It is important for processes to follow well established procedures with strict boundaries to avoid ambiguity	1.000	.920
Having a formal format for decision making and the official ratifications by superiors are generally advisable	1.000	.916
The company enjoys a cordial relationship with the communities	1.000	.716
All tensions between company and communities are easily resolved	1.000	.842
The communities are usually co-operative with the company in ensuring peaceful environment for operational activities	1.000	.560
A high level of mutual understanding exists between the communities and the company with regards to decision making processes	1.000	.670
Engagement sessions with the community are usually peaceful and productive	1.000	.662
The communities express high-level satisfaction in the execution of existing Memorandum of Understanding MoU	1.000	.715
The number of formal complaints received from the communities is significantly low	1.000	.487
The frequency of Community Street-protests or demonstrations against the company is minimal	1.000	.651
The communities have continually shown high-level satisfaction with the company's efficiency in addressing their complaints	1.000	.585
Most feedbacks from the communities regarding company's operational activities are generally positive	1.000	.896
The community relation's processes of the company are highly rated by the community	1.000	.683
The communities generally approve of the community development programs of the company	1.000	.786
There are less ad-hoc expenditures which are usually due to community-company conflicts	1.000	.824
The overall production overhead cost is consistent with the company's standard projections	1.000	.615
There has been continuous reduction in cost of production over the last 3 years	1.000	.466
Production targets are usually met within given time-lines	1.000	.678
The company maintains a high-level production output	1.000	.677
There are no interruptions leading to unplanned shut –down of operational activities	1.000	.579
Company processes are adequately effective	1.000	.676
General system-efficiency is of a high standard	1.000	.728
Compared to the companies in other industries, production processes are well managed to produce desired outcomes in the company	1.000	.786

Extraction Method: Principal Component Analysis.

Appendix 1B: Total Variance for the EFA of the Pilot Study

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	18.180	29.803	29.803	18.180	29.803	29.803	12.951	21.231	21.231
2	11.159	18.294	48.097	11.159	18.294	48.097	11.215	18.386	39.617
3	5.708	9.357	57.454	5.708	9.357	57.454	7.098	11.636	51.253
4	4.494	7.368	64.822	4.494	7.368	64.822	7.077	11.601	62.854
5	3.348	5.488	70.310	3.348	5.488	70.310	4.548	7.456	70.310
6	3.136	5.140	75.450						
7	2.431	3.985	79.435						
8	2.025	3.320	82.754						
9	1.849	3.031	85.785						
10	1.771	2.903	88.688						
11	1.381	2.263	90.951						
12	1.242	2.036	92.987						
13	.930	1.525	94.512						
14	.882	1.446	95.959						
15	.683	1.119	97.078						
16	.572	.938	98.016						
17	.538	.882	98.898						
18	.360	.589	99.487						
19	.313	.513	100.000						

Extraction Method: Principal Component Analysis.

Appendix 1C: Results of CFA for the Pilot Study

Notes for Model (Default model)

Computation of degrees of freedom (Default model)

Number of distinct sample moments:	3782
Number of distinct parameters to be estimated:	252
Degrees of freedom (3782 - 252):	3530

Result (Default model)

Minimum was achieved
Function of log likelihood = 7871.690
Number of parameters = 252

Maximum Likelihood Estimates

Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
QMP	<---	NC	.078	.121	.643	.520	par_58
CSR	<---	QMP	1.575	.591	2.667	.008	par_57
CSR	<---	NC	.645	.228	2.828	.005	par_61
CS	<---	QMP	.472	.335	1.408	.159	par_54
CS	<---	CSR	.111	.118	.938	.348	par_55
OP	<---	CS	.371	.202	1.838	.066	par_56
OP	<---	QMP	.279	.248	1.126	.260	par_59
OP	<---	CSR	.360	.104	3.451	***	par_60
QMPmbsr2	<---	QMP	1.000				
QMPmbsr1	<---	QMP	1.140	.410	2.778	.005	par_1
QMPfadm2	<---	QMP	1.437	.512	2.806	.005	par_2
QMPfadm1	<---	QMP	1.600	.516	3.100	.002	par_3
QMPci2	<---	QMP	1.943	.577	3.369	***	par_4
QMPci1	<---	QMP	1.553	.514	3.019	.003	par_5
QMPsa2	<---	QMP	1.053	.482	2.187	.029	par_6
QMPsa1	<---	QMP	.685	.354	1.933	.053	par_7
QMPpa2	<---	QMP	.667	.347	1.922	.055	par_8
QMPpa1	<---	QMP	1.012	.426	2.377	.017	par_9
QMPip2	<---	QMP	1.740	.593	2.933	.003	par_10
QMPip1	<---	QMP	1.717	.548	3.132	.002	par_11
QMPld2	<---	QMP	1.395	.432	3.232	.001	par_12
QMPld1	<---	QMP	1.575	.594	2.651	.008	par_13
QMPcf2	<---	QMP	1.738	.538	3.233	.001	par_14
QMPcf1	<---	QMP	1.000				
CSRec3	<---	CSR	1.000				
CSRec2	<---	CSR	.743	.165	4.505	***	par_15

			Estimate	S.E.	C.R.	P	Label
CSRec1	<---	CSR	1.152	.106	10.831	***	par_16
CSRcid3	<---	CSR	.999	.125	8.019	***	par_17
CSRcid2	<---	CSR	.515	.156	3.309	***	par_18
CSRcid1	<---	CSR	.673	.148	4.541	***	par_19
CSReb3	<---	CSR	.650	.152	4.270	***	par_20
CSReb2	<---	CSR	.819	.129	6.368	***	par_21
CSReb1	<---	CSR	.484	.132	3.667	***	par_22
CSRtra3	<---	CSR	.003	.148	.023	.982	par_23
CSRtra2	<---	CSR	.550	.165	3.321	***	par_24
CSRtra1	<---	CSR	1.000				
NCua4	<---	NC	1.000				
NCua3	<---	NC	1.457	.160	9.106	***	par_25
NCua2	<---	NC	.663	.192	3.442	***	par_26
NCua1	<---	NC	.890	.211	4.210	***	par_27
NCho4	<---	NC	.684	.198	3.455	***	par_28
NCho3	<---	NC	.612	.118	5.173	***	par_29
NCho2	<---	NC	.857	.157	5.451	***	par_30
NCho1	<---	NC	.402	.231	1.742	.082	par_31
NCfo4	<---	NC	1.158	.150	7.717	***	par_32
NCfo3	<---	NC	.886	.201	4.416	***	par_33
NCfo2	<---	NC	1.135	.139	8.143	***	par_34
NCfo1	<---	NC	1.000				
CScf3	<---	CS	1.000				
CScf2	<---	CS	.753	.391	1.925	.054	par_35
CScf1	<---	CS	1.640	.377	4.351	***	par_36
CSfc3	<---	CS	.923	.310	2.974	.003	par_37
CSfc2	<---	CS	.915	.359	2.548	.011	par_38
CSfc1	<---	CS	.345	.332	1.039	.299	par_39
CSmu3	<---	CS	1.219	.397	3.068	.002	par_40
CSmu2	<---	CS	.490	.300	1.633	.103	par_41
CSmu1	<---	CS	1.243	.353	3.516	***	par_42
CScrm3	<---	CS	.923	.312	2.954	.003	par_43
CScrm2	<---	CS	1.816	.439	4.142	***	par_44
CScrm1	<---	CS	1.440	.414	3.475	***	par_45
OPpe3	<---	OP	1.000				
OPpe2	<---	OP	1.600	.362	4.418	***	par_46
OPpe1	<---	OP	1.402	.328	4.273	***	par_47
OPco3	<---	OP	1.014	.340	2.988	.003	par_48
OPco2	<---	OP	.324	.281	1.153	.249	par_49
OPco1	<---	OP	.916	.273	3.351	***	par_50
OPpcr3	<---	OP	.451	.305	1.479	.139	par_51
OPpcr2	<---	OP	.890	.238	3.744	***	par_52
OPpcr1	<---	OP	.910	.251	3.619	***	par_53

Appendix 1C:

RESEARCH QUESTIONNAIRE

Linking Quality Management Practices, Corporate Social Responsibility, and National Culture to Operational Performance in the Oil and Gas Industry in Nigeria

Dear Sir/Madam,

This questionnaire is for an academic research work on the above topic. May I request your assistance in providing an honest response to the statements below as they apply to your company. This is a strictly academic exercise aimed at exploring ways of optimizing operational performance in the oil and gas industry in Nigeria. Thank you for your time.

	Please read the following statements carefully and rate them according to your level of agreement/disagreement, which represents the practice in your company. ***"Please tick as appropriate"***	**Strongly Disagree**	**Slightly Disagree**	**Neither Agree nor Disagree**	**Slightly Agree**	**Strongly Agree**
S/No.	**Quality Management Practices**					
1	There is a clear system for identifying the needs of the company's host communities					
2	The company is focused on meeting the expectations of the host communities					
3	Senior management sets clear directions for the company's operations					
4	Management ensures that conducive work environment is provided for all employees					
5	Everyone is involved in achieving company objectives					
6	Employees skills are well utilised					
7	Related activities are well organised as a process					
8	Resources are usually tied to related activities for efficient management					
9	Interrelated processes are grouped and managed as a system					
10	The interdependence between departmental/sectional operational processes is well managed					
11	The company is consistently committed to the continual improvement of its operational processes					
12	Improving on overall performance against set targets is a constant objective in the company					
13	Figures from reports form the primary data for evaluating system performance					
14	Statistical/graphical techniques are often employed to analyse data for decision making					

15	Suppliers/contractors are regarded as vital business assets to be managed for a long time					
16	There is mutual transparency in information sharing with suppliers/contractors for training and development					
	Corporate Social Responsibility					
17	The company is transparent in communicating the impacts of its activities on host communities					
18	The company is open in communicating the impacts of its activities on host communities					
19	The company is transparent in its engagement procedures with the host community					
20	The company's decision-making and implementation processes are open to all					
21	The company operates a robust system for resolving conflict of interest with host communities					
22	The eco-system is highly respected in operational activities					
23	The company honestly preserves the local cultural identity in its operational structure					
24	The host communities are well involved in deciding the procedures of engagement with the company					
25	The company views the host communities as partners for wealth creation					
26	There is strong support for the host communities in capacity building, and employment					
27	The company takes pollution prevention very seriously					
28	The company promotes environmentally sustainable work ethics in all activities					
	National Culture					
29	Employee's effectiveness is generally driven by future gains of individuals such as their growth in the company					
30	Future outcomes of company operational decisions should be a major cause for concern for all employees of the company					
31	Future results are more important than short-term gains					
32	Forecast of system performance can only be made with the use of existing data					
33	Effective operational decisions are usually those driven by high sensitivity to emotional relationships					
34	Informal relationships among co-workers that highlight the humane aspects of kindness, respect and social relations usually have positive impact on operational activities					
35	Departmental or group performance is better driven by the emotional desires of employees to achieve team goals or targets					
36	Decisions based on trust and loyalty to social relations are usually more rewarding					
37	Maintaining system control should be a highly emphasized responsibility for all in the company					

38	Ability to work within and protect company rules and policies is the greatest strength of an employee					
39	It is important for processes to follow well established procedures with strict boundaries to avoid ambiguity					
40	Having a formal format for decision making and the official ratifications by superiors are generally advisable					
	Community Satisfaction					
41	The company enjoys a cordial relationship with the communities					
42	All tensions between company and communities are easily resolved					
43	The communities are usually co-operative with the company in ensuring peaceful environment for operational activities					
44	A high level of mutual understanding exists between the communities and the company with regards to decision making processes					
45	Engagement sessions with the community are usually peaceful and productive					
46	The communities express high-level satisfaction in the execution of existing Memorandum of Understanding MoU					
47	The number of formal complaints received from the communities is significantly low					
48	The frequency of Community Street-protests or demonstrations against the company is minimal					
49	The communities have continually shown high-level satisfaction with the company's efficiency in addressing their complaints					
50	Most feedbacks from the communities regarding company's operational activities are generally positive					
51	The community relation's processes of the company are highly rated by the community					
52	The communities generally approve of the community development programs of the company					
	Operational Performance					
53	There are less ad-hoc expenditures which are usually due to community-company conflicts					
54	The overall production overhead cost is consistent with the company's standard projections					
55	There has been continuous reduction in cost of production over the last 3 years					
56	Production targets are usually met within given time-lines					
57	The company maintains a high-level production output					
58	There are no interruptions leading to unplanned shut – down of operational activities					

59	Company processes are adequately effective					
60	General system-efficiency is of a high standard					
61	Compared to the companies in other industries, production processes are well managed to produce desired outcomes in the company					

Name of company _____

Name of Respondent (optional)_____

Position or Rank _____

Length of service (years): **0-5** ☐ **6-10** ☐ **11** ☐ ☐ ☐

Appendix 1E: Personal Letter to Questionnaire Respondents

Dear Sir/Madam,

My Name is Monday Agi, A research student in Brunel University UK. I am conducting a research study on the operations management practices of the oil and gas industry and the nature of their relationship with operational performance. The major objective is to develop a conceptual model that will be potentially useful in providing a better understanding with regards to the relationship between host community satisfaction and operational performance in the oil and gas industry in Nigeria.

I have therefore created a brief online questionnaire for data collection, which contains a total of 61 brief statements. You only need to agree or disagree to the statements according to what you know to be the current practice or situation in your company. It will take an average of 15 minutes of your time.

If you can respond to this as soon as possible, I will really appreciate it.

Here is the link to the online questionnaire:

https://docs.google.com/forms/d/1AbYJyl9VZE1mIWaamjS1sHMTXU8-1INwk9yc3LVHwqY/viewform?c=0&w=1&usp=mail_form_link

Attached here also is the printable word version if you prefer to respond traditionally. Although in this case, the answered questionnaire can be scanned and returned to me by email. Alternatively, if you let me know by email when the questionnaire is completed, I will send my agent to you for collection.

I will really appreciate your urgent assistance in this, as I have a very short time to conclude this exercise.

Many thanks for your time.

Monday Agi

Reply, Reply All or Forward | More