



REVISTA INCLUSIONES

HOMENAJE A MAJA ZAWIERZENIEC

Revista de Humanidades y Ciencias Sociales

Volumen 7 . Número Especial

Abril / Junio

2020

ISSN 0719-4706

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ECONOMIC, SOCIAL AND POLITICAL IMPEDIMENTS OF NIGERIAN OIL AND GAS INDUSTRY

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Fecha de Recepción: 10 de enero de 2020 – **Fecha Revisión:** 23 de enero de 2020

Fecha de Aceptación: 08 de marzo de 2020 – **Fecha de Publicación:** 01 de abril de 2020

Abstract

Nigeria is one of the largest producers of petroleum and gas which are significant resource base of the Nigerian economy contributing approximately 80 percent of government revenue and accounting for more than 90 percent of the country's foreign exchange earnings. The survey was carried out to find out economic, social and political impediments of Nigerian oil and gas industry on the base of questioning over 500 persons of different managerial level from 11 companies. The findings ascertained the significant positive effects of oil and gas sector prices on competitiveness in the oil and gas sector and highlights the positive and significant effects of theft and vandalism on the overall growth of the Nigerian oil and gas sector. This study has provided evidence ascertaining the linkages between contemporary issues and challenges inherent in the Nigerian oil and gas industry and its prospects for competitiveness, operational effectiveness and overall growth.

Keywords

Nigeria – Oil and gas sector – Oil managers survey – Economic development

Para Citar este Artículo:

Ichima, Egor. Economic, social and political impediments of Nigerian oil and gas industry. Revista Inclusiones Vol: 7 num Especial (2020): 458-479.

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LIC. EGOR ICHIMA

Introduction

Nigeria is the world 12th largest producer of petroleum, 8th largest exporter and has 10th largest proven reserves¹. Nigeria ranks among top 10 nations in terms of oil and natural gas reserves which stood at 36.2 billion barrels and 181.9 trillion cubic feet respectively. The gas reserves are placed at more than 3 trillion cubic meters. There is an estimated 124 trillion cubic feet of proven natural gas reserves (the ninth largest in the world).

Nigeria's estimated crude oil export was US\$33 billion accounting for 3.9% of the world supply outpaced only by Saudi Arabia (US\$133.6 billion), Russia (US\$93.3 billion), Iraq (US\$61.5 billion), Canada (US\$54 billion), United Arab Emirates (US\$49.3 billion), Iran (US\$40.1 billion) and Kuwait (US\$38.2 billion) (2018). Oil and liquefied natural gas are valuable resources to the Nigerian economy. As at 2014, Nigeria was among the top five (5) exporters of Liquefied Natural Gas (LNG) with an export capacity of 25.3 billion cubic meters (cm) higher than Indonesia at 21.7 cm and behind Qatar, Malaysia and Australia at 103.4, 33.9 and 31.6 billion cubic meters (cm)² respectively. For decades, oil and gas have been the staple of Nigeria's economy and at present it is the premier engine of economic growth in Nigeria and has increasingly become a significant resource base of the Nigerian economy contributing approximately 80 percent of government revenue and accounting for more than 90 percent of the country's foreign exchange earnings. Nigeria's oil production capacity continued to soar at a steady pace until she became a formidable force with Organization of Petroleum Exporting Countries (OPEC)³.

Despite, these ever-growing profile, the growing significance of the oil and gas exports for economic stability of the country has become a great concern as the country is plagued by a host of industry challenges locally and internationally.

These issues are averred⁴ to shape the oil and gas industry and impact on the performance of the sector.

The future of oil and gas industry both internationally and nationally has changed. For over ten decades the story for most oil suppliers was in three-folds: growth in the productive supply for an ever increasing Western-demand, competition between IOCs for access to national reserves and increased search for alternative fuel. In point of fact, control of oil prices is weak in the hands of suppliers as production mechanism now depends less on the use of oil prices have moved out of the control of suppliers and other industries are now capturing the oil market in terms of production mechanisms that depend less on the use of oil as well as increased search for alternative fuels with new technologies making it easy for countries to produce unconventional fuels⁵. Predictions of global energy demand are rising with buyers gaining more control than sellers over energy prices and power play between new and traditional oil and gas supplies is changing the supply-demand fundamentals of the industry. Following these events Nigeria witnessed a

¹ World Economic Outlook Database, October 2018 – Nigeria". International Monetary Fund. 2018.

² Energy Information Association, E. Nigeria country analysis brief. (2018). Available at: <http://www.eia.doe.gov/emeu/cabs/Nigeria/Full.htm>

³ National Bureau of Statistics, Annual Statement and Report. 2016.

⁴ World Bank, Global Economic Prospects June 2013. Washington, DC: World Bank. World Fact book. 2017. 2015. Available <https://www.cia.gov/library/publications/the-worldfactbook/geos/ni.html>

⁵ J. Mitchell; V. Marcel y B. Mitchell, What Next for the Oil and Gas Industry? (London: Chatham House The Royal Institute of International Affairs, 2012).

change in its initial consumer market with a fall in its US market share. As such, she had to work out the fundamentals undergirding a market now awash with oil, thus, needing to redirect its crude to new markets like Asia and sustain her existing Europe market competing with large suppliers like Russia and Angola. Certainly, the occurrence of this alarming oil price decline took a toll on the sector and the economy of the country⁶. For net oil exporters like Nigeria, the effect can only be described as ‘punishing’ seeing the simultaneous effects on government revenues and export decline rapidly followed by domestic financial markets witness of fleeing foreign investors and downward pressure on exchange rates.

Beyond the challenge of crude oil prices is the spate of vandalism, theft and militancy activities in the Niger Delta which succeeded in reducing the production capacity from 2.2 million barrels per day to 800,000 in 2016 and 2017 take of causing IOCs such as Chevron, Exxon Mobil Corporation and Royal Dutch Shell Plcto record their lowest losses in 27 years since 1999⁷. Further exacerbated by militant activities in the Niger delta region, the sector has contracted by 22 percent of production in 2016; just before 2015 when President Muhammadu Buhari took over leadership of Nigeria her rating was downgraded from B⁺ to BB⁻(the credit rating showing the credit risk of a prospective debtor indicating their likelihood of debt defaulting) by Standard & Poor⁸. Operators in Nigeria’s energy sector have faced significant challenges and uncertainties in the last two years, stemming from global market conditions and the domestic state of affairs in Nigeria. Despite the positive and ‘ambitious’ reform programs of the current government to reform the industry, substantial challenges and risks call for the attention of the government, its donor partners and for the private sector. More broadly, the web of vested interests that benefit from the dysfunctional status quo have not gone away despite the change in administration of the likes of Buhari, Kachikwu and Power Minister Babatunde Fashola⁹ who have shown commitment and capability of overseeing far-reaching reforms.

Thus, it becomes necessary to understand how factors such as world demand for crude oil, diverse alternative sources of energy, climate change, internal and regional conflicts, economic development, leadership and reforms such as the Petroleum Industry Bill of 2016 (whose implementation is hoped would birth a new phase for the country’s oil and gas sector and meet the energy demand of Nigeria in an efficient, secure, sustainable way) affect the Oil and gas sector. In tandem to the foregoing this research explores the current issues of the Nigerian oil and gas sector as well as the future prospects. It seeks to answer the question: what are the issues undergirding the Nigerian oil and gas sector in the last three decades and what are the prospects for growth if these issues are surmounted? It addresses pressing issues confronting the Nigerian oil and gas sector such as high depletion of existing reserves, the local content and human capital deficits, the

⁶ L. Odeyemi, 10 ways the falling oil prices is affecting Nigerians. 2016. Available at: <https://bizwatchnigeria.ng/10-ways-the-falling-oil-prices-is-affecting-nigerians/> y G. Osadchaya; I. Leskova y T. Yudina, “Labor Mobility of Migrants from The Eurasian Economic Union Member Countries on The Russian Market of Labor: Status, Problems, Scenarios of Development”, *Economic and Social Development* (2018): 463-471.

⁷ O. H. Onyi-Ogelle, “National Participation in the Nigeria Oil and Gas Industry: Prospects and Challenges”, *Journal of Emerging Trends in Educational Research and Policy Studies (JETERAPS)*, Vol: 7 num 2 (2016): 134-144

⁸ World Bank, *Global Economic Prospects June 2013* (Washington, DC: World Bank. World Fact book. 2017, 2015). Available <https://www.cia.gov/library/publications/the-worldfactbook/geos/ni.html>

⁹ KPMG. *Nigeria’s Oil and Gas Industry Brief*. KPMG Advisory Services. 2014.

capital investment among the IOCS, current state of security, oil theft and pipeline vandalism with the future prospects outlined against the Newly Drafted Petroleum Industry Bill (PIB).

Objectives of the Research

The research's primary objective is to assess the issues and prospects of the Nigerian oil and gas sector.

Methods

The research is carried out as a survey focusing on oil sector executives at various levels (senior executives, heads of divisions, departmental heads, field supervisors) and covering all related departments.

The instrument for data collection for this research is the questionnaire. The questionnaire was sub-divided into different sections and sub-sections based on the research objectives. The first section focused on the demographic information of the respondents the other dealt with the perception of the respondents in relation to, erratic and falling oil and gas prices, evolving dynamics between Integrated Oil Companies (IOCs) and IOCs capital investments, security, oil theft and pipeline vandalism, local content and human capital deficit and Petroleum Industry Bill (PIBs).

The variables were measured on a four point Likert scale containing 5 sub-items each as follows: 1 = "Strongly Disagree"; 2 = "Disagree"; 3 = "Agree" and 4 = "Strongly Agree". The questionnaire items were made up of closed ended questions with only two open-ended one to provide for brief explanations so as to gather relevant information especially on the issues of industry effectiveness, theft and militancy. Each of the variable were measured by a scale containing a group of sub-items. To get the quantitative value for each variable per respondents for a particular variable say 'N' the following formula was used:

$$V_N = \frac{\text{Total sum of the scale items for a particular respondent}}{\text{Total Number items of items in the scale}} \quad (1)$$

Reliability of the instrument is measured using consistency test of reliability as this study involves only one version of instrument and is administered once to all the respondents. The test examines each of the question to determine if it actually test what it was designed to test. For example, internal consistency measured all questions with oil and gas sector prices category to assess whether it is efficacious in measuring the construct. Internal consistency was measured using Cronbach's Alpha¹⁰. This reliability test was used because it is considered effective in analysing scale responses which was mostly used in this survey. Aggregately, validity and reliability is achieved through respondent triangulation, collection of detailed data ad comparison with similar case studies.

¹⁰ Görgens-Ekermans, Gina and Herbert, Marthine, "Psychological capital: Internal and external validity of the Psychological Capital Questionnaire (PCQ-24) on a South African sample", SA Journal of Industrial Psychology, num 39 (2012): 1-12.

Research results

A total of 768 participated in the survey during the collection of data phase from eleven different oil and gas firms within the industry, Regulatory Agencies, Service providers and Industry Associations: Adda Petroleum Exploration (Nigeria), Alren Energy Resources, Chevron Nigeria, ConOil Producing, Department of Petroleum Resources, Dubri Oil, Elf Petroleum Nigeria, ENSCO Drilling Company Nigeria, Express Petroleum & Gas, Famfa Oil, GasLink Nigeria Limited, Intel Nigeria, Ionestar Drilling Nigeria, Millenuim Oil & Gas Company, Mobil Producing Nigeria, Nigeria National Petroleum Corporation, Orient Petroleum Resources Limited, Petroleum Technology Association of Nigeria, Price Water Corporation, Sahara Energy Fields, SAIPEM Contracting Nigeria, SEDCO Forex of Nigeria, Shell Nigeria Exploration & Production, Solgas Petroleum, South Atlantic Petroleum, Summit Oil International, TECON Oil Services Limited, Total Upstream Nigeria, and Yinka Folawiyo Petroleum. Table 1 presents an overview of the responses across states and firms. A total of 586 responses were returned out of which 65 has gross missing item information for which they were not included in the final phase of the analysis which produced an acceptable response rate of 67.83percent(521 responses) (Table 1).

State	Distributed	Final sample Frequency n (%)
Abia State Nigerian National Petroleum Corporation Petroleum Technology Association of Nigeria	67	17 (3.26) 17 (3.26) 34 (6.53)
Akwalbom State Chevron Nigeria Mobil Producing Nigeria Nigerian National Petroleum Corporation Petroleum Technology Association of Nigeria	95	23 (4.41) 18 (3.45) 1 (0.19) 28 (5.37) 70 (13.44)
Bayelsa State Alfren Energy Resources Express Petroleum & Gas SEDCO Forex of Nigeria Solgas Petroleum South Atlantic Petroleum Summit Oil International TECON Oil Services	146	11 (2.11) 37 (7.10) 10 (1.91) 18 (3.45) 7(1.34) 6(1.15) 8(1.54) 97 (18.62)
Cross River State Conoil Producing Nigerian National Petroleum Corporation Petroleum Technology Association of Nigeria Total Upstream Nigeria	62	7 (1.34) 1 (0.19) 9 (1.73) 16 (3.07) 33 (6.33)
Delta State Addax Petroleum Exploration (Nigeria) Dubri Oil Elf Petroleum Nigeria Noble Drilling Nigeria Orient Petroleum Resources Limited Sahara Energy Fields Shell Nigeria Exploration & Production Solgas Petroleum	112	15 (2.87) 6 (1.15) 10 (1.91) 14 (2.68) 7(1.34) 14(2.68) 11(2.11) 9(1.73)

		86 (16.51)
Imo State Nigerian National Petroleum Corporation Petroleum Technology Association of Nigeria	77	7 (1.34) 47 (9.02) 54 (10.36)
Ondo State Department of Petroleum Resources Nigerian National Petroleum Corporation	54	15 (2.87) 6 (1.15) 21 (4.03)
Rivers State ENSCO Drilling Company Nigeria Famfa Oil GasLink Nigeria Limited Intel Nigeria Lonestar Drilling Nigeria Millennium Oil & Gas Company Nigerian national Petroleum Corporation Petroleum Technology Association of Nigeria Price Water Corporation SAIPEM Contracting Nigeria Tecon Oil Services Limited YinkaFolawiyo Petroleum	155	5 (0.95) 17(3.26) 6 (1.15) 8 (1.54) 8(1.54) 24(3.45) 4(0.76) 26(4.61) 5(0.95) 9(1.73) 4(0.76) 10(1.91) 126 (24.18)
Total	768	521 (100.00)

Table 1
Sample Size of the Respondents'
Source: Research Data, 2018

Reliability of the instrument

Reliability refers to the extent to which data or measurement instrument is consistent over time. The research adopts Cronbach’s Alpha (α) to determine the internal consistency of the instrument. Based on the recommendations by Nunnally (1978) a cut-off point of 0.7 was adopted. Substantiating the above assertion by Nunnally (1978), George and Mallery (2003) stated the following standards on Cronbach’s Alpha coefficient: coefficient ≥ 0.9 is excellent; coefficient ≥ 0.8 is good, coefficient ≥ 0.7 is acceptable, coefficient ≥ 0.6 is questionable and coefficient ≥ 0.5 is poor. Table 2 presents the reliability results of the Cronbach’s alpha. From table 3.6 it can be deciphered that the coefficients for most of the variables are between 0.7 and 0.8 while the average Cronbach’s Alpha indicates a coefficient of coefficient ≥ 0.7 is excellent which is considered acceptable. Based on this we can conclude that the instrument is considered reliable.

S/N	Contemporary issues and challenges Constructs	Overall Cronbach’s Alpha Values
1	Oil And Gas Prices	0.759
2	IOCS Capital Investments and Divestments	0.672
3	Security, Oil Theft and Pipeline Vandalism	0.704
4	Local Content And Human Capital Deficit	0.882
5	Petroleum Industry Bill (PIBS)	0.771
	Industry Prospects Constructs	
1	Competitiveness	0.652
2	Operational Effectiveness	0.815
3	Growth Of The Oil And Gas Industry	0.799

	Control Variables	
1	Economic, social and political Impediments	0.827
	Average Alpha	0.764

Table 2
Cronbach’s Alpha for the Contemporary issues and challenges of the Oil and Gas Industry and Prospects
Source: Source: Research Data, 2018

Demographic Profile of the Respondents

This section captures the socio-economic and demographic attributes of the respondents, research instrument A1 to A7 focuses on the demographic information of the respondents including the sex, age etc. The sample as indicated in Table 3 shows that the study is comprised of 330 (63.3%) male respondents and 191 (36.7%) female respondents showing that this industry is likely male-dominated. The majority of the respondents were made of four age groups; age group <30 were 195 (37.4%), 30-39 were 222 (42.6%), age group 40-49 were 82 (15.7%) and age group 50-60 were just 22 (4.2%). Majority of the respondents were single 320 (61.4%). A closer examination of this trend shows that the demanding nature of the industry and job do not give adequate room for staff to settle well enough to establish relationships leading to marriage. Majority of them had a tertiary education 499 (95.8%).

Most (432) of the respondents had five or less years of experience at their current job working for their respective firms which makes up 82.9%; specifically, 78 (15.0%) had 6-10 years of working experience while 11 (2.1%) had 16-20 years of working experience. In terms of industry experience (479) of the respondents had five or less years of experience which constitutes up 91.9%; specifically, 31 (6.0%) had 6-10 years of working experience while 9 (2.1%) had above 20 years of working experience in the industry. One respondent each claimed to have been in the industry for 11-15 years and 16-20 years respectively. As for cadre of workforce within the oil and gas industry, those who were at the upper (top) management were 123 (23.67%), middle management were 226 (43.4%) and lower management were 172 (33.0%). It is indicative that 266 (51.1%) of the respondents were working for firms in the upstream sector, 184 (35.3%) for firms in the downstream sector and 71 (13.6%) of the respondents were working for firms in the services sector.

In relation to the firms activities 137 (26.3%) were involved in production of oil and/or natural gas, 142 (27.3%) were involved in regulatory government agencies, 93 (17.9%) were involved in oil exploration and development, 78 (15.0%) were involved in exploration and production of natural gas, 58 (11.1%) were involved in drilling services and 13 (2.5%) were involved in expert advice. Finally, referring to the category of the study whether of oil or gas 350 (67.2%) of the respondents were involved in activities that spans ‘through oil and gas, 93 (17.9%) were specifically on oil services while 78 (15.0%) were specifically on gas services.

Variables	Frequency N (%)
Gender	
Female	191 (36.7)
Male	330 (63.3)
Age	
<30	195 (37.4)
30-39	222 (42.6)

40-49	82 (15.7)
50-60	22 (4.2)
Above 60 years	0 (0.0)
Marital status	
Single	320 (61.4)
Married	201 (38.6)
Separated/Divorced/Widowed	0 (0.0)
Educational qualification	
Primary	0 (0.0)
Secondary	22 (4.2)
Tertiary	499 (95.8)
Working Experience(Firm)	
1-5 years	432 (82.9)
6-10 years	78 (15.0)
11-15 years	0 (10.4)
16-20 years	11 (2.1)
Above 20 years	0 (0.0)
Working Experience (Industry)	
1-5 years	479 (91.9)
6-10 years	31 (6.0)
11-15 years	1 (0.2)
16-20 years	1 (0.2)
Above 20 years	9 (1.7)
Firm Category	
Downstream	184 (35.3)
Services	71 (13.6)
Upstream	266 (51.1)
Firm Activity	
Drilling Services	58 (11.1)
Expert Advice	13 (2.5)
Government, Associations	142 (27.3)
Natural Gas Exploration and Development	78 (15.0)
Oil Exploration and Development	93 (17.9)
Production of Oil and/or Natural Gas	137 (26.3)
Management Level	
Upper	123 (23.6)
Middle	226 (43.4)
Lower	172 (33.0)
Product Category	
Oil	93 (17.9)
Gas	78 (15.0)
Both	350 (67.2)

Table 3
 Respondents' socio-demographic characteristics
 Source: Research Data, 2018

Tests of Normality, Multicollinearity and Homoscedasticity

Some diagnostic checks were conducted to establish the cleanness and reliability of the data before regression analysis was carried out in order to draw inferences. These are the Tests of Normality, Multicollinearity and Homoscedasticity.

Normality Test

The Shapiro-Wilk tests was used in determining the normality properties of the variables. This test is considered effective if the sample size is less than 2,000 otherwise it is recommended that the Kolmogorov-Smirnov tests be adopted. The results of the Shapiro-Wilk tests as depicted in table 4 shows that all the variables had Shapiro-Wilk statistics values greater than 0.5 indicating normality. Specifically, the statistics of the study variables ranged from 0.772 to 0.9234 > 0.5.

Variables	S-W Test Statistics		
	Obs	Stat.	sig.
PRICES	.969	521	.969
OICCID	.954	521	.954
SOTPV	.942	521	.942
LCHCD	.919	521	.919
PIB	.962	521	.962
COMPT	.949	521	.949
OEFV	.688	521	.688
GROWTH	.933	521	.933
KSFI	.931	521	.931

Table 4
Normality Test
Source: Research Data, 2018

Note: PRICES = Oil and Gas Sector Prices; OICCID = IOCS Capital Investments and Divestments; SOTPV = Security, Oil Theft and Pipeline Vandalism, LCHCD = Local Content And Human Capital Deficit; PIB = Petroleum Industry Bill (PIBS); COMPT = Competitiveness of Nigerian Oil and Gas Industry; OEFV = Operational Effectiveness of Nigerian Oil and Gas Industry; GROWTH = Growth of Nigerian Oil and Gas Industry; KSFI = Economic, social and political Impediments of Nigerian Oil and Gas Industry.

Descriptive Statistics of the Study Variable

This section presents the descriptive statistics of the study variables including the arithmetic mean, standard deviation to determine the importance of each of the items within the scale that makes up the five contemporary issues and challenges within the Nigerian oil and gas sector, the prospects of the industry as well as the Impediments that influences these prospects. The study variables were measured using four point Likert Scale (strongly agreed=4; agreed = 3; disagree=2, strongly disagree=1) and one sample t-test. The respondents were asked to rate the items of the five variables based on the extent to which they agreed or disagreed with the items that forms the different scales of the study variables.

Perspectives of Oil and Gas Prices

Beginning with oil and gas prices table 5 shows the importance of the eight items that makes up oil and gas prices trends and changes where the arithmetic mean range between 3.01 and 3.43 compared with the average arithmetic mean of 3.26. It can be observed that the question “Do you think your IOC can compensate for the loss of petroleum-related sales by increasing their sales in other markets” has the highest mean (3.43) and a standard deviation (0.613) while the question “Do these prices changes

impact on the stock performance of your IOC by more than 20%.” has received the lowest mean score of 3.01 with a standard deviation of 0.853. Although the importance levels for all the eight items that makes up oil and gas prices trends and changes can be deemed high the findings showed that the ability of price changes to effect stock prices of oil and gas firms above 20% received the lowest affirmation. Conclusively, the mean tends towards 3.0 indicating on a 5-piont Likert scale indicating that the audience are in agreement that oil and gas prices constitute a challenge or issue in the oil and gas sector.

S/N	Oil and Gas Prices	N	Mean	Std.	CV	Item Importance
1	Do you agree that oil and gas prices are erratic or unstable?	521	3.25	.601	.362	5
2	Do rising oil prices constitute one of the biggest risks to the Nigerian economy?	521	3.42	.703	.494	2
3	Do these price changes crimp real incomes and apex spending of IOCs generally	521	3.19	.675	.456	6
4	Do these prices changes impact on the profitability of your IOC by more than 35%	521	3.07	.849	.722	7
5	Do these prices changes impact on the stock performance of your IOC by more than 20%	521	3.01	.853	.727	8
6	Do you think your IOC can compensate for the loss of petroleum-related sales by increasing their sales in other markets	521	3.43	.613	.376	1
7	Do you think production hedging reduces the effects of crude oil prices volatility	521	3.32	.466	.217	4
8	Do you expect prices to change erratically in the future?	521	3.37	.741	.550	3
Aggregate Mean and Standards Deviation			3.2565	.44754		

Table 5
Arithmetic mean, SD, item importance and significant levels of dimensions
of Oil and Gas Prices
Source: Research Data, 2018

Perspectives of IOCS Capital Investments and Divestments

In terms of IOCS Capital Investments and Divestments table 6 shows the importance of the eight items that makes up the level of IOCS Capital Investments and Divestments where the arithmetic mean range between 2.93 and 3.54 compared with the average arithmetic mean of 3.21. It can be observed that the statement “Do you think these divestment change the economic landscape of the oil and gas industry in Nigeria?” has the highest mean (3.54) and a standard deviation (0.499) while the statement “Do you consider these divestment as a form of capital flight or further investment in the industry?.” has received the lowest mean score of 2.93 with a standard deviation of 0.970 indicating that most of the respondents wholly accepts that the divestments made by the IOCs has definitely changed the economic landscape of the oil and gas industry in Nigeria while agreement as to whether it is considered a form of capital flight is not rated too high. An average value of 3.21 which tends towards 3.0 on a 4-piont Likert scale and a low standard deviation of 0.2 showed that the respondents are in agreement that IOCS Capital Investments and Divestments plays a crucial role in the oil and gas industry.

S/N	Oil and Gas Prices	N	Mean	Std.	CV	Item Importance
1	Has your IOC been involved in onshore divestment in the past five years (2014-2018)?	521	3.44	.497	.247	3
2	Are these divestment as a result of financial risks faced by the IOCs?	521	3.00	.000	.000	6
3	Are IOCs divestment as a result of delays in the passage of the PIB?	521	3.05	.792	.627	5
4	Are IOCs divestment occasioned Increase in government takings in the deep and ultra-deep offshore concessions (61 per cent to a new figure of 73 per cent) as slated in the PIB?	521	2.98	.862	.744	7
5	Do you consider these divestment as a form of capital flight or further investment in the industry?	521	2.93	.970	.941	8
6	Do these divestment by some IOCs lead to risks such as crimes like stolen crude	521	3.29	.511	.261	4
7	Do you think these divestment change the economic landscape of the oil and gas industry in Nigeria?	521	3.54	.499	.249	1
8	Has your IOC been involved in onshore divestment in the past five years (2014-2018)?	521	3.46	.499	.249	2
Aggregate Mean and Standards Deviation			3.2104	.29706		

Table 6

Arithmetic mean, SD, item importance and significant levels of dimensions of IOCS Capital Investments and Divestments

Source: Research Data, 2018

Perspectives of Security, Oil Theft and Pipeline Vandalism

From the perspective of Security, Oil Theft and Pipeline Vandalism (table 7) shows the importance of the seven items that makes up the level of Security, Oil Theft and Pipeline Vandalism where the arithmetic mean range between 2.59 and 3.73 compared with the average arithmetic mean of 3.33. It can be observed that the statement “Have your firm experienced the operations of oil theft and pipeline vandalization” has the highest mean (3.73) and a standard deviation (0.444) while the statement “Do you think the amnesty programme and other measures (Nigerian policing) adopted has achieved security stabilization within the Niger Delta” has received the lowest mean score of 2.59 and a standard deviation of 0.911. Although the importance levels for all the seven items that makes up Security, Oil Theft and Pipeline Vandalism can be deemed high the findings showed that amnesty programme and other measures (Nigerian policing) adopted has not achieved security stabilization within the Niger Delta. The aggregate standard deviation for Security, Oil Theft and Pipeline Vandalism is small (0.29) confirming that respondents generally agreed that Security, Oil Theft and Pipeline Vandalism is crucial for oil and gas sector industry.

S/N	Oil and Gas Prices	N	Mean	Std.	CV	Item Importance
1	Have your firm experienced the operations of oil theft and pipeline vandalization	521	3.73	.444	.197	1
2	Did it lead to shutdown of production, marketing and operational activities of your firm	521	3.30	.457	.209	5
3	Has oil theft facilities vandals and illegal bunkering led to a more 20% revenue loss for your firm annually	521	3.47	.659	.434	3
4	Was it a major reason for any divestment of your firm	521	3.25	.448	.201	6
5	oil theft facilities vandals and illegal bunkering activities threaten the very foundation of the Nigerian oil industry	521	3.43	.495	.245	4
6	Do you think the amnesty programme and other measures (Nigerian policing) adopted has achieved security stabilization within the Niger Delta	521	2.59	.911	.831	7
7	International Oil Companies needs intelligence measures to boast their existing security which will help more in securing their facilities	521	3.55	.497	.247	2
Aggregate Mean and Standards Deviation			3.3315	.29139		

Table 7

Arithmetic mean, SD, item importance and significant levels of dimensions of Security, Oil Theft and Pipeline Vandalism
Source: Research Data, 2018

Perspectives of Local Content and Human Capital Deficit

Nine items were indicative of the level of local content and human capital deficit in the Nigerian oil and gas sector as shown in table 8. The table depicts that the arithmetic mean range between 1.65 and 3.57 compared with the average arithmetic mean of 2.94. It can be observed that the statement “Over the next few years do you expect participation by indigenous oil companies in the industry to increase” has the highest mean (3.57) and a standard deviation (0.496) while the statement “Does the prevailing technical staff local content in the IOCs meet the requirements of the IOCs.” has received the lowest mean score with a standard deviation of 0.477. Subsequently, though the importance levels for all the nine items that makes up level of local content and human capital deficit can be considered adequate the findings showed that the respondents do not agree that the prevailing technical staff local content in the IOCs meet the requirements of the IOCs. The overall mean score approximates to 3.00 (agree) on the 4- point Likert scale used in this study indicating that respondents agreed that the level of local content and human capital deficit in the Nigerian oil and gas sector is crucial.

S/N	Oil and Gas Prices	N	Mean	Std.	CV	Item Importance
1	Does the prevailing management staff local content meet the requirements of the IOCs	521	1.79	.484	.234	7
2	Does the prevailing technical staff local content in the IOCs meet the requirements of the IOCs	521	1.65	.477	.228	8

3	Does the prevailing other staff local content in IOCs meet the requirements of the IOCs	521	3.17	.573	.328	5
4	Does skills training acquired by indigenous staff increases the prevailing local content within the Oil and gas Industry	521	3.18	.459	.211	4
5	Do the government encourages IOC to increase their local content through law and incentives	521	3.42	.553	.306	2
6	Are the IOCs committed to increasing the prevailing local content	521	2.96	.706	.498	6
7	Over the next few years do you expect participation by indigenous oil companies in the industry to increase	521	3.57	.496	.246	1
8	Do you agree that there should be mix of both indigenous and IOCs in the oil and gas industry	521	3.42	.624	.390	2
9	Do you agree that the indigenous companies can operate without the IOCs if there is adequate capacity utilization	521	3.35	.575	.330	3
Aggregate Mean and Standards Deviation			2.9452	.22762		

Table 8

Arithmetic mean, SD, item importance and significant levels of dimensions of Local Content and Human Capital Deficit

Source: Research Data, 2018

Table 9 indicates the overall level of importance accorded to the contemporary and challenging issues in the Nigerian oil and gas industry: prices of oil and gas products, IOCS Capital Investments and Divestments, Security, Oil Theft and Pipeline Vandalism, Local Content and Human Capital Deficit. The table indicates that the mean level of importance for the variables range from 2.91 to 3.33 with an average arithmetic mean value of 3.13. It can be seen that the highest mean value is recorded for “Security, Oil Theft and Pipeline Vandalism” with arithmetic mean of 3.33 and a standard deviation of 0.291. The lowest arithmetic mean was for “Local Content And Human Capital Deficit” with mean of 2.94 and standard deviation of 0.23.

S/N	Contemporary issues and challenges	Mean	Std	Item Importance	Importance (Level)
1	Oil and Gas Prices	3.2565	.44754	2	High
2	OICs Capital Investment and Divestment	3.2104	.29706	3	High
3	Security, Oil Theft and Pipeline Vandalism	3.3315	.29139	1	High
4	Local Content And Human Capital Deficit	2.9452	.22762	4	Low
Aggregate Mean and Standards Deviation		3.13	0.32		

Table 9

Arithmetic mean, SD, item importance and significant levels of dimensions of Contemporary issues and challenges of the Oil and Gas Sector

Source: Research Data, 2018

Determinant Factors Enhancing Economic Development of the Oil and Gas Sector in Nigeria

Eight items were used to indicate the competitiveness of the Nigerian oil and gas sector: environmental regulation, trained workforce, ease of foreign ownership, economic and political stability, geological opportunities, innovation, diversification output and diversification of markets. As shown in table 10 which indicates the importance of the eight items the arithmetic mean range between 1.63 and 3.47 compared with the average arithmetic mean of 2.53. It can be observed that the highest mean is attributed to “Innovation” (3.47) and a standard deviation (0.499) while the lowest mean for industry’s competitive factor is for “geological opportunities” 1.63 with a standard deviation of 0.484. This shows that the respondents consider innovation as a major propelling factor for the industry.

S/N	Oil and Gas Prices	N	Mean	Std.	CV	Item Importance
1	Environmental regulation	521	2.45	.631	.398	4
2	Trained workforce	521	2.60	.491	.241	3
3	Ease of foreign ownership	521	3.28	.670	.448	2
4	Economic and Political stability	521	2.25	.969	.939	6
5	Geological opportunities	521	1.63	.484	.235	8
6	Innovation	521	3.47	.499	.249	1
7	Diversification of Output	521	2.22	.652	.424	7
8	Diversification of Markets	521	2.34	.524	.274	5
Aggregate Mean and Standards Deviation			2.52927	.288055		

Table 10

Arithmetic mean, SD, item importance and significant levels of dimensions of Competitiveness of Nigerian Oil and Gas Industry
Source: Research Data, 2018

Perspectives of Operational Effectiveness of Nigerian Oil and Gas Industry

Table 11 shows the importance of the eight items that makes up the level of Operational Effectiveness of Nigerian Oil and Gas Industry where the arithmetic mean range between 1.26 and 1.66 compared with the average arithmetic mean of 4.21. It can be observed that the statement “IOCs are Focusing on operational excellence” has the highest mean (1.66) and a standard deviation (0.802) while the statement “improvements in health, safety, environmental and quality.” has received the lowest mean score with a standard deviation of 0.462.

S/N	Oil and Gas Prices	N	Mean	Std.	CV	Item Importance
1	IOCs are implementing cost reduction strategies	521	1.65	.777	.604	2
2	IOCs are Focusing on operational excellence	521	1.66	.802	.644	1
3	The industry is growing and meeting economic expectations	521	1.34	.498	.248	6
4	The industry delivers continuous improvements in health, safety, environmental and quality	521	1.26	.462	.213	8
5	Drive growth in daily production and proven reserves	521	1.29	.481	.232	7
6	Successful planning and timely execution of	521	1.35	.520	.270	5

	earmarked projects and contracts					
7	Technology in place to curb losses from theft and corruption	521	1.40	.563	.317	4
8	Effective Corporate Social Responsibility with Host Community	521	1.57	.575	.331	3
Aggregate Mean and Standards Deviation			1.439	.3946		

Table 11

Arithmetic mean, SD, item importance and significant levels of dimensions of Operational Effectiveness of Nigerian Oil and Gas Industry

Source: Research Data, 2018

Perspectives of Growth of Nigerian Oil and Gas Industry

Regarding the Industry's growth level table 12 shows the importance of the eight items that makes up the level of Industry growth where the arithmetic mean range between 2.34 and 3.43 compared with the average arithmetic mean of 3.12. It can be observed that the statement "IOCs invests in new technologies and updates existing infrastructure" has the highest mean (3.43) and a standard deviation (0.548) while the statement "Compared with 2017, capital injection for the Oil and gas Industry from IOCs for 2018/2019 is expected to improve" has received the lowest mean score with a standard deviation of 0.524.

S/N	Oil and Gas Prices	N	Mean	Std.	CV	Item Importance
1	IOCs invests in new technologies and updates existing infrastructure	521	3.43	.548	.300	1
2	Compared with 2017, Brent crude oil prices for 2018 is expected to hike up	521	3.42	.637	.406	2
3	Compared with 2017, operating profits for 2018 is expected to improve	521	3.36	.644	.415	4
4	Compared with 2017, outlook for the Oil and gas Industry for 2018/2019 is expected to improve	521	3.39	.592	.351	3
5	Do you foresee a global demand for Nigeria's oil and gas by 2020?	521	3.31	.640	.409	5
6	Compared with 2017, capital injection for the Oil and gas Industry from IOCs for 2018/2019 is expected to improve	521	2.34	.524	.274	8
7	Compared with 2017, FDI flows to the Oil and gas Industry for 2018/2019 is expected to improve	521	2.44	.541	.292	7
8	IOCs adopt an effective working capital management system	521	3.25	.668	.446	6
Aggregate Mean and Standards Deviation			3.11732	.387842		

Table 12

Arithmetic mean, SD, item importance and significant levels of dimensions of Growth of Nigerian Oil and Gas Industry

Source: Research Data, 2018

Summarily for the variables relating to prospects of the Nigerian oil and gas industry Table 13 shows the level of importance among the three variables: Operational Effectiveness of Nigerian Oil and Gas Industry, Operational Effectiveness of Nigerian Oil and Gas Industry and Growth of Nigerian Oil and Gas Industry. The table indicates that the mean for the variables range from 1.43 to 3.11 with an average arithmetic mean value of 2.36. It can be seen that the highest mean value is for "industry growth" with arithmetic

mean of 3.11 and a standard deviation of 0.38. The lowest arithmetic mean was for “operational effectiveness” with mean of 1.43 and standard deviation of 0.39.

S/N	Industry Prospects	Mean	Std	Item Importance	Importance Level
1	Competiveness	2.52927	.288055	2	Low
2	Operational Effectiveness	1.43900	.3946	3	Low
3	Industry Growth	3.11732	.387842	1	High
Aggregate Mean and Standards Deviation		2.361863	0.356832		

Table 13

Arithmetic mean, SD, item importance and significant levels of dimensions of Contemporary issues and challenges of the Oil and Gas Sector

Source: Research Data, 2018

Perspectives of Economic, social and political Impediments of Nigerian Oil and Gas Industry

As to the Economic, social and political Impediments of Nigerian Oil and Gas Industry table 14 shows the importance of the eight items that makes up the level of Economic, social and political Impediments of Nigerian Oil and Gas Industry where the arithmetic mean range between 3.12 and 3.58 compared with the average arithmetic mean of 3.39. Policy uncertainty was rated as the most significant key factor that affects industry prospects while quality of reserves and replacement strategy was rated least among the eight. Although the importance levels for all the eight items that makes up key Economic, social and political Impediments of Nigerian Oil and Gas Industry the findings showed that respondents placed more emphasis on political climate.

S/N	Oil and Gas Prices	N	Mean	Std.	CV	Item Importance
1	Quality of Reserves and Replacement Strategy	521	3.12	.498	.248	8
2	Diversification	521	3.40	.573	.328	4
3	Cost Position	521	3.27	.506	.256	7
4	Leadership	521	3.50	.565	.320	3
5	Finance	521	3.38	.614	.377	6
6	Corruption	521	3.51	.500	.250	2
7	Local Content	521	3.39	.545	.297	5
8	Policy Uncertainty	521	3.58	.494	.244	1
Aggregate Mean and Standards Deviation			3.394	.3159		

Table 14

Arithmetic mean, SD, item importance and significant levels of dimensions of Economic, social and political Impediments

Source: Research Data, 2018

The discussion of the results

Since 1959, when Shell BP discovered the oil at Oloibiri area (Bayelsa State), it has become one of the main sources for Nigeria’s income and energy. However, the development of the oil industry and the increase of its role in the country's economy took some time. Indeed, the oil industry began to be a key factor for the development of Nigeria after a three-year civil war, which ended in 1970. As a result, the economic growth of

Nigeria was highly dependent on the growth of the oil sector. It was the revenue from this sector that funded the major part of government expenditures and import of goods and services to the country (Nweze and Edame, 2016). With the benefits from oil export, the country faced with negative implications and vulnerabilities that are peculiar to some countries with an abundance of natural resources, and commonly known as the effect of “Dutch disease”. Nigeria became vulnerable to adverse changes in natural resource markets and especially to volatility in oil prices.

The inability of a resource rich country like Nigeria to have mastery of her oil and gas resources in terms of exploration, exploitation and production activities have garnered a host of attention from all stakeholders especially as a country having over five decades of experience in oil and gas activities and a proven reserve of over 37 billion barrels. Nigeria has not been able to optimally harness her resources for national development as seen in similar oil-resource economies of Indonesia, Brazil and Norway. Internally, Nigeria has significant potential in production of hydrocarbon equating to 43.8 billion barrels in proven and possible resources. The proven portion of this reserves has however declined from 23.5 barrels of oil equivalent (boe) in 2000 to only 13.8 barrels of oil equivalent (boe) a significant drop of 58.7%¹¹. More so, 2017 estimate for the NNPC overall reserve replacement ratio declined from 104.3 to 67.8 percent indicating that annual production has outpaced replenishment of reserves by one-third given rise to an aggregate decline in annual reserves. Simultaneously, NNPC costs associated with investment in off-shore or upstream has grown by almost four time from US\$5.7 billion in 2001 to US\$20.9 billion in 2017¹² making the Returns on investment (ROI) low. Issues associated with theft, sabotage and security continue to plague the industry. Over time, the government had to make more investment to discover and develop the same quantity of hydrocarbons resources – a process that might prove unsustainable in the long term.

The current state of the country’s downstream and upstream sector of the oil and gas industry showcases the most glaring evidence of inherent dysfunction underpinning the industry. Nigeria currently in combination with Iraq and Iran have reserves worth less than US\$200 billion with Nigeria’s oil production declining continuously especially under the assault of oil theft and lack of adequate investment. The forecast for oil demand growth by the International Energy Agency (IEA) is 0.9 MMbbl/d with shrinking oil reserves and rising costs of exploration and development, the trajectory of Nigeria’s oil and gas sector might prove unsustainable over the long-term. Despite being West Africa’s largest oil and gas exporter Nigeria still imports the bulk of its domestic consumption of processed hydrocarbon energy. There are few sectors as volatile as the oil and gas sector. There are a host of factors that influence and cause a chain reaction in the sector making the tasks of projecting, speculating or forecasting of outcomes in the sector an almost impossible task. Though there are no crystal ball for such fit, there are scenarios however that describe a range of prospective possibilities rather than predict the future. Projections are available based on data. This research will therefore examine the key factors shaping the Nigeria’s oil and gas sector of today. It will shed light on such factors as: resource, governance and industry factors that are driving the unprecedented level of reforms and changes in the oil industry.

¹¹ Price Water Coopers (PWC), Economy Watch, Managing the declining of oil prices. 2014. Available at: <https://www.pwc.com/ng/en/assets/pdf/economy-watch-december-2014.pdf>

¹² OPEC, Organization of the Petroleum Exporting Countries. OPEC. Annual Statistical Bulletin Vienna: OPEC Publications. 2017.

A presentation of the response indicating the respondent companies' distribution across different firms was carried out in this chapter. The chapter followed this by carrying out a robustness checks on the data through tests of normality using Skewness and Kurtosis, tests of multicollinearity using variance Inflation factor (VIF) and tolerance while tests for Homogeneity of variance or homoscedasticity using Levene test and variance ratio. The respondents demographic profile indicate responded characteristics such as age, sex, level within the management cadre, education and work experience were also presented. Descriptive statistics on study variables were summarized in means, standard deviations and one sample t-test. The chapter also carried out correlation analysis and an Exploratory Factor analysis. The chapter also tested for the validity of the hypotheses as stated in chapter one of the study. Four hypotheses testing the direct effect were tested using simple regression and the results presented. The results of each hypothesis test were tabulated as the model summary, analysis of variance (ANOVA) and model coefficients. The chapter also depicted the results of the impacts of the independent variables on the dependents indicating whether these effects were found to be significant or not. This guided the decision on whether to reject or fail to reject the null hypothesis. The results in this chapter is what informs the summary of findings, conclusions reached and the recommendations made in the subsequent chapter.

For decades, oil and gas sector has been the staple of Nigeria's economy and at present it is the premier engine of economic growth and has increasingly become a significant resource base of the Nigerian economy. It contributes approximately 80 percent of government revenue and accounts for more than 90 percent of the country's foreign exchange earnings. Nigeria's oil production capacity continued to soar in a steady pace until she became a formidable force with Organization of Petroleum Exporting Countries (OPEC)¹³. Despite, these ever-growing profile, the significance of oil and gas exports for economic stability of the country has become a great concern as the country is plagued by a host of industry challenges locally and internationally. These issues are averred¹⁴ to shape the development of oil and gas industry and impact on the performance of the sector. In tandem to the foregoing, this research explored the current issues of the Nigerian oil and gas sector as well as the future prospects. It aimed to answer the questions: what are the issues undergirding the Nigerian oil and gas sector in the last three decades and what are the prospects for growth if these issues are surmounted? Focusing on five major issues confronting the Nigerian oil and gas sector: erratic and falling oil and gas prices, security, oil theft and pipeline vandalism, local content and human capital deficit, evolving dynamics between Integrated Oil Companies (IOCs) and reduction in IOCs capital investments and an evolving Petroleum Industry Bill (PIBs).

In point of fact, there are few sectors, if any, as volatile as the oil and gas sector. Many factors lead to chained influences on the strategic planning of this sector. Hence, in this study, factors that made speculation, projection or forecasting in the sector difficult were identified. Data and information on the different issues of focus surrounding the oil and gas sector in Nigeria were obtained from newspaper reports, literature such as the reports provided by NGOs involved in the Nigerian Oil and Gas Industry, Corporations such as Price Water Corporation (PwC) Organizational Reports from Energy Information Association (EIA), the Organization for Petroleum Exporting Countries (OPEC), Organization for Economic Corporation and Development (OECD) and the Nigerian

¹³ National Bureau of Statistics, Annual Statement and Report. 2016.

¹⁴ World Bank, Global Economic Prospects June 2013. Washington, DC: World Bank. World Fact book. 2017. 2015. Available <https://www.cia.gov/library/publications/the-worldfactbook/geos/ni.html>

National Petroleum Corporation (NNPC). These provided the initial information relating to specific issues shadowing the oil and gas sector. Also, data were obtained for the analysis through a survey directed at three basic stakeholders of the oil and gas industry including the IOCs using questionnaire as the instrument for data collection.

Analysis of the data indicate that a total of 624 respondents participated in the survey involving eleven (11) different oil and gas firms within the industry, 586 responses were returned out of which 65 had gross missing item information and were excluded from the final phase of the analysis. This analysis was therefore based on 521 responses. Comparing a computed Cronbach's Alpha of 88.52 percent against a benchmark of 70 percent, the response rate is excellent. Based on this we concluded that the instrument is reliable. Tests of Normality, Multicollinearity, linearity and homoscedasticity were all found to be satisfactory.

Findings from the descriptive statistics for the scale-items that made up the study variables showed that the statement "Do you think your IOC can compensate for the loss of petroleum-related sales by increasing their sales in other markets" has the highest mean response (3.43) and a standard deviation (0.613) for oil and gas sector prices, "Do you think these divestment change the economic landscape of the oil and gas industry in Nigeria?" has the highest mean response (3.54) and a standard deviation (0.499) for IOCS Capital Investments and Divestments, "Have your firm experienced the operations of oil theft and pipeline vandalization" has the highest mean response (3.73) and a standard deviation (0.444) for Security, Oil Theft and Pipeline Vandalism, "Over the next few years do you expect participation by indigenous oil companies in the industry to increase" has the highest mean response (3.57) and a standard deviation (0.496) for Local Content and Human Capital Deficit. Thus for the contemporary issues and challenges in the oil and gas sector, "Security, Oil Theft and Pipeline Vandalism" with arithmetic mean of 3.33 and a standard deviation of 0.291 had the highest mean.

In terms of Prospects for Nigerian Oil and Gas Industry, the highest mean is attributed to "Innovation" (3.47) with a standard deviation of 0.499, for Operational Effectiveness of Nigerian Oil and Gas Industry it was "IOCs are Focusing on operational excellence" has the highest mean (1.66) and a standard deviation (0.802) and for Growth of Nigerian Oil and Gas Industry it was "IOCs invests in new technologies and updates existing infrastructure" has the highest mean (3.43) and a standard deviation (0.548). Summarily for Prospects of Nigerian Oil and Gas Industry the highest mean was for industry growth. In terms of the Economic, social and political factors of Nigerian Oil and Gas Industry uncertainty was rated as the most significant key factor that affects industry prospects, followed by corruption, leadership, diversification, local content, finance, cost position and quality of reserves and replacement strategy.

The regression results showed that there is a positive and significant relationship between impediments and competitiveness of the oil and gas industry with a coefficient of $\beta=0.162$ at $p=0.000$, a positive and significant relationship between impediments and growth of the oil and gas industry ($\beta=0.643$; $p=0.000$); however negative and significant relation was found between impediments and operational effectiveness of the oil and gas industry ($\beta=-0.054$; $p>0.000$). The results also showed that oil and gas prices has a positive and significant relationship with industry competitiveness ($\beta=0.237$; $p=0.000$). It was established that there is a strong and significant relationship between dimensions of Security, Oil Theft and Pipeline Vandalism on growth of the oil and gas industry in Nigeria ($\beta =0.267$; $p=0.000$). The result confirmed there is a negative and significant relationship

between dimensions of Local Content and Human Capital Deficit and operational effectiveness of the oil and gas industry ($\beta=-0.131$; $p=0.000$). It designated that there is a strong, negative and significant relationship IOCs capital divestments and operational effectiveness of the oil and gas industry ($\beta=-0.113$; $p=0.000$). Finally, the results disclosed that there is a strong, positive and significant relationship between Petroleum Industry Bill and Growth of the oil and gas industry ($\beta=0.634$; $p=0.000$). The research results showed that the hypotheses is supported and consistent with the research findings of Omole, Borisade & Muhammad; Ramos and Veiga; Bhaskaranand Sukumaran; Toewa and Naumov; Gbegi, Adebisiand Bodunde and Oluniyi.

Conclusion and Implications of the study

The findings ascertained the significant positive effects of oil and gas sector prices on competitiveness in the oil and gas sector and highlights the positive and significant effects of theft and vandalism on the overall growth of the Nigerian oil and gas sector. In addition, it is herein ascertained that local content and human service development and OICs capital divestment have negative impacts on industry's operational effectiveness; it is that of the OICs that is significant. Thus, this study has provided evidence ascertaining the linkages between contemporary issues and challenges inherent in the Nigerian oil and gas industry and its prospects for competitiveness, operational effectiveness and overall growth. Consequently, it is concluded that economic, social and political factors have strong implications for overall growth of the industry thus confirming the argument of the Rientier State Theory that seeks to offer explanation to the growth-restricting policies characteristics of the government of natural resource-rich countries.

Recommendations

Growth and development especially in an era of fast paced globalization does not come by chance as such having a few indigenous oil and gas companies who are committed to the local content initiative is a step in the right direction. Results from this study support significant positive relationship between local content and operational effectiveness of Nigerian oil and gas sector hence, it is recommended that the use of local content policies be emphasized in order to promote efficient operations of the industry. Specifically, it is advised that inconsistencies in the local content act be eliminated, especially as concerning the awards of contracts for Deep-water and other projects in the oil industry. Such a policy should ensure that the refining sector and indeed the whole of the downstream sub-sector is commercialized and further opened to private sector participation.

It was also observed that there is a strong, negative and significant relationship between IOCs capital divestments and operational effectiveness of the oil and gas industry; hence we recommend that more investments should be channelled into the gas sub-sector. More projects utilizing gas to produce energy-based derivatives such as the Escravos Gas-to-Liquids project and the Natural Gas Liquids project are required. Policies in the Gas Master Plan should be pursued vigorously. The findings also showed a strong and significant relationship between dimensions of Security, Oil Theft and Pipeline Vandalism on growth of the oil and gas industry in Nigeria as such government should establish an institution that will ensure that the multinational oil companies are socially responsible to their host community. Government should set machinery that will ensure that oil companies comply with gas flaring, oil spillage laws, etc. so as to safeguard the environment and the means livelihood of these communities.

Finally, in line with Giocomo Luciano thesis, government should be able to show its sincerity by its action about the local content issues as reflected in its fiscal policy (i.e. case of Ghana) or via other approach such as import duties reduction for raw materials such as, chemicals and other consumables adopted by these firms in the upstream sector or through tax holidays for Nigerian firms which would engender spirit of competitiveness especially among indigenous oil and gas firms.

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