UNIVERSITI PUTRA MALAYSIA

IMPACT OF LOCAL CONTENT POLICY ON JOB CREATION THROUGH FIRMS' PARTICIPATION AND BACKWARD LINKAGES IN NIGERIAN OIL SECTOR

ADEDEJI ABDULKABIR NIRAN

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By

ADEDEJI ABDULKABIR NIRAN

Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia, in Fulfilment of the Requirements for the Degree of Doctor of Philosophy

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DEDICATION

I dedicate this thesis to Allah (S.W.T) and my family members for their sacrifices to see me through the success of the programme.

Abstract of thesis presented to the Senate of Universiti Putra Malaysia in fulfilment of the requirement for the Degree of Doctor of Philosophy

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Chairman : Shaufique Fahmi bin Ahmad Sidique, PhD
Faculty : Economics and Management

A common objective of many oil-rich countries, especially developing oil-dependent countries, is to maximise the economic benefit of naturally occurring extractive resources by using them for developing of local and national economies. By exploring their natural resources these countries seek primary benefits including local value creation (with particular reference to indigenous oil firms' participation), backward linkages development, as well as job creation for the local workforce in the industry. Government intervention in the oil sectors in through of regulatory policies was a strategy often used for obtaining maximum benefits from oil resources. One common utility of such policies is the local content policy (LC policy). The LC policy has potential and is used to create more entrepreneurial opportunities that favour indigenous oil service companies and the development of backward linkages (i.e. utilisation of local input materials) in the industry, eventually creating more jobs for the citizens. Accordingly, a majority of people can benefit from their country's national resources and more value can be created within the local economy.

Nigeria is ranked among the most resource-rich developing countries in the world. It is rich in crude oil and natural gas; and its economy depends heavily on oil wealth. The activities in the Nigerian petroleum sector are impressive and play a significant role in improving the country's growth in gross domestic product (GDP). The contribution of oil and gas to the GDP was more than 40% in 2013. Recently, the receipts from oil exports in 2014 represented approximately 74.4% of the total national exports. Earnings from the petroleum sector in the first quarter of 2015 were about US$14.2 billion (NBS, 2015).

However, despite the multiple of entrepreneurial activities associated with oil exploration and production, only part of that wealth appeared to be captured by local firms. Utilisation of locally manufactured goods and services is low in the industry. This might have resulted in the low level of employment opportunities created for the local workforce in the oil and natural gas industry. The Nigerian government recognised the need to support and motivate indigenous oil firms in order to generate

more opportunities for local employment and revenue generation in the industry, as well as to promote utilisation of local goods and services. Connectivity of the industry to local economies is termed 'backward linkages'. In order to achieve local economy value targets, the government intervened in the oil sector by introducing the LC policy in 2001. This policy's primary goal is to increase indigenous oil firms' participation in the petroleum sector and develop backward linkages through more jobs could be created. This action considered a part of a strategy to create more employment opportunities for locals in the industry.

Noticeably, in Nigeria, the extent to which the LC policy influenced firms' participation in the petroleum sector, and their tendency to develop backward linkages has not yet been adequately assessed. Although a few studies investigated how successful the LC policy was, not only were mixed results reported, but also researchers overlooked the extent to which the policy influenced job creation through firms' participation and backward linkages. This generated divided views in the literature about the impact of the policy. In addition, although infrastructure is assumed to aid LC policy efficacy, the correlation effect between the policy and infrastructure has not yet been adequately analysed. This correlation has often been entirely ignored in previous studies.

Therefore, this study assesses the impact of the LC policy on job creation through firms' participation and backward linkages in the Nigerian oil sector and evaluates the confounding effect of infrastructure on these variables. Survey data were obtained and analysed using Structural Equation Modelling (SEM). Since the relationships hypothesised between the variables in this study are theory-driven, the application of SEM, which is a theory testing method, is deemed appropriate for this study. SEM was applied not only to assess the reliability and validity of the variables, but also to examine the multiple, interrelated dependence relationships among them. Construct validity and discriminant validity of the measurement model were obtained through the confurmatory factor analysis (CFA) approach. Thereafter, the direct relationships among the variables, as well as the mediating effect of indigenous oil firms' participation (IOFP) and backward linkages (LINK) on the relationship between LC policy and job creation (JOB) were examined. Additionally, the bootstrap method using AMOS software was applied to analyse the multiple-mediation effects in this study.

The results obtained indicated that the LC policy positively and significantly influenced IOFP and LINK. The coefficients of 0.34 and 0.19 support the hypotheses that the LC policy has a positive relationship with IOFP and LINK, respectively. More interestingly, the relationship between IOFP and JOB, and between LINK and JOB were found to be statistically significant. However, no relationship was observed between IOFP and LINK. This provided the insight that local firms have not been proactive in encouraging the development of backward linkages. The correlation between the LC policy and infrastructure (INF) was found to be statistically significant, but not as a prerequisite for LC policy efficacy. Moreover, the direction of INF on IOFP was found to be statistically significant, but the effect on LINK was insignificant. Further, IOFP and LINK in a multiple model were found to mediate the relationship between the LC policy and JOB. This indicated that IOFP and LINK

jointly transmit the effect from LC policy to JOB. However, it was found that the effect through the three-path model operates more than the two-path model. This indicated that more jobs could be created for local labourers in the Nigerian oil sector with the effective impact of the LC policy on enhancing both local firms' participation and backward linkages.

Based on the findings in the study, it is proved that the LC policy influenced indigenous firms' participation and the development of backward linkages in the Nigerian oil sector. However, considered as a set, the level of local content development in the sector is lower than the expected target. By implication, if substantial local value-addition is to be achieved, to spin-off sustainable economic and social development through the oil sector, the efficacy of the LC policy needs to be closely monitored.

Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia sebagai memenuhi keperluan untuk Ijazah Doktor Falsafah

DARIPADA DASAR KANDUNGAN TEMPATAN KEPADA PENCIPTAAN PEKERJAAN MELALUI PENYERTAAN SYARIKAT DAN JARINGAN-JARINGAN KEBELAKANG DALAM SEKTOR MINYAK DI NIGERIA

Oleh

ADEDEJI ABDULKABIR NIRAN

Januari 2016

Pengerusi : Shaufique Fahmi bin Ahmad Sidique, PhD
Fakulti : Ekonomi dan Pengurusan

Suatu sasaran yang lazim pada banyak negara-negara kaya dengan minyak, terutamanya negara-negara membangun yang bergantung dengan minyak, ialah untuk memaksimumkan manfaat ekonomi daripada sumber-sumber ekstraktif yang dikurniakan kepada mereka untuk pengembangan ekonomi. Pada intinya, manfaat-manfaat yang banyak daripada negara-negara ini yang biasanya hendak dicapai ialah seringnya dari segi meningkatkan penciptaan nilai tempatan, dengan rujukan khasnya kepada partisipasi daripada syarikat yang bersifat asli dan pengembangan jaringan-jaringan kebelakang, serta penciptaan pekerjaan untuk tenaga kerja tempatan pada industri yang ada. Campur tangan kerajaan ddalam sektorminyak, melalui bentuk pelaksanaan dasar regulasi, telah menjadi suatu strategi yang seringkali digunakan untuk mendapatkan manfaat-manfaat maksimum daripada sumber-sumber minyak. Suatu penggunaan yang lazim daripada kebijakan seperti itu ialah yang biasa disebut degan *local content policy* (LC policy). LC policy dilihat memiliki potensi dan digunakan untuk menciptakan banyak peluang-peluang keusahawanan yang memihak kepada syarikat-syarikat perkhidmatan minyak asli dan pengembangan jarigan-jaringan kebelakang (penggunaan bahan input tempatan) pada industri melalui lebih banyak pekerjaan-pekerjaan yang dapat diciptakan untuk rakyat. Sesuatu yang seperti itu, banyak daripada orang-orang boleh memanfaatkan daripada sumber-sumber negara mereka dan lebih banyak nilai tempatan yang boleh diciptakan untuk menjadi ekonomi tempatan.

Nigeria ialah antara negara-negara membangun teratas yang kaya dengan sumber, minyak mentah dan gas semula jadi, dan ekonominya bergantung kepada kekayaan minyak. Aktivi-aktiviti dalam sektor petroleum di Nigeria telah mencatat secara mengesankan dan memainkan suatu peranan yang penting dalam meningkatkan pertumbuhan keluaran dalam negara kasar (KDNK). Sumbangan minyak dan gas untuk KDNK ialah lebih daripada 40% dan baru-baru ini, penerimaan dari eksport-eksport minyak pada tahun 2014 menunjukkan sekitar 74.4% dari jumlah eksport-eksport dan pendapatan daripada keluaran di suku pertama pada tahun 2015 sekitar US$14.2 bilion (NBS,2015).

Bagaimanapun, beberapa aktiviti-aktiviti keusahawanan yang berkaitan dengan penerokaan minyak dan pengeluaran sedikitnya tampak untuk ditangkap oleh syarikat-syarikat tempatan, dan lebih daripada itu, penggunaan produk-produk dan perkhidmatan-perkhidmatan yang dihasilkan secara tempatan dikenalpasti rendah di industri yang ada. Barangkali, ini mungkin mengakibatkan pada peringkat rendah daripada peluang-peluang pekerjaan yang dibuat oleh tenaga kerja tempatan pada industri yang ada. Kerajaan Nigeria mengenali keperluan untuk menyokong dan memotivasi syarikat-syarikat minyak asli untuk menangkap lebih banyak peluang-peluang pada industri yang ada, dan menggalakkan penggunaan produk-produk dan perkhidmatan-perkidmatan tempatan, yang diistilahkan dengan sebutan jaringan-jaringan kebelakang. Tujuan untuk mencapai sasaran-sasaran ini ialah, kerajaan didorong dan dicampurtangani pada sektor minyaknya dengan memperkenalkan LC policy pada tahun 2001. Sasaran utama LC policy ialah untuk meningkatkan penyertaan daripada syarikat-syarikat minyak asli dan membangun jaringan-jaringan kebelakang terhadap penciptaan-penciptaan pekerjaan yang lebih banyak pada sektor petroleum. Tindakan demikian telah dilihat menjadi bahagian daripada strategi-strategi dalam penciptaan lebih banyak pekerjaan untuk orang-orang tempatan pada industri sumber.

Secara nyata, di Negeria, setakat yang mana LC policy telah mempengaruhi penyertaan syarikat-syarikat dan jaringan-jaringan kebelakang belum cukup ditaksir. Meskipun, beberapa kajian telah menyiasat bagaimana berjayanya LC policy sebelium ini yang telah, walaupun, tidak hanya bahawa ada akibat-akibat yang bercampur-campur, tetapi juga mereka terlepas pada tumpuan pada setakat mana kebijakan telah menjana spekulasi-spekulasi perpecahan tentang impak daripada LC policy pada kesusasteraan. Tambahannya, infrastruktur menganggap untuk membantu keberkesanan LC policy; bagaimanapun, kesan korelasi dan infrastruktur belum cukup dianalisis, jika tidak sama sekali diabaikan daripada kajian-kajian sebelumnya.

Oleh itu, kajian ini menguji impak daripada LC policy pada penciptaan pekerjaan melalui penyertaan syarikat-syarikat dan jaringan-jaringan kebelakang pada sektor minyak di Nigeria, dan juga menilai kesan pembauran infrastruktur pada pemboleh ubah-pemboleh ubah ini. Data kajian didapati dan dianalisis dengan menggunakan *Structural Equation Modeling* (SEM). Sejak hubungan-hubugan hipotesis diantara pemboleh ubah-pemboleh ubah disiasat untuk kajian ini daripada teori yang didorong oleh aplikasi teknik SEM, yang mempakan suatu kaedah pengujian teori pada kajian ini yang difikir sesuai. SEM diaplikasikan tidak hanya untuk menguji kebolehpercayaan dan kesahihan daripada pemboleh ubah-pemboleh ubah, tetapi juga untuk menguji pelbagai hubungan-hubugan yang saling bergantung diantara pemboleh ubah. Pembinaan kesahihan dan kesahan diskriminan daripada model pengukuran diperolehi melalui pendekatan CFA. Selanjutnya, hubugan-hubungan yang langsung diantara pemboleh ubah, serta kesan pengantara daripada pastisipasi syarikat-syarikat minyak asli (*indigenous oil firms' participation* / IOFP) dan jaringan-jaringan kebelakang (*backward linkages* / LINK) pada hubungan antara LC policy dan penciptaan pekerjaan (*job creation* /JOB) diuji. Tambahannya, kaedah *boostrap*, pada perisian AMOS, digunakan untuk menganalisis kesan pengantaraan yang berganda pada kajian ini.

Hasil-hasil yang diperoleh menunjukkan bahwa LC policy secara positif dan signifikan mempengaruhi IOFP dan LINK. Pekali-pekali berupa 0.34 dan 0.19 menyokong hipotesis-hipotesis bahawa LC policy masing-masing memiliki suatu hubungan yang positif dengan IOFP dan LINK. Lebih menarik lagi, hubungan antara IOFP dan JOB dan antara LINK dan JOB ditemukan secara statistik signifikan. Bagaimanapun, ini ditemukan bahawa adanya ketidak hubungan antara IOFP dan LINK. Ini memaklumkan bahawa syarikat-syarikat tempatan belum melakukan penggalakkan yag cukup pada pembangunan jaringan-jaringan kebelakang. Korelasi antara LC policy dan infrastuktur (INF) ditemukan signifikan secara statistik, tetapi tidak sebagai suatu persyaratan untuk keberkesanan LC policy. Selanjutnya, INF langsung pada IOFP ditemukan signifikan secara statistik, tetapi kesan kepada LINK tidak signifikan. Tambahan pula, IOFP dan LINK pada suatu model berganda ditemukan untuk menjadi pengantara hubungan antara LC policy dan JOB. Ini menunjukkan bahawa IOFP dan LINK secara bersama-sama menghantarkan kesan daripada LC kepada JOB. Bagaimanapun, ini ditemukan bahawa kesan melalui model 3-jalan beroperasi lebih baik daripada model 2-jalan. Ini menujukkan bahawa lebih banyak pekerjaan boleh diciptakan untuk para pekerja tempatan pada sektor minyak di Nigeria melaui impak yang berkesan daripada LC policy dalam meningkatkan sama ada partisipasi syarikat-syarikat tempat mahupun jaringan-jarringan kebelakang.

Berdasarkan daripada hasil kajian ini, ini membuktikan bahawa LC policy mempengaruhi penyertaan syarikat-syarikat asli dan pembangunan jaringan-jaringan kebelakang pada sektor minyak di Nigeria, walau bagaimanapun, diambil sebagai suatu set, peringkat pembangunan kandungan tempatan pada sektor terbabit ialah kurang daripada purata peratus. Secara tersirat, apabila nilai tambah tempatan yang substansi, untuk memastikan pembangunan ekonomi tempatan yang mampan melalui sektor minyak, keberkesanan daripada LC policy memerlukan pantauan yang rapi.

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I certify that a Thesis Examination Committee has met on 12 January 2016 to conduct the final examination of Adedeji Abdulkabir Niran on his thesis entitled "Impact of Local Content Policy on Job Creation Through Firms' Participation and Backward Linkages in Nigerian Oil Sector" in accordance with the Universities and University Colleges Act 1971 and the Constitution of the Universiti Putra Malaysia [P.U.(A) 106] 15 March 1998. The Committee recommends that the student be awarded the Doctor of Philosophy.

Members of the Thesis Examination Committee were as follows:

Muzafar Shah Habibullah, PhD
Professor
Faculty of Economics and Management
Universiti Putra Malaysia
(Chairman)

Zaleha binti Mohd Noor, PhD
Associate Professor
Faculty of Economics and Management
Universiti Putra Malaysia
(Internal Examiner)

Rusmawati binti Said, PhD
Associate Professor
Faculty of Economics and Management
Universiti Putra Malaysia
(Internal Examiner)

Indah Susilowati, PhD
Professor
Diponegoro University
Indonesia
(External Examiner)

ZULKARNAIN ZAINAL, PhD
Professor and Deputy Dean
School of Graduate Studies
Universiti Putra Malaysia

Date: 25 May 2016

This thesis was submitted to the Senate of Universiti Putra Malaysia for the fulfillment of the requirement for the degree of Doctor of Philosophy. The members of the Supervisory Committee were as follows:

Shaufique Fahmi bin Ahmad Sidique, PhD
Associate Professor
Faculty of Economics and Management
Universiti Putra Malaysia
(Chairman)

Azmawani Abd. Rahman, PhD
Associate Professor
Faculty of Economics and Management
Universiti Putra Malaysia
(Member)

Law Siong Hook, PhD
Associate Professor
Faculty of Economics and Management
Universiti Putra Malaysia
(Member)

BUJANG BIN KIM HUAT, PhD
Professor and Dean
School of Graduate Studies
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Signature: _____
Chairman of Supervisory Committee: Associate Professor Shaufique Fahmi bin Ahmad Sidique

Signature: _____
Member of Supervisory Committee: Associate Professor Azmawani Abd. Rahman

Signature: _____
Member of Supervisory Committee: Associate Professor Law Siong Hook

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LIST OF ABBREVIATIONS

AfDB	African Development Bank
ADF	Asymptotical Distribution-Free
AGFI	Adjusted Goodness-of- Fit
AMOS	Analysis of Moment Structure
ASV	Average Shared Squared Variance
AVE	Average Variance Extracted
b/d	barrels per day
CALAG	Calag Capital Limited
CEOs	Chief-executive-officers
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
CIO	Chief-information-officer
CIs	Confidence Intervals
CMIN	Chi-square
COO	Chief-operating-officer
CR	Construct Reliability
CSR	Corporate Social Responsibility
DPR	Department of Petroleum Resources
DV	Dependent variable
EFA	Exploratory Factor Analysis
FDI	Foreign Direct Investment
FPSO	Floating Production, Storage and Offloading
GEM	Global Entrepreneurship Monitor
GDP	Gross Domestic Products
GFI	Goodness-of-fit
GLS	Generalized Least Squares
HTMT	Heterotrait-Monotrait
IOFP	Indigenous Oil Firms' Participation
ICT	Information and Communication Technologies
IFI	Incremental Fit Index
ILO	International Labour Organization
INTSOK	Norwegian Oil and Gas Partners
IV	Independent variable
JOB	Job Creation
KMO	Kaiser-Meyer-Olkin
LC policy	Local Content Policy
LINK	Backward Linkages
MD	Managing Director
ML	Maximum Likelihood
MOCs	Multinational Oil Companies
MSV	Maximum Shared Variance
NAPIMS	National Petroleum Investment Management Services
NBS	National Bureau of Statistics
NCDMB	Nigerian Content Development Monitoring Board
NCP	Nigeria Content Plan
NFI	Normed Fix Index
NNPC	Nigerian National Petroleum Corporation
NNOC	Nigerian National Oil Corporation

NOGICD	Nigerian Oil and Gas Industry Content Development
OPEC	Organization of Petroleum Exporting Countries
PETAN	Petroleum Technology Association of Nigeria
PETROTRINS	Petroleum Company of Trinidad and Tobago
PNFI	Parsimony-adjusted Normed fit index
R&D	Research and Development
RMSEA	Root Mean Square Error of Approximation
SEIA	Integrated Social and Economic Impact Assessment
SEM	Structural Modeling Equation
SRMR	Standardized Root Mean Square Residual
TLI	Tucker–Lewis index
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNIPORT	University of Port Harcourt
ULS	Unweighted Least Squares
UPM	Universiti Putra Malaysia

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

A common objective of many oil-rich countries, especially oil dependent national economies, is to maximise the economic benefit of their naturally occurring extractive resources for developing their economies. A key consideration for the targeted benefits in many of these countries is the increased local value creation in the sector (Ovadia, 2014; Ihua et al., 2011; Heum et al., 2003). This is seen considered a channel through which the benefits of extracting natural resources could reach a majority of the people in the country.

Government intervention in the oil and gas sector by implementing regulatory policies in many oil-resource countries, such as Angola, Norway and Venezuela, have long been considered a common strategy adopted for local value creation. Local value creation often refers to the increased participation of indigenous oil firms, promotion of backward linkages (i.e. utilisation of locally produced material inputs), and the creation of job opportunities for the local workforce. The experiences of these countries showed that government intervention this sector has the potential to ensure achievement of local value creation. Intervention is considered a mechanism through which the benefit of oil resources may reach a majority of citizens and foster local economic development (see Adewuyi and Oyejide, 2012; Teka, 2012; Kazzazi and Nouri, 2012; Ihua et al., 2011; Esteves and Barclay, 2011; Klueh, Pastor and Segura, 2009). One common theme of such government intervention, mostly adopted in the oil sector, is the Local Content policy (LC policy). This policy often aims to encourage higher participation of indigenous oil firms in related business activities in the oil and gas sector and promotes backward production linkages in the sector. This involves the procurement and utilisation of local input materials, which are created for the local workforce. More generally, this policy was considered a key factor that behind the localisation of business activities in the oil and gas sector. This is particularly true in many oil-dependent countries that achieved significant local value-added for local economies through high-volume production and value of contracts domiciliation (Teka, 2012: 465; UNCTAD, 2006: 3).

The high performance of entrepreneurial ventures, especially in dominant economic sectors, usually plays a significant role in contributing to employment generation. In many cases, the contribution of entrepreneurial activities to society is usually reflected in the reduction of the unemployment rate, especially among youths. However, the high challenge of unemployment is commonly faced by many developing, oil-dependent countries such as Nigeria. However, it was observed that the LC policy for oil and gas often has spin-off investment opportunities for local industries, and boosts backward production linkages in the sector. This usually creates additional jobs in the economy. For example, state intervention in the form of LC policy implementation in many resource-rich

countries such as Angola, Norway, and Venezuela is considered a strategy to promote small and medium entrepreneurship. Such state action is observed to have served as a link between oil and gas sector to other sectors in these countries, which also believed to create more employment opportunities for local workforce in the industry (Teka, 2012; Esteves and Barclay, 2011; UNCTAD 2006).

In Nigeria, the government intervened in the operational activities of its oil sector by introducing the LC policy in 2001, which is known as the Nigerian Oil and Gas Industry Content Development Act (NOGICD). This is part of the government's effort to create additional jobs by ensuring achievement of maximum benefits from oil resources, in terms of more local value creation in the form of employment and entrepreneurial activity. The LC policy was passed into a law in 2010 to strengthen it and achieve its goals by ensuring full compliance. Generally, in many oil-rich and –exporting developing countries, such as Norway and Venezuela, where the policy was earlier introduced in the resource sector, the primary objectives of such action were to increase participation of indigenous oil firms in the service supply chain of the petroleum sector and promote backward linkages, in respect to more utilisation of locally produced input materials. This, in turn, is perceived to create more job opportunities for the local workforce within the sector, as a way to reduce the unemployment rate in Nigeria, which is observed to be upwardly trending in the country (Ovadia, 2014). Similarly, in Nigeria, the LC policy intends to increase value addition to the local economy through increased participation by indigenous oil firms and utilisation of locally produced goods and services. This is expected to increase job creation. Regulation of business activities in the oil sector in favour of local oil service contractors has long been a strategy to extend the benefits of oil to the general population. In addition, it has also been a measure of translating oil resources for developing local economies (Tordo et al., 2013). As Bakare (2011) and Steven (2003) indicated, increased participation of indigenous firms in the oil sector is a measure for percolating the benefits of the nation's resources to the majority, especially in creating more job opportunities for the people within the industry.

In addition, development of infrastructure facilities, such as power supply (i.e. electricity), water supply, transportation, telecommunications, and internet services have also been identified as supporting factors in enhancing local entrepreneurial activities. Evidently, adequate provision of these facilities may reduce the production overhead costs, and increase the efficiency in processing raw materials and improving the ability of local suppliers or processors to link with and actively participate in the supply value chain (Morris et al., 2012; 2011; Teka, 2012; Perkins and Robins, 2011; Tallapragada and Adebusuyi, 2008). Regarding the entrepreneurial activities in the oil sector where several activities mostly start with processing, business infrastructure (e.g. power supply, water supply, transport system, internet services and telecommunication) is considered an important factor in facilitating processing operations, particularly in Nigeria.

The infrastructure in Nigeria appears to be improving, especially power supply and transport infrastructure (see Adewuyi and Oyejide, 2012, NBS, 2011). Recently, a media report shows that the power output, which dropped to 3,500 megawatts in 2006 from 4,200 megawatts in 2004, increased to attain a peak of 4,810.7

megawatts in 2015 (Daily Trust Newspaper, 2015). The amount of electric transformation increased from 5,838 MVA[1] to 9,430MVA (NBS, 2011). Further, the government was lauded for enhancing the transport systems by constructing approximately 3,000 km of roads across the states, and the expansion of coastline development to increase business activities in the country (NBS, 2011). Thus, as suggested, adequate provision of infrastructure facilities may aid the success of the LC policy in increasing local firms' participation and backward linkages (Adewuyi and Oyejide, 2012; Morris et al., 2012; Bakare, 2011; Yeaple and Golub, 2007).

Consequently, although local firms' participation in the Nigerian petroleum industry and utilisation of local material resources increased, the value of the activities in the sector captured by the local firms, and retained in the local economy, appears to be less substantial. For instance, Ovadia (2014) pointed that the Nigerian-owned enterprises only captured about one-third (US$5 billion) of the total value of US$15 billion of contracts awarded in the years back. However, as he observed, foreign companies seized a large proportion of the contracts, which probably created values and benefits other economies. This implies that the foreign counterparts are still handling several contracts and services that create value outside Nigeria. In addition, utilisation of locally produced input materials also might be highly substituted with foreign input materials, which has likely resulted in low procurement the former in the sector. For instance, available records show that out of 86 contracts of input materials supplies (i.e. procurement) awarded in 2002, only about 11.6% (10 contracts) of the input materials were locally sourced, while about 88.6% (76 contracts) were sourced from abroad. Arguably, if substantial activities are captured by local firms and more locally produced goods are sourced, more job opportunities could be created for Nigerians and more value added to the national economy.

It cannot be denied as many of oil-rich developing countries identified to have a small industrial base, and that many operations (e.g. oil exploration and production processes) in the oil sector often require high technical skills, and that the sector is capital intensive. However, several entrepreneurial services, such as fabrication, construction, drilling, engineering, information and communications technology (ICT), consulting and other services usually require soft skills which can be delivered by the local firms. These services are mostly relatively labour intensive and may create a substantial number of jobs for the citizens in the sector (OPEC, 2013; Ovadia, 2014). However, the increasing rate of unemployment in Nigeria is alarming and raises serious concern. The unemployment wave appears to be widely spread across the country. Arguably, the main admissible factor, among others, can be traced to the low level of job creation in the economic sectors in the country, especially the oil sector (NBS, 2015; Ovadia, 2014; Ihua et al., 2011). This is attributed to the low participation of local oil service firms and the low preference to the procurement of locally produced input materials in the Nigerian oil sector.

However, little is known about the extent to which the LC policy influences job creation through firms' participation and backward linkages in Nigeria's oil sector. Exsting reports show that local firms face stiff competition from their foreign

[1] MVA means Mega Volts Amp

counterparts that dominate the sector, and lack the capacity and capability to competently compete (Ihua et al., 2011; Bakare, 2011). It is also evident that foreign companies often prefer to source input materials from outside the country (Ariweriokuma, 2009). However, the level to which the policy achieved the set goals with respect to value creation in Nigeria is yet to be ascertained. This has not only generated split speculations, but also raised a serious concern over the efficacy of the policy, which leads the present study to enquire: By w*hat degree has the LC policy increased the local value-added in the Nigerian oil sector with respect to firms' participation and backward linkages? To what extent has firms' participation stimulated backward linkages in the oil industry? By how much has the LC policy evolved job creation through firms' participation and backward linkages in the industry?* This study empirically addresses these questions to elucidate the efficacy of the LC policy and intends to contribute to the policy-entrepreneurial literature. Since the success of the policy could better measure the extent to which it achieves its targets, thus, this study argues that if the LC policy is efficient, the consequence would largely reflect in the local value the policy created.

1.1.1 Local Content Policy: Introduction, Implementation and Targets

Over five decades, activities of exploration, development, production, and exportation of oil in Nigeria have continued to increase as the country's economy depends heavily on oil resources. Major operational activities in the oil sector often require high technical and capital intensity, which is mostly lacking in developing oil-rich countries (Tordo et al., 2011) including Nigeria. Multinational Oil Companies (MOCs) most often dominate the activities in the oil sector in these countries, as they possess significant technical knowledge and capital to explore the resources. Although, national-owned companies are usually involved in the service supply chain of the sector, MOCs capture a larger proportion of the value share of contracts as compared to their local counterparts. The MOCs often conduct their activities outside the host country (Heum et al., 2003), resulting in increased capital flight[2] from the domestic economy and lower utilisation of locally produced input goods and services (Ihua et al., 2011). Perhaps, this could result in low creation of job in the industry in Nigeria. This prompted the introduction of the LC policy to address this anomaly, with an aim to reap maximum economic benefits from their resources. In simple terms, the LC policy is a form of government strategy in the oil sector mostly designed to favour the participation of local oil companies in the activities for value creation in the domestic economy (Nordas et al., 2003). The policy is also considered a protection in creating more business opportunities for oil-infant firms, increasing supply of local material inputs to the sector (i.e. backward linkages[3] to the service sector), advancing technology transfer, creating jobs for locals, and promoting large-scale local economic development (Ovadia, 2014; Ihua et al., 2011; Heum et al., 2011; World Bank, 2009; Ariweriokuma, 2009; UNCTAD, 2006).

[2]UNCTAD report (2006) show that the value of the total annual spend for services accrue to foreign oil companies in Nigeria ranges from 91.5% to 97%, which is very high compare to about 35% in Malaysia, Brazil and Venezuela.

[3] Backward linkages means utilization of local goods and services (Tordo et al., 2013).

Shortly after the inception of the LC policy in Nigeria, the government sets minimum targets for indigenous oil companies' participation and utilisation of locally produced input goods needed for exploration and production activities in the sector. This has often been referred to as Nigerian content development (Ovadia, 2014; Ariweriokuma, 2009). The process is used to gauge the efficacy of the policy, especially regarding to whether the contracts designated for Nigerian indigenous service companies are handled by them and practiced in Nigeria, even if their bid values exceed that of the foreign bids by 10%. For example, the government set to achieve 45% of the local content development in 2007 and 70% in 2010 (Ihua et al., 2011; Ariweriokuma, 2009), and more than 80% in 2020 (Bakare, 2011). As shown in Figure 1.1, the targets achieved ranged between about 10% to about 40% in the last decade (Ovadia, 2014).

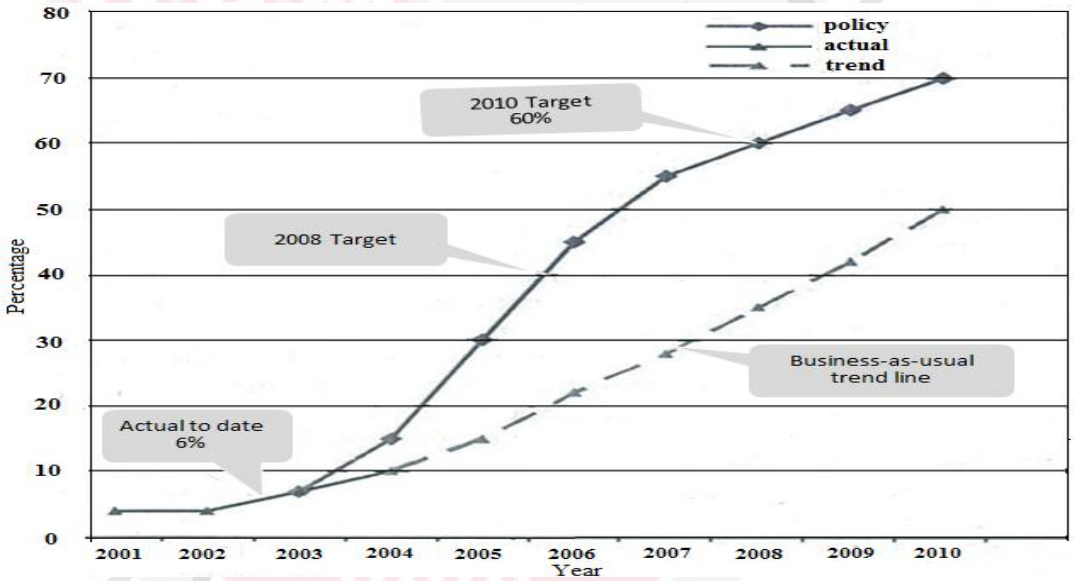

Figure 1.1. Local Dvelopment Targes
Source: Ariweriokuma, 2009.

In 2008, the Nigerian National Petroleum Corporation (NNPC) reported that the policy has succeeded in increasing the participation of Nigerian firms to more than 40% (Ihua et al., 2011). However, this claim contradicted some reports that showed the development of local content as being not more than 15% to 20% (Business Day Newspaper, 2008). Recently, another report showed that only 35% of local content development was achieved between 2010 and 2012 (Daily Independent, 2013). Whichever estimate is correct, given the half century of oil production in Nigeria, the local content is often below the target, indicating low performance of the policy compared with the targets that were achieved in Angola, Brazil, Malaysia, Venezuela, and Norway, where the local content development ranges between 45% to 75% (Ovadia, 2014; UNCTAD, 2006).

Nonetheless, it is argued that there is still a great possibility to achieve a high percentage of local content development in Nigeria. For example, state-led industrial development has the potential to foster broad-based development in the oil service sector, and link the sector to other non-oil sectors in the economy

(Ovadia, 2014: 138). However, it is important to know the degree by which the policy has increased the domestic value in Nigeria, and, more specifically, its on job creation, which remains an important area of concern and a new focus in the literature.

1.1.2 Job Creation in Economic Sectors and the Unemployment Trend in Nigeria

Nigeria, like many other developing countries, faces the change of unemployment, with low job creation and an annual turnout of the working population in the country. This has been a serious concern for every successive government in the country. Consequently, the authority often seeks economic transformation policies as mechanisms to substantially create jobs to reduce unemployment in the country (NBS report, 2014: 9). According to the National Bureau of Statistics (NBS) report (2014), job creation refers to employment generated by a formal establishment that employs 10 persons and above, or formal professional services that employ less than 10 persons in a business year.

As mentioned earlier, job creation is low in some economic sectors in Nigeria, particularly the oil sector, although, as shown in Table 1.1, the aggregate job creation increased from about 316,311 in 2012 to about 433, 321 in 2014 (NBS 2014). In absolute figures, this suggests a considerable increase in employment generation. However, in terms of the sectoral shared proportion of job creation, the mining and quarrying sector[4], under which the oil sector has a large share, appears to have created the least amount of jobs in recent years compared to other sectors. The oil sector created about 681 (0.2%) jobs in 2012, which decreased to about 535 (0.1%) and 266 (0.1%) in 2013 and 2014, respectively. From a micro perspective, among others, the low level of job creation in the oil sector may likely be attributed to the low participation of Nigerian indigenous firms in the sector. In addition, there is a low demand for locally produced input materials or lack of effectiveness of the LC policy to create jobs for local labourers in the sector through firms' participation and backward linkages development (Ovadia, 2014). It is only when a large number of jobs are created, across all the economic sectors, that labour demand will be more than its supply, eventually reducing the unemployment rates.

Table 1.1. Annual job creation by Sectors between 2012 and 2014

	Number of jobs Created by sectors (Share of %)		
Sector	2012*	2013	2014
Agriculture	3,952 (1.2)	5,750 (1.3)	15,649 (3.6)
Mineral & Quarrying (Include Oil and Gas)	**681 (0.2)**	**535 (0.1)**	**266 (0.1)**
Manufacturing	31,192 (9.9)	46,363 (10.7)	108,073 (24.9)
Water Supply, Sewage, Waste Manag.& Remediation	n/a	n/a	9,501 (2.2)
Building & Construction	2,861 (0.9)	7,883 (1.8)	14,526 (3.4)
SMEs (Whole Sales & Retail Trade)	9,423 (3.0)	18,307 (4.2)	33,746 (7.8)

[4] According to NBS (2012), the Mining and Quarrying subsectors include oil and gas, coal mining, metal ore and quarrying and other minerals.

Hotel &Restaurants	8,044 (2.6)	13,393 (3.1)	25,621 (5.9)
Transports	6,696 (2.1)	5,011 (1.2)	2,179 (0.5)
Information & Communication	n/a	14,58 (0.4)	1,158 (0.3)
Arts, Entertainment & Recreation	n/a	n/a	756 (0.2)
Financial Intermediation (Banking & Insurance)	30,754 (9.7)	50,304 (11.6)	13,598 (3.1)
Real Estate	14,922 (4.7)	8,046 (1.9)	1,447 (0.3)
Professional & Technical S Services	n/a	4,808 (1.1)	9,594 (2.2)
Administrative & Support Services	n/a	128 (0.0)	19,965 (4.6)
Education	166,561 (52.7)	213,067 (49.2)	128,585 (29.7)
Human Health & Social Services	33,850 (10.7)	47,309 (11.0)	42,564 (9.8)
Other Services	7,375 (2.3)	10,357 (2.4)	6,093 (1.4)
Total	316,311 (100)	432,719 (100)	433,321 (100)

Note: n/a=data not available. * Third & fourth quarter data were computed for 2012, the first and second quarters not available as at the period the data extracted (4/4/2015). Sector share of percent are in parentheses.
Source: Nigerian Bureau of Statistics.
Available: www.nigerianstat.gov.ng/nbslibrary/socio-economic-statistics/labour

Since job creation appears to be low in Nigeria, and more workers are annually entering the labour market, the trend of the unemployment rate in Nigeria tends to soar upwards. For example, in Figure 1.2, the trend rate continued sloping upward for over a decade. In 2000, the unemployment rate was about 13% and increased to about 19% in 2009. The rate continued to increase and reached about 27% in 2012, with a slight drop to 24.7% and 25.1% in 2013 and 2014, respectively. However, this is considerably high compared to the rate unemployment in Ghana (3.6% and Egypt (12.0%) (NBS, 2015).

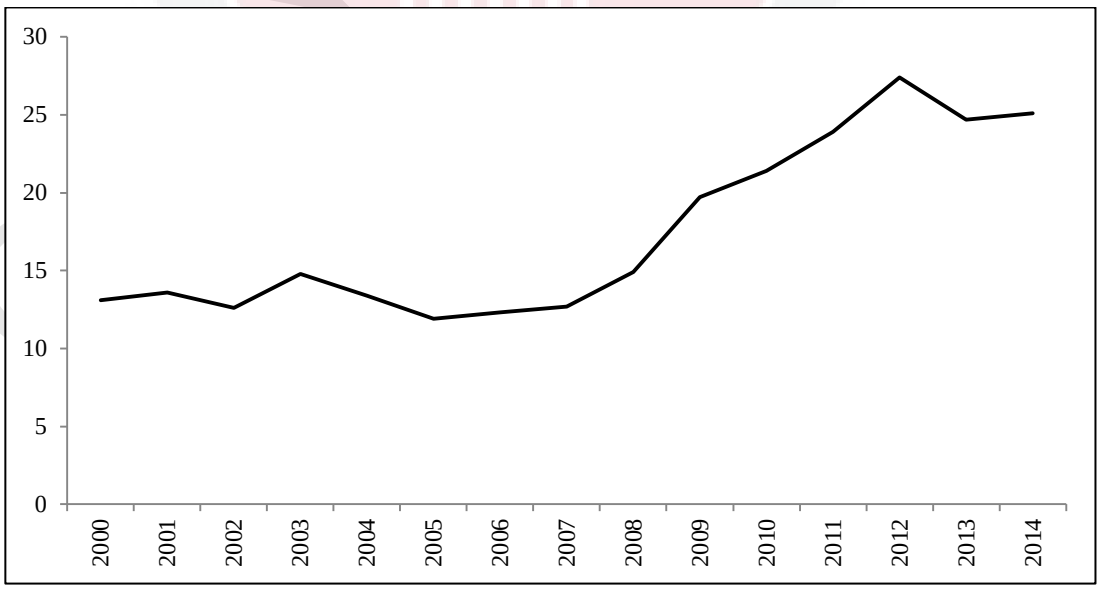

Figure 1.2. Unemployment rates (%) in Nigeria, 2000 -2014
Source: National Bureau of Statistics (NBS), Nigeria, 2015.

Recently, more than 20.3 million[5] economically active Nigerians have been reported unemployed (NBS, 2012). Similarly, a media report (Punch Newspaper, 2014)[6] indicated that about 1.8 million graduates are annually entering the job market, adding to the existing pool of unemployed graduates in the country. If this situation persists, it will increase the unemployment level and worsen the economic situation in the country. In addition, the NBS (2015) report indicates that the rate of unemployment increased by 7.5% in the first quarter of 2015, compared to 6.4% in the fourth quarter of 2014.

As noted earlier, a high unemployment level in Nigeria reduces the standard of living in the country. For instance, according to the NBS report (2010), approximately 70% of the total population in the country are said to be living below the specific poverty line, of which the majority is believed to be either unemployed or subsistent-employed (underemployed). This situation was a considerable concern to researchers and policy makers.

1.1.3 Nature of Participation of Nigerian Indigenous Oil Firms in the Oil Sector

Oil and gas resources, like most commodities, have the potential to benefit domestic socioeconomic development if the resources are well managed and regulated. Otherwise, it could be detrimental to the economy, as it may increase the level of poverty (Ross, 2012). The exhaustibility nature of oil resources explains why many developing oil-dependent economies opted for state intervention to support their local oil operators, rather than allowing a free market. More importantly, state intervention in the oil sector was considered a strategy for developing local firms' capacities to enable them to be competent and competitive. Low participation of indigenous oil firms appeared to be prevalent in Nigeria's oil sector prior to the introduction of the LC policy. For instance, according to conducted by Klueh et al. (2009), oil and gas contracts worth about US$2.8 billion were awarded in 2002 (Table 1.2), and of these only about US$0.46 billion (about 16.4%) was captured by indigenous companies, carried out in-country and retained as value-addition into the local economy. However, a large proportion of the contracts were captured by the foreign oil service companies, and about US$2.1 billion (about 76%) created additional value to other economies outside Nigeria.

[5] Vanguard Newspaper (2014): http://www.vanguardngr.com/2014/04/scourge-unemployment/

[6] http://www.punchng.com/news/1-8-million-graduates-enter-job-market-yearly-fg/

Table 1.2. Nigeria: allocation of major contracts in oil and gas industry (2002)

	Value Added in Nigeria		Value Added abroad		
Goods and Services supplied	Nigeria owned	Foreign owned	Nigeria owned	Foreign owned	Total number of contracts
Consultancy	6	0	8	0	14
Drilling and well completion	9	5	13	33	60
Environmental services	2	0	5	3	10
Exploration	2	4	0	10	16
Others	0	0	0	3	3
Gas development	0	0	0	3	3
Hotel and Catering	5	0	5	5	15
ICT	5	1	11	4	21
Procurement	8	2	65	11	86
Production facility maintenance	3	1	45	29	78
Project/Construction	6	5	13	30	54
Transportation	9	6	36	36	87
Total number of Contracts	55	24	201	167	447
Memo item					
Dollar value of Contracts (billion)	0.2	0.5	0.2	1.9	2.8
Percentage distribution	8.3	17.2	8.1	67.9	100

Adapted from Klueh et al.., 2009.

Table 1.2 shows that several oil business activities were undertaken in the industry, which could have substantially benefited many Nigerians and the economy in general. Despite that, indigenous firms captured a small proportional value of the activities, most of which were undertaken abroad and benefited foreign economies.

Against this backdrop, many oil-rich countries introduced an oil regulatory policy as a tool to ensure active participation of local companies in the oil activities for value-addition, especially in terms of job creation. This has proved to be effective in some countries. It is evident that if a large proportion of the oil business activities were domiciled in the host country, it would add value to the domestic economy. As proved by Tordo et al. (2013) and Heum et al. (2003), if local entrepreneurs are motivated to increasingly engage in service business activities in the oil sector, consequently, there is a possibility to expand employment opportunities that would absorb a large number of local workforce within the sector.

The regulatory policy adopted in the Trinidad and Tobago's oil sector, for instance, seen to have increased participation of its local firms in the oil business related activities and created more local employment in the industry (Tordo et al., 2013). This reformation led to the establishment of the national oil company, the Petroleum Company of Trinidad and Tobago (PETROTRINS) in 1993, to further promote petroleum activities in favour of the locals. The policy mandated major oil business activities to be carried out in the country, promoted skills development and increased the number of national workers in the industry (Tordo et al., 2013). In 2004, the policy was amended by adopting comprehensive content that included local ownership control and financing to ensure that the sector is domesticated for local economic development. Similarly, in Brazil and Mexico, the government provided more support to their local companies through their regulatory policies to gain more benefits from their resources (Ariweriokuma, 2009).

However, a scrutiny of the experience of oil-dependent economies that allow government intervention in the in oil sector, reveals a discernible fact about this government interference in regulating oil business activities. This could enhance the benefits for the local oil firms, and create more jobs for the citizens within the sector. In addition, it is noticed that the increase in participation of local companies may enhance sourcing and utilisation of locally manufactured input materials (Adewuyi and Oyejide, 2012). This may also generate additional employment for the affiliate firms that supply input materials and increase added value through the oil sector into the domestic economy (UNCTAD, 2006: 18). These are the major reasons that prompted the Nigerian government to interfere in the oil operational activities in its oil sector by introducing of the LC policy.

1.2 Problem Statement of the Study

Shortly after the discovery of oil in Nigeria, in 1958, the country's economy gradually transformed from an agrarian economy, which depended on the export of cocoa, ground nuts, and palm oil, to an oil-based one (Ariweriokuma, 2009: 33). The oil boom of the early 1970s transformed the oil sector into the major economic mainstay of the country. The existing records recently showed that Nigeria is among the top oil-resource-rich countries in the world endowed with crude oil and natural gas. According to the OPEC report (2013), the country has approximately 37 billion barrels of crude oil reserve and more than 19.2 billion cubic metres of natural gas, placing Nigeria among the top six oil-rich countries in the world. The contribution of the oil sector to the country's gross domestic product (GDP) was more than 40%. Furthermore, the receipts from the oil exports in 2014 represented about 74.4% of the total exports, and earnings from the oil-product exports alone in the first quarter of 2015 was about US$14.2 billion (NBS, 2015).

Exploration, production, and exportation of crude oil often entail operations that require several services, such as fabrication services, drilling and well construction and completion, engineering services, consultancies, products, and material supplies (for example, chemicals, steels, pipes and cable supplies). These activities are undertaken regularly in the oil sector in Nigeria (Tordo et al., 2013; Klueh et al., 2009:1132; Heum et al., 2003: 9). As mentioned ealier, for example, a total contract of 447 of service activities, worth US$2.8 billion (Table 1.2), was claimed to be awarded to Nigeria in 2002 (Klueh et al., 2009), and the activity has been increasing in volume and value (Ovadia, 2014). However, as observed, the indigenous oil servicing firms often capture only few contracts, despite the fact that several of the service business activities could be handled by local firms and benefit local economy (Vaaland et al., 2012; Bakare, 2011; Klueh et al., 2009). For instance, according to Klueh et al., (2009), from the total services contracts awarded in 2002, ,local firms only captured 8.3% which was retained and added value to the local economy, while 67.9% was captured by their foreign counterparts and added value to the foreign economies (see Table 1.2). This depicts that the participation of local firms in the activities in this sector is low. The likely factor that attributes to low participation of Nigerian firms is the low capacity and capability of the firms for bidding for contracts and/or to withstand stiff competition in the sector. The oil sector is usually characterised by a high technical

capacity that often provides MOCs an edge to dominate the business activities in the sector. Nevertheless, many service activities that could effectively be handled by indigenous oil firms are still being executed by MOCs (Ariweriokuma, 2009). Consequently, most of the operations are often carried out outside Nigeria.

It can be inferred that the low participation of local oil servicing firms and the low preference given to the procurement of locally produced goods and services, prompted the federal government in Nigeria to intervene in the sector and introduce the LC policy in the year 2001. The policy was passed into a law in 2010 to strengthen the competitive capacity of the Nigerian indigenous oil companies in the service supply chain operations in the sector (Ovadia, 2014). The policy is considered a productive development tool aimed to open the industry to involve more indigenous firms' participation, and develop backward linkages, in terms of increasing the procurement of labour-intensive locally produced inputs materials (goods and services). This can also create jobs for the local workforce in the industry. This is perceived as a strategy for developing the local economy, beyond the contributions of the industry to the country's GDP and foreign earnings.

In the last decade, the government aimed to increase the participation level of local oil service suppliers in the oil and gas activities and improve the level of linkages development by setting targets to achieve in local content development through LC policy. Initially, 70% local content development was targeted to achieve in the industry in 2010 and more than 100% by 2020 (Adewuyi and Oyejide, 2012; UNCTAD/CALAG, 2006). However, the level to which the LC policy achieves this goal, with particular reference to local firms' participation and backward linkages development in the Nigerian oil sector, has not yet been ascertained. This has not only generated divergent speculation about the efficacy of the policy, but also the previous investigations on how successful the policy was, only produced mixed results. For instance, the NNPC claimed that over 40% local content development was successfully achieved regarding the award of services and contracts captured by Nigerian oil service firms. However, media reports refuted this claim and emphasised that only about 15% to 20% local content development was achieved (Business Day Newspaper, 2008). In addition, recently NNPC claimed that in 2012 the policy succeeded in achieving 87% of local value addition in the petroleum industry (Daily Independent Newspaper, 2015[7]). This assertion generated split speculations as to whether the policy achieved such significant development, and the scientific methods employed to generate the figures were scrutinised as they were not detailed. This leads to a serious concern and leaves some important questions unanswered as to what level the LC policy increased local value creation in Nigeria.

Furthermore, virtually all approaches used to investigate the impact of the LC policy from various perspectives in the previous studies rarely allow testing for consistency of the variables (i.e. latent constructs). Since latent constructs are unobservable as they are usually abstractive in nature, observed variables are often used to represent them. Thus, such observed variables are required to be

[7] http://dailyindependentnig.com/2013/02/local-content-facts-and-fictions-of-policys-gains-2/ Retrieved: 13/03/2014

statistically validated to measure whether they are meaningful prior to the estimation of the interrelationships among the latent constructs (Radosevic and Yoruk, 2013: 1024). The validity process to confirm whether the observed variables adequately represent their respective theoretical latent constructs that they presumed to measure rarely gained attention in previous studies that examined the entrepreneurial implications of the LC policy. Estimation of the relationships among the latent variables, when the validity of constructs is not tested, may be biased and misled. This led to important questions on how adequately the observed variables used in previous studies measured what they are supposed to measure and how relatively important these variables are. To the best of our knowledge, only Ihua et al. (2011) employed exploratory factor analysis (EFA) in their study. However, their approach lacked the ability to indicate the extent to which the observed variables measured what they were supposed to measure. Their objective was to explore the number of observed item variables grouped under respective constructs. However, investigating the nature of the relationships between the constructs measured by the item variables will contribute more to the knowledge.

In addition, the rationale behind the federal government's effort on the indigenisation of the Nigerian oil sector is to ensure that backward linkages are developed and additional jobs are created for the local workforce. This has been considered as the continuing efforts of the government to reduce unemployment faced the country. However, some studies, such as Klueh et al. (2009), pointed out that several raw materials (goods and services) needed for exploration and production of oil in the Nigerian oil sector are sourced from abroad, and as such, created job opportunities and added value to other economies outside Nigeria. On the contrary, other studies, such as Adewuyi and Oyejide (2012), claimed that procurement of locally produced materials has been increased. The debate is yet to settle, and however, the degree to which local firms' participation stimulated backward linkages in the industry is unclear.

Moverover, high unemployment rates appear to be trending upwards in Nigeria for over a decade. For instance, the rate stood at 12% in 2004, increased to 19% in 2009, and further increased to about 25.1% in 2014. It is also evident that several qualified youth graduates are unemployed (NBS report, 2015; Punch newspaper, 2014; Vanguard newspaper, 2014). The trend of the unemployment rate is considered a major problem in the country, raises concern, and appears to pose a serious threat to economic development. The mineral and quarrying sector, of which the oil and gas sector represents a large share in Nigeria, often creates the least amount of jobs in the economy. According to the NBS annual reports (2012; 2013; 2014), for example, the oil sector created only 0.2% jobs in 2012, and 0.1% in both 2013 and 2014. These figures are meagre compared with other sectors, like the education and manufacturing sectors that created more than 25% jobs in 2014 (see Table 1.1). It is often argued that the oil sector is not labour-intensive as it is considered highly technical and capital-intensive.

However, recently, there is a divergent opinion on this assertion as most activities in the sector are often divided into many categories, such as geology and geophysics services, engineering and construction services, drilling, and fabrication services. This categorisation often enables creating more direct and indirect jobs in

the services associated with oil exploration and production. Further, most of these activities require less technical skills and capital (OPEC, 2013). The OPEC report (2013: 36) suggested that this has increased the demand for labour in oil industries in many oil-exporting countries, including Nigeria. Thus, the extent to which firms' participation and backward linkages increased job creation in the Nigerian oil sector receives much less attention in academic research. More importantly, it is essential to examine the relationship between the variables, particularly when considering the efficacy of the LC policy. This will provide vital information for policymakers on the effectiveness of the policy on value creation in the industry.

In addition, the potential of the LC policy in creating additional job opportunities for the local workforce through firms' participation in the oil industry and backward linkages is considered a method for the policy to achieve its target on local value creation. However, the mediating effects of firms' participation and backward linkages on the relationship between the policy and job creation is not yet adequately assessed, if not totally ignored, in past studies. We recognised that few empirical studies, such as Adewuyi and Oyejide (2012) and that of Ihua et al. (2011), attempted to examine the impact of the LC policy in the Nigerian oil sector on backward linkages and local entrepreneurial activities in the sector, respectively. However, these studies focused less on the impact of the policy on job creation, and also did not capture whether indigenous firms' participation and backward linkages mediate the relationship between the policy and job creation. This creates a gap that is very important to address as the credibility of the LC policy resides on the job opportunities it could create to reduce the unemployment rate in Nigeria.

The role that infrastructure facilities, such as power supply, transportation, internet services and communications, play in entrepreneurship development and performance has long been considered very important. This is because unarguably adequate provision of infrastructure often reduces overhead costs and increases productivity (Perkins and Robins, 2011; Morris et al., 2011). The impact of infrastructure on entrepreneurial activities is commonly assessed on an aggregate level; however, there is a dearth of literature on the sectoral level. Besides, the contingent effect, (i.e. inter-correlation) between infrastructure and the LC policy has not yet been examined. Although Adewuyi and Oyejide (2012) examined the impact of infrastructure on local linkages in the Nigerian oil sector, the authors narrowed their focus and did not capture the covariance[8] relationship between the policy and infrastructure. Examination of this covariance relationship will provide further insight into the level at which infrastructure complements the LC policy effectiveness and will also provide a better understanding of the extent to which the policy is efficient on its own.

Based on these issues, it is imperative to further investigate the LC policy performance, especially regarding the extent to which it has created jobs and developed backward linkages through indigenous entrepreneurial activities in the Nigerian oil sector. This would provide more insight into the impact of the policy

[8] Hair et al. (2010: 619): Covariance is a systematic correlation between two constructs. Thus, statistical significance of the correlation provides evidence that covariation is present.

on the oil sector in Nigeria. This present study focuses these aspects through the research objectives as stated in the following subsection.

1.3 Objective of the Study

The main objective of this study is to evaluate the impact of the LC policy on local value creation in the Nigerian oil sector, with particular reference to indigenous oil firms' participation, backward linkages and job creation, as well as the covariance relationship between the policy and infrastructure. To achieve this overall objective, the following four specific targets are pursued:

I. To assess and explain the effect of the LC policy on indigenous oil firms' participation and backward linkages in the Nigerian oil sector;

II. To evaluate the structural interrelationship between local firms' participation, backward linkages and job creation within the Nigerian oil sector;

III. To evaluate the covariance relationship between the LC policy and infrastructure in the structural model used in this study; and

IV. To evaluate the effect of the LC policy on job creation through local firms' participation and backward linkages in a multiple-mediator model.

1.4 Significance of the Study

This study uniquely extends the investigation on the impact of the LC policy on local value creation in the oil and gas sector in Nigeria, in the context of increased local firms' participation, local linkages, and job creation. Many discussions through symposiums, seminars, and conferences held on the efficacy of the LC policy, along with a few research studies, have attempted to investigate the impact of the policy towards value creation in the oil sector in Nigeria. The various attempts to evaluate the influence of the policy were either focused on the impact on indigenous firms' participation (e.g. Antai et al., 2012; Ihua et al., 2011; Bakare, 2011) or backward linkages (e.g. Adewuyi and Oyejide, 2012; Nwosu et al., 2006). However, the impact of the policy on job creation received less attention, and no specific items have been used to measure the concept. Thus, this study developed observed indicators to measure job creation and incorporated the concept into the model to extend and create new literature. More importantly, job creation in the Nigerian oil sector is an end focal objective of the LC policy based on which the performance of the policy could better assess. Thus, the present study extends the research on the effect of the LC policy on job creation through firms' participation and backward linkages to understand and provide useful information about the efficacy of the policy.

This study employs the Structural Equation Modelling (SEM), using Analysis of Moment Structures (AMOS) software, version 21, to analyse its data and achieve its specific objectives. SEM is a multivariate inferential statistical technique that is suitable for simultaneously analysing multiple relationships between latent variables (Blunch, 2008), as opposed to univariate econometric methods used in some related studies (Adewuyi and Oyejide, 2012; Kazazzi and Nouri, 2012; Ihua et al., 2011; Bakare, 2011) or descriptive statistics (Monday, 2015; Kafada, 2012). The method has psychometric fit properties for validating the variance shared between observed items and unobserved constructs which are theoretical in nature. The technique has also been found appropriate to detect idiosyncratic relationships among the latent construct variables. The relationships among the variables are presumably based on theory (Radosevic and Yoruk, 2013; Reynolds et al., 2001), thus, a method based on theoretical precision, like SEM, is often recommended to generate robust estimates. Since this study is theory driven, the choice of applying SEM is appropriate. This is the first time SEM will be applied in this type of study.

More specifically, this study contributes to practice by testing the opportunity theory which hinges on the assumptions that enterprising individuals are often motivated to engage in business activities, especially in organised markets, when they are favoured by entrepreneurial opportunity and that the level of their participation depends on the number of jobs created (Reynolds et al., 2001). If the theory holds, it will strengthen the contribution of this study of the assessment of the policy-entrepreneurial transmission process on job creation in the Nigerian oil sector.

In addition, this study considers the correlation between infrastructure and the LC policy, in connection with its impact on job creation through indigenous firms' participation and backward linkages, which has not yet been explored in previous studies. Assessing the covariance effect between the LC policy and infrastructure is important because it will provide more insight into the policy's efficacy in influencing entrepreneurial activities in the oil sector. Thus, such an investigation will contribute significantly to the literature.

Unlike previous studies, this study provides new empirical results drawn from survey data obtained from the local oil service firms operating in the Niger Delta region of Nigeria. Since the local firms are the prime target of the policy in the Nigerian oil sector, the inhabitants in the oil region were selected as respondents in Ihua et al.'s study (2011). The local firms are considered the best respondents that qualified to have a general understanding of the issues surrounding the effectiveness of the LC policy, and accordingly, they are best to assess the value the policy creates in the oil industry. Thus, the selection of local firms as respondents enables this study to obtain broad-scope information, which helped address to two gaps. First, this enables the study to generate empirical evidence to contribute to the long debate on the efficacy of the LC policy, which generated split speculations. Second, it enables the study to draw a new conclusion and provide insightful recommendations. This will enable policy makers to make informed decisions, particularly on how to optimise local value creation and how the local economy could be sustained through the oil sector. More generally, recommendation derived from this research will significantly benefit the countries

newly discovered oil resources, such as Ghana, that are considering adopting of the LC policy.

In sum, this research contributes to the quantitative research on conceptual and empirical aspects related to oil firms' perceptions on the impact of the LC policy on value creation in Nigeria's oil sector. It also provides empirical evidence to determine the success of the policy.

1.5 Scope of the Study

This study targets local oil service companies (first-tier suppliers) who operate in oil-producing states of the Niger Delta region, Nigeria, as respondents. The Niger Delta area comprises nine states, out of 36 states in Nigeria. These states are situated along the coastal belt of the country. However, this study selected five states in the Niger Delta: Akwa-Ibom, Bayelsa, Delta, Cross-River, and Rivers, where the questionnaires were administered. The reason for choosing these states is that several oil firms are located there and major oil business activities were often undertaken there (Antai et al., 2012). Besides, they represent more than half of all the states in the Niger Delta region.

1.6 Operational Definitions

Local content policy (LC policy) is regarded as '*quantum of composite value added to or created in the Nigerian economy by a systematic development of capacity and capability through the deliberate utilisation of Nigerian human, material resources and services in the Nigerian oil and gas industry'* (NOGICD, 2010). It could be argued that the government can maximise the benefit of oil resources for local economic development and sustainability. Thus, if this assertion holds, this study may provide a better understanding of how the majority of local people will benefit more from their nation's oil-wealth.

Firms' participation: Most definitions used to describe entrepreneurship are often linked to that of Schumpeter (1934), who defined entrepreneurship as an act of innovation. He explained innovation as the ability of entrepreneurs to identify and exploit opportunities in the markets. The extension of this definition includes external factors that may influence the participation of entrepreneurs in the market activities (see Gnyawali and Fogel, 1994). In this regard, this study equates firms' participation as the involvement of firms in business activities based on the opportunities identified in the market and being motivated to exploit them. The philosophical basis of this definition is that when firms recognise an opportunity in the market, and are motivated, especially by favourable entrepreneurship policies, they will tend to pursue such opportunities.

Backward linkages: In this study, this refers to sourcing and utilising the locally produced input materials, such as mud-baryte, bentonite, cables, steel pipes and plates, chemicals, flat steels, cables, and other local materials in the oil industry. The increase in the usage of these materials in the industry may enhance local firms' activities and create more employment opportunities (Tordo et al., 2013).

Job creation is defined as *'employment generated in establishments that employ 10 persons and above, or formal professional services that employ less than 10 persons',* in the context of formal jobs, while for informal jobs it is defined as *'employment generated by individuals or businesses employing less than 10 persons or those businesses operating with little or no structures*' (NBS, 2015: 3). In the present study, job creation is viewed as a frequency of the degree of formal employment available and/or the reserve for local labour (qualified) that are without work, available for work, seek work, and preferred for securing employment (Hussmann, Mehran and Verma, 1992).

Infrastructure is conceptualised as business facilities, in terms of power supply, water supply, transportation, telecommunication, and internet services. These were considered provisions that often aid business activities. Infrastructure was considered an important factor as it enhances the potential for entrepreneurial activities. Infrastructure is often referred to as a business-facilitating aid that reduces costs and enhances productivity (Morris et al., 2012: 7; Ariweriokuma, 2009: 177).

1.7 Organization of the Study

This study has five chapters. Chapter one introduces the general background of the research, problem statement, objective of the study, significance of the study, and scope of the research.

Chapter two draws on the existing related studies to elaborate on the LC policy, its entrepreneurial implications, the theoretical framework, and discussions on the variable indicators.

In Chapter three, the methodology, which includes research design, data collection, and the instrument and conceptual model, is presented. In addition, it includes the sampling procedure and method, as well as the sample size, operationalisation of variables, and analyses of the SEM.
Chapter four presents the empirical results, data analyses, model diagnostics, model validity and fitting, as well as the achievement of specific objectives and interpretation of the results.

Finally, Chapter five summarises the major findings, conclusion, and recommendations. It also highlights the policy implications and limitations of the study, and suggests areas for future studies.

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