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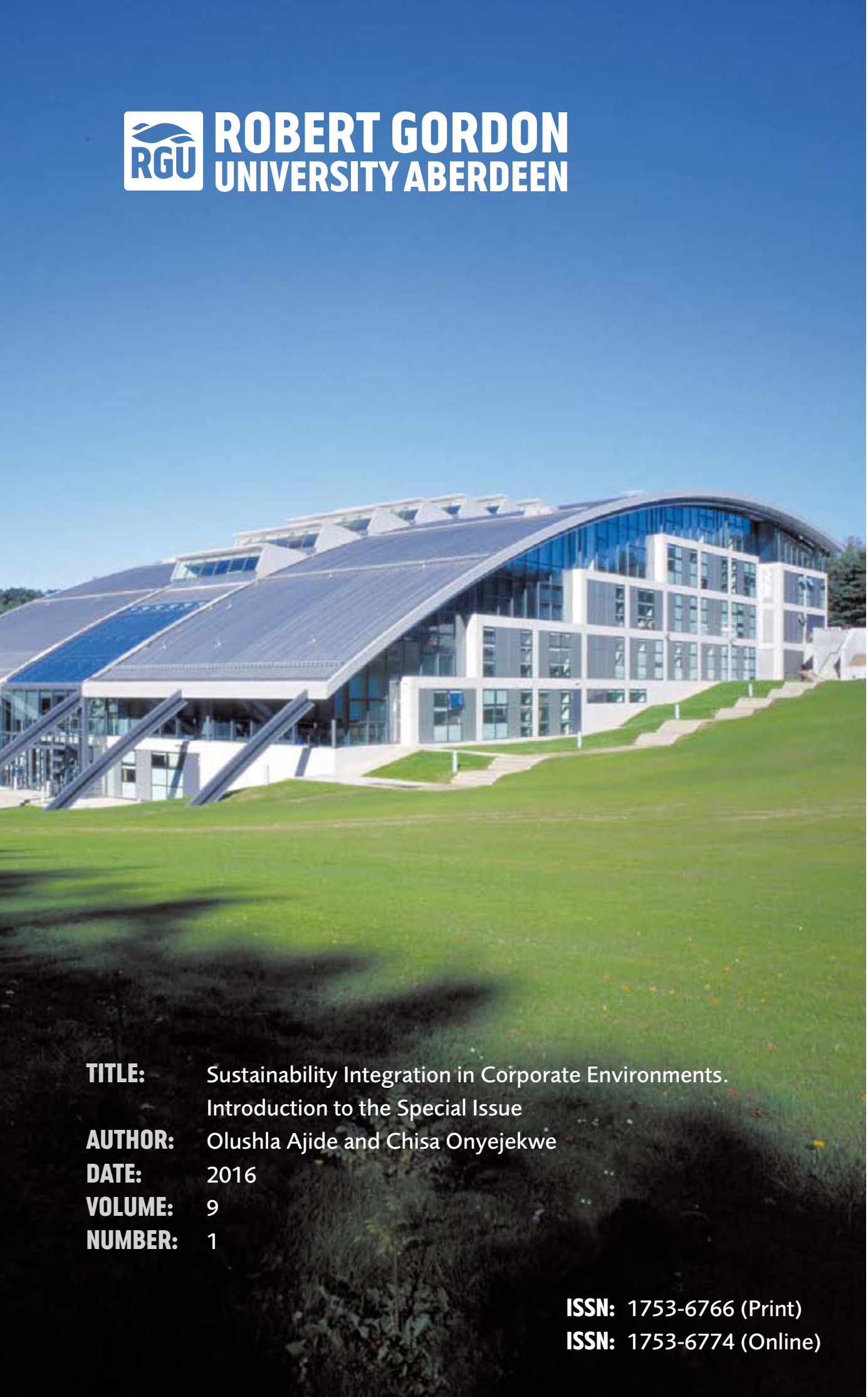

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Editorial

Articles:

Title: Sustainability Integration in Corporate Environments. Introduction to the Special Issue

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Introduction

It has been a privilege to be guest editors of the Aberdeen Business School Working Paper Series special issue with its track record of high scholarly publications. As PhD candidates, we were invited as guest editors. We were tasked with the responsibility for editing this special issue arising from the research student conference held in the summer of 2014 by the Institute for Management, Governance and Society (IMaGeS) graduate school of the Robert Gordon University, Aberdeen. It is even more heart-warming for us because this special issue publication coincides with the celebration of the 50th anniversary of the Aberdeen Business School. Two strands of themes emerge from the conference, which is reflected in this special issue: 1) Sustainability and 2) Oil and gas industry.

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Context of the special issue

Corporate social responsibility (CSR) is the concept that companies should pursue a role in society that is above just profits. Companies are seen to be socially responsible when they align themselves with values such as: ethical values, accountability and transparency, adhere to legal requirements and overall respect for the communities in which they operate. (Carroll 1991; Visser 2006). Companies are under pressure to adapt to these values due to the increase in awareness of the negative impacts of organizations, for example on the ecosystem. Social responsibility of organizations comprises of economic, legal, ethical, and altruistic expectations that society has of organizations at any particular time (Carroll 1991). It is expected that this attitude should go beyond the occasional community service activity. Furthermore, CSR is supposed to be a corporate philosophy that drives strategic decision-making, partner selection, hiring practices and, consequently, firm reputation is crucial. For instance, a lack of sensitivity of reputational risk led to the Shell Brent Spar case in 1995 which affected the profits and reputation of the company in continental Europe (Zyglidopoulos 2002).

In practical terms CSR relates to how organizations interact with their stakeholders, including their policies for preserving the environment. Reportage by organizations of their impact on the lives of their stakeholders is crucial and instrumental in creating a sustainable world. Major actors like Greenpeace, Friends of the Earth, Amnesty International and others have been at the forefront of this vanguard. According to (Jamali 2007) there is a shift from what could be called ordinary normative altruistic CSR to a more strategic role of CSR. Similarly, scholars argue that there is a shift from CSR to corporate sustainability, which is conceptualized as a mixture of social, environmental,

economic, and cultural considerations in business strategy of organizations (Eweje 2011; Kleine and Von Hauff 2009), while a multiple level of corporate sustainability has been proposed (Van Marrewijk 2003).

One industry that has faced particular critical scrutiny is the oil and gas industry with its high impact on the environment. Scholars have argued that our current systems built on 'carbon-intensive' technologies are unsustainable and there is a call for innovative 'green' systems that would reduce the negative impact of fossil fuel (Vazquez-Brust and Sarkis 2012). While there are various ways the oil production process impacts the ecosystem, one of the ways that is reflected in this special issue is gas flaring. During the production of oil, gas is produced from the reservoir jointly with the oil. Flaring is the open-air burning of natural gas. Flaring disposes of the gas and releases emissions into the atmosphere (Davoudi et al. 2013). In most developed countries, much of this gas is used or saved because governments and oil companies have made significant investments to capture it (Indriani 2005). However, some of it is flared due to technical, regulatory, or economic constraints. This has led to thousands of gas flares at oil production sites across the globe burning approximately 150 billion cubic meters of natural gas annually, causing more than 300 million tons of CO_2 to be emitted to the atmosphere, contributing to climate change and effects the environment through the emission of CO_2, black carbon and other pollutants (World Bank 2004).

Unsustainable activities arising from ineffective resource management and negative environmental impacts influenced the World Bank to spearhead an initiative that brought together development institutions, oil companies, and governments. They recognized flaring s as a challenge to sign the "Zero Routine Flaring by 2030" which would see these organizations ensuring that by 2030

there would not be any flaring by oil producers. The significance of this initiative is that signatories represent 40% of global gas flaring (World Bank 2004). The effect of flaring of natural gas across the globe is harming the environment and is a wastage of valuable source of energy, which could generate electricity for a vast number of persons. This synergy initiated by the World Bank underscores the fact that collaboration is key in unlocking sustainability challenges because no single organization, nation or sector has all the political, economic and social will as well as knowledge to engender a sustainable world (Gray and Stites 2013).

A key reason that developed nations have achieved success is due to the acceptability and adherence of the populace to an effective tax system. The proceeds from the tax system have enabled the provision of infrastructure facilities that have made these nations score high on the metrics used for assessing nations classified as developed. These effective tax systems have produced societies which are sustainable. Unfortunately, in developing nations, weak institutional structures have made it impossible for an effective tax system coupled with corruption leading to these nations scoring very low on metrics of ranking nations (Leite and Weidmann 1999). The inability to diversify their economies and to generate alternative source of income from oil and gas has contributed to these nations becoming unsustainable.

With regards to most oil rich developing nations, Xavier and Subramanian (2003) advanced three reasons why nations with substantial natural resources experience the resource challenges. First, due to the fact that natural resources generate rents, the government of these nations go rent-seeking with resultant negative impacts on political economy and creating conditions for institutionalised corruption thereby stalling growth of the economy. Second,

volatility sets in because the possession of natural resources exposes these nations to commodity prices, also negatively impacting growth. Lastly, ownership of natural resource exposes them to 'Dutch Disease'—the real exchange rate become excessively appreciated in response to positive shocks—with a resultant effect of shrinking of the tradable sector. These adduced reasons show that, in the long run, developing nations with substantial natural resources face growth challenges. However, the scenario in developed nations is opposed to those outlined above because of effective and efficient institutions that regulate the economy.

Sustainability demonstrated by activities such as recycling behaviour in developed countries is increasing. Awareness and acceptance about 'green' issues are increasing, although progress remains slow (Bartlett 2011). With regards to workplace recycling behaviour, Kane (2011) argued that strategic choices must be made which include ensuring that during the recruitment process the final choice of staff to be employed should consider the 'greenness' (i.e. such a person should embody sustainability) as well as the company ensuring a redesign of job roles. Most waste recycling studies have focused on studying the behaviours, intentions and other attributes of people. Nevertheless, recycling behaviours are categorised into three facets: environmental values, situational factors and psychological factors (Barr et al. 2001). Studying the workplace recycling behaviour is important since eight hours of the daytime is spent in the place of work. Studies have shown that there is a difference between recycling behaviours and reuse as well as reduction behaviours. (Barr et al. 2001).

Sustainability is gaining traction in the psyche of leaders of companies across the globe. For example, in a study conducted by the united nation global

compact and Accenture, they found that 97% of CEOs surveyed report that sustainability will be 'important' or 'very important' to the future success of their businesses. While, 63% believe that sustainability will transform their industries within five years, and 76% believe that embedding sustainability into core business will cause an increase in their revenue and create new opportunities. Seventy nine percent of the CEOs interviewed believe that entrenching sustainability will lead to competitive advantage in their industry (Accenture 2014).

Structure of the special issue

Against the backdrop of workplace recycling behaviour highlighted above, 'Workplace Waste Recycling Behaviour: A Meta- Analytic Review', by Adekunle Oke, argued that there are insufficient studies on waste recycling behaviours in the workplace as opposed to household waste recycling studies that are abundant. Through a meta-analytic review, the author found that there are significant amount of studies conducted in the United States of America. He argues that the downside to these studies are that they only considered a single waste stream and are constrained to the academic environment as well as questionnaires that were used to elicit behaviours of the respondents. From this paper, it could be concluded that workplace waste recycling is receiving little attention from policy makers, academic, and other stakeholders.

Within the context of what the extant literature calls the 'Dutch disease' or 'resource curse' relating to resource rich nations suffering from various economic woes and efforts of studying these nations, Zainab Musa Sa`eed in 'The Dynamic Relationship between Oil Wealth and Economic Growth: The Case of Nigeria`s

Traded Sectors' argues that most research on natural resource rich nations often focus only on economic channel of effect ignoring the implicit political economy assumptions by which economic growth is underpinned. The paper reported an econometric analysis with both economic and political factors in Nigeria as an example of a developing oil rich nation. It studies the impact of oil on other sectors, for example manufacturing and agriculture in Nigeria from 1960 to 2010 using impulse response functions (IRFs) and OLS techniques. Results from the IRFs demonstrate that manufacturing and agriculture respond positively to changes in oil output but in a way that decreases over time. Furthermore, the OLS results indicate that NNPC impact positively on oil and manufacturing, while political instability, OPEC membership and oil sector reforms that coincided with return to democratic rule and political party dominance in Nigeria show no relationship with the oil sector, nevertheless, political instability show a positive impact on the manufacturing sector.

'A commentary on the Nigerian Tax System: A Mismanaged Revenue Source' by Chisa Onyejekwe as an introduction into series of papers to follow, highlights the strengths and weaknesses of both the tax system administration in Nigeria, as well as advocating for the need for a well-structured system. While outlining the positive effect of an effective tax system in developed countries she called for diversification of revenue source for Nigeria through an equitable tax system as well as solving the double taxation problem which hinders the growth of businesses that contribute to the development of the economy.

Against the backdrop of continued enormous global energy needs and consequent negative environmental footprints left on the ecosystem during the exploration with the production process and recent demand by governments, investors, stakeholders of sustainability reports, Nkechinyere Edith Dinkpa in 'A

Review Of Social And Environmental Accounting And Reporting By Oil Companies – The Case Of Gas Flaring' presented an argument on the paucity of extant literature demonstrating the nexus between accountancy and sustainability. Furthermore, the paper argued that the voluntary nature of the reports may not deliver the expected impact and called for a regulated reporting of the activities of oil and gas companies.

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Title: A Review of Social and Environmental Accounting and Reporting by Oil Companies – The Case of Gas Flaring

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ABSTRACT

Oil and gas exploration companies in trying to meet up with the global energy demand leave adverse environmental footprints during exploration and production. These contribute to global warming whilst affecting health, wild life and vegetation. As a result, there is an increasing need to report these adverse environmental impacts. The expectation is that this will help to reduce greenhouse gas emissions and ensure a greener environment. Therefore, this research is aimed at reviewing academic literature on environmental reporting, quality and practice. In order to determine if the voluntary or non-voluntary nature of reporting impacts on the quality of the report. A brief review of pertinent literature was done on sustainability reporting with specific emphasis on the social and environmental reporting. A discussion of the issues in the review was conducted in sections. Therefore, this research contributes to the existing body of knowledge on the ongoing debate on the adequacy of social and environmental reporting by reviewing previous research and highlighting issues if any. The study also can assist companies to improve on the practice of social

and environmental reporting. The research is a portion of an ongoing research at the Robert Gordon University by the researcher.

Keywords: Environmental footprint, Social and Environmental Reporting Sustainability, Sustainability Reporting, Voluntary reporting.

SECTION 1

1.0 INTRODUCTION

Over the years, there has been an increasing demand on oil and gas companies to sustain natural and human resources while conducting exploration activities. The oil and gas industry is expected to economically produce oil and gas products, and also safeguard the environment. This poses a challenge for them especially with investors, government agencies and other stakeholders requiring environmental information and examining their environmental performance. Consequently, the reporting of these environmental impacts in a stand-alone report or in the annual report has become increasingly necessary.

A number of studies have been carried out on the need for sustainability report (Frame and Cavanagh, 2009; Hopwood, 2009; Skouloudis et. al., 2010; Gray 2010 and Milne and Gray, 2013), the content of the sustainability report (Wallage, 2000; Thomson and Bebbington, 2005; Raluca et al., 2009 and Schaltegger and Burritt, 2010) and the role of accounting in providing the report (Gray et al., 2009). Stakeholders such as governments, investors, communities

etc., are increasingly demanding the communication of non-financial sustainability information by oil and gas companies.

Sustainability information comes in the form of a sustainability report. This report is called either as Corporate Social Responsibility (CSR) report, Environmental Social Governance (ESG) report, Social and Environmental Report (SER) or Triple Bottom Line (TBL) report. The reports provide stakeholders with information about the environmental social and economic impact of the companies' activities. This paper will focus on a review of pertinent literature on the Social and Environmental Report (SER).

1.1 JUSTIFICATION OF THE STUDY

During the production of crude oil, there is a need to separate the 'Associated Natural Gas' (ANG) which is found in company of the crude oil. One of the ways which the ANG is separated from the crude oil is through the use of combustion which involves the burning off of ANG (Elvidge et al., 2009; Rahimpour et al., 2011 ; Homssi 2012). The process is also referred to as gas flaring.

Increasingly, the use of combustion to separate ANG from crude oil has been widely criticized by scholars because it leaves an adverse environmental footprint (Elvidge et al., 2009;Casadio, Arino and Minchella 2012; Johnson and Coderre 2012; Perry 2012; Egwurugwu et al., 2013; Hassan and Kouhy 2013; Aguilera et al., 2014 ; Ismail and Umukoro 2014) and contributes to the wasteful emission of 'Green House Gas' (GHG) into the atmosphere (Anomohanran, 2012; Homssi, 2012; Leo and ladehaug, 2012; Davoudi et al., 2013 ; Hassan and Kouhy, 2013) which causes global warming.

Studies have shown the adverse health, safety and environmental impact of gas flaring (Anomohanran, 2012; Johnson and Coderre, 2012; Loe and ladehaug, 2012; Davoudi et al., 2013 ; Ismail and Umukoro, 2013). The adverse health, safety and environmental impact have aroused an increasing amount of adverse attention from various stakeholders. Hence, gas flaring has evoked global concerns due to the level of gas being flared during oil and gas exploration.

This global concern inspired the World Bank led initiative known as the Global Gas Flaring Reduction Partnership (GFFR). The initiative encourages and supports gas flaring nations to utilize the gas flared through the promotion of regulatory frameworks and also solving the impediments on gas utilization. The latest GFFR statistics shows that Russia is the highest gas flaring nation in the world, followed by Nigeria. Additionally, when compared with other gas flaring nations in relation to their oil production, the level of gas currently being flared in these countries is disturbing. Hence, a need to understand how companies, through sustainable reporting practices, can communicate the environmental footprints of their activities and the measures taken to reduce their impact on society if any. The research hopes to understand the phenomena by firstly reviewing pertinent literature on sustainability reporting. Secondly, a review of the discourse on sustainability accounting and reporting with specific emphasis on the Social and Environmental Report (SER) was be conducted. Finally, a review of the voluntary nature of the social and environmental report was appraised. The conclusion summarizes the work done in the paper.

SECTION 2

2.0 LITERATURE REVIEW

This section is a review of a paucity of literature on sustainability accounting and

reporting. The section placed specific focus on the social and environmental reports. It also explores the discourse on the voluntary nature of the social and environmental reports.

2.1 SUSTAINABILITY ACCOUNTING AND REPORTING

Since gas flaring is acknowledged to be undesirable (Elvidge et al., 2009; Johnson and Coderre 2012; Hassan and Kouhy 2013; Aguilera et al., 2014; Ismail and Umukoro 2014), the reasons for its persistence remain to be understood.

Some researchers have designated a role for accounting here, i.e. by interpreting the concept of "accountability" to encompass non-financial as well as financial aspects of company performance. They have attempted to understand how, if at all, accounting could play a role in bridging the gap between the needs of society (government, investors, communities etc) and the responsibility of companies (Gray and Bebbington 2001; Hopewood, 2009; Gray, 2010; Milne and Gray, 2013). This group of researchers argue that sustainability accounting is a means by which companies are made accountable for the environment (Gray et al., 2009, Gray 2010; Milne and Gray, 2013) thus ensuring that government and other stakeholder objectives for the environment might be achieved.

Sustainability issues of interest to different stakeholder groups are enormous and the process of reporting the different sustainability issues may be complicated. According to Wallage (2000), sustainability reporting ought to consider powerless stakeholders, future generations and the environment. These

could be achieved by reflecting the expectations of various stakeholders, and to have the process governed by the principles of accountability. Sustainability accounting which came into being in the 1970s entails the provision of a report on the social performance of a company (Gray, 2000).

Given the attribute of the emission of carbon dioxide through gas flaring, approaches towards minimizing and/or averting the adverse impact are essential. To minimize and/or avert the adverse environmental impacts accountability becomes expedient. Thus, there is a need to conceptualize these adverse environmental impacts, which are not without costs and determine who should be held accountable and/or who bears the cost. Is it the oil companies, the society/people or the Government?

This need as to who should be held accountable is essential in ensuring that environmental impacts are accounted for. Sustainability accounting and reporting needs to ensure the reporting of information relating to economic, social and environmental activities (Gray and Bebbington, 2001; Frame and Cavanagh, 2009; Hopwood, 2009; Skouloudis et. al., 2010; Jones, 2010; Burritt et al. 2011; Muller et al., 2011), which puts the earth in harm's way (Schaltegger and Csutora, 2012; Davoudi et al., 2014) and to also ensure adequate sustainability reporting (Cook 2009; Hopewood, 2009; Gray, 2010). Sustainability accounting is seen as a means towards embracing the environmental and social aspects of a company. Songini and Pistoni (2012) argued that sustainability accounting plays a pivotal role in the support and implementing of any company sustainability strategy.

The debate on sustainability accounting is quite lively. Moreover, there are arguments linking accounting to sustainability. Evidence on the influence of sustainability accounting to both internal and external reporting is relevant. Depending on business and sustainability strategy, specific managerial mechanism dedicated to measuring sustainable performance on social and environmental aspects of a company is needed (Gray et al., 1996; Epistein and Roy, 2001; Bonacchi and Rinaldi, 2007). Although various authors have argued that most companies are now reporting on sustainability (Lenssen et al., 2007; Gray 2013), it is increasingly evident in literature that accounting for sustainability seem to be beset by lack of clarity (Gray, 2010; Joseph, 2012). Additionally, the oversights of its advocates, to accept the challenged nature of sustainability accounting (Everett, 2004; Cooper et al., 2005; Gray, 2010) are not inconsequential (Gray, 2010). Therefore, a new paradigm focused on the quality and clarity of accounting for sustainability by the oil and gas companies is essential. If there is a lack of clarity, it then becomes difficult to analyze the activities of companies. Aras and Crowther (2009) suggest that the challenge stems from the fact that sustainability is inadequately understood and tends to fault any estimation made on sustainability. Also, Milne and Gray (2007) argued that because the definition of what a sustainable company would look like is not practicable, therefore the foundation for accounting for sustainability reporting is also not known.

It is evident in literature that the management perspective to sustainability accounting is of little or no value (Gray 2002; Schaltegger and Burritt, 2009; Bebbington and Thompson, 2013). Well founded in literature is the fact that most companies report on sustainability has little or nothing to do with

sustainability (Gray, 2006; Milne et al, 2006; Milne and Gray, 2007; Gray, 2010) but reflect the way the companies chooses to understand sustainability (Gray, 2010). Consequently, sustainability reports by companies are constantly questioned. The deficiencies highlighted ought to enable managers to be aware and tackle the issues pragmatically. Tackling the issues which affect the management approach to sustainability reporting would ensure adequate, clear and quality accounting and reporting for sustainability (Burritt and Schaltegger, 2010). Thus, the provision of a well-structured sustainability accounting process is an important factor in reporting for sustainability.

There is no gain stating the fact that sustainability accounting is one of the ways oil and gas companies could account for the adverse environmental footprints left by their activities. Sustainability accounting is so much a part of sustainable development, addressing in accounting terms, environmental issues. Gray (1993) identified sustainable cost, natural capital inventory accounting and input-output analysis as the three methods of sustainability accounting. These three methods were explored by Lamberton (2005) alongside full cost accounting and triple bottom-line accounting in order to determine the specification of a comprehensive sustainability accounting framework. The framework is to direct future development of sustainability accounting and ensure the achievement of their integrity. The integrity of sustainability accounting and reporting is essential because stakeholders need to be reasonably confident in them. If integrity is not upheld, it may undermine trust by the users.

2.2 SOCIAL AND ENVIRONMENTAL REPORTING

The environmental degradation in society causes stakeholders to demand that companies behave in an environmentally responsible manner (Dillard et. al., 2005) and to provide environmental information to stakeholders, companies use environmental reporting through a moral discourse (Shearer, 2002) in an ethical manner. A body of research has emerged highlighting the need for the reporting and accounting for these adverse environmental impacts (Holland and foo, 2003; Thomson and Bebbington, 2005; Sumiani et al., 2007; Cho and Roberts, 2010; Jones, 2010; Mahadeo et al, 2011; Raiborn et al, 2011; Gray, 2013; Mosene et al., 2013; Van Dijk et al., 2014), reviewing the adequacy and underlying motive for the environmental reports (Buhr, 2002; O'Dwyer, 2002; Adams and Frost, 2008; Contrafatto and Burns, 2013) and the quality of the environmental report (Adams and Mc Nicholas, 2007; Adams and Frost, 2008; Raiborn et al., 2011). Even though the potential role of environmental reporting as a mechanism for social accountability has been a subject of debate (Parker, 2005; Parker et al., 2008; Gray, 2010; Mahadeoa et al, 2011), transparency in environmental reporting and the extent of information provided therein is useful (Clarkson et al., 2013). Additionally, due to the increasing societal pressures for environmentally responsible conducts, changes in environmental regulation and green consumerism, may also force organizations to change their reporting (Bebbington et al., 2009; Spence, 2009; Cho and Patten, 2013). Cooper and Owen (2007) suggest that companies producing stand-alone social and environmental reports have experienced an increasing pace of administrative reform.

Hopewood et al., (2010) argue that environmental reporting is a highly visible activity but the internal environmental decision making practices are less visible. This is due to organizations being change-resistant (Broadbent and Laughlin, 2005). Despite the companies being change resistance, they ought to behave in a socially responsible manner.

Ball (2010) argued that the economic activities undertaken by any entity has the potential of producing social and environmental effects on a large variety of stakeholders as a result sees reporting as an expert system for expressing that effect. Additionally, in order to communicate social and environmental information to stakeholders, the document used is the sustainability reports (Mosene et al., 2013) which can either be found in published reports or hoisted on company's websites. It is argued that electronic reports are the means of disclosing a company's corporate social responsibility in the 21st century (Global Reporting Initiative, 2009) and expedite communication with stakeholders (Cooper, 2004; Unerman and Bennett, 2004). Environmental reports are used to discuss environmental trends, events and consequences of these physical impacts. Additionally, environmental information helps to effectively utilize opportunities and also mitigate risks associated with the impact of energy exploration on the environment on time. The information in the environmental reports should reveal the impact of company's decisions on the environment. However, what is often found is the reporting of the footprint, which the company can voluntarily report. The voluntary nature of environmental reporting is highly debated by scholars and would be reviewed in section 2.2.1.

2.2.1 THE VOLUNTARY NATURE OF THE SOCIAL AND ENVIRONMENTAL

REPORTS

According to Gray et al., (1997), accountability and social relationship is the relationship between organization, stakeholders and their right to information. The relationship can be enhanced if companies provide the information on their social and environmental performance. Provision of information on the report is largely voluntary and it is well founded in literature that the voluntary nature of the reports influences the information provided by management. Previous studies have shown that the management of the companies are relevant in the decision making as to the information in the environmental reports. Bebbington et al. (2009) suggests that management experience and strategy is increasingly important to the information provided. Studies have investigated the quality (Adams et al., 2007; Adams and Frost, 2008), motive (Buhr, 2002; O'Dwyer, 2002; Adams and Frost, 2008 and Contrafatto and Burns 2013) and reporting practices (Adams et al., 2007).

The voluntary nature of the environmental reports has been a subject of debate amongst scholars. It is argued that the optional nature of voluntary environmental reporting affects the quality, quantity and type of the information (Kuasirikun and Sherer, 2004; Parker, 2005; Thomson and Bebbington, 2005; Raluca et al., 2009; Burritt and Schaltegger, 2010; Qian et al., 2011). Raluca et al., (2009) suggests that the voluntary nature of social and environmental accounting and reporting practices are based on standards set by organizations with no regulatory power for example the Global Reporting Initiative (GRI). The

GRI provides guidelines for voluntary use by companies reporting on the economic, environmental and social aspects of their activities. Daub (2005) suggests that some companies have embraced voluntary social and environmental reporting. Some of these companies use the Global Reporting Initiative (GRI) to provide specific information, which includes carbon emissions. Despite companies embracing voluntary reporting, Raluca et al., (2009) argue that voluntary reporting does not prevent socially perceived risks but can limit externalities through regulation. Marshall, Brown, and Plumlee (2007) suggest that traits such as financial strengths to previously being targeted by environmental groups can make companies to be more willing to provide environmental information. Increasingly, companies are paying attention to social and environmental issues in their report and Gray et al., (1996) suggests that environmental reporting complements the monetary reporting. Schaltegger and Burritt, (2010) and Qian et al., (2011) argue that companies are challenged by the increasing pressure to report the environmental footprints of their activities. Of increasing interest to scholars is the kind of information provided in the report. Mahedo et al. (2011) suggests that good and/or neutral information are provided by companies based on ethics in line with Tilling and Tilt, (2010) who argue that they can distract the stakeholders from focusing on certain issues. Previous studies (Haniffa and cooke, 2005; Islam and Deegan 2008) suggests that the information provided are vague and information such as charitable activities are commonly focused on by companies and is argued to be an attempt by companies to pursue legitimacy. De villers and Van Staden (2006) argue that when information is provided on sensitive issues, it portrays a bad image of the company and could threaten their legitimacy implying that companies can decide not to provide information on sensitive and/or

controversial issues. Their voluntary practice suggests the association between stakeholder information, needs management and legitimacy.

It is arguable that voluntary reporting is prevalent because there are no regulatory pressures even though Raluca et al. (2009) pointed out that traditionally, the main source for environmentally responsible behaviours has been governmental regulation. In the presence of government regulation, reporting key environmental issues, their associated cost and impact on society becomes mandatory. This may in turn enhance the credibility of the reports. Even though Cooper and Owen (2007) argued that the proposed but scrapped mandatory reporting through Operating and Financial review (OFR) was likely going to be as ineffective as voluntary disclosure, the issue of regulation with respect to the reporting of the adverse environmental impact of the exploration activities of the energy sector has a huge political undertone.

Burritt and Schaltegger (2010) and Qian et al. (2011) argue that companies are challenged by the increasing pressure to report the environmental footprints of their activities. Sumiani et al. (2007) suggests that the level and extent of environmental information reported shows that they only report environmental information either in general or in qualitative terms.

Raluca et al. (2009) argued that companies offer future-oriented information regarding the potential impact of their activities, through social and environmental reporting from different expert systems.

The reporting models presented comprise theoretical and practical solutions for

integrating all reporting dimensions in a conceptual framework for sustainability accounting, proving the possibility of regulation.

Bouten and Hoozée (2013) suggests that top management commitment, an active environmental champion and environmental disturbances have a great role to play in a company's willingness to provide environmental information. They argued that an active environmental champion is essential to ensuring that social and environmental reporting is transformative.

Thomson and Bebbington (2005) argued that in order for social and environmental reporting to be transformative, it should provide information which would assist people to understand the companies operating within their communities. They suggest that the content of the report both implicit and explicit should be comprehensible, and reporting should be steered away from focusing on the content analysis of reporting practices. The provision of information without considering the stakeholders ability to read and understand them is inadequate.

Holland and Foo (2003) suggests that voluntary disclosures of environmental information affects the reporting practices of companies and creates differences in environmental reporting practices.

Van Dijk et al. (2014) argued that there is a strong demand for environmental information; to help guide and improve decisions that have environmental outcomes or impacts, promote sustainability, provide a basis for policy development, help identify and manage risks, and improve expert and public

understanding of environmental functions and trade-offs.

2.2.2 SECTION SUMMARY

Emphasis on environmental degradation and the quality reporting of the environmental activities of oil and gas companies by stakeholders have been made to promote a greener environment. By accounting for the environmental footprints through sustainability accounting, and providing information by companies of their environmental activities, companies are seen to be behaving in a sustainable manner.

It is argued that companies ought to have a sense of responsibility for its environment (Gray, 2010) by having a sustainable development strategy (Erusalimsky et al., 2006; Bebbington and Lariaga, 2014) to achieve sustainable development (Trigidga and Milne, 2006; Milne and Gray 2007) through sustainable business practices. The forerunners of sustainability reporting and/or social and environmental reporting have identified the need for clear and comprehensive information.

With the existence of various reporting initiatives, some companies seem to have aligned their reporting practices to the guidelines set by the reporting initiatives. Additionally, it is worthy to note that the guidelines set by reporting initiatives are not mandatory but seek voluntary adherence. However the voluntary nature of the social and environmental reports leaves its content at the mercy of the management. Overall, it seems that voluntary reporting is driven by management and reporting initiatives. The situation may increase voluntary disclosure activity but it does not improve comparability or reliability.

SECTION 3

3.0 CONCLUSION

It is evident that the end-products of the oil and gas companies' exploration are essential to enable them carry on with their activities in the real world. However, the environmental footprints left by their activities can sometimes be inevitable. For this reason, the energy exploration sector including those in oil and gas can take preventive measures to minimize the impact and extent of environmental degradation by ensuring that they are socially responsible, carrying on their exploration in the most environmental friendly manner and reporting of their activities.

The debate on the potential role of social and environmental reporting is of topical interest to stakeholders and companies (Gray, 2010). Social and environmental reporting reveals how companies take responsibility for the environmental footprints left by their activities. Environmental reporting is a practice which is increasingly required by stakeholders and enables them to understand the degree of acceptance by companies, of the environmental footprints of their activities. It is anticipated that environmental reporting can impact on environmental management and preservation. This is the reason why voluntary financial and non-financial reporting practices in the form of social and environmental accounting and reporting are becoming increasingly common in companies (Gray, 2006). It is argued that companies ought to have a sense of responsibility for its environment (Gray, 2010) by having a sustainable development strategy (Erusalimsky et al., 2006; Bebbington and Lariagga 2014) to achieve sustainable development (Trigidga and Milne, 2006; Milne and Gray

2007) through sustainable business practices. In response to the growing demands of sustainability, the constant increase in the volume and quality of social and environmental reporting is essential. However, the question constantly being asked is how sufficient are the voluntary reporting and/or disclosure when faced with the evidence of the need for reporting (Spence, 2009)? It is argued that the decision to report social and environmental issues is usually justified using economic logic in that the reports benefit stakeholders and enhance shareholders value (Spence, 2009). Furthermore, when conflicting interest arise between stakeholders and shareholders the voluntary nature of disclosures allows for the adoption of socio-economic and environmental practices if they may result in improved economic performance by the company (Unerman and O'Dwyer, 2007 citing Owen, Swift and Hunt, 2001). Stakeholder groups require an intellectual response and an action response to environmental issues. Therefore, social and environmental reporting should be presented in a manner in which it facilitates dialogues with people about their own situation (Thomson and Bebbington, 2005). Without regulations, too much power is left in the hands of the companies and this may imply that their environmental activities and impacts are under-reported. This paper contributes to the existing body of knowledge on the ongoing debate on the adequacy of social and environmental reporting by reviewing previous research and highlighting issues if any. The study also could assist companies to improve on their practice of social and environmental reporting.

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Title: The Dynamic Relationship between Oil Wealth and Economic Growth: The Case of Nigeria's Traded Sectors

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Abstract

This study provides empirical evidence in relation to a growing body of literature concerned with 'economic and political' effects of natural resource wealth on economic growth. A prevalent criticism within this literature is that the abundance of natural resources in many developing countries, by assuming an economic channel of effect, ignores the implicit political economy assumptions by which economic growth is underpinned. In particular, it has been noted that developing countries blessed with natural resources, especially those rich in crude oil create a political state that is predatory and distorts the economy in the pursuit of rents. This paper reports on the results of an econometric analysis with both economic and political factors on a developing oil-rich country – Nigeria. The main question which arises in this context is to what extent oil production and political economy development affects different sectors, such as manufacturing and agriculture in Nigeria from 1960 to 2010 using impulse response functions (IRFs) and OLS techniques? The main results from the IRFs show that manufacturing and agriculture respond positively to changes in oil output but in a way that declines over time. In addition, the NNPC impacts positively on oil and manufacturing sectors, while political instability, OPEC membership and oil sector reforms that coincided with return to democratic rule

and political party dominance in Nigeria show no relationship with the oil sector however, political instability does show a positive impact on the manufacturing sector.

Key words: VAR model, Economic, Political, Oil, Economic Growth, Nigeria

> "The interplay is potentially in both directions: politics can affect the exploitation of natural assets and natural assets can affect politics. In principle, either of these could explain the resource curse, but there is a reasonable basis for thinking that both are important" (Collier, 2010 p. 1105 – 1106).

Introduction

The examination of the relationship between natural resource wealth and economic performance has been a complex recurring subject in the development literature (see, Collier, 2010). This concern has been grounded in the prevailing perspective that natural resource wealth represents a "curse" in developing countries (Ross, 1999; Sachs & Warner, 2001).

Studies, for example, by Sachs and Warner (2001) stated that the observation of economies endowed with natural resources have a tendency to perform poorly has been illustrated empirically and examined in several studies, which have appeared late in the 20th century, as evidence in this regard amassed on the poor economic growth experience of countries rich in natural resources.

In particular, these studies have suggested that natural resource wealth tends to increase the probability that developing economies rich in these resources will experience poor economic performance, civil war, rise in poverty levels, and authoritarian regimes (Rosser, 2006).

The emergence of the studies that documented the evidence that natural resource wealth leads to poor economic performance triggered a significant examination of the causes of the adverse effects. Early studies on this subject matter argued that the causal channels connecting natural resource wealth and poor economic performance were basically economic in nature. More specifically, the early studies advocated that resource rich countries that export their products suffered from adverse effects such as volatile export earnings, declining terms of trade, an enclave economic structure, and the 'Dutch disease' effect.[2]

[2] The 'Dutch disease' is a situation whereby a natural resource boom leads to the appreciation of the real exchange rate of the domestic currency and successively harms manufacturing and other tradable sectors of that country in question (Rosser, 2006).

Subsequently, there appears to be a wide consensus in the literature that the adverse effects of natural resource wealth operate by means of causal channels that are political in nature. However, there seems to be a considerable divergence about which political channels are most significant (Rosser, 2006). Some of the political channels put forward in the literature were that natural resource wealth leads political actors to behave irrationally, induces political actors to engage in damaging rational behaviour such as rent seeking; also natural resource wealth leads to the development of a 'rentier' state.[3]

In this study, we contribute to the existing literature on the different aspects of the problem caused by the gaps between natural resource wealth and the management of such wealth by contributing to an understanding of the complex economic and political issues that are involved in the exploitation of natural resources and their impact on economic growth. Specifically, this study tries to link the type of ownership structure chosen to manage natural resource wealth and subsequent management reforms to escape the adverse effects of resource wealth on economic performance. The critical point of departure is the examination of nationalisation of oil industry, subsequent policy interventions and the impact on performance in the oil and other key sectors (i.e., manufacturing and agriculture) of the Nigerian economy from 1960 to 2010, a period that coincided with major changes, such as, political instability, return to democratic rule and political party dominance since return to democracy in 1999.

Nigeria, is Africa's largest economy and is a net oil exporter and among the major oil producing countries in the world. In addition, Nigeria presents a good example among other oil producing countries to study the relationship between

[3] "Rentier States are defined as those countries that receive on a regular basis substantial amounts of external rent" (Mahdavy, 1970, p. 428)

natural resource wealth and economic growth because of the prevailing issues relating to poor economic growth, high levels of poverty, political instability, lack of democracy, among other problems that have been associated with abundance in oil. In addition, some developing countries rich in natural resources, such as Botswana, Indonesia and Malaysia have been able to escape the adverse effects to a certain level but Nigeria is still battling with the problems linked to resource abundance. Furthermore, weaknesses in the Nigerian oil sector have increased macroeconomic risks (World Bank, 2013).

On the other hand, the Nigerian economy largely depends on the oil sector for economic enhancement. For example, the oil sector accounts for 90 percent of total exports and about 75 percent of consolidated budgetary revenues (World Bank, 2013).

The study is organised as follows: it presents a brief overview of the oil sector of Nigeria's extractive industry from 1960 to 2010, followed by a brief literature review regarding the relationship between natural resource wealth and economic growth. Subsequently, the methodological framework and data employed in the paper are also presented, followed by the discussion of the results, and finally, the conclusion is presented.

2.0 An Overview of the Nigerian Oil Sector and its Impact on Other Key Sectors in Nigeria

The advent of the Nigerian oil industry can be traced back to 1908 but, oil discovery was made in 1956 at Oloibiri in the Niger Delta after half a century of

exploration.[4] Oil exploration commenced effectively in 1956, with the first commercial find in that year by the then oil company called Shell D'Arcy. However, before 1971, the entire industry was covered by a concession system granted to Shell D'Arcy to explore for petroleum resources. This dominant role given to Shell in the Nigerian oil industry continued for several years, until Nigeria joined the Organization of Petroleum Exporting Countries (OPEC) in 1971. This period marked the beginning after which Nigeria began to take a stronger control of its oil resources, which is in line with the practice of the other members of OPEC. The 1970s witnessed the advent of National Oil Companies (NOCs) in OPEC member countries, with the purpose of monitoring the stake of the oil-producing countries in the exploitation of petroleum resources. Although in some OPEC countries the NOCs acquired a direct control of oil production operations, in Nigeria, the Multinational Oil Companies (MOCs) were permitted to continue with such operations under Joint Operating Agreements (JOA) which clearly specified the respective stakes of the oil companies and the government of Nigeria in the ventures. However, since the advent of offshore oil operations and the granting of deep water acreages to the oil producing companies in Nigeria there has been a shift from JOA regimes to Production Sharing Contracts (PSCs).

Nigeria is the largest oil producer in Africa and was the world's fourth leading exporter of Liquefied Natural Gas (LNG) in 2012 (EIA, 2013). Nigeria's crude oil reserves are estimated at 37.1 billion barrels at the end of 2013 (BP, 2014). In

[4] The pioneering efforts of oil exploration terminated shortly with the outbreak of the First World War in 1914 and only resumed in 1937 but, exploration activities were also terminated by World War II, however, resumed in 1947.

2012 alone, crude oil production was estimated at 2417 million barrels per day, with production of around 2322 thousand barrels per day in 2013 (BP, 2014). Nigeria's natural gas reserves are bigger, making the country the largest holder of proven natural gas reserves in Africa and the ninth largest holder in the world. The country produced 1.2 trillion cubic feet (Tcf) of dry natural gas in 2012, ranking it as the world's 25th largest natural gas producer (EIA, 2013). According to Energy Information Administration (2013), natural gas production is restricted by the lack of infrastructure to monetize natural gas that is currently being flared.

Nigeria joined the Organization of Petroleum Exporting Countries (OPEC) in 1971. The country earned $55 billion from crude oil exports in 2007, making the country the fourth highest revenue earner among OPEC member countries (Financial Nigeria, 2008). However, despite its oil resources and the large revenue earned from oil exports, this did not transform into improved standards of living for the population, and has been described as representing an example of the "resource curse" (Ross, 2003; Sala-i-Martin and Subramanian, 2003).

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According to Energy Information Administration (2013), natural gas production is restricted by the lack of infrastructure to monetize natural gas that is currently being flared.

Nigeria joined the Organization of Petroleum Exporting Countries (OPEC) in 1971. The country earned $55 billion from crude oil exports in 2007, making the country the fourth highest revenue earner among OPEC member countries (Financial Nigeria, 2008). However, despite its oil resources and the large revenue earned from oil exports, this did not transform into improved standards of living for the population, and has been described as representing an example of the "resource curse" (Ross, 2003; Sala-i-Martin and Subramanian, 2003).

By 1999, when Nigeria returned to democratic rule after 15 uninterrupted years of different military regimes from 1983 to 1998, the oil sector, which has become the country's economic backbone over time, was plagued with a lot of problems. These included lack of transparency, unabated gas flaring, scarcity of refined petroleum products, and conflict in the Niger Delta, which is the oil rich producing region. During this period, the oil sector appears to have been poorly managed, giving rise to diversion of resources and revenues, (Adio, 2007). For example, the local content (LC) was low as over 60 percent of the major activities in the industry, such as, oil exploration, drilling, production, and service provision remained largely controlled and managed by IOCs. In addition, there are claims that the Department of Petroleum Resources (DPR) established to regulate the oil industry failed as it did not have the required empowerment since it was also established by the government. The years of mismanagement of the industry brought some of the key facilities to a state of poor condition. Nigeria was, therefore, flung back to pre-1965 period, as the country

commenced substantial importation of refined petroleum products, following the failing state of the four refineries while long queues for fuel appeared at filling stations and black market operators made business out of the situation by selling petroleum products at exorbitant prices to people who cannot endure the long queues (Adio, 2007). Moreover, governments, both at federal and state levels, have sustained the approach of sharing oil revenue that accrues from the sector, but the capacity of these governments to use their funds prudently, and reduce corruption, has been negligible (Ross, 2003; Okpanachi, 2011; Daily Trust, 4 March, 2013).

Looking back, when Nigeria became independent in 1960, agriculture was the mainstay of the economy. Peasant agricultural production for export provided the incentive to the country's overall economic growth (Ilugbuhi, 1968). The agricultural sector provided employment to over 75 percent of the Nigerian population and accounted for over 70 percent of total food consumption (Reynolds, 1966). In addition, it provided raw materials for industry, and export earnings to finance imports (Alamu, 1981). However, over time some authors have attributed the deterioration in agricultural production to the neglect of the agricultural sector that ensued from the discovery of oil, what is recognised as the oil boom (Ammani, 2011; Akpan 2012). According to Akpan (2012), the greatest impact of Nigeria's oil boom manifested more in the agricultural sector than any other sector of the economy. While the country had attained some level of self-reliance in staple food production in the first decade of achieving political independence, however, from 1980 and onward, the country fell into the position of being the largest food importer in the African continent. Agricultural export production had shrunken significantly by the mid-1970s, food production

decreased; importation of food increased by 700 percent and real food output per capita over the period 1970 to 1978 fell by 1.5 percent per annum (Watts and Bassett, 1986).

2.1 Management Reforms in the Nigerian Oil Sector - 1999–2011

The return to civilian rule in 1999 provided an opportunity for a democratic solution to the problems in the oil industry. The People's Democratic Party (PDP) government led by Olusegun Obasanjo initiated a number of reforms aimed at revamping the sector. President Olusegun Obasanjo stated in a national address in 2003 that significant improvements have been observed in the oil sector during the previous four years and that this attainment exceeded those in the previous 30 years (Okpanachi, 2011).

One of the objectives of this study is to investigate the impact of the 1999 reforms on economic performance variables. In other words, to examine how true are claims like these? Did anything really change? If there were changes, what is the nature and magnitude of these changes? In section five, we shall quantitatively examine the impact of governance reforms in the oil industry from 1999 to 2010 using the output of the following economic performance benchmarks (oil, manufacturing and agriculture) which we believe are critical to development in the country.

3.0 Literature Review

In this section, three views on the relationship between natural resource wealth and economic growth will be discussed. Scholars in the field of economic

development believe that the mechanisms of effects of resource wealth on economic growth are basically economic and political in nature. Within the existing literature, there is a new approach which focuses on how resource-rich countries can escape the adverse effects of natural resource wealth. This new approach resulted from the fact that some countries, even within the developing world have been able to translate the adverse effects to positive effects on economic performance. In this regard, the first part will examine the views provided by the economic approach. The second part focuses on the political economy approach which proposes that politics can affect the exploitation of natural resource wealth, and natural resource wealth can affect politics. The final section reviews the literature on understanding the conditions that will enable countries to escape the resource curse.

3.1 The Economic Perspective of the Resource Curse

The issue of poor economic growth in developing countries rich in natural resources remains a subject investigated by many economists over the years. It is this occurrence that has created different approaches in trying to understand the problem of poor economic growth in resource-rich countries. The first explanations of the resource curse under the economic approach were mainly based on the structuralist views of the 1950s, focusing on the effects of commodity price volatility, decline in the terms of trade between primary and manufactured goods (Prebisch, 1950; Sarkar and Singer, 1991), the limited linkages between the natural-resource sector and the rest of the economy (Hirschman, 1958), and appreciation of the real exchange rate (the Dutch disease effect) (Corden and Neary, 1982). However, none of these explanations

were unequivocally confirmed by empirical examinations (see, for example, Moran, 1983; Behrman, 1987; Cuddington, 1992; Lutz, 1994; Dawe, 1996; Fosu, 1996).

Several researchers suggest that the first malign effect of natural resource wealth is the Dutch disease (Collier, 2010). The Dutch disease occurs when oil, for example, is exported, the foreign exchange earned helps push up the value of the real exchange rate of the oil-rich country, and thus this adversely affects other exports (Corden, 1984). Accordingly, the economy of a resource-rich country can become dependent on a single natural resource commodity (i.e., oil) due to an overvaluation of the national currency to the detriment of other exporting sectors, and this outcome indirectly benefits the service sectors or the non-traded sectors of the economy. In this regard, some researchers suggest that developing countries rich in natural resources become resource-dependent as other sectors, such as manufacturing and agriculture become weak (Humphreys et al., 2007; Collier, 2007).

Similarly, the Endogenous Growth Theory has also been put forward by economists, where growth is linked to 'learning by doing'. For example, in manufacturing activities, workers learn by doing and overtime are able to suggest both capital and labour augmenting techniques to enhance growth. However, several economists believe that this explanation applies to manufacturing activities and not to natural resource wealth extraction or agriculture. According to economists, the endogenous growth theory helps elucidate why resource-rich countries invest less in education because they see it as less important to have a skilled labour force to supply labour to the extractive sectors. In addition, as the resource dependent countries fall behind

the developed countries, they see it as less important to have a skilled workforce because the manufacturing sector has withered away and manufactured goods are imported. On the other hand, neglect of education leads to slower growth in the long-run (Gylfason, 2001).

Given the explanation of the endogenous growth theory, the implication is that there is no learning by doing in the extractive, agricultural and service sectors. In this regard, such a restrictive definition rules out that natural resource-rich countries can learn by doing in downstream processing activities, such as oil refining that lead to higher value exports. For example, oil refining can lead to the development of a natural resource related manufacturing sector, which cannot be an exemption from the interpretation of the endogenous growth theory (Gajewski, 2012). There is no consensus in the empirical evidence because some resource-rich countries develop both upstream and downstream sectors while others do not invest in that manner (Gajewski, 2012).

Another prominent theory within the economic perspective is the principal-agent theory. What this theory explains is that the government is seen as the agent for the people who are termed the principals because they are the owners of the resource wealth. According to this theory, what is good for the agents may not in actual fact be good for the principals, especially when there is lack of transparency in government and the resource industry. This provides an incentive for agents to behave in a corrupt manner so as to gain access to wealth at the detriment of the principals or public. Alternatively, if the government engages the private sector, for example, the main problem here is that private corporations have an interest in maximising their own benefits in detriment to that of the host-country (Stiglitz, 2007). In other words, this type

of arrangement also has its own complex problems, which results in the principal-agent problems. This is because the private corporation also has its own agents who manage the business and principals who are owners of the business.

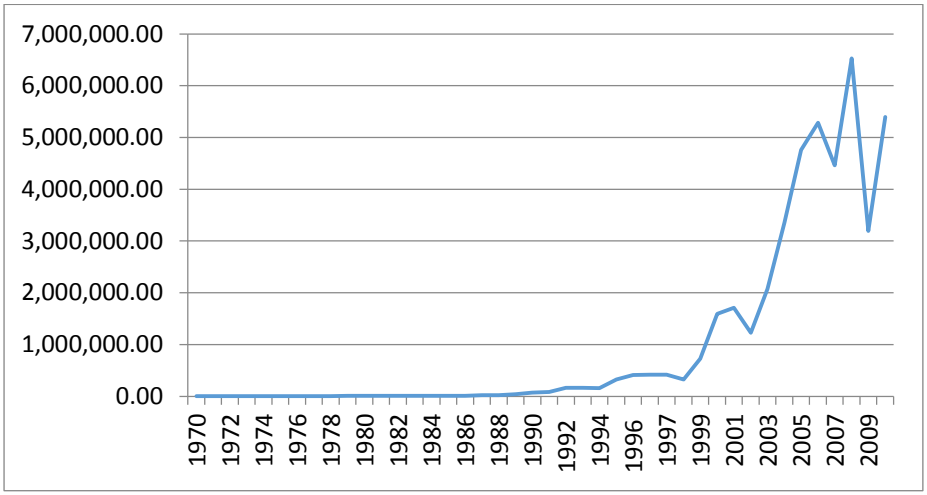
Similarly, the engagement of private corporations presents the issue of unequal expertise between them and the government of the resource-rich country. Such governments face significant challenges in their dealings with the private sector, especially international corporations (Humphreys et al., 2007).

That notwithstanding, volatility has also been presented as an explanation for a source of the negative effect of natural resource wealth. This can be seen from three different sources, which entails: the variations in the value of the natural resource, the variation in rates of extraction over time, and the variability in the timing of payments by international corporations to governments (Humphreys et al., 2007). In Figure 1, which presents Nigeria's earnings in Millions of Naira from the export of crude oil over the period 1970 to 2010, we see a flat trend, followed by a slight rise, and then a rapid rise after 2002, followed by a sustained rise until 2006 and a decline in 2007. In addition there was a sharp rise in 2008, followed by a sharp decline in 2009, before an increase in 2010. This pattern emerges from different sources. The first is the highly volatile nature of oil prices, which is illustrated in Figure 2. Figure 2 below depicts the spot prices of two major world oil prices; West Texas Intermediate (WTI) and Europe Brent in dollars per barrel from 1986 to 2010.

Another source of fluctuation comes from domestic sources, which may arise from variation over time in the rate of extraction and other problems (i.e., conflicts in the oil producing region of Nigeria – Niger Delta) that could affect production and revenue. For example, Nigeria's oil production has been hindered

by instability and supply disruptions due to instability in the Niger Delta Region (EIA, 2013).

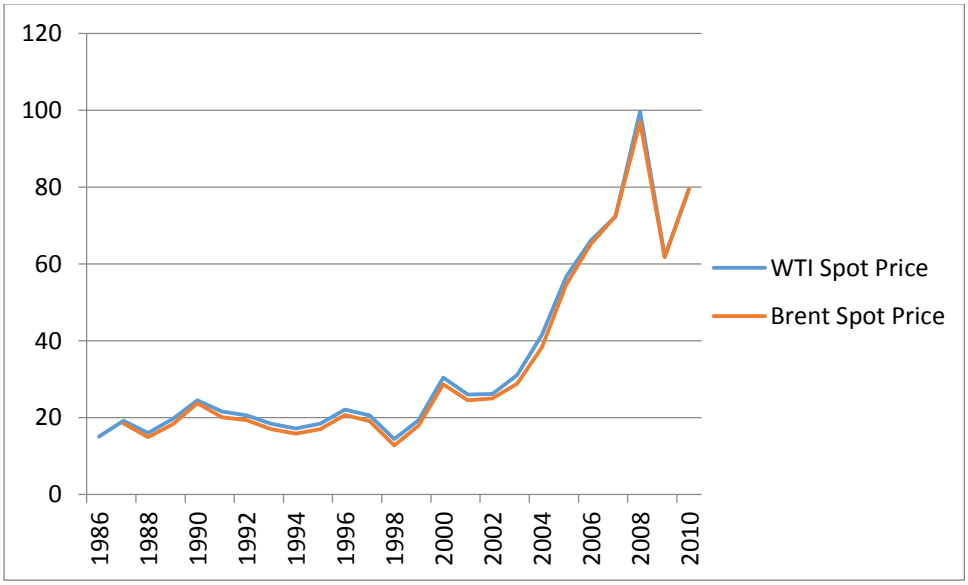
Figure 1: Nigeria's Oil Revenue (Millions of Naira) from 1970 -2010



Source: Central Bank of Nigeria Statistical Bulletin (2010)

Note: The horizontal axis is time (years), and the vertical axis is the value of revenue received in Nigerian Naira

Figure 2: WTI and Europe Brent Spot Price FOB (Dollars per Barrel)



Source: Energy Information Agency (2014)

Note: The horizontal axis is time (years), and the vertical axis is the price ($US)

The linkage theory has also been offered as alternative explanation in the examination of the negative relationship between natural resource wealth and economic growth. For example, earlier studies by Hirchman (1958), Seers (1964) and Baldwin (1966) argued that linkages from exports of primary products would be limited compared to manufacturing exports. But in contrast to their argument some researchers suggested that primary commodities can help promote economic growth (see for example, Lewis 1989 and Roemer 1970).

3.2 The Political Economy Perspective of the Resource Curse

The political economy approach to the explanation of the relationship between natural resource wealth and economic growth is about the interplay between politics and valuable natural resources (Collier, 2010). According to Collier, the interplay is theoretically in both directions. In other words, politics can affect the exploitation of natural resources, and natural resources can also affect politics. Basically, the political economy approach attempts to explain how natural resource exploitation can affect the political system. Accordingly, political scientists have established explanations for the resource curse; however, there is yet to be a consensus about which political mechanisms are most important in this respect (Rosser, 2006).

The political economy approach generally entails a search for generalizable theories of policy failure. This implies the inclination of states to implement and maintain transparently suboptimal economic policies (Ross, 1999). The theories of policy failure have been categorised into three groups, which includes

cognitive, societal, and statist theories. The cognitive theories blame policy failures on the short-sightedness of political actors, while societal theories point to the malign influence of privileged classes, interests groups, and sectors in the society. On the other hand, the statist theories focus on state institutional strength or weakness. This entails state's ability to control the extraction and deployment of resources, to resist the demands of interest groups in the society and the enforcement of property rights.

Empirical studies focusing on the political economy approach to the study of the relationship between natural resource wealth and economic performance have also provided conflicting results. For example, Isham et al. (2005) analyse data based on classification of export structure, while controlling for a wide array of other potential determinacy of governance, and show that point source (i.e., oil), as well as coffee and cocoa exporting countries do relatively poorly across an array of governance indicators. They further suggested that these governance effects are not associated basically with being a natural resource exporter.

While Robinson et al. (2006) argued that the political incentives that resource endowments generate are the key to understanding whether or not they are a curse. They suggested that the overall impact of resource booms on the economy depends critically on institutions since these determine the extent to which political incentives map into policy outcomes. Countries with institutions that promote accountability and state competence will tend to benefit from resource booms since these institutions ameliorate the perverse political incentives that such booms create. Countries without such institutions may suffer from a resource curse (Robinson et al., 2006).

Using cross-country regressions, Alexeev and Conrad (2011) examined the relationship between ‘‘point-source’’ resource abundance and economic growth, quality of institutions, investment in human and physical capital, and social welfare (life expectancy and infant mortality). They suggested that contrary to most literature, their findings indicated little evidence of a natural resource curse for all countries. Only the ‘‘voice and accountability’’ measure of institutional quality is negatively and significantly affected by oil wealth.

3.3 Escaping the Resource Curse

The existing literature on the natural resource curse also contains various recommendations to help natural resource abundant countries escape the adverse effects. This new approach is elicited by the fact that some resource-rich developing countries have managed to escape the resource adverse effect. For example, Chile, Indonesia and Malaysia have performed well in development grounds, attaining high rates of economic growth and poverty reduction (Stevens, 2003).This sub-section examines this strand of literature. The inclusion of this sub-section is motivated by the evidence that Nigeria initiated some oil sector reforms in order to escape the adverse effects of natural resource wealth in oil.

Several studies have focused attention on the economic policy changes necessary to enable natural resource abundant economies to overcome the curse. Many economists and political scientists, for example, have highlighted the necessity for natural resource endowed countries to implement sensible policies and, in particular, control inflation, pursue competitive exchange rates, accumulate budget surpluses, and avoid large domestic and foreign debts

(Mikesell 1997, Usui 1997, Sarraf and Jiwani, 2001). It is argued that these measures are likely to be primarily significant in terms of aiding natural resource wealth countries escape the Dutch disease effect (Usui, 1997).

Several economists have also highlighted the need for natural resource abundant countries to diversify their economies in order to reduce their substantial dependence on natural resources (see, for example, Auty, 1994). Nevertheless, other scholars have argued that natural resource wealth economies need to pursue an investment strategy that is in accordance with their economic absorptive capacity, investments only being made when the expected return is considered to be above alternative risk-free investments, and all recurrent costs related to new investments are taken into consideration (see, Sarraf and Jiwani, 2001 for more details).

In addition, other scholars have also recommended the use of stabilisation funds, in other words, funds aimed at dampening the impact of commodity price volatility in the economy, for example, their successful use in countries like Norway (see, for example, Skancke, 2003). However, a number of scholars have argued about the efficacy of these funds in natural resource wealth economies that do lack strong traditions of transparent and accountable government (Davies et al., 2003).

Another group of researchers focused attention on identifying the political and social changes that are needed to escape the natural resource curse (Bevan et al., 1999; Luong, 2001; Gelb et al., 2002; Rosser, 2006). According to them, they argued that economic policy reforms are not likely to be implemented unless political and social environments in natural resource endowed countries are first transformed, though they recognised that this change will be politically challenging and is not likely in the short-term (Rosser, 2006). Other scholars, for

example, Mitra (1994) operating from the behaviouralist view argue that governments in natural resource rich countries are not likely to pursue coherent economic policies that will help escape the natural resource curse until there is a change in the mentality of political elites in these countries. Specifically, he proposes that these political elites need to begin seeing commodity booms as transitory and not permanent occurrences, so as to curtail the rapture that goes with commodity booms (Rosser, 2006).

Many scholars who have taken the stance of state-centred and rational actor perspectives have highlighted a requirement for natural resource rich economies to build state capacity (Karl, 1997; Ascher, 1999; Auty, 2001; Pearce 2005). These scholars argued that such development will enable policy reform and impede the growth failures and mismanagement that can bring about violent conflict. Karl (1997), for example, argued that the neoliberal concern with shrinking the influence of the state as it has been applied to natural resource rich economies disregards the crying necessity for strengthening its power. Therefore, rather than attempting to reduce the role of the state in natural resource rich economies, Karl argues, the emphasis should be on measures such as democratization, professionalizing the civil service, and reducing corruption. A similar argument was offered by Auty, (2001), whosuggested that economic policy success needs institutional reinforcement that inspires the growth of a developmental state. In similar fashion, though from a social capital viewpoint, Woolcock et al. (2001) have claimed that such institutional initiatives must be reinforced by measures to build social capacity and political harmony in natural resource rich economies. They recommended that only by doing so, will states in

these resource rich countries cultivate the requisite ability to manage the difficulties caused by economic shocks.

4. Data and methodology

4.1. Data

In our analysis, we employ three economic performance variables: real oil output (oil), real manufacturing output (man), and real agricultural output (agric). The sample comprises annual observations for the 1960 – 2010. Furthermore, to take into account the effects of the political instability in Nigeria (democracy and military- 1966 – 65; 1966 - 79; 1980 – 82; 1983 – 1998; 1999 - date), Nigeria's membership to OPEC and nationalisation of oil production (1971), establishment of Nigerian National Petroleum Corporation (1977), and petroleum sector reforms that coincided with return to democratic rule (1999) and single political party dominance respectively, we have employed four dummy variables. For more details on the dummy variables, refer to Appendix A.

4.2. Methodology

The dynamic effects of the oil sector on other key sectors of the economy, such as agriculture and manufacturing are investigated through a multivariate unrestricted vector autoregressive (VAR) model developed by Sims (1980) and a regression model. This approach is employed as against other possible candidates for several reasons. First, the VAR model is a dynamic simultaneous equation system which is free from a priori restriction on the structure of the model. Second, the VAR model allows changes in a specific variable such as oil to be explained by its own lags and the past information about other variables in the system. Thirdly, the approach allows us the opportunity of knowing not only how a given variable impacts on itself, but also on others through the use of the

main applied tools of the VAR model such as variance decomposition (VDC) analyses and impulse response functions (IRFs). Our unrestricted VAR model of order p is presented in equation 1 below.

$$\boldsymbol{y_t} = \sum_{i=1}^{p} \boldsymbol{A_i t_{-1}} + \boldsymbol{BX_t} + \boldsymbol{e_t}$$

Where $\boldsymbol{y_t}$ is a vector of endogenous variables, $\boldsymbol{X_t}$ is a vector of exogenous variable whose values are outside of the VAR system. $\boldsymbol{A_i}$ and $\boldsymbol{B}$ are coefficient matrices and $\boldsymbol{p}$ is the optimum lag number. Under general conditions, the OLS estimator of $\boldsymbol{A_i}$ is consistent and asymptotically normally distributed. Sims et al. (1990) explain that this condition holds for both stationary and non-stationary but possibly co-integrated variables in the VAR model. In the unrestricted VAR model, the vector of endogenous variables is as follows:

$$\boldsymbol{y_t} = (\boldsymbol{Oil}, \boldsymbol{manufacturing}, \boldsymbol{agriculture})$$

In the vector of endogenous variables above oil, manufacturing and agriculture refer to output of oil, manufacturing and agriculture sectors in real GDP.

This is our choice of the Cholesky ordering in the VAR system.[5]The first variable in a pre-specified Cholesky ordering (oil) has an immediate impact on all the other variables (manufacturing and agriculture) in the system, excluding the first variable and so on. The first variable in the Cholesky ordering is usually the most exogenous among the variables employed in the VAR system. Oil sector output in Nigeria depends on the production of oil and global oil prices. Global oil prices are determined to a great extent on international markets and affected largely by factors beyond the Nigerian economy (e.g., world economic growth, world environmental concerns, energy intensity of oil importers and speculative activities among others), while the level of oil production in Nigeria depends on

[5]However, we have also carried out different Cholesky orderings for robustness check. The results show that our main findings are not sensitive to different orderings.

the amount of domestic and foreign investments in oil fields, new extractions, increasing capacity of current production, militant attacks on oil installations and oil theft among others. OPEC membership as an exogenous factor may have affected the oil production in Nigeria. This is because Nigeria as a member of OPEC and complies with the determined level of the crude oil production quota set by this organisation. Thus, the first variable in the above ordering (oil) is mostly exogenous, although that petroleum sector policy of the government determined some part of it as well. Manufacturing followed the first variable in the Cholesky ordering. Finally, agriculture is categorised as the most endogenous in the VAR system.

The vector of exogenous variables is as follows:

$$\boldsymbol{X_t} = (\boldsymbol{constant}, \boldsymbol{polreg}, \boldsymbol{opecm}, \boldsymbol{nnpc}, \boldsymbol{ref})$$

where polreg, opecm, nnpc and ref refer to the dummy variables that controls for the effects of political instability (democracy and military), Nigeria`s membership to OPEC and nationalisation of oil production (1971), establishment of Nigerian National Petroleum Corporation (1977), and petroleum sector reforms that coincided with return to democratic rule (1999) and single political party dominance respectively. The vector of exogenous variables that reflect political factors is coded using dummy variables which take the value of either 1 or 0. In this study, the years of political instability take the value of 1 if the government in Nigeria is civilian and 0 if the government is military. The period before OPEC membership is represented by 0, while years of OPEC membership from 1971 are represented by 1. Furthermore, years prior to establishment of NNPC are represented by 0 and years reflecting establishment of NNPC are represented by 1. Finally, the reform (ref) dummy also captures 0 prior to period

of reforms in the oil sector and 1 when the Nigerian government instituted reforms in 1999.

To estimate the employed VAR model, we first conduct unit root tests to investigate the time series properties of the variables in the examination. To test for unit root, this is achieved using both the Phillips–Perron (PP) test and the augmented Dickey–Fuller (ADF) test to determine the order of integration of the variables employed in the analysis. If the unit root test suggests that the variables are $I(1)$ the estimation procedure then proceeds to investigate the long-run relationship between the variables by conducting the cointegration tests. Estimation can be achieved using the vector error correction model (VECM) However, a number of studies have revealed that the estimation of an unrestricted VAR model performs better in the short run in comparison to a VECM (Naka and Tufte, 1997). In this regard, this study employs an unrestricted VAR model to examine the impact of oil production on key economic variables in Nigeria.

After estimating the VAR, the technique of impulse response functions (IRFs) is employed to examine the dynamic response of macroeconomic variables to each other. The IRFs are important tools in the estimation of a VAR model because they offer more information in the analysis. For example, the IRFs trace out the response of current and future values of each of the variables employed in the model to a one-unit change in the current value of one of the VAR errors (Stock and Watson, 2001).

The Thereafter, estimates of each OLS equation in the VAR are used to examine the response of economic variables to the dummy variables employed that signify political factors.

In addition, we determine the optimum lag length to employ. The lag length of 1 is selected on the basis of the sequential modified LR test statistic (LR), Final prediction error (FPE), Schwarz information criterion (SC), and Akaike information criterion (AIC) criteria. The VAR order selection criteria are presented in table 2 below in the empirical results section.

As stated previously, a regression model is also employed in this study to estimate the individual VAR equations in order to ascertain the effects of the dummy variables to represent political and institutional factors.

In the next section, we present the empirical results of the VAR model by first starting with the unit root tests, followed by the lag length selection criteria tests and then the IRFs before finally presenting the OLS estimates of the VAR model.

5. Empirical Results

5.1. Unit Root Tests

The unit root tests for all the variables employed are presented in Table 1 below and the ADF and PP tests confirm that oil output (oil) and all the economic performance variables (manufacturing and agriculture) are I(1). Although the variables have unit roots we do not employ cointegration tests and differencing would be inappropriate (Hamilton, 1994). Therefore, we follow Farzanegan and Markwardt (2009) in employing an unrestricted VAR in levels. In addition, the stability check test for the series confirms that the VAR is stable and therefore estimates, such as IRFs are appropriate to conduct.

Table 1: Unit Root Tests

Variable	ADF		ADF		PP		PP	
	Levels		First difference		Levels		First difference	
	Constant	Constant + trend	Constant	Constant + trend	Constant	Constant + trend	Constant	Cons + tre
Oil	-0.67	-2.78	-7.91*	-7.83*	-0.53	-2.77	-8.04*	-7.95
Man	1.04	-1.37	-5.87*	-6.26*	1.10	-1.65	-5.33*	-5.51
Agric	3.10	0.08	-5.68*	-6.88*	3.56	0.23	-5.69*	-6.88

*Significance at 1% level.

**Significance at 5% level.

***Significance at 10% level.

5.2 Lag Length Tests

One lag order selection criterion supported a lag length of 1 (SC), two different criteria (LR and HQ) and (FPE and AIC) select lag number of 2 and 3 respectively as the optimum lag. Thus, the lag length of 1 is used for estimation of the VAR due to the frequency of the data which are annual and also one of the criteria (SC) select lag number 1 as the optimum lag.

Table 2: Lag Length Tests

Endogenous variables: OIL MAN AGRIC

Exogenous variables: C POLREG OPECM NNPC REF

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-1531.33	NA	1.93E+24	64.43035	65.0151	64.65133
1	-1418.04	188.8147	2.52E+22	60.08498	61.02058*	60.43855
2	-1401.28	25.83791*	1.85E+22	59.76166	61.04811	60.24781*
3	-1390.33	15.51985	1.75e+22*	59.68019*	61.31749	60.29893

* indicates lag order selected by the criterion

LR: sequential modified LR test statistic (each test at 5% level)

FPE: Final prediction error

AIC: Akaike information criterion

SC: Schwarz information criterion

5.3 Impulse response functions

The identification of orthogonalised changes in each of the variables employed and the dynamic responses to such changes, the variance-covariance matrix of the VAR model was factorized using the Cholesky decomposition method suggested by Doan (1992). This technique enforces an assembling of the variables and attributes all of the effects of any joint changes to the first variable in the VAR model Farzanegan and Markwardt (2009). The impulse response function (IRF) traces out the effects of a one-time increase in the current value

of one of the VAR errors on current and future values of the endogenous variables (see, Stock and Watson, 2001).

The IRFs are presented in Figure 3 below. Figure 3 contains the impulse response functions for the responses of the economic performance variables to changes in them. Each figure traces the effect of a one-time change to each other and to other variables in the system on the current and future values of each of the economic variables. In other words, this illustrates the response of each variable in the VAR model and the impact of other variables in the system. For example, the first column which refers to unanticipated changes in oil (LOIL) shows the responses of oil, manufacturing and agriculture to changes in oil variable. Also the second column which refers to unexpected changes in manufacturing (LMAN) illustrates the responses of oil, manufacturing and agriculture to changes in manufacturing variable and finally the last column which refers to unforeseen changes in agriculture (LAGRIC) depicts the changes in oil, manufacturing and agriculture to changes in agriculture variable.

Focusing on the first column, the responses of oil (LOIL), manufacturing (LMAN) and agriculture (LAGRIC) to changes in oil output measure are negative throughout the 10 periods after the change to oil output, thus indicating that oil output changes have a negative effect on manufacturing and agriculture in a manner that tends to decline with time. For the second column, the responses of oil (LOIL), manufacturing (LMAN) and agriculture (LAGRIC) to changes in manufacturing output shows the same trend as that with the first column, however with a slight exception of the third graph in that column showing the response of agriculture to manufacturing. In the first and second period, the response of agriculture to manufacturing appears to rise but after the second period the response appears negative for the remaining eight periods.

Similarly, the third column which presents the responses of oil (LOIL), manufacturing (LMAN) and agriculture (LAGRIC) to changes in agriculture shows a negative effect of agricultural output changes on the other variables. A change in the variable representing agriculture results in a negative response, which lasts up to 10 years.

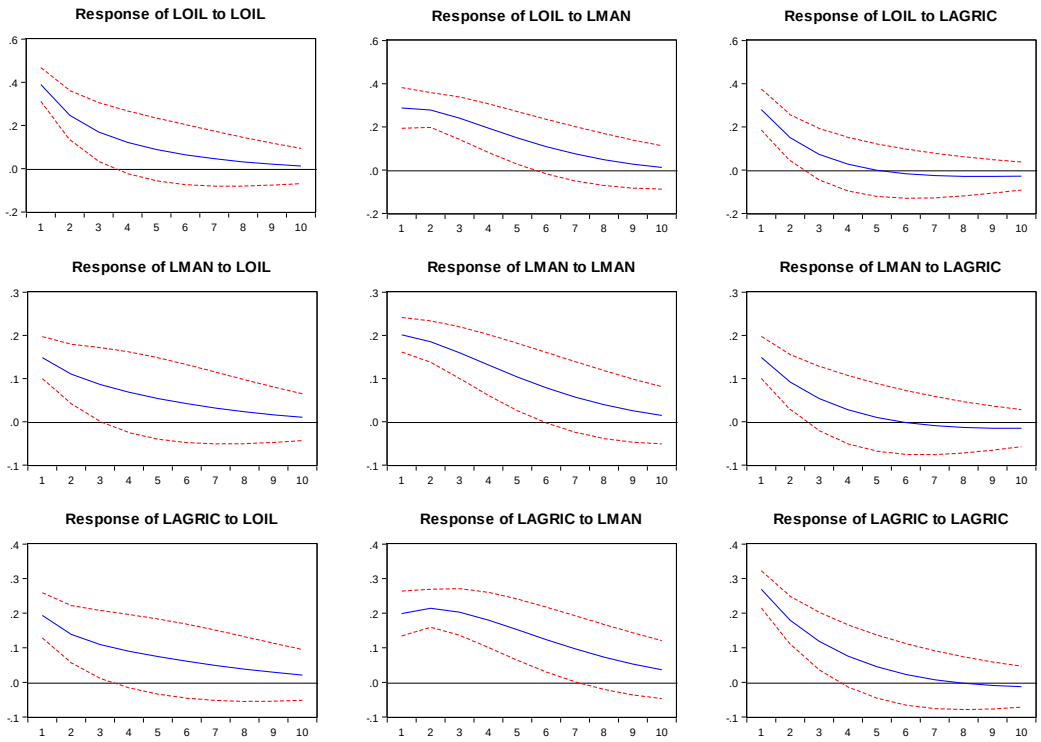
Overall, from Figure 3, we conclude that the responses are considerable and these findings are consistent with economic theory of natural resource curse. For example, the response of manufacturing to oil changes in the first column which reflects the currency appreciation due to the resource revenues and its negative effect on the competitive position of other industries in the economy such as manufacturing. This is called the 'Dutch Disease' (see, for example, Gylfason 2006 for detailed explanation).

We have also examined the diagnostic statistics of the estimated VAR model which is used to construct impulse response functions in Figure 3. First, a stability test of the VAR model using the characteristic AR polynomial has been conducted. The AR root table is a test that confirms whether a VAR model is stable or not. In this study, the AR root graph reports the estimated VAR model is stable (stationary) if all roots have modulus less than one and lies inside the unit circle. If the VAR model is not stable, certain results (such as impulse response standard errors) are not valid (see, Lütkepohl, 1991, 2005, for explanation).

In addition to the stability test, we have also examined the properties of the residuals from our estimated VAR. The autocorrelation LM test which checks for autocorrelation of the residuals is employed and the tests are carried out to show lack of auto-correlation of residuals. All these diagnostic criteria show that

our estimated VAR model which is a basis for the impulse response functions in Figure 3 is stable and satisfactory. These results are reported in Appendix B.

Figure 3: Impulse Response Functions



Note: The horizontal axis is time (years), and the vertical axis is the magnitude of the response to the impulse (%)

Figure 3 illustrates the responses of oil, agriculture and manufacturing to unexpected changes in them and to unexpected changes from other variables in the VAR model. For example, the first row indicates the effect of an unexpected 1 percentage point increase in oil sector output (LOIL) on all three variables, as it works through the VAR model. The second row displays the effect of an unanticipated increase of 1 percentage point in the manufacturing output (LMAN), and the third row illustrates the corresponding effect for the output rate of the agriculture sector (LAGRIC), as it works through the VAR model.

5.4 Estimates of the Individual VAR Equations Using OLS

The estimates of the individual VAR equations using the OLS method are presented below. This is done so as to estimate and examine the effects of each dummy variable employed as an exogenous variable in the VAR system. The effects of the dummy variables are important because they help to depict or account for political factors in the estimated VAR model which also form the main aim of this study.

Table 3 below presents the first equation according to the Cholesky ordering in the VAR model. In this model, oil is the dependent variable while manufacturing, agriculture, unstable political regimes, OPEC membership and nationalisation, establishment of the state owned oil company (NNPC), and petroleum sector reforms are the independent variables. Moreover, the variables of political instability, OPEC membership and nationalisation, establishment of NNPC and petroleum sector reforms are most vital in this section in order to ascertain how the development of the Nigerian political economy affects the three sectors examined in this study.

Focusing on the impact of the economic variables of manufacturing and agriculture on the oil sub sector, the results are not statistically significant. We find only oil to have a positive and significant effect on oil.

Looking at the effects of the political economy on oil, the dummy variable of NNPC is significant. In other words the establishment of NNPC which resulted from nationalisation of oil production that reflects pursuit of nationalism after achieving independence in 1960 impacts positively on the oil sector. This finding is consistent with recommendations by some scholars that state ownership structure is better than international private ownership by international oil corporations (IOCs) (see, for example, Stiglitz, 2008, for further details).

However, the dummy variables depicting political instability, OPEC membership and nationalisation, and oil sector reforms are not significant. This can be further explained that there exists no relationship between these political factors and the economic variables of oil, manufacturing and agriculture employed in this analysis.

In sum, from the foregoing analyses, it could be deduced, that political instability, which in the case of the Nigerian economy has largely been characterised by various military regimes have no significant relationship with the oil sector and other key sectors. A number of scholars, for example, Jensen and Wantchekon (2004), present empirical evidence suggesting a robust and negative correlation between the presence of a large natural resource sector and the level of democracy in developing countries. However, in this study, we did not attempt to look for causal relationship between natural resource and political regimes, but we test the effect of this outcome on key economic sectors. Likewise there is no significant relationship established between the key economic sectors (oil, manufacturing and agriculture) with OPEC/nationalisation, establishment of NNPC, and reforms. This could suggest that they are not having the expected positive impact they are supposed to have.

Table 3

Dependent Variable: OIL

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Oil	0.882103	0.113416	7.777593	0.0000

Manufacturing	-0.607609	1.087123	-0.558915	0.5792
Agriculture	0.068157	0.097845	0.696578	0.4899
Political Instability	6205.281	5073.749	1.223017	0.2281
OPEC/Nationalisation	4538.836	6177.189	0.734774	0.4666
Estab. Of NNPC	12130.07	7161.961	1.693679	0.0977
Oil Sector-Reforms	5992.902	10362.87	-0.578305	0.5661

R-squared	0.959842	Mean dependent var	59598.62
Adjusted R-squared	0.953149	S.D. dependent var	50392.28
S.E. of regression	10907.41	Akaike info criterion	21.57792
Sum squared resid	5.00E+09	Schwarz criterion	21.88384
Log likelihood	-531.4480	Hannan-Quinn criter.	21.69442
F-statistic	143.4110	Durbin-Watson stat	2.407831
Prob(F-statistic)	0.000000		

Table 4 below presents the second equation in the VAR Cholesky ordering with manufacturing as the dependent variable and other variables as documented above as the independent variables. In this model, the manufacturing is positive

and significant. Similarly, the agriculture is also positive and significant on manufacturing. The effect of political instability and establishment of NNPC are also found to have a significant positive impact on the manufacturing sector. However, OPEC membership/nationalisation and petroleum sector reforms are found not to have a significant relationship on manufacturing.

Table 4

Dependent Variable: MAN

	Coefficient	Std. Error	t-Statistic	Prob.
Oil	-0.011304	0.016571	-0.682116	0.4989
Manufacturing	0.730025	0.158841	4.595954	0.0000
Agriculture	0.031063	0.014296	2.172823	0.0355
Political Instability	2023.017	741.3316	2.728897	0.0092
OPEC/Nationalisation	1278.716	902.5565	1.416772	0.1639
Estab. Of NNPC	1719.896	1046.443	1.643564	0.1077
Oil Sector-Reforms	1991.711	1514.131	-1.315415	0.1955
R-squared	0.973057	Mean dependent var		10327.78
Adjusted R-squared	0.968566	S.D. dependent var		8988.940

		Akaike info	17.7311
S.E. of regression	1593.695	criterion	5
Sum squared	1.07E+0		18.0370
resid	8	Schwarz criterion	7
	-	Hannan-Quinn	17.8476
Log likelihood	435.2786	criter.	4
		Durbin-Watson	1.97655
F-statistic	216.6918	stat	7
Prob(F-statistic)	0.000000		

Table 5 below presents the third equation in the VAR Cholesky ordering with agriculture as the dependent variable and other variables as previously documented as the independent variables. In this model, only the agriculture is positive and significant on agriculture. However, the effects of political instability, OPEC membership and nationalisation, establishment of the NNPC, and petroleum sector reforms are found not to have a significant relationship on agriculture.

Table 5

Dependent Variable: AGRIC

	Coefficient	Std. Error	t-Statistic	Prob.
Oil	-0.03293	0.115887	-0.284192	0.7777

	4			
Manufacturing	0.283134	1.110806	0.254890	0.8001
Agriculture	0.960365	0.099977	9.605869	0.0000
Political Instability	6892.248	5184.280	1.329451	0.1909
OPEC/Nationalisation	4237.471	6311.758	0.671361	0.5057
Estab. Of NNPC	4365.143	7317.984	0.596495	0.5540
Oil Sector Reforms	11478.14	10588.62	1.084007	0.2845

R-squared	0.987098	Mean dependent var	82588.91
Adjusted R-squared	0.984948	S.D. dependent var	90840.79
S.E. of regression	11145.03	Akaike info criterion	21.62102
Sum squared resid	5.22E+09	Schwarz criterion	21.92695
Log likelihood	-532.5255	Hannan-Quinn criter.	21.73752
F-statistic	459.0475	Durbin-Watson stat	2.394765
Prob(F-statistic)	0.000000		

In sum, from the foregoing OLS estimates of the individual VAR equations, it could be deduced that political instability, which in the case of the Nigerian economy has largely been characterised by various military regimes and OPEC membership which coincided with a change in ownership structure of the Nigerian oil industry have no relationship with the oil sector and other sectors employed in this study. Specifically, the relationship between nationalisation and oil industry and other key sectors employed in this study could be attributed to the problems associated with ownership structure of the oil industry which fail to take into account the political and institutional realities in Nigeria, for example, the nature of the economy which is associated with rent seeking activities due to dependence on oil rents. Moreover, some problems associated with the oil sector include lack of transparency, unabated gas flaring, and scarcity of refined petroleum products which could hinder the efficient working of other sectors such as transportation that also provide services to manufacturing and agricultural sectors.

6. Conclusion and Policy Implications

This study examined different tense used in this paragraph) the effects of natural resource wealth in oil on some key economic performance variables in Nigeria. Rising oil production and high global oil prices, especially in the 1970s and recent years, have meant a significant amount of rents for the Nigerian government. In addition, oil discovery in Nigeria has resulted in the adoption of different ownership structures in managing the Nigerian oil industry, for example in 1971, the country joined OPEC and nationalised the oil sector. Such moves are related to with the development of the political economy as Nigeria achieved independence in 1960 and forged ahead to nationalise and control their

resources from original foreign domination. In this regard, this study examined the economic and political effects the Nigerian oil industry has on economic performance. Subsequent political instability that emerged after independence could be related to the presence of oil rents as the literature suggested. In addition, further reforms in the Nigerian oil sector due to the entrenched problems that plagued the sector for years have tried to improve the sector and to have a positive impact on the economy. The main question which arises in this context is to what extent changes in the Nigerian oil output and political economy development affects different sectors, such as manufacturing and agriculture in Nigeria? To answer this critical question, we have employed an unrestricted VAR model and estimated the IRFs and individual VAR regression to see the effects of political factors, using annual data from 1960 to 2010. IRFs examine the effects of one standard deviation increase in current values of oil output on current and future values of the manufacturing and agriculture sectors in Nigeria.

The main results from the IRFs show that the responses of oil, manufacturing and agriculture to changes in oil output are positive throughout the 10 years, hence indicating that oil output changes have a positive effect on manufacturing and agriculture but in a way that declines over time. The declining responses of manufacturing and agriculture over time seems consistent with other findings depicting the Dutch disease theory and the linkage theory that revealed the effects of natural resource wealth, especially in oil, on manufacturing and agriculture due to a number of reasons as stated in the literature section. In addition, these results confirm the economic channels of effects between oil and economic performance which is also consistent with the strand of literature that focuses on economic approach.

Furthermore, using OLS estimates which depict the individual VAR equations, this study aims to ascertain the effects of the development of the political economy of Nigeria on oil, manufacturing and agriculture. In this context, establishment of NNPC indicates a positive impact on oil and manufacturing, while political instability, OPEC/nationalisation and oil sector reforms that coincided with return to democratic rule and political party dominance in Nigeria indicate no relationship with the oil sector. In addition, political instability, OPEC/nationalisation, establishment of NNPC and oil sector reforms indicate no relationship with the agriculture sector in Nigeria.

The findings from the OLS estimates which depict the political economy development in Nigeria may be consistent with some of the theoretical underpinnings in the political economy approach. For example, the lack of relationship with oil sector reforms could reflect lack of governance in the institutions established and responsible for ensuring the implementation of the reforms. In addition, the lack of relationship between OPEC membership and nationalisation of the oil sector could also reflect the principal-agent theory as mentioned in the literature review. This could reflect unequal expertise between government and international oil companies or that private corporation oil companies are interested in maximising their own benefits (Stiglitz, 2007).

The policy implications of the above results are straightforward. Establishment of NNPC that reflects further control of the Nigerian oil sector by the government may affect oil and manufacturing output but, not agriculture. Also OPEC membership and oil sector reforms that coincided with political party dominance since return to democratic rule in Nigeria may not have the anticipated or desired effect on oil, manufacturing and agriculture sectors. For instance, the Nigerian government may consider the benefits of OPEC membership and the

current type of oil industry ownership structure on the oil sector and the consequences on other key economic sectors. This could result in short sightedness of the Nigerian government in their inability to forecast future trend of energy sources alternative to crude oil and the consequences on economic performance. The lack of relationship between OPEC membership and nationalisation of the oil sector may be consistent with the cognitive theory approach as explained in the literature review section which stated policy failures due to short-sightedness by political actors.

In particular, the discovery of oil shale in the United States which is a major importer of Nigerian oil and other global demand and supply conditions in oil have made the Nigerian Naira to fall in a manner not seen in history. Thus, this outcome has increased the cost of importing goods in Nigeria as the country largely relies on imported goods, especially in food items such as rice, milk, and sugar.

In addition, refined petroleum products are also imported into Nigeria and this may reflect why falling oil price is not reflected in the price of petrol in the country. This also reflects lack of diversification in Nigeria that could help reduce imports and dependence on the oil sector as recommended in the literature focusing on how countries can escape the resource curse as discussed in the literature section of this study and as confirmed by World Bank statement that weaknesses in the Nigerian oil sector have increased macroeconomic risks (World Bank, 2013).

Similarly, those oil sector reforms such as deregulation of Nigeria's downstream petroleum sector and establishment of the Nigerian Extractive Industry Transparency Initiative (NEITI) charged with the responsibility for ensuring transparency and accountability in the reporting and disclosure by the oil sector

of revenue due to or paid to the Nigerian government. As well as monitoring the local content policy through implementation of obligatory use of local resources, financial empowerment of local population and indigenous capacity-building programmes and ensuring corporate social responsibility in the oil industry may have been wrongly applied. In addition, weak governance mechanisms to ensure efficient performance of the reforms may have hindered the multiplier effects of the oil industry on other key economic sectors like manufacturing and agriculture in Nigeria.

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APPENDIX

Appendix A

Data sources and description

We use annual data for the period of 1960 to 2010. The variables employed in this paper are as follow:

- Real oil output (oil)

  The variable measures oil value added in real GDP. This variable is at constant prices of 1999. The source of this variable is the online portal of time series at the Central Bank of Nigeria.

- Real manufacturing output (man)

  The variable measures manufacturing value added in real GDP. This variable is at constant prices of 1999. The source of this variable is the online portal of time series at the Central Bank of Nigeria.

- Real agricultural output (agric)

  The variable measures agricultural value added in real GDP. This variable is at constant prices of 1999. The source of this variable is the online portal of time series at the Central Bank of Nigeria.

Coding of the dummy variables

Polreg – political instability in Nigeria (democracy and military)

This dummy accounts for the effects of political instability in Nigeria from 1966 – 65; 1966 - 79; 1980 – 82; 1983 – 1998; 1999 - date).

OPECM – This dummy account for Nigeria's membership to OPEC and nationalisation of oil production in 1971. This marked the period of a change in ownership structure.

NNPC – This dummy reflect the establishment of Nigerian National Petroleum Corporation in 1977. This is a further move to have greater control of oil industry activities through state ownership that occurred in 1971.

Ref – This dummy accounted for petroleum sector reforms that coincided with return to democratic rule (1999) and the ruling of the Nigerian state by one party – Peoples Democratic Party (PDP) in all elections that have been conducted in 1999, 2003, 2007, and in 2011.

Appendix B

Residual Diagnostics

Table 1: Oil Model

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	2.042953	Prob. F(2,40)	0.1430
Obs*R-squared	4.634028	Prob. Chi-Square(2)	0.0986

Heteroskedasticity Test: ARCH

F-statistic	1.410335	Prob. F(1,47)	0.2410
Obs*R-squared	1.427514	Prob. Chi-Square(1)	0.2322

Table 2: Manufacturing Model

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	2.157489	Prob. F(3,39)	0.1086
Obs*R-squared	7.116907	Prob. Chi-Square(3)	0.0683

Heteroskedasticity Test: ARCH

F-statistic	0.238403	Prob. F(1,47)	0.6276
Obs*R-squared	0.247293	Prob. Chi-Square(1)	0.6190

Table 3: Agriculture Model

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	2.344718	Prob. F(2,40)	0.1089
Obs*R-squared	5.246693	Prob. Chi-Square(2)	0.0726

Heteroskedasticity Test: ARCH

F-statistic	0.195438	Prob. F(1,47)	0.6605
Obs*R-squared	0.202910	Prob. Chi-Square(1)	0.6524

VAR Stability Tests

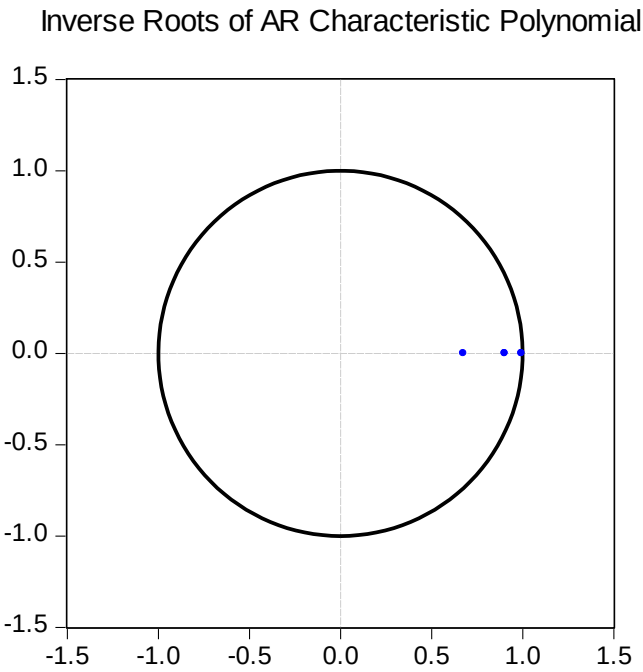
Roots of Characteristic Polynomial

Endogenous variables: OIL MAN AGRIC

Exogenous variables: C POLREG OPECM NNPC REF

Root	Modulus
0.995115	0.995115
0.902412	0.902412
0.674967	0.674967

Result - No root lies outside the unit circle. VAR satisfies the stability condition.



Results of stability test: all roots have modulus less than one and lie inside the unit circle.

The model is stable and standard error bands are reliable

Residual Tests

VAR Residual Portmanteau Tests for Autocorrelations

Null Hypothesis: no residual autocorrelations up to lag h

Lags	Q-Stat	Prob.	Adj Q-Stat	Prob.	df
1	17.29482	NA*	17.64778	NA*	NA*
2	34.25664	0.0001	35.31634	0.0001	9
3	42.51795	0.0009	44.10496	0.0006	18
4	50.84447	0.0036	53.15553	0.0019	27
5	53.77326	0.0287	56.40974	0.0164	36
6	57.95562	0.0931	61.16242	0.0545	45
7	59.47141	0.2832	62.92497	0.1897	54

*The test is valid only for lags larger than the VAR lag order.

df is degrees of freedom for (approximate) chi-square distribution

VAR Residual Serial Correlation LM Tests

Null Hypothesis: no serial correlation at lag order h

Lags	LM-Stat	Prob
1	22.90612	0.0064

2	20.64803 0.0143
3	7.728357 0.5617
4	7.967540 0.5374
5	2.559643 0.9792
6	4.184068 0.8989
7	1.361257 0.9981

Result	*Mostly not reject null hypothesis*

Title: Workplace Waste Recycling Behaviour: A Review of Literature

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Abstract

In order to increase waste recycling, many studies have been conducted to understand factors that may influence waste recycling behaviour. However, these studies have focused on household contexts rather than other waste generation contexts. As a result, this paper seeks to provide a detailed analysis of previous studies on workplace waste recycling behaviour.

Drawing from different databases, 50 relevant studies on workplace waste recycling attitudes and behaviour were meta-analysed in this review. Findings show that the highest percentage of the existing studies were conducted in the USA, focused on a single waste stream (such as waste paper), were often conducted within academic contexts, adopted (or modified) an existing theoretical framework (particularly the theory of planned behaviour), and were based on questionnaires which elicited self-reported behaviour. Some of the factors identified in the reviewed studies include demographics, situational variables, past behaviour, incentives, prompts/information, attitudes, and identity.

The findings highlighted the scale of challenges confronting waste management practitioners in understanding the factors that may affect waste recycling behaviour due to the complexity and heterogeneity of human behaviours. However, the results from the reviewed studies in this research suggest that a combination of different factors may be required to influence workplace waste recycling behaviour. This may provide effective incentives to develop a framework that may assist waste management stakeholders when addressing workplace waste management.

***Keywords**: Recycling, Workplace, Waste Management, Attitudes, Behaviour, Household and meta-analysis.*

1.0 Introduction

For many years now, waste recycling has been attracting considerable attention from policy makers and other environmental stakeholders in order to address the issues of waste production (McCarty and Shrum 1994). This has resulted in the formulation of different policies and strategies at local, national and international levels. A typical example is the functional legal framework within the EU member states. This framework could be traced back to the emergence of the 1975 Framework Directive on waste (as amended in 1991) which led to the present revised Waste Framework Directive (2008/98/EC) of the EU (European Parliament and the Council of the European Union 2008).

Behavioural and lifestyle changes are widely held to be a major solution to the current problems of waste production (Oskamp 2002). Understanding individuals' waste recycling attitudes and behaviour, therefore, has been identified by waste management practitioners and academics as an effective strategy in addressing the issues of waste production. This may be attributed to the prominent consideration given to environmental protection in human decision making (Stern 2000), and may also be due to the inability of technology to address all the issues of waste production. The consideration may be as a result of increasing awareness of the environmental impacts and the knowledge that human activities are detrimental to the sustenance of natural environment through waste production. The increasing concern about, and awareness of, waste production and its effects informed the amounts of efforts and studies conducted to understand factors that may enhance waste recycling behaviour. Although recent efforts are focused on waste recycling behaviour and its determinants, it is evident (McDonald 2011; Barr et al. 2010) that household

waste is attracting more attention compared to other waste generation contexts. However, this inconsistency is not only associated with waste recycling literature/practices but also observed in other environmental issues. For instance, Plank (2011) observed that there is more emphasis on sustainable behaviours in household contexts compared to workplace contexts and concluded that workplaces have been relatively overlooked.

As a result, different factors influencing household waste recycling behaviour are identified and documented in the household waste recycling behaviour literature. These include demographics (Oates and McDonald 2006; Hage, Söderholm and Berglund 2008; Iyer and Kashyap 2007; Berglund 2005); rewards (Iyer and Kashyap 2007); and feedback (Mee et al. 2004). Other factors identified in the literature include scheme design (Thøgersen 2003); scheme knowledge (McDonald and Oates 2003); environmental concern (Barr 2004); antecedent behaviour (Carrus, Passafaro and Bonnes 2007); and personal norms (Do Valle et al. 2005). However, studies have shown that people do not exhibit similar environmental (Barr et al. 2010), sustainability (Plank 2011) or waste recycling (McDonald 2011) behaviour while away from home. While there is sufficient evidence about the factors that may affect household waste recycling behaviour, the understanding of factors that may influence workplace waste recycling behaviour are less convincing. This may explain the inconsistencies being observed in environmental (or waste recycling) behaviour across different contexts (Barr et al. 2010; McDonald 2011; Corraliza and Berenguer 2000).

Therefore, the main aim of this paper is to quantify the extent of research on workplace waste recycling behaviour in order to inform the design of a framework that may enhance workplace waste recycling. The objective is to provide a quantitative and cumulative assessment of emerging studies and

findings about waste recycling behaviour within the workplace context. As a result, this paper attempts to provide answers to the following research questions:

1. What is the extent of studies on workplace waste recycling behaviour?
2. What are the characteristics (such as the location, the research methods, and the contexts) of the available studies on workplace recycling behaviour?
3. What are the major factors perceived to be influencing workplace waste recycling?
4. How can these factors enhance the present knowledge and understanding of workplace waste recycling behaviour?

In order to quantify the extent of research conducted hitherto on workplace waste recycling behaviour and also to understand its influencing factors, this paper seeks to provide a comprehensive and cumulative analysis. In other words, it presents an analytical review of the previous studies of workplace waste recycling behaviour. The rationale is to identify various factors believed to have influence on waste recycling behaviour in the workplace context that were reported in the previous studies. Also, this paper is intended to examine the prevailing practices and approaches adopted by previous authors in their investigations.

2.0 Research Method

2.1 Data Collection

To collect data for this study, only the previous studies conducted and published in English were identified, retrieved and reviewed. Although the approach may

introduce language bias (Grégoire, Derderian and Lorier 1995) that may lead to publication bias (Rosenthal 1979), the importance and the direction of the effects of language bias in meta-analysis is still ambiguous. According to Jüni et al.'s (2002) investigation on language bias, their findings suggest that the exclusion of non-English studies in meta-analytic review has little to no effect on the summary estimates. The study (Jüni et al. 2002) further observed that the effect of exclusion of non-English studies on individual meta-analyses is difficult to estimate. However, the inclusion of studies conducted in other languages may introduce publication bias into meta-analytic review. This is based on the observation that some countries (such as China and Russia) are only publishing studies that reported significant or positive results (Vickers et al. 1998). Every effort was made to search and include grey (informally published) literature in this analysis. The inclusion of grey articles is to reduce the effects of 'file drawer problems' (Rosenthal 1979), and to ensure that every relevant study was assessed. According to Rosenthal (1979), file drawer problems arise when only papers that reported statistically significant results are published and retrieved for meta-analysis while those (unpublished) that reported insignificant results are not consulted.

However, certain eligibility (Lipsey and Wilson 2001) criteria are adopted in this study in order to access and review all the studies conducted on workplace waste recycling behaviour. The inclusion criteria imposed for this analysis are as stated below:

1. The study must be available in the English Language
2. The study must address waste recycling within a workplace context

3. The focus of the study must be on waste recycling behaviour and its attributes
4. Studies conducted within household and other waste generation contexts are not considered to be relevant in this analysis.

However, no cut-off point or specific time-frame is considered as part of the eligibility criteria; this is due to a paucity of research within this context. In addition, the decision not to include any time-frame reduces or eradicates the possible effects of stochastic variation (McDonald et al. 2015), such as omission of the studies that may fall outside the cut-off point.

Therefore, the approach used in this study involves an online search and content analysis of different research databases. Google scholar was used as the initial point of contact for a general search to identify relevant studies including their repository sources. Google scholar provides a base repository, bringing together all the relevant studies from various sources and disciplines that fall within the inclusion criteria of this analysis. As a result, a search syntax[6] was developed and input into the Google scholar search engine as an approach to identify different studies including various databases of relevant journals and articles.

In order to retrieve all the relevant studies, ancestry and descendancy (this allows the identification of other studies from the references and citations of relevant studies) and abstracting techniques (Armitage and Conner 2001) were also used. This allows the references of candidate studies to be screened so as to identify and retrieve relevant studies not already examined (Lipsey and Wilson 2001). Consequently, databases visited include Science Direct, EBSCO, JSTOR, APA, and Web of Knowledge. In addition, the Robert Gordon University

[6] For details of the search syntax utilised, please contact the author.

inter-library loans service was utilised for the studies that are not accessible due to the limitations of the university's subscription system. Also, some papers were requested directly from their authors through email having secured personal contacts through ResearchGate - an intellectual social media site. After several iterations of this method, a total of 50 relevant articles were identified for inclusion in this study. The contents of the available literature were then analysed, categorised, and coded according to the themes, patterns, and approaches used to uncover factors that may influence workplace waste recycling behaviour as identified in the reviewed studies.

2.2 Data Analysis Approach

The first objective of this analysis is to quantify the extent of previous and available waste recycling behaviour studies with respect to workplace contexts. As a result, these studies are aggregated and coded based on different themes. These include the context of the study, the location of the study, the method used for the investigation, the number of research participants, the year of publication, the waste streams investigated, and the findings. Following the coding of relevant studies, the SPSS statistical package was used for data input and analysis. Therefore, descriptive statistics were performed to understand the basic features, frequencies, and characteristics of the studies.

3.0 Research Findings

In this paper, only the findings of descriptive analysis are reported to elicit the characteristics and extent of the existing studies on workplace waste recycling behaviour. From the search of various databases, 50 relevant and useful studies conducted within workplace contexts were identified, retrieved, and analysed.

Therefore, the findings from this analysis are coded and sub-classified under different themes as previously stated in section 2.2.

3.1 Characteristics of the Studies

Publication Period

For this analysis, there is an assumption that year of study will influence other factors such as workplace context, study location, waste stream(s), and research method or investigation approach. As a result, the publication years of studies are sub-grouped using a 10 year scaling interval starting from 1960 until 2019. The search returned no empirical or theoretical studies from the 1960s while the first generation of studies on workplace waste recycling behaviour are observed to be published in the 1970s according to the findings of this research. As shown in Figure 1, therefore, most of the studies retrieved were conducted between 1990-1999 representing 36% of the entire studies. However, the trend dropped by 16% to 20% between 2000 and 2009 but rose to 26% between 2010 and 2019. Although it has not been proven empirically, different factors such as the increasing awareness of the consequences of human impacts on the environment may be responsible for the amount of studies conducted between 1990 and 1999. Other factors such as economy, social, and concern over the depletion of natural resources may have influenced the instigation of these studies. These observations are supported by the publication of the Brundtland Commission report, Our Common Future, in 1987 leading to the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro in 1992, and the adoption of the Kyoto Protocol in 1997.

However, the global economic recession and dispute over the causes and effects of climate change may be accountable for the reduction in the studies conducted between 2000 and 2009. On the contrary, it may be suggested that the public concern about the issue of sustainability and perceived knowledge that behavioural change is required to address waste production may have influenced the renew interest in the environmental or sustainability behaviour research. This may consequently be responsible for the recent increase in the amount of studies undertaken on workplace recycling behaviour from the period of 2010 onward as illustrated in Figure 1.

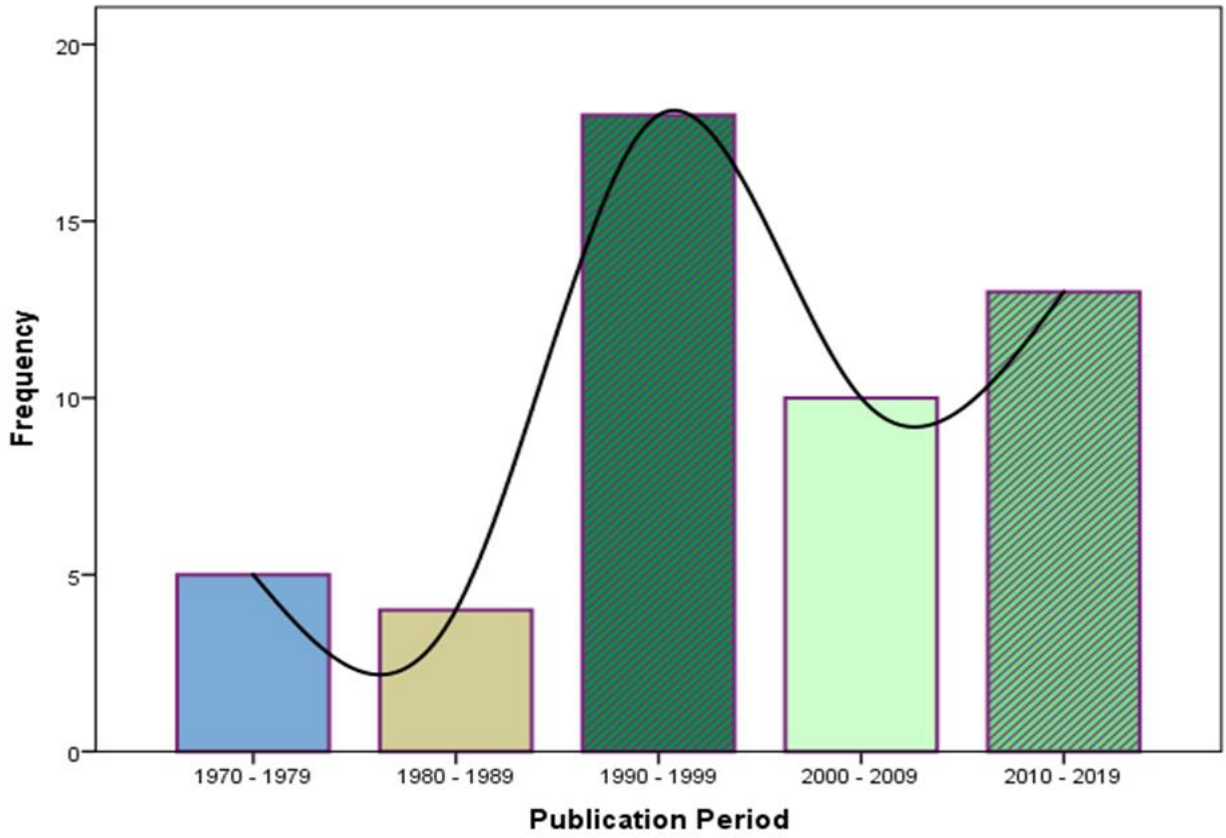

Figure 1: Period of publication

Workplace Context

The types of workplace identified in the studies are coded and classified under office setting, academic (including dormitories, classrooms, and offices) context,

hospital environment, and others (comprises studies with no specific workplace context). Therefore, the findings from the descriptive analysis (Table 1) show that the highest number of these studies was conducted within an academic environment, representing about 78% of the entire studies. This is observed to be followed by the office context which represents only 16% of the entire studies. However, the analysis showed that one study failed to indicate a particular workplace.

Table 1: Study environment

	Context	Frequency	Percent
Valid	Office	8	16.0
	Academic	39	78.0
	Hospital	2	4.0
	Not specified	1	2.0
	Total	50	100.0

This result may be influenced by the perceived and increasing role of academic institutions in promoting sustainable (and particularly waste management) education and practices. It may also be that recycling is considered to be the most recognised, obvious, and feasible environmentally (or conservation) sound activity that any academic institution could implement (Ching and Gogan 1992).

Waste Stream

Further, the waste streams investigated by each study were coded using (non-hazardous) key recyclables: plastic, paper, metal (including cans), glass (including jars), textiles, food waste, garden waste, and others (including studies

with no particular or multiple waste streams). It is observed from Table 2 that the existing studies on workplace waste recycling behaviour were focused more on waste paper (and paper products) compared to other waste streams.

Table 2: Waste Streams investigated

Waste Streams		Frequency	Percent
Valid	Paper	21	42.0
	Plastic	1	2.0
	Metal	4	8.0
	Multiple	18	36.0
	Unspecified	6	12.0
	Total	50	100.0

This represents about 42% of the waste streams based on waste by waste analysis (individual waste), while 36% of these studies used multiple waste streams and 12% failed to identify a particular waste stream.

The amount of studies on paper recycling behaviour may be influenced by the context (academic) in which the majority of these studies were conducted (see Table 2) or by the economic importance of paper and its associated products. As a result, one may suggest a positive correlation between context and waste stream under consideration. This observation was supported by the findings of both Oskamp et al. (1994) and Hamad et al. (1980). While Oskamp et al. (1994) argued that paper products constituted the largest portion of recycled materials by businesses in the USA, Hamad et al. (1980) concluded that the decision to utilise recycled materials was due to economic/financial reasons (i.e. products with the highest cash values).

Study Location

In order to estimate the extent of workplace waste recycling behaviour studies in each geographical location, each study was coded by study location. According to country by country analysis (Figure 2), more studies were conducted in the USA (60%) compared to other countries. From a UK waste perspective, it is interesting to note that the findings show that majority of these studies were conducted outside the UK representing about 90% of the studies reviewed compared to 10% conducted in the UK.

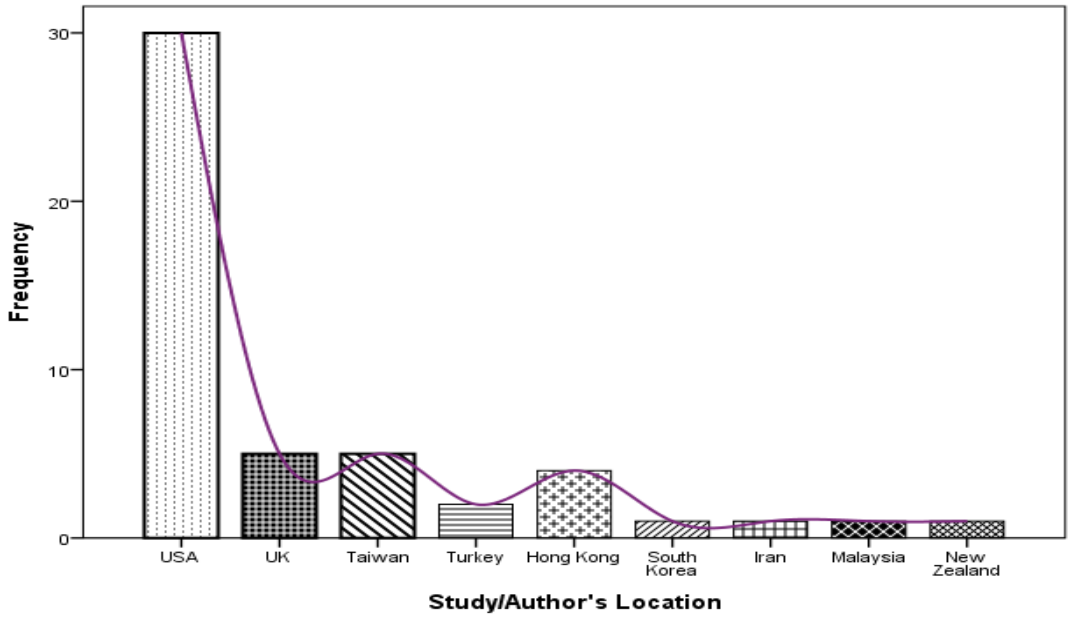

Figure 2: Study Location

As a result, the frequency distribution (as illustrated in Figure 2) suggests that 30 studies were conducted in the USA while only 5 studies are from the UK, 5 studies are from Taiwan, 4 studies from Hong Kong, 2 studies from Turkey, and 1 study each from New Zealand, South Korea, Malaysia, and Iran. The rationale for the amount of these studies in the USA may be influenced by the concerted efforts to divert waste from landfill. This was due to the public perception that the landfills in the USA are running out of their capacity with no new sites

available for additional landfill (Kalsher et al. 1993 and Luyben, Warren and Tallman 1979).

Investigation/Research Approach

Various methods are identified from the reviewed studies, suggesting that researchers always have an array of different approaches to choose from when investigating (Creswell 2013) human behaviours. The methods identified from the reviewed studies include: questionnaire survey, experiment/observation, interviews, focus groups, and mixed methods. In this analysis, focus group and interviews were coded separately while the studies with more than one method were categorised under mixed methods. Although these studies did not report mixed methods, they are categorised under mixed methods due to the combination of different (particularly qualitative and quantitative) methods as used in those studies. As illustrated in Table 3 below, studies that used a questionnaire survey accounted for about 46% compared to 2% for interview; while the studies with mixed methods accounted for only 12% of the studies reviewed. Although the studies are not originally reported as mixed methods, the approach in the sample includes a combination of interview and survey (2%), interview and experiment/observation (2%), and survey and experiment/observation (8%).

Table 3: Investigation approach		Frequency	Percent
Valid	Survey	23	46.0
	Experiment/Observation	20	40.0
	Interview	1	2.0
	Interview & Survey	1	2.0
	Interview & Experiment/Observation	1	2.0
	Survey & Experiment/Observation	4	8.0
	Total	50	100.0

However, the usage of an existing theory is not accounted for in this analysis. It is observed that some of the studies relied or modified existing behavioural theories such as the Theory of Planned Behaviour, Theory of Reasoned Action, or Theory of Interpersonal Behaviour in the study design.

3.2 Factors Influencing Workplace Waste Recycling Behaviour

This section presents an analysis of the constructs or factors perceived to be influencing workplace recycling behaviours. From the reviewed studies, different factors (Table 4) influencing waste recycling behaviour within the workplace context are identified. In Table 4 the factors are listed, showing the number of studies that mentioned each one and giving these figures first as a percentage of all factors found (a total of 185 factors were identified across the 50 studies) in order to provide a ranking of factors, and then as a percentage of the studies, in order to demonstrate how many studies use each factor. Note that this final column will not sum to 100% as some studies investigated multiple factors. As documented in Table 4, some of the factors investigated in those studies include demographics, prompts (information and communication), feedback, education (knowledge), awareness, and incentives. Other factors include past behaviour (experience), recycling facilities (infrastructure), social (subjective and descriptive) norms, beliefs, attitudes, personal benefits, environmental benefits, and identity (group and self).

Table 4: Factors Influencing Workplace Waste Recycling Behaviour

Key Factors	Number of Studies	Percentage of factors (n=185) (%)	Percentage of studies (n=50) (%)
Attitudes	23	12.43	46
Prompts/information/Communication	21	11.35	42

Proximity/Convenience	18	9.73	36
Education/Knowledge	11	5.95	22
Subjective norm	11	5.95	22
Infrastructure (availability, adequacy, appearance)	9	4.86	18
Past behaviour	9	4.86	18
Intentions	8	4.32	16
Beliefs	8	4.32	16
Incentives	8	4.32	16
Personal benefits & values	8	4.32	16
Feedback	6	3.24	12
Organisation commitment	6	3.24	12
Gender	5	2.70	10
Awareness	5	2.70	10
Perceived Behavioural Control	5	2.70	10
Environmental benefits	5	2.70	10
Type/Amount of recyclables	4	2.16	8
Behaviour towards a Specific material	3	1.62	6
Moral Obligation/Norms	3	1.62	6
Age	2	1.08	4
Goal Setting	2	1.08	4
Educational Qualification	1	0.54	2
Income	1	0.54	2
Culture (individualism & collectivism)	1	0.54	2
Descriptive norm	1	0.54	2
Identity	1	0.54	2

However, the analysis of these factors shows that attitude towards workplace waste recycling behaviour is the most researched construct with 23 studies using it, accounting for about 12% of the total (185) factors identified and 46% of the 50 studies reviewed. The construct defines a social actor's feelings (positive and negative) towards behaviour and determined by an individual's evaluation of the target behaviour (Ajzen 1991 and 2002). It is also observed that the relevance of attitudes is followed by that of prompts (including information and communication) with 21 studies accounting for about 11% of the entire sample of factors and 42% of the studies reviewed. On the other hand, identity (group or self) and descriptive norms are the least investigated constructs with just 1

study each representing only about 0.5% of the total factors and 2% of the studies reviewed. This may be explained by the approach and the contexts used in those studies. Also, it may stem from the fact that most of these studies were designed to increase waste recycling rather than understanding the factors that may influence workplace waste recycling behaviour. As a result, different interventions such as incentives and prompts were used in order to instigate or motivate the participants to recycle with little or no influence on their recycling behaviour. This may be responsible for the decline in recycling rate experienced in those studies after the incentives were withdrawn. For example, Witmer and Geller (1976) observed that the amounts of paper deposited returned to the baseline after the contingencies/interventions (raffle – personal contingency and contest – group contingency) were withdrawn. This supports the existing knowledge and proposition that financial rewards (Lee, De Young and Marans 1995) cannot sustain recycling behaviour beyond the period of intervention. In addition, descriptive and subjective norms are mapped together and coded using the umbrella term 'social norm'. This decision is based on the existing knowledge that both constructs may be explaining the effects of an individual's subjective perception and interpretation of social pressures (see Armitage and Conner 1998) such as that of significant others.

Considering the characteristics of the factors that were perceived to have an influence on workplace waste recycling behaviour as stated in Table 4, those factors are broadly grouped under the following headings: demographics, psychological, situational, and personal factors.

Table 5: Categorisation of Factors Influencing Workplace Recycling Behaviour		
Themes	Factors	Authors
Demographics	Gender	Chung & Poon (1994); Ehrampoush & Moghadam (2005); Goldenhar & Connell (1992); Kelly et al. (2006); Witmer & Geller (1976)
	Age	Kelly et al. (2006); Tudor, Barr & Gilg (2007a)
	Education	Kelly et al. (2006)
	Income	Kelly et al. (2006)
Psychological	Intentions	Cheung, Chan & Wong (1999); Goldenhar & Connell (1992); Goldenhar & Connell (1991); Jones (1989); Largo-Wight, Bian & Lange (2012); Park, Levine & Sharkey (1998); Tudor, Barr & Gilg (2007b); Wan et al. (2012)
	Attitudes	Barker et al (1994); Cheung, Chan & Wong (1999); Chung & Leung (2007); Chung & Poon (1994); Ehrampoush & Moghadam (2005); Goldenhar & Connell (1991); Goldenhar & Connell (1992); Hansen et al. (2008); Humphrey et al. (1977); Jones (1989); Kaplowitz et al. (2009); Kelly et al. (2006); Largo-Wight, Bian & Lange (2012); Lee (1995); McCarty & Shrum (1994); McCaul & Kopp (1982); Oskamp et al. (1994); Park, Levine & Sharkey (1998); Prestin & Pearce (2010); Tudor, Barr & Gilg (2007a & b); Ugulu (2014); Wan et al. (2012)
	Social (subjective & descriptive norms	Clay (2005); Cheung, Chan & Wong (1999); Goldenhar & Connell (1992); Jones (1989); Largo-Wight, Bian & Lange (2012); Wan et al. (2012); Lee & De Young (1994); Park, Levine & Sharkey (1998); Prestin & Pearce (2010); Tudor, Barr & Gilg (2007a & b)
	Beliefs	Clay (2005); Goldenhar & Connell (1991); Jones (1989); Kelly et al. (2006); McCarty and Shrum (1994); Prestin & Pearce (2010); Tudor, Barr & Gilg (2007a & b)
	Perceived Behavioural Control	Cheung, Chan & Wong (1999); Largo-Wight, Johnston & Wight (2013); Largo-Wight, Bian & Lange (2012); Tudor, Barr & Gilg (2007b); Wan et al. (2012)
Situational	Prompts/ information/ Signage	Andrews et al. (2012); Austin et al. (1993); Barker et al. (1994); Brothers et al. (1994); Chung & Poon (1994); Elfilthri et al. (2012); Hamad et al. (1977); Hansen et al. (2008); Humphrey et al. (1977); Kalsher et al. (1993); Kaplowitz et al. (2009); Kelly et al. (2006); Lee (1995); Ludwig et al. (1998); Luyben & Cummings (1981); Luyben, Warren & Tallman 1979; Marans & Lee (1993); Penpece & Celik (2011); Prestin & Pearce (2010); Price and Pitt (2012); Witmer & Geller (1976)
	Feedback	Goldenhar & Connell (1991); Hamad et al. (1980); Hamad et al. (1977); Katzev & Mishima (1992); Kim, Oah & Dickson (2005); McCaul & Kopp (1982);
	Environmental benefits & values	Clay (2005); Kaplowitz et al. (2009); Kelly et al. (2007a & b); Price & Pitt (2012)

	Proximity/ Convenience	Austin et al. (1993); Brothers et al. (1994); Clay (2005); Chung & Leung (2007); Chung & Poon (1994); Hansen et al. (2008); Humphrey et al. (1977); Kalsher et al. (1993); Lee, De Young & Marans (1995); Ludwig et al. (1998);); Luyben, Warren & Tallman 1979; Marans & Lee (1993); McCarty & Shrum (1994); O'Connor et al. (2010); Penpece & Celik (2011); Price & Pitt (2012); Wan et al. (2012); Witmer & Geller (1976)
	Goal Setting	Hamad et al. (1980); McCaul & Kopp (1982)
	Organisation commitment	Kalsher et al. (1993); Lee, De Young & Marans (1995); Marans & Lee (1993); Marans et al. (1992); Oskamp et al. (1994); Tudor, Barr & Gilg (2007a)
	Infrastructure (availability, adequacy, appearance)	Andrews et al. (2012); Chung & Leung (2007); Duffy & Verges (2009); Humphrey et al. (1977); Kelly et al. (2006); Largo-Wight, Johnston & Wight (2013); Luyben, Warren & Tallman (1979); McDonald (2011); O'Connor et al. (2010)
Personal	Knowledge	Brooks et al. (2011); Clay (2005); Cheung, Chan & Wong (1999); Chung & Poon (1994); Elfilthri et al. (2012); Ehrampoush & Moghadam (2005); Goldenhar & Connell (1991); Hansen et al. (2008); Kalsher et al. (1993); Kaplowitz et al. (2009); Prestin & Pearce (2010)
	Awareness	Catlin & Wang (2013); Clay (2005);Elfilthri et al. (2012); Tudor, Barr & Gilg (2007b); Wan et al. (2012)
	Incentives	Clay (2005); Geller, Chaffee & Ingram (1975); Hamad et al. (1977); Lee, De Young & Marans (1995); Luyben & Cummings (1981); Marans & Lee (1993); Oskamp et al. (1994); Witmer & Geller (1976)
	Identity	Park, Levine & Sharkey (1998)
	Past behaviour	Lee, De Young & Marans (1995); Goldenhar & Connell (1992); Hamad et al. (1977); Lee (1995); Marans et al. (1992); Marans & Lee (1993); McDonald (2011); Tudor, Barr & Gilg (2007a & b)
	Moral obligation / norms	Largo-Wight, Bian & Lange (2012); Lee (1995); Wan et al. (2012)
	Type/Amount of recyclables	Chung & Leung (2007); Chung & Poon (1994); McDonald (2011); Oskamp et al. (1994)
	Personal benefits & values	Hamad et al. (1980); Humphrey et al. (1977); Lee & De Young (1994); McCarty & Shrum (1994); McCaul & Kopp (1982); Price & Pitt (2012); Tudor, Barr & Gilg (2007a & b)
	Cultural (individualism & collectivism)	Park, Levine & Sharkey (1998)

Although there is a lack of consensus on the influence of these factors on workplace waste recycling behaviour, the findings suggest that a combination of factors may be required to enhance workplace waste recycling behaviour. This may assist waste management planners and policy makers when designing a policy instrument, strategy, and/or framework that could increase workplace waste recycling. To achieve this, a meta-analytical review of these factors may be required to elicit the most significant factor(s) that could enhance workplace waste recycling behaviour.

Nevertheless, factors such as demographic variables (Kelly et al. 2006); situational/personal variables (Austin et al. 1993; McDonald 2011; Price and Pitt 2012; Tudor, Barr and Gilg 2007a & b; Elfilthri et al. 2012; Kaplowitz et al. 2009; Hansen et al. 2008), psychological factors (Humphrey et al. 1977; Chung and Leung 2007; Tudor, Barr & Gilg 2007a & b) have been observed to influence workplace recycling behaviour. These factors may serve as predictors (Tudor, Barr & Gilg 2007b), motivators (Marans and Lee 1993), and barriers (Hansen et al. 2008) to workplace waste recycling. For that reason, it may indicate or suggest the presence of interactions or overlaps among these factors. Unlike the studies on household recycling behaviour, however, factors influencing workplace recycling behaviour remain unknown (Marans and Lee 1993). This lack of understanding could be attributable to the paucity of empirical research or lack of attention from policy makers to workplace waste recycling behaviour (McDonald 2011).

Taken together, one may assume that those who recycled in one context are more likely to recycle in other settings (Marans and Lee 1993; Lee, De Young and Marans. 1995; Tudor, Barr and Gilg 2007a). However, studies have shown that people do not exhibit similar environmental (e.g. Barr et al. 2010) or waste

recycling (McDonald 2011) behaviour while away from home. Further, it could not be clarified from these studies why household (past) recycling behaviour could not be transferred to the workplace context and vice-versa. Consequently, results from literature suggest a lack of consensus on factors influencing business/workplace recycling behaviour (see Lee, De Young and Marans 1995; Marans and Lee 1993, McDonald 2011; Tudor, Barr and Gilg 2007b) leading to a misconception on the transferability of antecedent recycling behaviour to other contexts.

4.0 Conclusion and Further Analysis

4.1 Conclusion

From this paper, it can be concluded that workplace waste recycling is receiving little attention from policy makers, academe, and other stakeholders. As a result, this paper offers support for the existing research that established a dearth of studies on workplace waste recycling behaviour. In addition, it shows that many of these studies are conducted in the USA, focused more on a single waste stream, and conducted within an academic context. Also, different factors identified in the existing studies perceived to have influence on workplace waste recycling behaviour are further analysed in this paper.

Although there is little knowledge or understanding about factors influencing workplace waste recycling, it is evident from this paper that a combination of factors may be required to effectively enhance workplace waste recycling. Therefore, this present paper demonstrated that factors influencing workplace behaviour may be aggregated into demographics, psychological, situational, and personal factors. This may assist waste planners and policy makers when designing a strategy or framework for workplace waste recycling. Based on the

existing knowledge, this paper further suggests that holistic strategies that could address issues of waste production from different contexts are required in order to reduce the amounts of waste being sent to landfill. Finally, this paper concludes that waste production from different contexts must be addressed in order for any country such as the UK to divert a substantial amount of waste from landfill.

4.2 Further Research

In this paper, the factors influencing workplace waste recycling behaviour are identified and aggregated to allow a design of a theoretical framework or model as depicted in Figure 3 below.

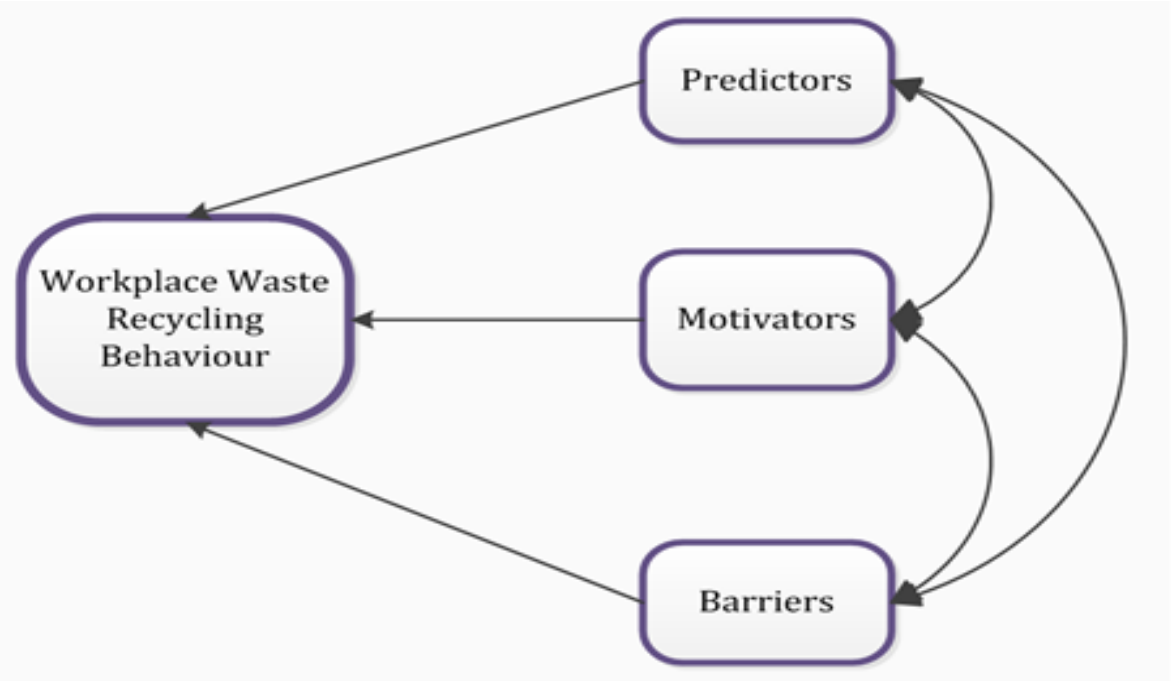

Figure 3: Theoretical Model for Workplace Waste Recycling Behaviour

However, it is observed that these factors may interact or overlap with one another to prompt associations or causal relationships. As a result, the next stage of analysis is to identify and estimate the nature of relationships or interactions that may be existing among these factors. This will not only provide

an opportunity to delineate important factors (constructs) that may significantly influence waste recycling behaviour but will also assist in identifying relationships among these factors. In order to achieve this, the next stage is to extend the meta-analytic review of these studies. The analysis would involve the calculation of the "effect sizes" (Lipsey and Wilson 2001) of these studies in order to determine how statistically significant the identified factors are in relation to waste recycling behaviour.

Although meta-analysis is developed and predominantly used to encode and analyse quantitative studies (Lipsey and Wilson 2001), the approach has been extended to meta-analysed studies within qualitative research (Schreiber, Crooks and Stern 1997) methods. For example, Park and Gretzel (2007) adopted qualitative meta-analysis to summarise and draw conclusions about the factors that enhance marketing websites success. Also, Timulak (2007) adopted qualitative meta-analysis to identify the categories of impact of helpful events in psychotherapy based on clients' perceptions. Unlike quantitative meta-analysis, the purpose of qualitative meta-analysis is not to establish causal relationships or identify significant factors from several studies but to develop a grand theory, a mid-range theory, or a theoretical framework (Schreiber, Crooks and Stern 1997) from different qualitative studies investigating similar constructs.

However, due to different research methods used in the studies reviewed in this paper, one of the challenges is to encode findings from these studies that will allow statistical combination and comparison. Consequently, one possibility is to adopt an innovative approach termed the "meta-analytical triangulation procedure". The intention is to overcome the problem of comparing and analysing "apples and oranges" that is understood (Lipsey and Wilson 2001) to

be associated with meta-analysis of studies with dissimilar methodological orientations.

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Title: A Commentary on the Nigerian Tax System: A Mismanaged Revenue Source

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ABSTRACT

This paper is a commentary on the Nigerian Tax system and administration. It highlights the strengths and weaknesses of both the Tax system and administration, while identifying the need for a well-structured system. The paper acknowledges that despite reforms made and put in place in order to improve the tax administration, it has not achieved the desired purpose. It however points out that there has been an improvement from what was in place before. Such reforms were made in a bid to diversify the Nigerian revenue source which has been largely dependent on revenue from oil and gas. With the fluctuation of the oil prices, coupled with other factors, different governments saw a need to have other sustainable sources of income. A number of developed economies have continuously used taxation as a means of revenue generation. Governments employ this tactic in order to meet the demands of their citizens. To achieve such, there is a need for an effective tax policy which can clearly outline the procedure for administration and identify what is to be administered. In recent times, Nigeria has been identified as a developing economy which has the potential to become one of the world leading economies. Despite possessing enormous resources for economic growth, the country still falls short of attaining economic stability.

This paper seeks to introduce an ongoing research study which seeks to explore the reforms and the extent to which they have triumphed in meeting the objectives of the Nigerian Government. As mentioned, this is part of a working paper and will therefore present only parts of the research as the study is still on-going and the data has not yet been fully collected or analysed.

Key words: tax administration, economy, revenue generation, sustainability.

INTRODUCTION

Tax systems are fundamentally designed to finance public expenditure and to address social and economic concerns (OECD). Developing and emerging economies need well-structured or developed tax administration and legal bodies, as the structure of a tax system by a government is important as it affects a wide range of issues. These range from saving decisions for households, to the supply of labour and most importantly, the decision by firms to locate businesses or investments. The latter will determine the quality or quantity of FDI which is channelled in through multinationals and also the quality of life of the citizens. Bearing these in mind, developed nations as well as developing economies have embarked on a continuous reformation of tax systems as well as the different tax instruments and laws which can generate revenue for their economy. Failing to do this can hinder economic growth for the nation and lead to an over dependency on other revenue sources. Many developed and some developing economies (of which Nigeria is an example) have complex tax laws that distort their tax structure and thereby making their country to be considered unfavourable for foreign investment. Accordingly, to ensure that their tax systems are internationally competitive, and the barriers for a sustainable inflow of FDI are removed nations invest time in reforming and restructuring their tax systems (OECD).

A key factor in promoting growth in developed economies is the creation of a stimulating economic environment which, would guarantee the sustainable provision of the necessary infrastructure and security for the nations (Oke 2013). A number of Nigerian academics (Anyanwu 1997, Ogbonna and Appah 2012, Ekeocha et al 2012, Worlu and Nkoro 2012, Micah et al 2012, Afuberoh

and Okoye 2014) are of the opinion that there are various alternative sources through which Nigeria can generate sustainable revenue. Achieving this depends largely on a government's ability to collect taxes accurately and efficiently. Considering the weak infrastructure and the low standard of living of the general population which have continuously plagued the nation, sourcing an alternative and sustainable tax revenue for investing economic growth must be emphasised (Oke 2013). This paper will therefore propose a range of taxation as an alternative source of revenue, taking into account issues that have hindered effective tax collection in the past and subsequently identify a possible model of best practice framework for sound fiscal Nigeria.

Brief Literature Review:

I. *Taxation and Tax systems*

According to Anyanwu (1997), taxation is the compulsory transfer of funds from residents or non-residents in a country to the government. Tanzi and Zee (2001) also define tax as the only practical means of raising the revenue to finance government spending on goods and services which is demanded by its citizens. There is a relationship between taxation and economic growth which many developed economies seem to have mastered to a great extent. Ogbonna and Appah (2012) opine that the economic development of any country depends on the amount of revenue generated for the provision of infrastructure in that given country. Accordingly, Musgrave and Musgrave (2004) stated that the economic effects of tax include micro effects on the distribution of income and efficiency of resource use as well as macro effect on the level of capacity output, employment, prices and growth. Consequently, Okoyeuzu (2013) states that tax systems are the major tools with which to control market imperfections and

overcome an over dependence on a particular source of revenue. Tanzi and Zee (2000) state that for developing countries especially those with emerging markets, the tax system should be able to raise enough revenue to finance essential expenditures without recourse to excessive public borrowing and in equitable ways. They opine that this should be done in ways that do not deviate from international standards but rather conform to the standards accepted by developed countries. Developed nations introduce a range of taxes to their tax systems in order to meet their objectives. Among these are personal income tax (PIT), corporate income tax, Value added tax (VAT), and etc. The taxes that make up a nation's tax structure, is thought to be a reflection of its specific economic, social, political conditions and its historical colonial roots (Anyafo 1996). For most developed OECD and EU economies as well as some developing economies, the most significant taxes as measured by their input to total tax revenues are the corporate and personal income taxes (OECD).

II. *Taxation and Economic Development*

Tax laws in any nation tend to change with the global and current economic demands in line with the changing market situation and consumer preferences (CBI). Such changes would affect the way businesses operate in a given country, ranging from having a permanent establishment to the employment rates down to the level of Foreign Direct Investment (FDI) decisions. According to Adeyemi (2012), National economies often manipulate the competition of businesses through reforms in laws by the government seeing that every nation requires sustainable economic development. The collection of tax revenue is fundamental to any stable and sustainable economy, this is because it plays different roles in every country's national growth. According to James and Nobes (2013), revenue from taxation is regarded as the most established system of government

revenue of which the personal income tax, corporation tax, inheritance and sales tax are deemed to be of utmost importance. One of the major obligations of the government of any nation is to meet all its debts. Scott-Quinn, posits that achieving such an obligation would require enforcing laws on taxation in order to collect taxes from its citizens, individuals, and corporations. Anyafo (1996) has argued that a good tax system, should be able to stimulate employment and at the same time enhance economic growth. Economic growth plays a major role in any country's efforts in reducing poverty and increasing the standard of living for its citizens. There are certain factors that enhance the economic growth of nation, the scope of which is greatly influenced by government policies and legislation. Before proceeding further, it is necessary to highlight barriers that hinder sustainable economic growth in Nigeria. Between the 1900s and the 1950s agriculture and natural resources were the major sources of economic activity. The output consisted of palm oil, groundnut, cocoa, coal, columbine, iron ore and tin which consisted of the nation's major export goods. Consequently, agricultural produce and mineral ores combined accounted for 90% of Nigeria's foreign earnings, and 70% of the Gross Domestic Product (GDP).

As an apparent sign of economic fortune, crude oil was discovered in large commercial quantity in the later part of the 1950s on which the Nigerian government focused its attention as the only source of revenue. Since then, the entire country's government budget and economic activity became dependent on oil revenue.

As a perpetually developing nation, Nigeria has been experimenting with different methods for attaining economic growth in order to ease the current total dependence on crude oil as a revenue source (Awe and Ajayi 2009). The

slow growth of Nigeria's economy has hindered its development and subsequently brought into focus, the need for a diversification of the revenue sources (Agolu 2004, Afuberoh and Okoye 2014). In other words, attaining economic growth of any nation must require a diversification of the resources, the simultaneous development of the various economic sectors that would generate revenue and the identification of new sources of tax income. This would then mean finding methods of eradicating mono-cultural tendencies such the over dependence on crude oil revenue which is the building block of the Nigerian economic system. In the opinion of (Awe and Ajayi 2009). Awe and Ajayi (2009) opine that oil revenue has contributed substantially to the Nigerian economy. At present, it accounts for 95% of the government revenue and 70% of the total foreign exchange earnings (Chigbu and Njoku 2012). However, the supply and demand limitations of the product have made unreliable continuation of its dependence. This point of view is supported by Ezeani (2012) who maintains that reliance on the huge wealth generated from the oil sector, particularly in the 1970s and early 1980s, has proved to be the Achilles heel in the country's economic progress. She states that the decline in oil prices from the mid-1980s and the stringent loan conditions applied by the International Monetary Fund (IMF) made the Nigerian government adopt tough measures in a bid to salvage its dwindling economy. Agreeing with the above, Okauru (2012), argues that there was a paucity of tax funds available to finance the deficits in the budget. Citing an instance between June 1999 and May 2007, she points out that a total of 16 .5 trillion Naira was shared among the federal, states, and local government. Taking into account the estimated population of 140 million people in that year, this total amount jointly available to the three tiers of government to spend for an eight year period would have been less than

118,000 naira per capita (Okauru 2012). Okauru's study has contributed immensely to the reformation of the Nigerian tax system and administration as a means of revenue diversification. She is of the opinion that the taxpaying public was not contributing to Nigeria's economic development. She further states that the low government accountability stemmed from the absence of a wide range of tax payment base as a source of revenue brought on the reliance solely on revenues accruing from oil sales. Furthermore, the Nigerian government seemed to have had a somewhat strange ideology that its economic problem required a more proper allocation of the funds to different sectors rather than a generation of more revenue (Okauru 2012). This way of thinking did not help economic development as there was an ever-growing problem in the generation and accountability of tax revenue.

The researcher notes that there was no accountability for the revenue generated from the informal or hidden economy in the country. An example is the seasonal sales at Aba Market (a commercial city in Eastern Nigeria) where no study or literature was able to provide evidence of accountability for the revenue that accrued to the government's from such sales. On the other hand, one could examine at the annual Christmas retail sales in the United Kingdom which are recorded and accounted for accordingly. Despite this non accountability, according to Wambai and Hanga (2013), Lagos (a commercial city in Western Nigeria) has to an extent, formalized its informal or hidden economy. This was achieved not by placing huge taxes on individuals rather by instilling in them a sense of importance in the process of rebuilding a modern and healthier state by encouraging businessmen like commercial motorcyclist, petty traders, mechanics and other engineering workmen to contribute a token of their daily take home to the state pool to be used in improving the general wellbeing of the society.

Faced with this problem and the downward spiral in the global economy in 2008, (in which many nations were faced with the huge task of financing the economic needs of their population). The effects of this downward spiral of the substantiated the need for effective, efficient and sustainable tax administration especially in Africa. Where there was a need to raise revenue after the near stagnation in development aid (OECD Observer 2009-2010). In order to achieve such a task in Nigeria it became essential to diversify its revenue sources. The government of the time, decided that have a functioning and sustainable tax system which would encourage economic growth (Igbokwe 2013). With this in mind, the Nigerian government under Obasanjo intensified its reform of taxation in order to establish other sources for tax revenue generation (FIRS 2012). As Nigeria's tax revenue was only 7% of its GDP which was low when compared with other emerging economies. Angola's tax revenue was 42.5% of its GDP while Ghana's level was 20.8% and that of South Africa was 26.9% (CIA Country Fact-Book 2014).

Methodology and theoretical Framework

As earlier stated, this paper represents a working paper in ongoing research. In carrying out this research, the methodology to be used will be a mixed method methodology. Various scholars of mixed methods research (Denzin 2010, Teddlie and Tasakkori 2011, Creswell 2012, Jonson and Onwuegbuzie 2004 etc.), have portrayed the need for the use of both qualitative and quantitative methodology in research. As such, a mixed methods research has been defined as, 'the class of research where the researcher mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts or language

into a single study' (Johnson and Onwuegbuzie 2004). Creswell J (2012), has also defined a mixed methods research design is a procedure for collecting, analysing, and mixing both quantitative and qualitative research and methods in a single study to understand a research problem. Using a mixed method approach is important as when both quantitative and qualitative data are combined, it provides a better understanding of the research problem than when using a particular method. This is not always the case as there are some research problems that could be carried out through one particular methodology. The underlying reason for using a mixed method in this research is based on the basis that part of the data which will be used is quantitative data collected by the Federal Inland Revenue Service of Nigeria and the National Bureau of Statistics and literature published by both these agencies and academics. These will be qualitatively analysed in order to evaluate the extent to which the tax system and administration has performed in providing revenue for Nigeria. The decision to choose this method is based on the limitations of the participants geographical to conduct face to face interviews and collect data and the red tape characteristics of interviewing Nigerian government staff.

Theoretical Framework:

This paper will adopt the socio political theory which states that social and political objectives should be the major factors in selecting taxes and structuring a tax system. This theory advocates that a tax system should not be designed to serve individuals, but rather should be used to cure the ills of the society as a whole (Bhartia 2009 in. Based on this theory, this paper will seek to explore the need for a tax system that will encompass the entire citizenry of Nigeria. At present in Nigeria, the tax system appears to be one sided where the citizens

and indigenous companies are subjected to multiple-taxation while there is a lack of basic infrastructure and amenities in the country.

Nigerian Tax system: *Challenges and Reform*

Challenges of the Nigerian Tax System

The Nigerian tax system has been plagued by various challenges over the years which necessitated reform to enable the government to diversify its revenue. It emerged that most tax matters were either relegated to the background or totally ignored. Individuals and businesses that were struggling to survive were unnecessarily taxed while on the other hand the thriving sectors were subsidised. The issue of multiplicity of taxes has been a recurring one which individuals and corporate bodies complain about the ripple effects associated with the duplication of tax in the different levels of government in Nigeria Oyedele (2013). Multiple-taxation has caused a lot of problems for individuals and corporate bodies alike (Micah et al 2012). Odusola (2006) proffers that the Nigerian tax system is concentrated on petroleum and trade taxes while direct and indirect taxes are neglected. Subsequent reforms have attempted to address this issue. He opines that based on this, the tax system lacks the potential to being a revenue source to safe guard the volatility of crude oil. Most of the problems emanated from the tax provisions in the 1999 Constitution of the Federal Republic of Nigeria. Okauru confirms this by stating that the fundamental change required solving the problems was a definitive review of the tax provisions in the Constitution.

A critical examination of the constitution would show that it left the duty of legislating for income, capital gains tax plus stamp duty solely to the federal government. It also gave power to the federal government to delegate the

administration and collection of taxes to state governments as it pertained to taxation of capital gains, incomes or profits of individuals other than companies; and stamp duties on documents and transactions. The Constitution further left the responsibility for legislating and collection of taxes, fees and charges to individual state governments. Apart from taxes specifically stated in the exclusive legislative list, activities which would normally attract taxes, fees and levies were left as the responsibilities of local government councils. In addition, the constitution was not specific on other taxation for which the state governments were responsible as per the provision in section 4(7) that provided for: a) each State House of Assembly to make laws for peace, order and good governance of the state and also for any matter not included in the Exclusive Legislative List set out in Part 1 of the Second Schedule of the Constitution; b) any matter included in the concurrent legislative list set out in the first column of Part II of the second Schedule to the Constitution, to the extent prescribed in the second column opposite thereto; c) and finally any other matter with respect to which it was empowered to make laws in accordance with the provisions of this Constitution to legislate on more tax laws in their respective states and thereby causing multiple taxation. Such issues obviously generated negative impacts on the investment situation in Nigeria. For example, some local businesses that could not afford to pay multiple taxes were forced to close. Multinational enterprises on the other hand, managed to negotiate ways around their liabilities, either by bribing tax officials or evading tax completely. A host of other obsolete laws did not reflect the then existing Nigerian economic reality (Agbeyi 2013) and consequently such laws had to be repealed. Micah et al 2012, Oyedele 2013, Okauru 2012 etc. all agree that the present tax administration suffers from limitations in manpower, money, tools and expertise

to meet the ever increasing challenges and demands of the tax system. According to the above cited authors, the predominance of support staff in professional roles in the Federal Inland Revenue Service (FIRS) does not augur well for the country as a whole. Okauru (2012), further states that some of the issues with the Nigerian tax administration occurred because there were a limited number of skilled staff to manage the establishment; this situation then led to a delegation of most of the duties to contractors. There was also the issue of a lack of proper accountability for revenue accrued from taxes and the manner in which it was disbursed. As a result, there were cases of embezzlements and mismanagement of funds. Adding on to this, Micah et al (2012), state that corruption is prevalent in the administration of taxes in Nigeria. They write that a number of tax evader prefer to bribe the tax officials rather than pay tax. Tax officers themselves; collude with tax payers to reduce their tax liability. On the whole, the tax system in Nigeria did not encourage investments and business competition. The Word Bank, advises that the key to avoid corruption from the tax officers will be to create an incentive structures that will reduce corruption (2011). Asher (2001), states that there are several reasons why it is essential to minimize corruption in the tax system. Among these include the role which taxes play in generating revenues to finance government expenditure and by reducing the potential revenue generation capability of government, corruption can have a serious impact on fiscal sustainability and flexibility. In addition to this, corrupt tax practices may impose additional tax burdens on ordinary citizens in an arbitrary and capricious manner, while enriching government officials with an impaired sense of public service and responsibility. Ordinary citizens also bear an indirect burden when individuals or businesses collude with tax officials in order to reduce their tax

burden (Asher 2001). Another challenge of the Nigerian Tax system lies in its regulation which is linked to politics (Micah et al 2012). Each government over rules any structure in set up by a previous opposing government which shows a lack of stability in the regulatory body.

According to Worlu et al. (2012), taxation can only achieve its objectives in any national economy if the government enacts proper legislation and strengthening the existing laws in line with macro-economic objectives. They state further that such laws would create accountability and transparency in the administrative staff and in the government management of revenue accruing from taxes. Subsequently, they are of the opinion that, if the situation is managed properly, there would be an increase in the tax revenue base which would help the economy to achieve greater self-reliance and less debt (Worlu and Nkoro).

In the final analysis, it could be stated that the tax system was faced with several challenges which appeared to have come from the Nigerian government itself. It appeared that there was a failure on government's part to look upon taxation as a tool for regulating the economy and raising revenue for the social needs of its population (Okauru 2013). It also emerged that recommendations on staff training and the use of information technology were deliberately rejected on several occasions. Through reform of the tax system, steps were taken to reduce corrupt practices. However, government's delay in implementing the recommendations did not help and in effect led to an accumulation of various other reforms. The reform started by the Obasanjo's administration was continued in various forms by the government of President Musa Yar'adua who initiated *'A Seven Point Agenda'* aimed at attaining a stable, predictable and sustainable source of revenue (FIRS 2012).

Reforms made through the National Tax Policy:

In a bid to salvage the situation, the administration of President Goodluck Jonathan launched a *National Tax Policy* (NTP) in the late 2000s. In her comment at the launch of the policy (NTP), the finance minister, Ngozi Okonjo-Iweala pointed out that various efforts to diversify the Nigerian economy over the years in order to reduce the dependency on oil resources have not been successful due to a lack of specific policies on tax matters in the country and the absence of practical guidelines on tax operation for the various tax authorities (Okonjo-Iweala 2011). It was expected that the new policies on tax matters though repetitive, will tackle some of the challenges that affected the Nigerian tax system over the years, and subsequently ensure a sustainable system of taxation in order to create a motivating atmosphere to generate revenue; however this desired objective is yet to be achieved.

For a comprehensive understanding of the *National Tax Policy* (NTP) and the reasons behind its failure to attain the desired gaols, it is essential to review the tax system and its administration in Nigeria. The Nigerian tax system has evolved through various reforms over the years. It has been through different changes even before colonialism in the form of tribal taxes among the different ethnic groups in the country. The system proceeded to the period when the British colonial masters imposed taxes on the people as part of the *West African Tax* system. It persisted into the period of the creation of the *Joint Tax Board* (JTB) in 1961 and later to the introduction of the *Value Added Tax* (VAT) in 1991 (Okauru 2014). In 2002, the *Working Group Reform Initiatives* on taxation emerged and in 2010 the *National Tax Policy* was introduced. In all those periods the Nigerian tax system was plagued with inefficiencies that led to the problems

of multiple taxation of taxpayers. The resultant effect of such inefficiencies was the reluctance of investors to undertake business within Nigeria's economy and the country was regarded as one of the most difficult area for business and management of tax. In the recent 2014 World Bank Business Ranking, Nigeria was rated as 170th out of 189 economies with a minimal complicated tax system. This rating seemed to have placed Nigeria far behind other African countries such as South Africa which was ranked 24th while Ghana and Zambia jointly held 68th position. As regards ease of doing business, Nigeria stood at 147th position while South Africa was 41st, Ghana 67th and Zambia 83rd respectively. The figures indicate that there are many factors that hinder the growth of business in Nigeria.

One of the major objectives of the NTP was to address issues in tax administration, the tax base and the rates to reduce the compliance conditions placed on taxpayers (Oke 2014). This was to be done through set objectives aimed at contributing to the general wellbeing of Nigerian citizens. Hopefully this will reduce the negative and widely reported cases of financial mismanagement and corruption in Nigeria. Another objective of the NTP was to encourage economic growth and development in order to attract foreign investors and thereby ensure economic stability in the nation (NTP 2010). One of the aims of the policy was the use of taxation to minimise and balance the volatile situations as regards the periods of economic boom and recession within Nigeria.

Findings

So far to the extent of research and study carried out, it has been found that although the NTP was initiated and given approval by the Nigerian government in 2010 with a view to providing guidelines for the Nigerian tax system and its

administration with immediate effects, it would however seem that its implementation is still pending. As at the time of writing, the structure for the implementation of a workable tax system has not yet been set up. It would appear that all the hard work put into creating guidelines to ensure sustainable revenue resources for Nigeria's economy may have been futile. Although the problems that led to the reforms have been reduced there is room for improvement in order to sustain the little success that has been achieved (Okauru 2013). Oyedele (2015), reiterated the fact that none of the reforms have been successful. Rather, the disincentives that had plagued the system is still ongoing. There seem to be a lack of effort from the Nigerian government in reviewing the problems of the tax system in order to get a diverse revenue source especially with the recent drop in oil prices which has brought about challenges for the country.

With the 2015 budget, the government, in an aim to raise revenue, introduced the luxury tax and at the same time, reviewing the certain tax incentives like the pioneer company status granted to some company's at incorporation which has been abused. According to the coordinating minister for finance and the economy, Okonjo –Iweala, the government will realize N3.7billion from 10% import surcharge on all new private jets entering the country; N1.6 billion from the imposition of 39% import surcharge on luxury yachts as well as another N2.6 billion to be realized from import surcharge on what government terms "luxury cars" (Daily Trust 2014). This has been seen as a move that may not be successful as the super-rich who are expected to be taxed through the luxury tax are the major decision makers of the country and a majority of them own shares in the pioneer companies (Balami 2014). The only this will work

according to Balami (2014) and Oyedele (2015), is to strengthen and empower the FIRS to be able to collect these taxes.

Conclusion

From the literature studied so far, there is a need for a comprehensive reform in order to ensure the proper running of the tax system in Nigeria. The process has been initiated but more needs to be accomplished. It is essential to study the procedures used in other emerging economies within the African continent. The Nigerian government has employed the services of McKinsey - an international tax consulting firm to help conduct a tax diagnostic procedure for the country while seeking advice from Angola and South Africa where such a firm had previously helped improve the economy. In the opinion of the researcher, achieving a desired and realistic tax system in Nigeria would require a unique framework which takes into account the different ethnic composition of the nation and the economic skills of the majority of the population. Other factors that need to be taken into consideration when designing a workable tax system for Nigeria would be the low level of literacy and the overwhelming unemployment of the majority of the citizens. As a concluding remark, the researcher would propose that the Nigerian government should work out a scheme that would encourage local investors while at the same time devise a system of taxation which would be suitable to all in the country. The next stage of the research will be to collect and analyse the data.

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