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The Impact of the Petroleum Industry Act on Corporate Social Responsibility and Taxation in Nigeria's Upstream Oil and Gas Sector: A Path towards Sustainable Development

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Abstract: Nigeria's upstream oil and gas sector is extensively contributing to the economic growth of the country, but the sector is plagued with challenges around corporate social responsibility (CSR) and taxation practices. The Petroleum Industry Act (PIA) was introduced to tackle these challenges towards promoting sustainable development in Nigeria. The aim of this study is to explore the PIA's provisions on CSR and taxation, identify the Act's implementation challenges and improvement opportunities, propose an integrated framework for monitoring and evaluating the PIA's impact on CSR and taxation over time, and recommend measures for enhancing the PIA's impact on CSR and taxation support for sustainable development in Nigeria's upstream oil and gas sector. This study adopts the qualitative desk review method to analyse the existent literature, reports, and documents regarding the PIA's provisions on CSR and taxation. The findings reveal that the PIA's provisions greatly emphasize CSR initiatives and taxation transparency in improving responsible ethical business behaviour. An integrated framework for monitoring and evaluating the PIA's impact over time is developed. This study concludes that the PIA's provisions can balance CSR and taxation practices for sustainable development. The study's recommendations include using the integrated framework as a structured strategy for monitoring and evaluating the PIA's impact. This study contributes to the discussion on the imperatives of ethical business practices and regulatory frameworks for sustainable development drive in the oil and gas sector.

Keywords: corporate social responsibility; taxation; Petroleum Industry Act (PIA); sustainable development; upstream oil and gas sector; integrated framework; Nigeria

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1. Introduction

Nigeria is one of Africa's leading oil and gas producing countries that is heavily dependent on its upstream oil and gas sector for revenues. For example, the petroleum profits tax significantly contributes to the country's gross domestic product and sustainable development financing [1]. However, the oil- and gas-producing region in Nigeria is plagued with environmental, economic, and social concerns caused by the operations of the oil companies impacting on societies. While the oil and gas companies in the Nigerian upstream sector tend to mitigate the negative effects of their operations including oil spill and environmental degradation, these companies claim to implement various corporate social responsibility (CSR) initiatives by providing schools, hospitals, and roads [2]. Yet, the implementation of CSR initiatives has tax implications likely to reduce government tax revenue collection such as in Nigeria. Prior to the legislation of the Petroleum Industry Act (PIA) that was signed on 16 August 2021 [3], many stakeholders have expressed concerns on how the upstream sector oil and gas companies appear to neglect the development of the oil and gas host communities. The PIA is a great effort initiated to support transparency, accountability, and sustainable practices; also, it repeals the Petroleum Profits Tax Act (PPTA) for directing the activities of the upstream sector oil and gas companies

in Nigeria [4–6]. It is hoped that the PIA can inspire a responsible social behaviour of the companies towards CSR and taxation to drive sustainable development in Nigeria. CSR helps companies to think beyond maximizing profits only, displaying commitment to economic, environmental, and social concerns caused by their operations in society [7]. The government should ensure effective and fair taxation of activities of the oil and gas companies since taxation transparency is intensified by the PIA [3] to obtain revenue for financing sustainable development. Whereas some provisions in the PIA are related to CSR and taxation with likely social, economic, and environmental impact, there is a lack of information and research on how the Act may affect the practices of both the CSR and taxation in Nigeria's upstream oil and gas sector. In this context, taxation on the profits from the sale of crude oil collected by the Federal Inland Revenue Service (FIRS) is considered in this study, and not royalty or other payments by the upstream oil and gas companies. Also, CSR has the potential to reduce tax revenue collection by the FIRS in reality.

This study explores relevant provisions of the PIA linked to CSR and taxation to provide useful insights into the legislation's intent and likely implications for the upstream sector oil and gas companies operating in Nigeria. While this study is not a comparative one, it focuses on the regulatory changes in the Nigerian upstream oil and gas sector only. This study hopes to propose a framework for use in monitoring the PIA's impact over time to ensure transparency and accountability in CSR and taxation practices in the Nigerian upstream oil and gas sector. This study will bridge the gaps in knowledge about the impact of the PIA on CSR and taxation within the upstream oil and gas sector in Nigeria. It will contribute to a better understanding of the PIA's effectiveness in the sustainable development drive in Nigeria's upstream sector. This study's findings will be of great significance to industry stakeholders, policymakers, and the general public in reinforcing decision making for encouraging a sustainable development path towards the future inclusive growth and prosperity of the oil and gas sector in Nigeria.

The rest of this paper is structured to include the statement of the problem followed by the aim and objectives of the study and research questions. The literature review section includes an overview of Nigeria's upstream oil and gas sector, previous studies on CSR and taxation related to Nigeria's oil and gas sector, and gaps in the existing literature, as well as the theoretical framework and conceptual clarifications underpinning this study's analysis. The section on research methodology covers a qualitative desk review study method detailing how the research problem is addressed. The results section comprises the analysis of the provisions of the PIA on CSR and taxation, implementation challenges and improvement opportunities concerning the PIA's provisions, proposed integrated framework for monitoring and evaluating the PIA's impact, and recommendations for addressing the implementation challenges and using the improvement opportunities identified to enhance the PIA's impact. The section on discussion focuses on this study's findings discussed in alignment with research questions. The conclusion section covers this study's key findings, limitations, and future research directions and final closing remark.

1.1. Statement of the Problem

In Nigeria, the upstream oil and gas sector has an important role to play in revenue generation and significantly contributing to the economic growth of the country. But the sector is plagued with challenges comprising community hostility and environmental concerns around CSR and taxation practices, affecting sustainable development in the sector and the oil-producing areas. As these challenges have emanated since the 1950s when crude oil exploration and production activities began in the oil producing Niger Delta region, intervention agencies such as the Niger Delta Development Commission have been created to promote the economic development of the region. Recently, the PIA was introduced in Nigeria as a reflection of a robust legislation mandating CSR by establishing the host communities' development trust and emphasizing taxation transparency for the sustainable development of Nigeria's upstream oil and gas sector [4,8]. Nevertheless, the regulations governing the oil and gas sector are ineffective since the discovery of crude

oil in the 1950s as prior legal frameworks lack transparency and accountability to drive sustainable development in Nigeria's oil and gas sector in line with international best practice [6]. As the PIA is considered a win–win approach for addressing the oil and gas sector challenges and inspiring cooperative relationship and sustainable development in Nigeria [4,6,9], it is not clear how the PIA's provisions on CSR and taxation may impact the sustainable development path within the sector. Yet, prior studies ignore the implications of the PIA for CSR and taxation regarding sustainable development. Thus, there is a need to understand the real impact of the PIA on CSR and taxation in Nigeria's upstream oil and gas sector. Currently, there is deficient knowledge concerning the provisions of the PIA specifically linked to CSR and taxation. There is also a lack of a framework for monitoring and evaluating the PIA's impact effectiveness in promoting CSR practice and enabling tax compliance behaviour in Nigeria's upstream oil and gas sector. This study seeks to bridge these gaps by critically exploring and assessing the PIA's provisions on CSR and taxation, identifying implementation challenges and improvement opportunities of the Act, proposing an integrated framework for monitoring and evaluating the PIA's impact, and proffering recommendations for the PIA's impact effective performance. By this effort, this study intents to encourage stakeholder involvement, inform policymaking, and promote more socially responsible ethical behaviour and a sustainable development path for Nigeria's upstream oil and gas sector.

1.2. The Aim and Objectives of the Study

The aim of this study is to explore the PIA's provisions on CSR and taxation, identify the Act's implementation challenges and improvement opportunities, propose an integrated framework for monitoring and evaluating the PIA's impact on CSR and taxation over time, and recommend measures for enhancing the PIA's impact on CSR and taxation support for sustainable development in Nigeria's upstream oil and gas sector.

The specific objectives of this study are to:

i Explore the PIA's provisions linked to CSR and taxation in Nigeria's upstream oil and gas sector support for sustainable development.
ii Identify the implementation challenges and improvement opportunities concerning the PIA's provisions on CSR and taxation in Nigeria's upstream oil and gas sector.
iii Propose an integrated framework for monitoring and evaluating the PIA's impact on CSR and taxation in Nigeria's upstream oil and gas sector over time.
iv Proffer recommendations for addressing the implementation challenges and using the improvement opportunities identified to enhance the PIA's impact on CSR and taxation support for sustainable development in Nigeria's upstream oil and sector.

1.3. Research Questions

i How do the PIA's provisions link to CSR and taxation in Nigeria's upstream oil and gas sector support for sustainable development?
ii What are the implementation challenges and improvement opportunities concerning the PIA's provisions on CSR and taxation in Nigeria's upstream oil and gas sector?
iii What is the proposed integrated framework for monitoring and evaluating the PIA's impact on CSR and taxation in Nigeria's upstream oil and gas sector over time?
iv What recommendations can be proffered for addressing the implementation challenges and using the improvement opportunities identified to enhance the PIA's impact on CSR and taxation support for sustainable development in Nigeria's upstream oil and sector?

2. The Literature Review

The literature review is structured by important themes, providing better insights into the current position of knowledge and identifying the gaps which this study seeks to address. Whereas the PIA is presumed to significantly improve government oil revenue and economic development, its implementation marks an essential regulatory form in the

Nigerian oil and gas industry. But there is an increasing need to evaluate the PIA's impact on different aspects including CSR and taxation practices for the sustainable development drive in Nigeria. For example, the theoretical background regarding CSR in the Nigerian context includes a study on the impact of CSR initiatives by the multinational oil companies (MOCs) on the engagement of rural youths in traditional industries livelihood [TIL] in the Niger Delta area of Nigeria. The study's findings reveal that a significant association exists between companies' CSR efforts and TIL participation by youths [10]. Also, a study has examined how the new model of CSR by the MOCs can impact fighting against human trafficking in the oil-producing communities in the Niger Delta. The study highlights that MOCs can prioritize their CSR initiatives to reduce human trafficking incidents in Nigeria [11]. It is advised that the MOCs can play a key role in providing amenities to improve the living conditions of people in the Niger Delta, which indirectly links companies' actions to sustainable development and taxation drives for economic prosperity [11].

Regarding taxation, a study revealed that a significantly positive relationship exists between petroleum profit tax and economic growth in Nigeria [12], implying that the petroleum profit tax revenue can play a key role in the economic and sustainable development of the country. While the government is advised to optimize petroleum profit tax, recommendations include tax evasion reduction through robust tax administration [12] such as proved by the PIA.

Studying the PIA in Nigeria's upstream oil and gas sector context covers various parts of CSR, taxation, and sustainable development as factors to be considered by the sector's stakeholders [3] and relevant in this study.

Although empirical research seeking to evaluate the PIA's impact on CSR and taxation in the Nigerian upstream oil and gas sector context appears limited, efforts were intensified to assess policy analyses and articles related to the PIA and used in this study.

2.1. Overview of Nigeria's Upstream Oil and Gas Sector

The upstream oil and gas sector in Nigeria comprises the activities linked to crude oil exploration, drilling, and production. It includes the processes that happen before the extraction of crude oil such as the detection of oil and gas reserve, exploratory well drilling, and reservoir management. While the sector continues to play a key role in the general value chain of petroleum operations, it is affected by the provisions of the PIA mainly on CSR and taxation. However, the origin of the oil and gas industry dates back to August 27, 1859, when Edwin Drake found crude oil in the region of Pennsylvania, USA. In Nigeria, crude oil exploration commenced in 1908, during the colonial administration, but it was disrupted by the World Wars in 1914 and 1939. In 1947, exploration returned, and a commercial oil quantity was first found in January 1956 with the first supply in February 1958 by the Shell Business Group [1]. While Nigeria's upstream sector has over 70 (international and local) upstream oil and gas companies [13], again, their activities are linked to economic, environmental, and social issues against expected sustainable development solutions by governments and societies in the oil- and gas-producing countries such as Nigeria [14]. While the oil and gas sector transactions yield large economic rents with corruption antics, the quantity of oil and gas reserves and production activities in the sector might have changed Nigeria from an agrarian economy to one dependent on crude oil for revenues [1]. But this success is accompanied by several challenges comprising environmental degradation and tax non-compliance which the PIA is expected to address [3,4,9], in meeting the expectations of society, such as the oil host communities in Nigeria [6].

2.2. Previous Studies on CSR and Taxation Related to Nigeria's Oil and Gas Sector

2.2.1. CSR and Environmental Impact in the Upstream Oil and Gas Sector

In recent years, the concepts of CSR and taxation have received huge interest in the oil and gas sector in Nigeria. For example, CSR is linked to the abilities of companies to manage the social, economic, and environmental impacts of their operations in society [7]. Meanwhile, CSR is relevant in Nigeria's oil and gas sector, maybe, because the sector seems

to be dominating the country's economy, with its activities having great implications for the environment, local communities, and general society [13,14]. Previous studies have examined the link between CSR and taxation in many jurisdictions including Nigeria. While such studies explored the extent that companies participate in CSR activities, equally, the motivations for such activities and the impact of CSR initiatives on taxation applicable to the oil and gas sector have been explored. For example, one study emphasized the importance of CSR in extractive industries due to their impact on the communities, though the roles of government agencies in CSR are unknown. Public administrators in Nigeria can impact CSR in extractive industries to help community projects. This study implies that public bureaucracies in Nigeria impact on CSR performance [7]. This suggests that CSR and taxation practices by companies in Nigeria's oil and gas sector may pose challenges, and that legislation is needed to regulate their performance.

Also, the important roles of CSR activities in the form of community development by extractive multinational companies in both developed and developing countries were studied, with a focus on the impact of CSR on community development for sustainable development in the extractive mining sector in Africa. Findings reveal that CSR efforts are in health, education, employment, sanitation, water, and skills in improving community interactions [15]. This implies that CSR helps business and community relationships for harmonious coexistence. Also, the COVID-19 pandemic asked the governments and mining companies to prioritize CSR needs bordering on environmental and human rights issues [16]. While COVID-19 has hugely affected companies in the extractive sector in developing countries, the pandemic has caused global economic and social suffering, and CSR prompted questions on morality regarding community and employee welfare priorities [17]. Whereas environmental and investment concerns have sparked debates on CSR in the extractive industry; a study reported that mines' closure has adverse effects including environmental and job damage. This affects local communities, initiating insecurity and termed challenges of CSR in the extractive industry [18]. When responsible leadership was explored regarding sustainable development of a community, extractive industries' CSR effectiveness was emphasized, although little attention is given to the antecedents of CSR plans in developing countries. Responsible leadership plays a key role in CSR implementation for sustainable development [19].

Lately, climate change and global warming imply environmental concerns mainly in extractive industries including oil, gas, and mining. These industries greatly contribute to environmental degradation, resource depletion, and pollution; but CSR seeks to safeguard the environment. While technological adoption, 4IR namely AI, IoT, machine learning, and robotics can reduce environmental impact, integrating technologies by 4IR in the extractive industry can promote CSR and sustainable development [20]. Like in Nigeria, in Kenya, the extractive companies engage in CSR to gain social legitimacy to develop the community, with legislations including the Petroleum Act 2019, Mining Act 2016, and Mining Policy 2016 enacted to provide support for CSR implementation [21]. Another study considered CSR practice in Nigeria's oil and gas sector and focused on maladministration and violence. While oil companies adopt voluntary CSR activities in addressing these issues, mandatory CSR by definite CSR rule is requested to help a framework for CSR implementation. The government and nongovernment organizations are asked to work together to reduce negative environmental impacts such as in the Niger Delta region of Nigeria [2]. Weak government regulations and multinational companies' challenges including human rights abuses, environmental degradation, and weak transparency complicate development strategies in the Niger Delta. Thus, a whistleblowing system should be reinforced to promote accountability and transparency help for eliciting corporate responsible behaviour by reporting and reducing corruption and other malpractices in the Nigerian oil and gas sector [22]. A study revealed poverty and environmental ruin in the oil-producing communities are propelled by corruption in the Nigerian oil sector, despite the interventions by governments and companies. While CSR aims to bridge developmental gaps mainly in the oil host communities, corruption antics weaken CSR strategic efforts [23]. As corruption

and CSR are contested in the Niger Delta of Nigeria, institutional corruption is linked to the faulty CSR framework in the oil and gas sector with global implications too [24].

The resource control demands mainly by the oil and gas host communities relate to insufficient revenue derivation and environmental damage due to oil and gas mining activities in Nigeria. So, oil host communities always hold the oil companies responsible for increased CSR towards satisfying their needs for sustainable development. With agitations argued to be genuine, there is a call for institutionalizing and formalizing it by governments and companies through CSR, improving investment for actually addressing the concerns of the oil communities [25]. Perhaps, this is due to the prevalence of insufficient CSR projects, driving conflicts in the oil and gas host communities such as in the Niger Delta region of Nigeria [26]. Nevertheless, the upstream oil and gas companies fulfil various CSR initiatives in addressing the economic, social, and environmental concerns due to their operations in the Niger Delta region of Nigeria. It is claimed that such CSR projects are ineffective, thereby, not contributing to the development needs of the oil host communities, despite the fact that environmental degradation, insecurity, and poverty persist in seemingly prompting violence in the oil-producing region [27]. But a study revealed two views about CSR projects in the oil host communities. First, companies believe they provide adequate infrastructure and scholarship, for example, to address the socio-economic development of the Niger Delta area. Second, oil host communities prefer receiving a revenue share against CSR projects implementation. Thus, it was suggested that a threshold of a minimum uniform CSR investment based on the percentage of revenue should be set and reported yearly to ensure transparency and socio-economic growth in oil communities [28].

2.2.2. CSR and Taxation Impact on Sustainable Development

In addition, some studies have linked CSR to taxation based on data from the stock exchange that include various companies like the oil and gas companies. For example, one study explored the relationship between corporate governance, tax avoidance, and CSR disclosure in developing markets (Nigeria) and a frontier market (Pakistan). Findings disclose that in Nigeria, CSR is positively significant and linked to tax avoidance. In Pakistan, CSR and tax avoidance link is positive but insignificant. The impact of board characteristics on CSR varies with a mixture of positively insignificant relationships in Nigeria and negatively insignificant relationships in Pakistan. But the study highlights the implication of CSR for companies and governments [29]. A study used stock exchange secondary data and revealed that when CSR is based on environmental remedy, corporate tax complements are positively complementary but substitutive for poverty relief and promoting education depending on a company's size. Whereas complementary CSR should be encouraged, aggressive tax planning must be controlled because tax allowances and incentives are provided to improve CSR participation [30]. Another study has examined CSR execution impact on tax aggressiveness using companies' data (2007–2013) in Nigeria. While company performance and size are reported to influence tax aggressiveness, a negative relationship between CSR performance and tax aggressiveness is reported, and tax authorities are advised to address it [31]. In addition, a study showed that CSR and tax planning are negatively related for companies with complementary and substitutive orientations [32]. Contrary to the negative findings above, a study reported a significant relationship between CSR (community and environment) components and tax aggressiveness. Companies are encouraged to align their CSR initiatives and tax compliance to promote sustainable development [33].

Furthermore, another study has examined the influence of corporate social responsibility disclosure (CSRD) on listed banks' financial performance (FP); this was an empirical study of the Palestine Exchange and Amman Stock Exchange from 2010 to 2019. CSRD was measured, employing a 30-item disclosure index, and FP was assessed utilizing indicators like the return on equity (ROE), return on assets (ROA), and Tobin's Q. While the results of the regression analyses were mixed, a statistical connection between CSRD and FP was observed when utilizing Tobin's Q, but absent when using ROE or ROA. Also, no significant

differences were found between listed banks on the Palestine Exchange and Amman Stock Exchange. Authors recommend that CSR and its related disclosures should be enhanced by conducting education programmes while urging policymakers to improve requirements for reporting CSR [34]. It can be argued that this study indirectly contributes to the CSR and taxation literature by investigating the effect of CSRD on financial performance in the context of two stock exchanges. In addition, the study's findings and recommendations can reinforce discussions on the link between financial performance, CSR, and taxation rules regarding the companies.

When the link between corporate governance mechanisms and corporate failure prediction was studied in the Palestinian context, some governance variables such as institutional ownership, board of directors' independence, and external audit value were reported to have a positive and significant relationship, reducing corporate failure predictability. But other variables including CEO duality, board size, and board meeting frequency reveal no significant impact on corporate failure decline [35]. While the study's main focus is corporate governance and corporate failure prediction, it indirectly links to CSR and taxation aspects. Successful corporate governance is linked to ethical behaviour and considered a key element of CSR. Moreover, the study highlights the need for companies to fulfil regulatory and legal requirements including taxation policies as a sign of good corporate governance. Companies that grasp the connection of these factors are likely to operate more ethically, responsibly, and in compliance with tax laws, contributing to both their sustainable development drive and positive economic, environmental, and social impact within society.

2.3. Gaps in the Existing Literature

From the previous studies reviewed, there are research gaps. Firstly, most studies, for example, have focused on the link between CSR and agitation or violence in oil communities [25–27], community and environmental development [7,15–18,20], or responsible leadership [19]. But the specific provisions of regulatory laws such as the Petroleum Profit Tax Act or the PIA appear not to be probed concerning the oil and gas sector for the companies to participate in CSR and taxation practices towards sustainable development. Secondly, previous studies underline the requirements for making regulations to improve CSR performance [2,21,28], whistleblowing [22], or corruption [23,24]. CSR is linked to tax avoidance [29] or tax planning [30,32] or tax aggressiveness [31,33], and tax authorities are asked to monitor CSR against tax aggressiveness [31]. But there is yet a framework for use in monitoring and evaluating the effectiveness of a regulation's provisions on CSR and taxation over time to support sustainable development. Thirdly, previous studies have explored the aspects of CSR and taxation independently. Few studies have researched into their connection and implications for sustainable development under the PIA since its enactment in 2021. This study focuses on the combined impact of the PIA on both CSR and taxation in Nigeria's upstream oil and gas sector. The PIA's provisions may result in unintended effects as strict CSR obligations and improved taxation can have a potential influence on the behaviour of companies in many ways. These unexpected effects may be difficult to predict, requiring monitoring and evaluation on a continuous basis. In this current study, an attempt is made towards addressing the above research gaps for a better understanding of the PIA's impact on CSR and taxation in driving sustainable development in the Nigerian upstream oil and gas sector context.

2.4. Theoretical Framework

The theoretical framework for this study comprises two theories, namely the legitimacy theory and stakeholder theory. These theories provide the basis for the understanding of CSR practice and taxation compliance concerning the PIA in Nigeria's upstream oil and gas sector.

2.4.1. Legitimacy Theory

The legitimacy theory emphasizes the actions of companies in justifying their operations. This is critical because companies can align their actions with the expectations and norms of society to obtain legitimacy and acceptance to access societal resources [36]. The PIA has introduced new requirements; the oil and gas companies in Nigeria may have to seek the need for adopting CSR plans and complying with taxation rules to uphold their legitimacy and fame. In this study, the provisions of the PIA can influence companies' views of legitimacy and their reactions about CSR and taxation practices. So, the legitimacy theory provides an understanding to explore and evaluate the voluntary and planned implementation aspects of CSR and taxation mainly in the normative sense [36] for improving sustainable development in Nigeria's oil and gas sector.

2.4.2. Stakeholder Theory

The stakeholder theory emphasizes the relationship of third parties besides the shareholders on the performance of companies [37]. This is critical as companies interact in different ways, with various stakeholders influencing their decision-making and corporate behaviour. In this study, the provisions of the PIA on CSR and taxation are liable to impact different stakeholders including government agencies, investors, local communities, and environmental groups. Understanding these interactions and their dynamics will help in identifying the extent that the implementation of the PIA can affect CSR and taxation practices in Nigeria's oil and gas sector. The stakeholder theory provides a framework for the analysis of the stakeholders' expectations, interests, and needs [37] to guide the evaluation of the effectiveness of PIA in promoting sustainable development and the engagement of stakeholders in Nigeria's oil and gas sector.

2.5. Conceptual Clarification

Conceptual clarifications are required to understand the important terms relevant in this study. The clarifications of the terms involve the Petroleum Industry Act (PIA) as the legislation initiated to regulate oil and gas operations in Nigeria's upstream oil and gas sector, and CSR as the abilities of the companies to manage economic, social, and environmental concerns of their operations. Tax compliance relates to voluntarily upholding tax duties, crucial in generating tax revenue. Transparent accountability mechanisms are vital in supporting public confidence and effective governance. These terms are interconnected and influence the tax revenue yield and can discredit an efficient tax system such as in Nigeria.

2.5.1. The Petroleum Industry Act (PIA)

The Petroleum Industry Act (PIA) is a detailed legal framework for the regulation of oil and gas operations, exploration, production, management, and utilization of oil and gas resources in Nigeria's upstream sector petroleum activities. The framework has outlined the discharge of corporate governance mechanisms, community involvement and development, environmental preservation, taxation, and revenue resource management in the sector. For example, the PIA has instituted a detailed framework mandating the oil and gas companies to meaningfully engage in CSR projects. While it realizes the oil and gas sector's major impact on local communities, social welfare, and environment, the upstream oil and gas companies are required to set aside a percentage of their operational budgets annually for CSR projects. The projects should foster sustainable development and enhance host communities' welfare. CSR plans should align with identifiable requirements and objectives of the host communities, which underscores fostering cooperation, negotiation, and true commitment on the part of the companies and communities. Also, the PIA asks that companies should report their CSR projects transparently and accountably as evidence of responsible behaviour in the Nigerian upstream oil and gas sector [38].

Regarding taxation, the PIA has introduced strong tax regulations towards enhancing transparency, compliance, and tax revenue management in Nigeria's oil and gas sector.

While the regulations are essential in optimizing government tax revenue collection, this is to foster equity but block practices of illicit financial flows. For example, the PIA has established a strong framework for determining and collecting royalties, tax revenue, and other financial payments from the oil and gas companies. Also, financial records must be accurately and regularly reported to appropriate regulatory agencies. The PIA underscores the need for accessible accounting to ensure that companies transparently provide their financial activities breakdown. Furthermore, a fund for oil and gas revenue management is created specifically to finance projects improving environmental preservation and sustainable development. The PIA is imposing strict penalties such as for tax evasion issues and non-compliance behaviour when compared with its provisions [38]. The ideal is to optimize voluntary tax compliance while improving tax revenue collection for financing sustainable development from Nigeria's upstream oil and gas sector.

2.5.2. Corporate Social Responsibility (CSR)

Corporate social responsibility (CSR) is the will of the companies to voluntarily contribute to the environment and society through developmental initiatives beyond the profit maximization objective. CSR is described in terms of Carroll's four vital responsibilities: economic, ethical, legal, and philanthropy [39]. Many activities can be achieved as an integral part of CSR including tax payment, community, and environmental development; yet, the relevance of ethics cuts across the Caroll's pyramid of responsibilities in economic relations [39]. This study focuses on how companies can align the provisions of CSR within the PIA towards contributing to the sustainable development of the local oil and gas communities and larger society in Nigeria.

2.5.3. Taxation

Taxation is the process of collecting tax revenue. Taxation compliance relates to the oil and gas companies' adherence to the provisions on taxation in the PIA. This covers accurately reporting tax financial information, discharging tax responsibilities, and complying with the tax laws for ensuring legality and transparency in tax revenue collection and remittance to the government. The role of enforcement in driving tax compliance cannot be over-emphasized [40]. While the main aspect of the objective of the PIA is to improve taxation compliance, there is an implied need for proper management of tax revenue in driving sustainable development within the Nigerian upstream oil and gas sector. This suggests that taxation in Nigeria's upstream oil and gas sector is based on the law [41], although tax evasion is disrupting tax revenue collection in developing countries such as Nigeria with tax administration challenges [40].

2.5.4. Sustainable Development

Sustainable development is linked to a balanced method in seeking to accomplished economic growth, environmental protection, and social inclusion though ensuring the welfare of the present generation not compromising that of future generation. Sustainable development goals provide action plans for sustainable development [42]. In this study, sustainable development includes the assessment of how the impact of the PIA on CSR and taxation can align with community welfare, environmental preservation, and economic feasibility principles. This may ensure that oil and gas companies' activities positively contribute to long-term economic, social, and environmental benefits to society in Nigeria, because principles of sustainable development are advised for integration into aspects of policymaking for societal long-term benefits [42].

3. Research Methodology

Research methodology relates to the approach utilized in conducting this study, comprising the data selection and analysis method, and whole process of research design [43,44]. The methodology guides measures taken to achieve the research objectives and, also, ensures reliability of the study. In this study, the methodology helps in data gathering,

analysing, and interpreting, contributing to the credibility and validity of its findings [45]. Based on research objectives and the nature of the data collected, phenomenology qualitative research methodology is utilized in this study to explore and gain insights into the impact of the PIA provisions on CSR and taxation [43–45].

3.1. Research Design

The qualitative desk review methodology is utilized in this study to analyse the existent literature, documents, and reports related to the PIA, CSR, taxation, and the Nigerian upstream oil and gas sector. The literature selection criteria comprise quality, relevance, and recency for inclusion and use in the study. The qualitative desk review is mainly appropriate to synthesize information, identify patterns, and generate meaningful insights from different sources without necessarily using the primary data such as from interviews and questionnaires. Based on the systematic review and analysis of the literature sources relevant in this study, conclusions are drawn regarding the research objectives [46–52].

3.2. Data Sources and Criteria for Selection

The main sources of data for this study comprise academic journals, government publications, reports, industry reports, policy documents such as the PIA, and other credible sources appropriate to the topic. The sources are classed as secondary and mainly textual data. The criteria for selection include data relevance and related to the PIA, CSR, and taxation in Nigeria's upstream oil and gas sector. Keywords were used in the data search with defined exclusion and inclusion criteria. Thus, the literature sources were critically evaluated for credibility, quality, and relevance as core features of the qualitative desk review method. Data reliability was ensured by the assessment of methodology, author's biases and credentials, and materials' publication dates [48,51,52].

3.3. Data Extraction Procedure

The procedure for data extraction includes the logical detection and collection of the relevant information, opinions including disagreements and agreements, and findings from the selected sources regarding the topical research area. This comparative analysis helped in understanding the development of views and ideas over time [46,50–52]. Data extraction is guided by certain predetermined themes such as the PIA's provisions linked to CSR and taxation, CSR, taxation compliance, and sustainable development. The data extracted were organized to enable the use of thematic analysis, with gaps in the literature being identified for more study based on intense academic demand [47,49,50,52].

3.4. Data Analysis

The data analysis involves the thematic analysis method used to detect patterns and insights based on the data extracted. This implies classifying the data into repeating themes linked to the PIA, CSR, taxation, and sustainable development. Theme identification involved the reading of the literature collected for data familiarity. Then, codes as keywords were established, reflecting the research concepts and issues, such as "CSR", "Petroleum Industry Act", "Taxation", and "Sustainable Development". The codes were annotated by note taking and highlighting the texts found relevant to the research. Thus, the coding process was performed manually, utilizing the digital copies of the literature. Subsequently, themes were developed and based on the codes produced. Themes were refined and revised to describe nuances and differences in the literature and also form the basis for the study's narrative. By the thematic analysis procedure, the research objectives were explored in detail [46–50].

3.5. Ethical Considerations

This study is based on secondary data and relied entirely on the existing literature and documents; thus, the ethical considerations linked to human objects and data secrecy do not apply.

4. Results

The analysis in this study is guided by the theoretical framework, combining legitimacy theory and stakeholder theory. These theories help in interpreting the data to understand the dynamics in practicing CSR and taxation regarding the PIA in Nigeria's upstream oil and gas sector.

4.1. Provisions of the PIA on Corporate Social Responsibility (CSR) and Taxation

In line with the first objective of this study, the analysis of the PIA's provisions on CSR and taxation in Nigeria's oil and gas sector may reveal remarkable shifts as the PIA supports improved CSR execution by environmental protection and community development. Also, taxation provisions appear to drive tax revenue management, tax transparency, and compliance. While these shifts mirror a firm drive for balanced practices, this may create and sustain a mutual industry–society correlation that is expected to reshape and forge a path towards sustainable development. Thus, the analysis of the PIA provisions on CSR and taxation in Nigeria's upstream oil and gas sector will provide insights into the Act's intent and sustainable development implications as follows.

4.1.1. The PIA's Provisions Linked to Corporate Social Responsibility (CSR)

The upstream sector oil and gas companies in Nigeria partake in oil exploration and production activities. While there are no clear provisions on CSR to benefit the oil host communities in the Petroleum Profits Tax Act (PPTA) 2004, provisions for CSR seem to exist in the PIA for host communities to benefit from social, economic, and environmental projects [35]. For example, the PIA's Chapter 3 focuses on host communities' development, with main objectives in Section 234(1)(a–d) to promote the sustainable development of the oil host communities. Ensuring that the host communities through petroleum activities reap economic and social benefits directly promotes harmonious and peaceful coexistence between the oil license companies and host communities, creating a framework for the host communities' development. In Section 235(1), the host communities' development trust is to be incorporated for the host communities' benefits. While companies can only implement projects based on the needs assessment of host communities, such projects should translate into the real community development plan in Section 235(7). The timeframe of 12 months is recommended for incorporation of the host communities' development trust, effective from the date of existing oil mining leases provided in Section 236. If created, Section 237 has attached the obligations of the host communities' development trust to transfer a company's interest and obligations to another party. Furthermore, host communities' interests are secure in Section 238 with the provision for penalties such as the revocation of the applicable license in case of a failure to comply with the provisions in Chapter 3 of the Act. While this is to enhance the development of the host communities [38], CSR commitments link the host communities to the oil companies [8] for promoting sustainable development in Nigeria [7].

Moreover, the PIA's Section 239 provides the objectives of the host communities' development trust detailed in Sub-Section 3 towards the sustainable growth of the oil host communities. The funding sources for the host communities' development trust comprise one or more accounts termed host communities' development trust fund in Section 240(1) and its Sub-Sections. Also, Section 240(2) provides that, on an annual basis, companies should contribute to the host communities' development trust fund a sum equivalent to 3% of actual operating expenditures of the previous financial year in the upstream petroleum activities affecting the host communities [35]. Although the 3% is argued as being small [2], this amount may be higher than that of the Niger Delta Development Commission. It is important to be more concerned with the management of the trust and who allocates the trust's funds. Section 244 enables the Board of Trustees to share the trust's funds on a yearly basis under Section 240. The funds to be allocated are capital projects (75%), reserve (20%), and administrative expenses (5%). A community can forfeit the cost of repairs in events of vandalism, sabotage, and civil unrest causing damage to petroleum

facilities or disruption of production activities. The host communities' assessment of needs is to be carried out in line with the Act's provisions in Section 251 and its Sub-Sections, subsequent to the granting and issuance of any lease or license under the PIA. Findings of an assessment should inform the companies' development plan for the host communities towards promoting sustainable development. Section 256 exempts host communities' development trust funds from taxation. In Section 257, the expenses incurred by the companies under Section 240(2) are tax deductible for both hydrocarbon tax and company income tax purposes. But Section 257(2) provides that, except for natural and technical causes, disruptions to operations or damage to petroleum and its facilities by sabotage or vandalism or civil unrest will make the host communities forfeit their entitlements equal to the repair costs of the damage incurred and emphasized in Section 257(3) of the Act [38]. Thus, the PIA's host communities' development trust is a good-bet strategy for supporting sustainable development in Nigeria's oil and gas sector [1,4,5,7,8].

Given the various PIA's provisions on CSR, it becomes obvious that the Act seeks to promote the CSR activities of the companies as a basis for the exploitation of resources in a more transparent and accountable manner. Such CSR activities cover expenditures on education, environmental protection, community development, healthcare, and charity. Whereas the creation and funding of the host communities' development trust is a milestone achievement, proper use of the trust's funds should be closely monitored. This underscores the necessity for a specified CSR planned budget, indicating a commitment to uphold positive development impact in the host communities. Also, the PIA emphasizes that companies should transparently report CSR activities executed, by presenting details of the scopes, types, and outcomes of such activities on the environmental, social, and economic conditions of the host communities, thus promoting accountability and transparency which can enable the stakeholders to assess the companies' efforts and efficiency of their CSR initiatives towards sustainable development in Nigeria.

4.1.2. The PIA's Provisions Linked to Taxation

The PIA has introduced a hydrocarbon tax to replace the petroleum profit tax in the PPTA [38]. The hydrocarbon tax is levied on the upstream oil and gas companies for obtaining a fair share of revenue due to the exploitation of oil and gas resources. Taxation in Nigeria's upstream oil and gas sector is based on the PPTA [41], but currently replaced with the PIA in 2021 [3,5,38]. For example, the PIA's Chapter 4 is on petroleum industry fiscal framework. Section 258(a–e) of the Act provides a fiscal framework that is progressive to balance business risk and rewards in generating revenue to the Nigerian government. The fiscal framework is based on the principles of dynamism, clarity, and generally applicable fiscal rules; thus, it should ensure fair investors' returns while expanding government's revenue base. The framework is intended to simplify petroleum tax administration and uphold transparency and equity within the petroleum sector fiscal regime in Nigeria. In Section 259(a)(i-ii), the Federal Inland Revenue Service (FIRS) is responsible for the assessment and collection of the government's oil and gas tax revenue. The FIRS will collect 30% of profits for both the hydrocarbon tax and company income tax, based on the sale of crude oil, and 2% for the tertiary education tax. Therefore, the PIA is improved over PPTA since the company income tax is introduced and the tertiary education tax is no longer tax deductible for the upstream companies. While the PIA has repealed some laws related to petroleum operations, Section 260 provides the hydrocarbon tax for upstream companies related to onshore, shallow water operations and deep offshore petroleum operations. In Section 263 and its Sub-Sections, allowable deductions for tax purposes are provided to encourage participation in CSR activities. Deductions not allowed for tax purposes are provided in Section 264 for calculations to obtain the adjusted profit of an oil company in an accounting year [38].

Also, the losses and profits of the upstream oil and gas companies should be assessed consistent with the PIA's provisions in Section 265 and its Sub-Sections. Estimation of assessable profits in Section 265 provides the basis for deciding the chargeable profits and

allowances in Section 266(1). Chargeable profits are termed as the assessable profits amount after handling allowable deductions in line with the Act's provisions in an accounting year. In Section 267(a,b), the Act provides how chargeable tax is ascertained. Chargeable tax is a given percentage of chargeable profits for an aggregated period. To tackle situations where the chargeable tax may be less than an amount to be realized based on crude oil barrel at measurement point and per barrel oil fiscal price, the payment of additional chargeable tax is provided in Section 268 and its Sub-Sections. The aspects of artificial transactions likely to promote tax avoidance are tackled since the FIRS is mandated to reverse or disregard such transactions that can reduce chargeable profits for tax purposes in Section 269. In addition, the PIA upholds tax accountability and transparency because Section 277 mandates the upstream companies to prepare their accounts and deliver the same with other relevant particulars for hydrocarbon tax purposes. In Section 282, the FIRS can assess and collect the tax payable when the time for a company to deliver its self-assessment tax returns has elapsed. The timeframe for tax payment for the upstream companies is provided in Section 291 and its Sub-Sections. The tax is payable in 13 instalments with normally 12 monthly equal instalments and a final instalment in the 13th month for reconciliations. Obviously, the penalty for tax non-compliance and its enforcement when the timeframe for tax payment has passed is provided in Section 292. Further offences and penalties are provided in Sections 297–301, which cover aspects such as tax default and false reporting of information. Section 302 and its Sub-Sections cover company income tax for companies into upstream petroleum operations [37]. So, the PIA is to overhaul the upstream oil and gas sector as a win–win approach for improving sustainable development in Nigeria [5,8] and taxation transparency is intensified [2]. However, leadership is necessary for the successful implementation of the sustainable development drive [18].

Given the PIA's provisions on taxation, it becomes clear that the Act seeks to encourage taxation transparency of the companies as a basis for the exploitation of resources in a more accountable way. The PIA provisions on taxation have introduced a structured strategy for ensuring a more fair and equitable taxation to optimize tax revenue collection from oil and gas mining operations. The upstream oil operators, mainly the local and international oil companies, should pay a percentage of their profits from the sale of crude oil to the government. This emphasizes the need for a taxation framework for the companies to pay their fair share of taxes, indicating a commitment to support the positive development impact in Nigeria. As the upstream companies are directed to keep proper records of all their financial transactions regarding the sale of crude oil and CSR activities for tax purposes, this will ensure that transparent records are preserved to improve tax avoidance and evasion. So, the PIA underscores the promotion of taxation equity and transparency for the government to optimize oil and gas tax revenue collection to finance sustainable development in Nigeria.

4.1.3. Provisions of the PIA on CSR and Taxation: Implications for Sustainable Development

The analysis of CSR and taxation provisions in the PIA framework reveals intense implications for sustainable development in Nigeria's upstream oil and gas sector. Whereas the PIA leads an era of change by driving effective practices of CSR, such practices should be aligned with the companies' environmental preservation and community benefits [8]. Also, strict taxation rules may ensure that tax transparency, tax revenue management, and compliance are prioritized [2]. The larger impact of the PIA's provisions is beyond matters of fiscal and corporate behaviour. For example, the PIA emphasizes responsible ethical corporate practices consistent with the United Nations' Sustainable Development Goals and global sustainable development policy. Thus, the PIA's provisions on CSR and taxation may reshape the role of the upstream oil and gas sector in Nigeria's sustainable development drive. So, the sector will reconcile economic returns with societal promises underlining the advent of a path towards sustainable development with economic growth, environmental protection, and social welfare advocating stakeholders' involvements in

CSR initiatives in Nigeria [6]. Economic growth links to an investor's confidence that the PIA's provisions on CSR and taxation can be built and sustained. For when the Nigeria's upstream oil and gas sector is transparently driven and socially liable, it can attract domestic and foreign direct investment support for economic growth. Community development may be improved as CSR projects can result in an improved infrastructure and living conditions for a cooperative relationship, benefiting the local communities directly for wider economic growth [14,15].

Environmental protection: This relates to environmental resource protection through which the PIA's provisions integrate environmental concerns into CSR practices to protect the natural resources from hazard and depletion. As protection measures may reduce environmental damage for community benefits [33], this can add to the long-term feasibility of Nigeria's upstream oil and gas sector. While taxation transparency can ensure that tax revenues are well managed to aid investments in efforts to protect the environment by mitigating negative environmental impacts, insecurity issues revolve around environmental damage [17]. Social benefits link to community emancipation, supported by the PIA's provisions on CSR practices prioritizing community benefits. Thus, initiatives comprising healthcare, education, and skilled vocational development improve social welfare and contribute to the alleviation of poverty and improving the living conditions of society. CSR performances must address oil communities' development needs [25], as conflicts in such communities may be triggered by faulty CSR projects [26,27], indicating that CSR is key for governments and companies [29] in decreasing local communities' driven conflicts and inspiring balanced relationships between companies' and societies' support for sustainable development [26,27]. Importantly, CSR performance should reflect morality in prioritizing community and employee welfare [16].

Based on the exploration of the PIA's provisions on CSR and taxation in Nigeria's upstream oil and gas sector, this study's findings disclosed that the PIA is a robust regulatory framework introduced in the sector. The Act requires the upstream oil and gas companies to contribute to sustainable development by allotting a percentage of their business incomes for CSR initiatives, to improve economic, environmental, and social impacts on the oil and gas host communities. Also, the PIA's provisions on taxation imply clear approaches to support taxation transparency in tackling tax avoidance and evasion to foster revenue generation. Thus, the PIA's provisions on CSR and taxation can substantially contribute to promote sustainable development through a beneficial, responsible, ethical business practice for improving community relationships.

4.2. Implementation Challenges and Improvement Opportunities concerning the PIA's Provisions

There are certain challenges and improvement opportunities in implementing the PIA's provisions on CSR and taxation in Nigeria. The challenges and improvement opportunities are reflections of the complications in the country's regulatory, economic, and socio-political contexts. The oil and gas companies experience track-finding difficulties in balancing their potential negative impacts on society with sustainable development in the Nigerian upstream oil and gas sector.

4.2.1. Implementation Challenges concerning the PIA's Provisions on CSR and Taxation

The challenges implementing the PIA's provisions on CSR and taxation have a negative impact on the realization of sustainable development in Nigeria's upstream oil and gas sector. Certain implementation challenges identified include:

i Regulatory and standardization complexities: The PIA is a fiscal regulatory framework to govern oil and gas sector operations. Its provisions are complex and subject to misinterpretations and confusions in many ways, as the language of the Act appears imprecise and ambiguous [4]. Stakeholders may otherwise understand and interpret the PIA's provisions on CSR and taxation; thus, implementation inconsistencies may occur. This is complicated by standardization inadequacies about implementation guidelines to clearly provide governments' expectations and what the companies

need to do towards simplifying compliance. The lack of the PIA's transparency and accountability can affect the sustainable development drive in Nigeria's upstream oil and gas sector regarding international best practices [5,8], as the Act's implementation will be problematic [53].

ii Awareness inadequacy: The upstream oil and gas companies may initially face the lack of awareness adequacy of the provisions of the PIA that has offered regulatory changes, likely to stimulate certain understanding, interpretation, and implementation challenges without extensive awareness across the sector [5]. An awareness inadequacy may make companies to find it difficult to satisfy the requirements for CSR and taxation practices and compliance. Proper information disclosures may affect the efficiency of their operations, considering that such information have a timeframe for disclosures.

iii Monitoring and strategic enforcement: The implementation of the PIA's provisions on CSR and taxation requires adequate routine monitoring and strategic enforcement for deep stakeholders' compliance to be attained. While tax allowances and incentives can promote CSR participation, if no mechanisms for monitoring and enforcement are put in place, then noncompliance with the provisions may be evitable [30].

iv Limitations in investment resources: While companies need resources, mainly finance, to invest, the PIA has mandated CSR and taxation practices imposing the allocation of resources [2,28]. This may possibly affect investment and business plans and operations. The companies, if not big in size, are likely to face limitations in resources to train experts, which may affect the implementation of the provisions of the PIA on CSR and taxation.

v Change resistance: There seems to be long period of industrial norms such as crude oil inaccurate measurement, not theft, that are being practiced by the upstream companies in Nigeria's upstream oil and gas sector. The PIA is introducing changes which can oppose some industrial norms, and this may affect adequate compliance with the Act, because of the lack of political will, commitment, and problem-solving leadership [2,18].

vi Community involvement: The PIA has mandated implementing CSR initiatives, which entails effective community involvement that can pose likely challenges to companies: owing to the communities' communication and language barriers, historical antecedents, and cultural issues. Also, different expectations of the different people in Nigeria, which may be hard to understand and address, are likely to affect the implementation of the PIA. Communities' stakeholders should be involved in CSR projects for promoting cooperative existence [6,14,15,21] and the implementation of the PIA [8].

vii Short-term disruptions: The implementation of the PIA's provisions concerning CSR and taxation may have a transition impact, from its initiation to maturity period, likely to affect the financial positions of the companies. This may generate business disruptions in the short term, and strategic plans, by added costs, may be necessary to mitigate such disruptions. Complying with the PIA may pose a challenge at the period.

viii Government commitment and capacity: The upstream oil and gas sector is regulated by the government in Nigeria. So, the government's important role in monitoring the sector to ensure adequate compliance with the PIA cannot be overemphasized. Yet, the government's commitment and human capacity of its agencies [2,52] may be limited by the resources budgeted for monitoring [31], as training and retraining of employees are recommended to ensure that the PIA's provisions are properly implemented [8].

ix Taxation complexity: The PIA has presented changes in taxation provisions which may appear complex in view of the international nature of the transactions of the upstream oil and gas companies. When the changes in taxation provisions are not well understood and correctly applied, there are chances for noncompliance and many errors to occur.

x Collecting and reporting CSR data: CSR initiatives being implemented by the upstream oil and gas companies other than those achieved by the host communities' development trust fund should be properly reported. So, data should be collected regarding such CSR projects for reporting purposes due to their tax effects. This may require the companies to fix systems, so they are robust enough to collect data accurately and report timely [19].

The above challenges can be addressed through a long-term strategic effort comprising mutual cooperative relationships between the oil and gas sector stakeholders such as the governments, companies, and civil society organizations in utilizing the recommendations provided ahead.

4.2.2. Improvement Opportunities concerning the PIA's Provisions on CSR and Taxation

The PIA's provisions on CSR and taxation offer huge improvement opportunities in Nigeria's upstream oil and gas sector. Essentially, the opportunities have roots in the challenges identified above, and include:

i Technological solution drive: The implementation of the PIA provisions can encourage innovative and technological solutions that may improve environmental protection and efficiency in operations. Using technological solutions to collect data, enable reporting, and ensure monitoring and enforcement in real time can foster compliance with the PIA to enhance accountability and transparency in Nigeria's upstream oil and gas sector [19].

ii Stakeholders' collaborative commitment: The PIA provisions can enable the industry actors, civil society organizations, and government officials to collaborate for relevant opportunities to align mutual objectives and benefits as smoothly and committedly as possible. This can improve the sharing of ideas and understanding of the PIA's provisions for a consistent and effective implementation of the Act in Nigeria's oil and gas sector in the spirit of stakeholders' cooperative relationship [6,14,15,21].

iii Stakeholders' reputation and consultation: The implementation of the PIA's provisions on CSR and taxation can enhance the reputation of companies for gaining access and legitimacy to societal resources. Also, effective community involvement and taxation practices can increase citizens' trust for sustainable development. Equally, the involvement of stakeholders such as the oil host communities during consultations in designing CSR initiatives can help in evaluating and determining the effectiveness of such initiatives in addressing the needs of the oil host communities [14,20,21].

iv Building capacity: The PIA has introduced changes in the fiscal framework of the oil and gas sector. This needs the building of capacity of the stakeholders through training and retraining sessions for fostering compliance with the Act and its successful impact. Regulatory bodies, oil companies, oil host communities, and civil society organizations can be trained to understand the PIA's implementation regarding CSR and taxation [8,53].

v Incentive drive and recognition: The PIA provisions ask companies to behave socially responsibly to attract potential investor support for the sustainable development drive. So, incentives such tax allowances and tax breaks can be introduced to trigger compliance with the Act but have to be monitored [30]. In addition, the companies that have exceptionally exhibited CSR efforts may be motivated to even do more through recognition events for excellent practices, that may persuade others to participate in carrying out CSR activities too.

vi Long-term projects: The PIA provisions underline sustainable development consistent with the long-term objectives and interests of both the communities and companies. So, investment in sustainable development projects can contribute well to environmental preservation, social inclusion, and economic improvement benefits to all [14,17,33].

vii Measurable performance indicators: There is the need to clearly define CSR initiatives for measurable performance indicators that can help the companies to monitor

progress, and to evaluate the impact to improve accountability, trust, transparency, and integrity [22].

viii Simplicity and popularization: The PIA's provisions may gain from simplicity since the Act has repealed many laws regarding the oil and gas sector operations in one document for stakeholders to use. This is expected to lower legal issues for companies with financial constraints to seek the PIA's interpretation, fostering some compliance level, but the CSR and tax avoidance negative relationship [32] may call for intensive monitoring.

ix Regulatory adaptability: The PIA's provisions can be revisited and further improved to be more adaptable for implementation given the diverse contexts in which the upstream oil and gas companies operate in Nigeria. This can improve the Act's impreciseness [4] to support the sustainable development drive in Nigeria's upstream oil and gas industry.

The above improvement opportunities can be used by a long-term strategic effort comprising mutual cooperative relationships between oil and gas sector stakeholders such as governments, companies, and civil society organizations in utilizing the recommendations provided ahead.

Based on the analysis of the PIA's provisions on CSR and taxation in Nigeria's upstream oil and gas sector, this study's findings disclose that there are some implementation challenges and improvement opportunities associated with the Act. By this study, the PIA implementation challenges identified comprise the regulatory and standardization complexities, monitoring and strategic enforcement, community involvement, government commitment and capacity, and collecting and reporting CSR data. However, improvement opportunities identified comprise technological solution drive, stakeholders' collaborative commitment, stakeholders' reputation and consultation, building capacity, and incentive drive and recognition. These improvement opportunities are valuable towards addressing the implementation challenges for improving the effectiveness of the PIA's provisions.

4.3. Proposed Integrated Framework for Monitoring and Evaluating the PIA's Impact

The proposed integrated framework for monitoring and evaluating the impact of the PIA on CSR and taxation in Nigeria's upstream oil and gas sector is intended to assess the effectiveness of the PIA provisions. This framework includes key indicators to assess the societal impact of CSR and taxation. It enriches the alignment between sustainable development and accountability by tracking environmental protective measures, tax revenue management, financial contributions, and community development efforts. The framework will promote flexible management while improving CSR and taxation practices to better understand the PIA's potentials in addressing economic, environmental, and social concerns to support sustainable development in Nigeria. Consistent with the second objective of this study, an integrated framework for monitoring and evaluating the impact of the PIA on CSR and taxation in Nigeria's upstream oil and gas sector is hereby proposed. The framework links key performance indicators (KPIs), as the criteria for evaluating CSR and taxation, and a plan for assessing the effectiveness of the PIA over time.

4.3.1. Key Indicators for Monitoring and Evaluating CSR Using the PIA

The key indicators for evaluating CSR in Nigeria's upstream oil and gas sector through the PIA are notable yardsticks providing better insights into CSR initiatives' impact and effectiveness. The indicators are drawn from the various literature reviewed and observations provide support in evaluating CSR practices' alignment with the PIA's provisions and sustainable development objectives and outcomes. Basically, tracking the indicators can help the industry stakeholders, policymakers, and local and general communities to assess how the practices of CSR contribute to sustainable development. Some key CSR indicators comprise:

i Community development projects: This measures the projects' number, extent, impact, and role in uplifting the living conditions of communities. Target projects must im-

prove healthcare, infrastructure, education, etc. Number of recipients or beneficiaries and the length that the benefits being provided can last must be evaluated. As the PIA underlines community participation, thus, this indicator is critical for evaluating real benefits.

ii Conflict mitigation: This examines CSR effectiveness in addressing conflicts between the oil host communities and oil companies. Indicators include measuring the reductions in disputes or disruptions or protest incidents.

iii Environmental protection: This assesses the extent to which the initiatives on CSR address environmental concerns due to the oil and gas operations by the companies. Indicators cover superior waste disposal practices, green-friendly technology adoptions, pollution reductions, reforestation projects, and habitation restorations.

iv Human rights: This assesses the observance of human rights policies and standards such as labour rights, including forced labour prevention or child labour. By this indicator, CSR policies and initiatives will uphold business ethical practices.

v Local content utilization: This assesses the extent that the local workers and companies benefit from the oil and gas sector activities. Indicators include workforce composition, local suppliers' proportion, and skills and vocational development plans, for example, to address unemployment and poverty for the sustainable development drive.

vi Long-term impact: This evaluates the extent to which CSR initiatives are durable and their long-term but not short-term impact as a real commitment to environmental protection and social and community development.

vii Social investment: This quantifies the financial contributions companies make to social programmes and projects such as in education (scholarships), healthcare (clinics), etc., mainly in the oil and gas host communities.

viii Stakeholder engagement: This assesses inclusiveness, rate, effectiveness, and quality of stakeholder engagement such as with regulatory bodies, civil society organizations, and local community involvement and representation in the process of decision making. Strong stakeholders' engagements ensure CSR-based initiatives will address their true concerns and needs towards sustainable development.

4.3.2. Key Indicators for Monitoring and Evaluating Taxation Using the PIA

The key indicators for evaluating taxation in Nigeria's upstream oil and gas sector through the PIA are important yardsticks providing better insights into taxation compliance, transparency, and tax revenue management. The indicators are drawn from the various literature reviewed and observations that support evaluating taxation practices in alignment with the PIA's provisions and sustainable development objectives and outcomes. Basically, tracking the indicators can help the government to optimize tax revenue collection for financing sustainable development. Some key taxation indicators comprise:

i Anti-avoidance measures: This examines the adoption of anti-tax avoidance practice to mitigate tax revenue leakage consistent with the aim of the PIA's taxation transparency.

ii Local content development levy: This measures the local content development fund and its funding as a commitment to building local capacity and the sector's development.

iii Revenue utilization: This evaluates the application of tax revenues for the provision of sustainable development projects for infrastructure and community development.

iv Royalty payments: This evaluates the adherence to the obligations to pay royalty in the PIA. This should be consistently monitored for improved revenue generation.

v Tax compliance rate and reporting: This assesses the extent to which tax regulations and reporting accuracy are being complied with as provided in the PIA. Indicators comprise the timely filing of tax returns, accurate tax payment, proper business income reporting, and correct tax registration.

vi Tax contribution to government revenue: This quantifies tax contributions of the sector to government revenue collection. This indicator evaluates how taxation may align

with the sector's economic importance and the tax revenue maximization objectives of the PIA.

vii Tax incentives utilization: This examines how tax incentives as provided in the PIA are being used. It assesses whether or not the companies benefit from incentives for the growth of the sector and not compromising the revenue payable to the government.

viii Tax revenue transparency: This assesses transparency levels of tax revenue disclosures and reporting based on what the oil and gas companies may have generated. This indicator is to ensure the availability of information that can be truly accurate and often accessible.

ix Transfer pricing: This assesses the intra-group transactions and mechanisms for pricing transparency. Proper controls should be set to mitigate tax avoidance and evasion risks for more revenue generation to finance sustainable development.

4.3.3. Integrated Framework for Monitoring and Evaluating the PIA's Impact in Nigeria

The integrated framework for monitoring and evaluating the PIA's impact in Nigeria's upstream oil and gas sector presents a broad but detailed approach for determining the outcomes of CSR and taxation practices. The framework in Table 1 below has important components and various phases. The framework is necessary since tax incentives inspire companies' CSR performance but should be monitored for the effective implementation of the PIA [30]. Based on feedback mechanisms and flexibility, the framework will be responsive to the needs and dynamism of the oil and gas sector in Nigeria. By integrating CSR and taxation's main features, the framework will help in assessing aspects of social, economic, and environmental concerns consistent with the principles of sustainable development. This can provide a detailed understanding of the PIA's impact in contributing to the sustainable development of Nigeria's oil and gas sector. Also, the timeframe (in phases) and milestones (in years) are provided in the integrated framework for monitoring and evaluating the PIA's impact on CSR and taxation over time (Table 1 below). While the integrated framework is consistent with the objective of the PIA in ensuring transparency, accountability, and sustainable development in Nigeria, it combines the key indicators for CSR and taxation practices, which provides an organized strategy to evaluate the impact of the PIA on Nigeria's upstream oil and gas sector over a duration of ten years.

The framework flexibility and adaptation involved the ability of the monitoring and evaluation integrated framework to counter emerging priorities and challenges and changing situations in the Nigerian oil and gas sector. Because the sector's stakeholders' expectations and regulatory and business environments may over time change, the framework is thus adaptable and flexible to support future refinements or adjustments depending on evolving needs and information. While framework flexibility supports the framework's various assessment techniques, indicators, and components to be adapted, this ensures that the evolving insights and issues are accommodated. For example, if further CSR and/or taxation practices and laws are introduced, the framework can integrate such changes, ensuring its significance. However, adaptation is connected to the ability of the framework to accommodate changing priorities and unexpected challenges. For example, if CSR initiatives and/or taxation transparency are impacted by external factors, the framework is adjustable to effectively address such challenges. Consequently, by flexibility and adaptation, the integrated framework for monitoring and evaluating the impact of the PIA provisions on CSR and taxation practices will remain effective and responsive to contribute to the sustainable development of Nigeria's upstream oil and gas sector in practice. Moreover, the framework flexibility and adaptation advantages comprise:

i Allowing for greater sensitivity of the sector's changes and dynamisms.

ii Ensuring that the framework continues to be effective and relevant over time.

iii Allowing the integration of additional and new indicators, best practices, and data.

iv Enriching the ability of the framework to make contributions to sustainable development.

Table 1. Integrated framework for monitoring and evaluating the PIA's impact.

Framework Components	Phases	Years	Activities
1. Key Indicators of CSR 2. Key Indicators of Taxation 3. Data Collection Process	Pre-Implementation of the PIA	1	☑Define the key indicators for monitoring and evaluating CSR and taxation consistent with the provisions in the PIA. ☑For inclusion criteria, collaborate with stakeholders such as local communities, government or regulatory. bodies, and industry stakeholders
	Implementation of the PIA	2	☑Following the enactment of the PIA, launch the monitoring and evaluation framework. ☑Using the selected CSR and taxation key indicators, begin the process of data collection.
4. Monitoring and Evaluation Process	Annual Assessment	3 (and beyond)	☑Through annual assessment, measure the progress of CSR initiatives and taxation transparency.
	Short-Term Evaluation	4	☑Measure the immediate outcomes of CSR and taxation based on the provisions of the PIA.
	Stakeholder Review	5	☑Engage the stakeholders in review and discussion sections for gaining insights into the impact of CSR and taxation practices.
	Framework Refinement	6	☑Refine the framework based on the outcomes of the assessments, feedback, and recommendations from the stakeholders.
	Implementation of Enhanced Framework	7	☑Put into practice the enhanced framework to assess its influence of CSR and taxation. ☑Using the enhanced framework, measure the increased impact of CSR practices and taxation transparency.
	Long-Term Evaluation	8 and 9	☑Using sustainable development indicators, evaluate the long-term impact of CSR practices and taxation transparency.
5. Continuous Review Process	Ongoing/Continuing Review	10 (and beyond)	☑Review and adapt the framework by incorporating any emerging changes and issues on a regular basis.

Source: Author.

Whereas the framework flexibility and adaptation clearly provide the details of the criteria and process how changes can be made to the integrated framework, its primary components are consistent and cannot be altered. Framework flexibility and adaptation constitute the guidelines for adjusting the integrated framework while keeping its integrity, including:

i Identification of events or trigger points that may explicitly prompt potential adjustment or review to the framework. Triggers may comprise industry trends, regulatory changes, stakeholders' feedback, or major alterations in priorities of sustainable development.

ii Having identified the trigger points, then a detailed assessment should be performed to decide the need for the framework's adaptation. Additional and new challenges, opportunities, and information should justify the necessity for the changes that may have occurred.

iii Engagement of the stakeholders in the process of decision making is necessary for their input. So, relevant stakeholders including the civil society organizations, government bodies, and industry professionals should be consulted for perspectives and insights on the framework's likely adaptations.

iv After stakeholders' engagements, then specific changes to the framework are proposed with a plan of alignment of such changes with the initial objectives towards enhancing the effectiveness of the framework in adopting evolving issues.
v Proposed changes should be internally reviewed and the approval of the relevant bodies or authorities governing the implementation of the framework should be sought.
vi Updated framework based on its adaptation should be properly communicated to the stakeholders, including clear plans for implementation, rationale, and expected impacts.

Promoting effective implementation of the PIA in Nigeria's upstream oil and gas sector.

To promote the effective implementation of the PIA in Nigeria's upstream oil and gas sector, this may require an approach involving stakeholders in government practice, industry practice, and the general public. Approaches for promoting and ensuring the PIA's effective implementation include:

i Capacity building: This may require investment in development and relevant training programmes, especially for the government bodies responsible for the enforcement of the PIA such as the Federal Inland Revenue Service in Nigeria. Such training should include technical knowledge and skills related to the upstream oil and gas sector.
ii Social and environmental responsibility: Companies may be encouraged to partake in CSR activities in different communities in Nigeria while the PIA is enforced to promote sustainable and environmental practices.
iii Public awareness and education: Large-scale awareness on the PIA should be conducted to enlighten industry practitioners and the local and general public on its objectives and gains.
iv Transparency and accountability: Ways for tax revenue collection and transparency can be established, as well as the regular auditing of the companies' activities for accountability.
v Stakeholder engagement: There is the need to regularly engage stakeholders within the Nigerian upstream oil and gas sector through dialogue and consultation in addressing concerns around the PIA's implementation objectives.
vi Political will: There is the need for a political will and commitment for stabilizing any changes in government's policy or direction likely to disrupt the PIA's implementation.
vii Monitoring and evaluation: It will be a good idea to have a monitoring and evaluating technique for tracking the PIA's implementation and progress.
viii Feedback mechanisms: A feedback system is foremost in providing information on the PIA's implementation as well as in addressing any issues likely to occur in real time.

Based on the critical analysis of the PIA's provisions on CSR and taxation in Nigeria's upstream oil and gas sector, this study's findings reinforced the development of an integrated framework for monitoring and evaluating the PIA's impact on CSR and taxation over time. Components of the integrated framework are the key indicators of CSR, key indicators of taxation, data collection process, monitoring and evaluation process, and continuous review process. These components comprise phases with their activities: pre-implementation, implementation, annual assessment, short-term evaluation, stakeholder review, framework refinement, implementation of enhanced framework, long-term evaluation, and ongoing review (Table 1 above). The framework is a structured strategy for stakeholders to utilize in evaluating the impact of the PIA on CSR and taxation over time regarding sustainable development in Nigeria's upstream oil and gas sector.

4.4. Recommendations for Addressing the Implementation Challenges and Using the Improvement Opportunities Identified to Enhance the PIA's Impact

The analysis of the impact of the PIA provisions on CSR and taxation in Nigeria's upstream oil and gas sector discloses various challenges and improvement opportunities. Recommendations for improving the Act's effectiveness for promoting the sustainable development of the sector are as follows.

4.4.1. Recommendations for Addressing the Implementation Challenges of the PIA

The recommendations below can be collectively, properly, and effectively adopted to address the implementation challenges of the provisions of the PIA on CSR and taxation for promoting sustainable development in Nigeria's upstream oil and gas sector [2]. These include:

i Simplification and regulatory standardization: The provisions of the PIA's should be further simplified and made clear while controlling industry terminologies that can facilitate the understanding and application of the Act. Thus, stakeholders in the oil and gas sector should be consulted to standardize the PIA's application and interpretation. The PIA's vagueness and compliance can be improved by providing clear and succinct guidelines in it, defining specific CSR initiatives and taxation duties for the companies.

ii Awareness promotion: Large-scale awareness should be promoted towards educating the oil and gas sector's stakeholders mainly on the requirements of the PIA concerning CSR and taxation. Such awareness should emphasize the relevance of ethical business practices and the impact of CSR and taxation on oil host communities and the general society for sustainable development in Nigeria.

iii Monitoring and strategic enforcement: A robust monitoring and strategic enforcement system should be created that can help in tracking CSR and taxation practices of the companies. Using technological solutions can support transparency in data collection, analysis, reporting, verification, sharing, and rapid remedial actions against differences in real time. Thus, the PIA's help for establishing strong monitoring mechanisms to monitor CSR activities and taxation compliance should be sustained to ensure the timely double checking of transactions on a daily basis.

iv Initiate some incentives: It will be interesting to initiate some incentives as rewards for compliance with the PIA provisions and forms of mechanisms to encourage companies' participation in effective CSR activities and compliance with their taxation obligations for sustainable development. Incentives including tax holidays, tax awards or credits, and forms of recognitions for unique performance and compliance can help the companies to show commitment to the success of the PIA.

v Tackle change resistance: The companies can be provided with help to better understand the PIA's provisions for adequate compliance. Helplines or services can be arranged to give further guidance on the Act's requirements towards tackling resistance to comply.

vi Intensify stakeholder involvement: The stakeholders should be adequately involved in the general process of the PIA and its implementation. Creating different platforms that can support discussions between stakeholders such as local communities, government and company officials, and civil society organizations can be helpful, as the platforms can provide greater insights into the workability of the Act, its problem areas, and how improved strategies can be devised for effective implementation.

vii Improve stakeholder capacity: The PIA's compliance can be improved by developing adequate training courses for the effective implementation of CSR plans and compliance with taxation responsibilities. The PIA provisions should be learnt to assist the stakeholders, both the regulatory bodies, and industry practitioners in the oil and gas sector to embrace initiatives for capacity building through seminars, forums, workshops, and training or short-course sessions regarding CSR and taxation practices. The PIA encourages constant discussion and cooperation between stakeholders, civil society organizations, oil host communities, larger communities, and sector experts, should be sustained. This can help in obtaining finer insights, building trust, and aligning CSR and taxation practices with sustainable development.

viii Strengthen accountability and transparency: The PIA supports greater accountability and transparency in CSR and taxation practices by the stakeholders, which should be ensured for sustainable development. While information disclosures can be leveraged

upon, the public should have access to such information on CSR and taxation, which digital solutions can make timely available.

ix Maintain cooperative relationships: The PIA's support for cooperative relationships between the civil society organizations, oil and gas companies, oil host communities, and government regulatory bodies should be sustained for rising efforts in addressing social, economic, and environmental concerns of society for sustainable development.

x Perform routine audit: The regulatory bodies in the oil and gas sector should embark on routine audits to monitor compliance with CSR and taxation provisions in the PIA. Also, independent auditors can be engaged for enhancing audit reliability.

xi Continuously perform review: A review process should not only be established but the review should be continuously performed and improvement areas carefully addressed. This can ensure that the provisions of the PIA are updated, in the light of the changes in the oil and gas sector, while incorporating best or global practice.

4.4.2. Recommendations for Using the Improvement Opportunities of the PIA

The PIA's provisions on CSR and taxation provide some improvement opportunities. The recommendations below can be used to promote sustainable development in Nigeria's upstream oil and gas sector [52]. These include:

i Technological solutions adoption: The different technological solutions can be adopted for CSR initiatives' effectiveness by improving monitoring support for transparency as well as tax payment improvement strategies.

ii Strategic alignment: The CSR initiatives and tax revenue expenditure can be aligned with development objectives in Nigeria regarding their contributions to address societal concerns, social, economic, and environmental, for a more significant impact.

iii Capacity and skill development: The design of CSR initiatives can embrace building capacity by training courses, and skill development can include vocational training and knowledge for enhancing employability of the members of the oil host communities. Tracks of tax noncompliance behaviour can be integrated into the training and education programmes for enhancing CSR disclosure awareness [34].

iv Innovative impact investment: Different ways of innovative CSR initiative financing, including public–private partnerships, can be utilized to improve CSR projects' benefits and impacts on the society. The use of tax payment platforms can be prioritized.

v Enduring community involvement: Design of CSR initiatives can be conceptualized to have enduring impacts on the oil host communities to uphold sustainable development. Tax education can be intensified in the host communities for greater support.

vi Environmental preservation: Design of CSR initiatives can be used for environmental preservation while mitigating negative impacts in the oil and gas host communities.

vii Reporting transparently and accountably: The improvement opportunities that support transparent and accountable reporting of CSR and taxation activities can be prioritized to facilitate stakeholders' assessment of environmental and social impacts in society.

viii Introducing recycling practices: The CSR initiatives can be considered around recycling practices that can reassure efficient resource use and waste management and reduction. These are likely to reduce costs and improve environmental preservation. Then, tax can be fairly paid, not as an additional cost to the companies.

ix Cooperative stakeholders' partnerships: Partnerships between the research institutions, civil society organizations, oil host communities, government and company officials, and academia can be enhanced for effective CSR and taxation practices. This approach will support decisions to be taken jointly for driving sustainable development.

x Replicate model: A workable model for CSR activities and taxation compliance in one location can be replicated in other locations for streamlining implementation strategies and emphasizing significant outcomes.

xi Impact evaluation: Robust approaches to poverty reduction and living conditions of the people can be used to evaluate the economic and social impacts of CSR and taxation. The integrated framework developed by this study is advised for use since it is designed to incorporate future new and additional indicators or issues that may evolve in the oil and gas sector. Thus, the framework's adaptability is ensured.

xii Expand impact evaluation: Monitoring and evaluation impact should be expanded from the outcomes in the immediate timeline to long-term outcomes on the environment and society regarding CSR and taxation practices.

Based on the findings on the implementation challenges and improvement opportunities of the PIA's provisions on CSR and taxation in Nigeria's upstream oil and gas sector, some significant recommendations are identified and provided towards enhancing the effectiveness of the Act. The recommendations for addressing the implementation challenges include simplification and regulatory standardization, awareness promotion, monitoring and strategic enforcement, tackling change resistance, intensifying stakeholder involvement, improving stakeholder capacity, strengthening accountability and transparency, maintaining cooperative relationships, performing routine audits, and continuously performing reviews. The recommendations for using the improvement opportunities include technological solutions adoption, strategic alignment, capacity and skill development, cooperative stakeholders' partnerships, introducing recycling practice, reporting transparently and accountably, enduring community involvement, and expanding impact evaluation. The adoption of these recommendations can enhance the PIA's impact on CSR and taxation in Nigeria's upstream oil and gas sector for sustainable development.

5. Discussion

The analysis of this study's findings provides important insights on the provisions of the PIA's implications on CSR and taxation in the Nigerian upstream oil and gas sector. This section on discussion is organized consistent with the research questions and objectives stated earlier.

5.1. Provisions of the PIA on Corporate Social Responsibility (CSR) and Taxation

The analysis of the study's findings underscores the significant impact of the provisions of the PIA on CSR and taxation practices in Nigeria's upstream oil and gas sector. The PIA mandates that the upstream oil and gas companies allocate a percentage of their annual revenues to CSR activities in the oil and gas host communities, while encouraging taxation accountability and transparency in enhancing government tax revenue collection for financing sustainable development. This underlines responsible and ethical business practices, in alignment with the previous study [2], emphasizing the significant role the upstream oil and gas companies play in contributing to the development of society in Nigeria. These actions of the companies are to justify their operations as well as being reflections of the alignments of the companies' actions with stakeholders' expectations for accessing the resources of society [36].

5.2. Implementation Challenges and Improvement Opportunities concerning the PIA's Provisions

The study discloses various implementation challenges connected with the PIA's provisions on CSR and taxation including regulatory and standardization complexities, monitoring and strategic enforcement, community involvement, government commitment and capacity, and collecting and reporting CSR data. These challenges have the potential to impede the PIA's ability to improve the Nigerian upstream oil and gas sector, in line with observations of previous scholars [2]. Nevertheless, this study identifies several promising improvement opportunities to mitigate these challenges, including building capacity, technological solution drive, incentive drive and recognition, stakeholders' reputation and consultation, and stakeholders' collaborative commitment. Aligning with the previous research [53], these opportunities can play a crucial role in encouraging the effectiveness of the PIA's provisions for sustainable development within the Nigerian upstream oil and gas

sector. The interactions between the companies and stakeholders influence the former's decision making and corporate ethical behaviour in practice [37].

5.3. Proposed Integrated Framework for Monitoring and Evaluating the PIA's Impact

Furthermore, this study introduces an integrated framework for monitoring and evaluating the impact of the PIA on CSR and taxation within Nigeria's upstream oil and gas sector. This structured strategy for assessing the influence of the Act over time covers key indicators for CSR and taxation, the data collection process, monitoring and evaluation process, and continuous review process. The flexibility of this framework lets it adapt to varied changing circumstances, ensuring transparency and accountability as the sector evolves. This approach aligns with scholars' recommendations [30] for the monitoring of tax incentive-driven CSR activities against tax avoidance schemes, which are essential for the effective implementation of the PIA in Nigeria, as well as meeting stakeholders' expectations [37].

5.4. Recommendations for Addressing the Implementation Challenges and Using the Improvement Opportunities Identified to Enhance the PIA's Impact

This study's findings urge a set of recommendations to address the identified implementation challenges and use the improvement opportunities. For mitigating the PIA's implementation challenges, actions such as simplification and regulatory standardization, awareness promotion, monitoring and strategic enforcement, intensifying stakeholder involvement, strengthening accountability and transparency, maintaining cooperative relationships, performing routine audits, and continuously performing reviews are proposed. These measures, in line with the prior research [2], have the potential to facilitate the implementation of the PIA in the Nigerian upstream oil and gas sector. To fast track the PIA's implementation, the identified improvement opportunities are recommended, comprising technological solutions adoption, strategic alignment, capacity and skill development, cooperative stakeholders' partnerships, introducing recycling practice, reporting transparently and accountably, enduring community involvement, and expanding impact evaluation, aligning with the suggestions by other scholars [53]. These combined efforts are aimed at increasing the impact of the PIA's provisions on CSR and taxation and promoting responsible and ethical business behaviour within the Nigerian upstream oil and gas sector.

5.5. Contributions of the Study to Knowledge

The contributions of this study are linked to the gaps it bridges in the existing knowledge regarding the PIA, CSR, and taxation practices in Nigeria's oil and gas sector. The study's contributions have theoretical and practical implications, as well as key lessons and insights. In terms of theoretical implications, first, this study provides a detailed understanding of the impact of the PIA provisions on CSR and taxation practices for the sustainable development drive. By the analysis of the PIA's provisions on CSR and taxation, this study offers insights into the concepts' likely interactions and role in the sustainable development drive. This adds to the existent literature by providing a view on the relationships between regulation, CSR practices, taxation transparency, and sustainable development in the context of Nigeria's upstream oil and gas sector. Second, the integration of legitimacy theory and stakeholder theory in this study illustrates the main theoretical perspectives that helped in the contextualization of the provisions of the PIA's implications within the integrated framework for assessing CSR and taxation. Third, the proposed monitoring and evaluating integrated framework developed offers a structured and effective strategy for use to monitor the PIA's impact on sustainable development help for improving the living conditions of society in Nigeria. And, to the knowledge of the researcher, this study is the first to consider the development of an integrated framework for monitoring the PIA's impact on CSR and taxation in Nigerian context.

In terms of practical implications, this study has yielded massive insights into policy-making and industry practice. First, the study's recommendations can provide a practical

and effective direction for monitoring and evaluating CSR and taxation for government regulatory agencies, oil and gas companies, and other stakeholders in Nigeria's oil and gas sector and beyond. Second, policymaking can be made to: clarify the PIA legislation aspects, build capacity for effective CSR performance, ensure proper and routine application of the monitoring and evaluating integrated framework, and continuous involvement with stakeholders for the implementation of the provisions of the PIA effectively. Third, the adoption of the integrated framework in monitoring and evaluating the PIA's impact on CSR and taxation over time by the regulatory agencies will improve accountability and transparency. This provides a practical approach for evaluating the progress of responsible corporate behaviour for the sustainable development drive in Nigeria's upstream oil and gas sector. Fourth, companies in oil and gas operations in Nigeria may find the proposed integrated framework useful in monitoring their efforts about CSR initiatives and taxation practices towards responsible ethical business behaviour for sustainable development. Fifth, the study documents relevant information to support academic research and is suitable for future uses by researchers and academicians.

In terms of key lessons and insights, first, the study contributes to an understanding of the role of regulatory frameworks such as the PIA in shaping the behaviour of the upstream oil and gas companies in CSR and taxation practices. This underscores the significance of a well-designed legislative support for the sustainable development drive. Second, the study enhances an understanding of how the upstream oil and gas companies can strike a balance between responsibility and profitability. This sheds lights on how the companies can reliably navigate the intricate relationship between profitability and responsibility in aligning their financial objective interests and societal welfare. Third, findings of this study underline the effects of corporate ethical practices within the upstream oil and gas sector; these are not limited to Nigeria and also have global implications. While an understanding of this broader impact is imperative for designing policies and strategies that can reinforce sustainable development within a country, this also contributes to the global objectives on environment and energy sustainability. Fourth, CSR initiatives enhancing the strategies for community engagement have been identified. This provides greater opportunities for the upstream oil and gas companies to leverage on such initiatives in strengthening their relationships with the oil host communities for promoting sustainable development. Fifth, this study reveals the potentials of taxation for sustainable development in the context of the upstream oil and gas sector in Nigeria. This highlights the relevance of tax policy in generating government revenue though fostering responsible ethical business behaviour.

6. Conclusions

The PIA is indeed a legislation with the possible ability to improve CSR and taxation practices in Nigeria's upstream oil and gas sector. Based on a qualitative desk review method through an exploratory study, the impact of the PIA's provisions on CSR and taxation was analysed, the challenges and improvement opportunities were examined, and an integrated framework for monitoring and evaluating CSR and taxation practices was proposed for use in determining the sector's contributions towards sustainable development. This study intends to throw more light on the complex relationship between government regulatory mechanisms, industry systematic practices, and the drive for the sustainable development of society in Nigeria.

6.1. Key Findings

Based on the analysis of the provisions of the PIA on CSR and taxation practices in Nigeria's upstream oil and gas sector, first, the findings of this study reveal that the legislation is evidently robust, and complying with its provisions can promote effective, responsible, ethical business behaviour in the country's oil and gas sector. The PIA emphasizes that the companies should adopt in their business operations: transparency and accountability, community development, social and economic inclusion, and environmental protection as per sustainable development principles. This study's findings provide great

insights into guiding policymakers, oil and gas companies, and regulatory bodies to align their practices with the sustainable development drive. Second, potential implementation challenges that affect the attainments of the objectives of the PIA were examined comprising regulatory and standardization complexities, monitoring and strategic enforcement, and community involvement. But improvement opportunities to address the implementation challenges for the PIA's maximum impact include a technological solution drive, stakeholders' collaborative commitment, and stakeholders' reputation and consultation support for sustainable development within Nigeria's oil and gas sector. Third, the proposed integrated framework for monitoring and evaluating the impact of the PIA provides a structured strategy for tracking the effectiveness, efforts, and transparency of CSR and taxation practices. Because the oil and gas sector is so dynamic, the adaptability capacity of the framework will ensure that it remains suitable and relevant given the evolving nature of the sector such as in Nigeria. Fourth, the adoption of the recommendations for addressing the implementation challenges and using the improvement opportunities can improve the effectiveness of the PIA's provisions on CSR and taxation in contributing to sustainable development through responsible ethical business behaviour of the companies in Nigeria's upstream oil and gas sector.

In conclusion, this study underlines the key role of regulatory frameworks such as the PIA in influencing corporate behaviour in the Nigerian upstream oil and gas sector, stressing the need for a well-designed legislation for sustainable development drive. It highlights the striking of the balance between responsibility and profitability that the companies must consider, offering practical strategies for positive community engagement and using taxation as a means for enhancing both the sustainable development objectives and corporate interests.

6.2. Limitations and Future Research Directions

The limitations of this study link to the qualitative desk review study methodology that is used, which is dependent on secondary data sources, mainly the existent literature, reports, and documents only. Data from the primary sources were not considered; thus, the opinions of the stakeholders in Nigeria's upstream oil and gas sector were not collected nor analysed. Furthermore, the socio-political environment in Nigeria is so dynamic and complex that it can encourage issues to evolve in the country's oil and gas sector. Such issues may over time prompt changes in some findings of this study. Given the limitations above, future research should utilize the qualitative study and, based on primary data sources such as interviews or surveys with stakeholders of the oil and gas sector, explore more insights regarding the provisions of the PIA's impact on CSR and taxation practices in Nigeria. Also, the quantitative study method may be conducted again, using primary sources of data. Equally, it will be interesting to explore the long-term impact of the PIA's provisions and implementation regarding CSRR and taxation in Nigeria's upstream oil and gas sector.

6.3. Final Closing Remark

In conclusion, this study focused on the significant role of the PIA in shaping CSR and taxation practices for sustainable development in Nigeria's upstream oil and gas sector. When CSR and taxation activities are transparently and responsibly performed as stipulated by the PIA, then a rewarding balance between social benefits, economic prosperity, and environmental protection can be realized within Nigeria's upstream oil and gas sector. This underlines a need for genuine cooperation between all stakeholders in the sector, which is greatly imperative for ensuring that the PIA's provisions on CSR and taxation are complied with adequately to result in a positively significant impact in the upstream oil and gas sector in Nigeria. This study addresses the gaps hindering a better understanding of the complicated link between the PIA, CSR, and taxation in Nigeria's context. The integrated framework created will provide a basis for monitoring and evaluating the PIA's impact on

CSR and taxation practices in leading the upstream oil and gas sector towards a path for sustainable development in Nigeria.

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References

1. Abdul-Rahamoh, O.A.; Taiwo, F.H.; Adejare, A.T. The analysis of the effect of petroleum profit tax on Nigerian economy. *Asian J. Hum. Soc. Sci.* **2013**, *1*, 25–36.
2. Ekhator, E.O.; Iyiola-Omisore, I. Corporate social responsibility in the oil and gas industry in Nigeria: The case for a legalised framework. In *Sovereign Wealth Funds, Local Content Policies and CSR: Developments in the Extractives Sector*; Pereira, E.G., Spencer, R., Moses, J.W., Eds.; Springer International Publishing: Cham, Switzerland, 2021; pp. 439–458. [CrossRef]
3. Umenweke, M.N.; Chukwuma, W.A. An examination of the Petroleum Industry Act 2021 and the quest for a new Nigeria. *Law Soc. Just. Rev.* **2021**, *2*, 65–68.
4. Akpan, M.J. Petroleum Industry Act in Nigeria: An analysis of the impact of the novel host communities development trusts provision. *Global J. Polit. Law Res.* **2021**, *9*, 30–46.
5. Bielu, K.J. Legal framework for petroleum administration and taxation in Nigeria: A legal appraisal of conflicting legislations. *Afr. Cust. Relig. Law Rev.* **2022**, *3*, 70–80.
6. Borha, D.O.E.; Olujobi, O.J. An examination of the Petroleum Industry Act 2021: Prospects, challenges, and the way forward [version 2; peer review: 2 approved]. *F1000Research* **2023**, *12*, 551. [CrossRef] [PubMed]
7. Makinde, W.A. Corporate social responsibility in the extractive industries in Nigeria: The role of public administrators. In *Corporate Social Responsibility in Developing Countries: Challenges in the Extractive Industry*; Msosa, S.K., Mugova, S., Mlambo, C., Eds.; Springer International Publishing: Cham, Switzerland, 2023; pp. 237–253. [CrossRef]
8. Bristol-Alagbariya, E.T. Costs and benefits of energy and major natural resources extractive industrial operations on communities: Spotlight on host communities development regime in Nigeria's Petroleum Industry Act, 2021. *Int. J. Dev. Econ. Sustain.* **2023**, *11*, 1–36. [CrossRef]
9. Ugoani, J. Managing Multinational Oil and Gas Companies and Petroleum Industry Act in Nigeria. Available online: https://ssrn.com/abstract=4402790 (accessed on 28 March 2023).
10. Uduji, J.I.; Okolo-Obasi, E.N. Corporate social responsibility in Nigeria and rural youths in sustainable traditional industries livelihood in oil producing communities. *J. Int. Dev.* **2019**, *31*, 658–678. [CrossRef]
11. Uduji, J.I.; Okolo-Obasi, E.N.; Asongu, S.A. Corporate social responsibility in Nigeria and multinational corporations in the fight against human trafficking in oil-producing communities. *Loc. Environ.* **2019**, *24*, 1097–1118. [CrossRef]
12. Inimino, E.E.; Otubu, O.P.; Akpan, J.E. Petroleum profit tax and economic growth in Nigeria. *Asian J. Sustain. Bus. Res.* **2020**, *1*, 121–130.
13. Nigeria Extractive Industries Transparency Initiative. *Oil and Gas Industry Audit Report; Abuja, Nigeria*. 2018. Available online: https://eiti.org/sites/default/files/attachments/neiti-oga-2018-report.pdf (accessed on 20 September 2020).
14. Cameron, P.D.; Stanley, M.C. *Oil, Gas and Mining: A Sourcebook for Understanding the Extractive Industries*; World Bank Publications: Washington, DC, USA, 2017; Available online: http://hdl.handle.net/10986/26130 (accessed on 13 July 2020).
15. Ansu-Mensah, P.; Twum, K.K.; Agyapong, G.K.Q.; Nimako, R.K. CSR and community development: A focus on firms in the extractive sector in Africa. In *Corporate Social Responsibility in Developing Countries: Challenges in the Extractive Industry*; Msosa, S.K., Mugova, S., Mlambo, C., Eds.; Springer International Publishing: Cham, Switzerland, 2023; pp. 65–81. [CrossRef]
16. Msosa, S.K. Corporate social responsibility challenges in the extractive industry: A summary. In *Corporate Social Responsibility in Developing Countries: Challenges in the Extractive Industry*; Msosa, S.K., Mugova, S., Mlambo, C., Eds.; Springer International Publishing: Cham, Switzerland, 2023; pp. 281–287. [CrossRef]
17. Msosa, S.K. Corporate social responsibility during the COVID-19 pandemic in the extractive sector. In *Corporate Social Responsibility in Developing Countries Challenges in the Extractive Industry*; Msosa, S.K., Mugova, S., Mlambo, C., Eds.; Springer International Publishing: Cham, Switzerland, 2023; pp. 15–27. [CrossRef]
18. Msosa, S.K.; Mugova, S. Corporate social responsibility challenges in the extractive industry: An introduction. In *Corporate Social Responsibility in Developing Countries: Challenges in the Extractive Industry*; Msosa, S.K., Mugova, S., Mlambo, C., Eds.; Springer International Publishing: Cham, Switzerland, 2023; pp. 1–14. [CrossRef]
19. Haque, A. CSR through responsible leadership for sustainable community development: A developing nation perspective. In *Corporate Social Responsibility in Developing Countries: Challenges in the Extractive Industry*; Msosa, S.K., Mugova, S., Mlambo, C., Eds.; Springer International Publishing: Cham, Switzerland, 2023; pp. 29–45. [CrossRef]

20. Reddy, T.; Onwubu, S.C. Leveraging 4IR technologies as a corporate social responsibility to reduce environmental impact in the extractive industry. In *Corporate Social Responsibility in Developing Countries: Challenges in the Extractive Industry*; Msosa, S.K., Mugova, S., Mlambo, C., Eds.; Springer International Publishing: Cham, Switzerland, 2023; pp. 47–64. [CrossRef]
21. Abuya, W. Does corporate social responsibility (CSR) actually develop mining communities? An examination of CSR programmes in Kenya's mining sector. In *Corporate Social Responsibility in Developing Countries: Challenges in the Extractive Industry*; Msosa, S.K., Mugova, S., Mlambo, C., Eds.; Springer International Publishing: Cham, Switzerland, 2023; pp. 83–109. [CrossRef]
22. Nwoha, O. Whistleblowing measures and its implications in the Nigerian extractive industry. In *Corporate Social Responsibility in Developing Countries: Challenges in the Extractive Industry*; Msosa, S.K., Mugova, S., Mlambo, C., Eds.; Springer International Publishing: Cham, Switzerland, 2023; pp. 175–189. [CrossRef]
23. Bande, H.M. Connivance in criminality: Corruption and corporate social responsibility in Nigeria's oil sector. In *Corporate Social Responsibility in Developing Countries: Challenges in the Extractive Industry*; Msosa, S.K., Mugova, S., Mlambo, C., Eds.; Springer International Publishing: Cham, Switzerland, 2023; pp. 191–204. [CrossRef]
24. Uhumuavbi, I. An adaptive approach to reconceptualizing corporate social responsibility and corruption in Nigeria's oil-rich Niger Delta. In *Corporate Social Responsibility in Developing Countries: Challenges in the Extractive Industry*; Msosa, S.K., Mugova, S., Mlambo, C., Eds.; Springer International Publishing: Cham, Switzerland, 2023; pp. 205–222. [CrossRef]
25. Bande, H.M. Extending the frontier of agitations: Corporate social responsibility and resource control in Nigeria. In *Corporate Social Responsibility in Developing Countries: Challenges in the Extractive Industry*; Msosa, S.K., Mugova, S., Mlambo, C., Eds.; Springer International Publishing: Cham, Switzerland, 2023; pp. 223–236. [CrossRef]
26. Nwankwo, B.O. The politics of conflict over oil in the Niger Delta region of Nigeria: A review of the corporate social responsibility strategies of the oil companies. *Am. J. Educ. Res.* **2015**, *3*, 383–392. [CrossRef]
27. Mbalisi, O.F.; Okorie, C.U. Implementation of corporate social responsibility by oil companies in the Niger Delta region of Nigeria: Myth or reality. *Afr. Res. Rev.* **2020**, *14*, 119–132. [CrossRef]
28. Oruwari, H.O. Corporate social responsibility: A panacea for sustainable development in Niger Delta region of Nigeria. In In Proceedings of the SPE Nigeria Annual International Conference and Exhibition, Lagos, Nigeria, 1–3 August 2022. [CrossRef]
29. Khan, N.; Abraham, O.O.; Alex, A.; Eluyela, D.F.; Odianonsen, I.F. Corporate governance, tax avoidance, and corporate social responsibility: Evidence of emerging market of Nigeria and frontier market of Pakistan. *Cogent. Econ. Fin.* **2022**, *10*, 1–22. [CrossRef]
30. Umobong, A.; Agburuga, U.T. Corporate tax and corporate social responsibility of firms in Nigeria. *Res. J. Finance Acc.* **2018**, *9*, 8–25.
31. Mgbame, C.O.; Chijoke-Mgbame, M.A.; Yekini, S.; Yekini, C.K. Corporate social responsibility performance and tax aggressiveness. *J. Account. Tax.* **2017**, *9*, 101–108. [CrossRef]
32. Aronmwan, E.; Igbinoba, O. Corporate social responsibility and corporate tax planning: Does CSR/tax payment orientation matter? *Int. J. Intellect. Discourse* **2021**, *4*, 120–135.
33. Agundu, P.U.C.; Siyanbola, A.A. Tax aggressiveness and corporate social responsibility fluidity in Nigerian firms. *J. Res. Natl. Dev.* **2017**, *15*, 312–319.
34. Nour, A.; Alia, M.A.; Balout, M. The Impact of corporate social responsibility disclosure on the financial performance of banks listed on the PEX and the ASE. In *Artificial Intelligence for Sustainable Finance and Sustainable Technology. ICGER 2021. Lecture Notes in Networks and Systems*; Musleh Al-Sartawi, A.M.A., Ed.; Springer International Publishing: Cham, Switzerland, 2022; pp. 42–54. [CrossRef]
35. Nour, A.I.; Najjar, M.; Al Koni, S.; Abudiak, A.; Noor, M.I.; Shahwan, R. The impact of corporate governance mechanisms on corporate failure: An empirical evidence from Palestine Exchange. *J. Account. Emerg. Econ.* **2023**. *ahead-of-print*. [CrossRef]
36. Suchman, M.C. Managing legitimacy: Strategic and institutional approaches. *Acad. Manag. Rev.* **1995**, *20*, 571–610. [CrossRef]
37. Freeman, R.E. *Strategic Management: A Stakeholder Approach*; Pitman Publishing Inc: Boston, MA, USA, 1984.
38. Petroleum Industry Act (PIA). Chapter 3—Host Communities Development and Chapter 4—Petroleum Industry Fiscal Framework. The Federal Government Printer, Lagos, Nigeria. 2021. Available online: https://pia.gov.ng/wp-content/uploads/2022/08/PIA-2021_compressed-1.pdf (accessed on 13 March 2023).
39. Carroll, A.B. Carroll's pyramid of CSR: Taking another look. *Int. J. Corp. Soc. Responsib.* **2016**, *1*, 3. [CrossRef]
40. Slemrod, J. Tax compliance and enforcement. *J. Econ. Lit.* **2019**, *57*, 904–954. [CrossRef]
41. Idubor, R.; Asada, D.; Adefi, O.M. Appraising taxation and the Nigerian oil industry. *J. Law Policy Glob.* **2015**, *37*, 188–203.
42. Nilsson, M.; Chisholm, E.; Griggs, D.; Howden-Chapman, P.; McCollum, D.; Messerli, P.; Neumann, B.; Stevance, A.-S.; Visbeck, M.; Stafford-Smith, M. Mapping interactions between the sustainable development goals: Lessons learned and ways forward. *Sustain. Sci.* **2018**, *13*, 1489–1503. [CrossRef] [PubMed]
43. Creswell, J.W.; Creswell, J.D. *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*, 5th ed.; Sage Publications: Los Angeles, CA, USA, 2018.
44. Kumar, R. *Research Methodology: A Step-by-Step Guide for Beginners*, 5th ed.; Sage Publications: Los Angeles, CA, USA, 2019.
45. Saunders, M.N.K.; Lewis, P.; Thornhill, A. *Research Methods for Business Students*, 8th ed.; Pearson Education Limited: New York, NY, USA, 2019.
46. Hart, C. *Doing a Literature Review: Releasing the Social Science Research Imagination*; Sage Publications: London, UK, 1998.

47. Arksey, H.; O'Malley, L. Scoping studies: Towards a methodological framework. *Int. J. Soc. Res. Methodol.* **2005**, *8*, 19–32. [CrossRef]
48. Given, L.M. *The SAGE Encyclopedia of Qualitative Research Methods (Vol. 1-2)*; Sage Publications: Los Angeles, CA, USA, 2008.
49. Grant, M.J.; Booth, A. A typology of reviews: An analysis of 14 review types and associated methodologies. *Health Inf. Libr. J.* **2009**, *26*, 91–108. [CrossRef] [PubMed]
50. Levac, D.; Colquhoun, H.; O'Brien, K.K. Scoping studies: Advancing the methodology. *Implement. Sci.* **2010**, *5*, 1–9. [CrossRef] [PubMed]
51. Wilson, V. Research methods: Scoping studies. *Evid. Based Libr. Inf. Pract.* **2014**, *9*, 97–99. [CrossRef]
52. Peters, M.D.J.; Marnie, C.; Colquhoun, H.; Garritty, C.M.; Hempel, S.; Horsley, T.; Langlois, E.V.; Lillie, E.; O'Brien, K.K.; Tunçalp, Ö.; et al. Scoping reviews: Reinforcing and advancing the methodology and application. *Syst. Rev.* **2021**, *10*, 1–6. [CrossRef] [PubMed]
53. Ele, M. Oil spills in the Niger Delta-Does the Petroleum Industry Act 2022 offer guidance for solving this problem? *J. Sustain. Dev. Law Pol.* **2022**, *13*, 130–161. [CrossRef]

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