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GREEN ACCOUNTING AND CORPORATE SUSTAINABLE DEVELOPMENT IN LISTED FIRMS IN NIGERIA

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Abstract: *One major issue impeding the achievement of sustainable development goals in Nigeria is the listed companies' inability to strike a balance between environmental responsibility and profitability. Even though corporate social responsibility (CSR) has been found to be a mediating element between green accounting and sustainable development, Nigerian companies' inconsistent CSR practices have made efforts to attain sustainable development even more difficult. The impact of Green Accounting (GA) on Corporate Sustainable Development (CSD) in Nigerian listed companies is investigated in this study. The study uses a quantitative research methodology, combining secondary data from listed corporations' annual and sustainability reports with primary data gathered from accounting experts using structured questionnaires. To evaluate the connection between CSD and Green Accounting practices, statistical analysis such as multiple regression and correlation were used. The results show that green accounting and sustainable development are significantly positively correlated, meaning that businesses that use eco-friendly procedures, effective resource management, and thorough environmental reporting see improved sustainability results. The paper also emphasizes the moderating effect of business size, which increases the beneficial effects of Green Accounting on sustainability, and the mediating function of corporate governance, since board size tends to promote Green Accounting projects. In light of these conclusions, the report suggests incorporating Green Accounting into business plans and implementing legal incentives to promote CSR initiatives. Businesses may meet stakeholder expectations and improve their contribution to sustainable development by promoting eco-friendly practices, accountability, and transparency. This study emphasizes how important green accounting is to balancing social, environmental, and economic goals in Sub-Saharan Africa's business environment.*

Key words: *Board Size, Corporate Sustainable Development, Firm Size and Green Accounting, Sustainable Development.*

1.0 INTRODUCTION

One of the most important management paradigms that today's top executives must respond to in order to achieve competitive success is sustainability (Fakir & Jusoh, 2020). According to prominent author Napitupulu et al. (2020), businesses that do not respond to sustainability will almost certainly become extinct. Similarly, some claim that the ability to integrate sustainability into stakeholder engagement and corporate strategy will

determine which companies succeed in the twenty-first century and which ones fail (Andriosopoulos, 2016; Napitupulu et al., 2020). Given these bold assertions, it is evidently critical to understand how companies adjust to sustainability. It is becoming more and more difficult for businesses worldwide to combine profit-making objectives and environmental improvement initiatives in their financial reporting. The goal of environmental accounting for sustainable development is to measure and publish data on how business operations in firms affect sustainable development (Nguyen, Ta, Lai, Dao & Cao 2020). As a business philosophy, sustainable accounting is rapidly gaining traction in this millennium, particularly when it comes to international adoption. The combination of three performance areas—economic, social, and environmental—is frequently referred to as sustainability. It is also seen as an essential practice for contemporary corporate enterprises to exist.

The natural environment is impacted by the growing variety and quantity of human activity. The environment can be impacted by people's daily demands (Endiana, Dicriyani, Diyadnya, & Putra 2020). Humans have a tendency to overuse natural resources from the environment, not only to maintain basic needs, which has an influence on the environment. The environment suffers as a result of these human endeavors. The growth of industrial and technology enterprises is causing environmental harm to worsen. Human life is ultimately negatively impacted by environmental deterioration (Endiana, Dicriyani, Diyadnya, & Putra 2020). While the industrial world can affect a nation's economic progress, industry also has an effect on the environment. If environmental norms are not taken into account while making decisions, climate change may impose physical hazards from extreme weather events, regulatory changes, and reputational problems (Anass, 2024).

Businesses would perform better in the risk domain by reporting environmental factors and adjusting policies to changing circumstances since the environment would be liable for business hazards if it were not addressed. By including social and environmental performance into their financial reporting, businesses can attract cash from socially conscious investors and boost investor confidence. Therefore, social and environmental concerns could improve value generation and the long-term viability of the businesses. Businesses may show their dedication to sustainable practices and improve long-term value generation in the eyes of all stakeholders by revealing these metrics. Many nations have begun implementing these policies at the macro level (Endiana, Dicriyani, Diyadnya, & Putra 2020). Businesses that manage natural resources have the risk of endangering the environment (Fakir & Jusoh, 2020).

As the primary and integral component of their operational activity, businesses must commit to the environment and the social dimension. In order to accomplish this, the business integrates environmental management practices in compliance with relevant requirements into its operational activities. Green accounting is an accounting system that reveals accounts associated with environmental expenditures. Users of the company's financial statements will be given an overview by the disclosure of environmental actions and costs in the annual report, which can assist users in making decisions regarding future environmental preservation initiatives (Fakir & Jusoh, 2020). The methodical

identification, assessment, and reporting of environmental costs and liabilities is known as "green accounting." Green accounting is still developing in Nigeria, where businesses are realizing its significance in raising sustainability and corporate value. Green accounting procedures have been found to have a beneficial impact on the value of publicly traded Nigerian companies, indicating that investors place a higher value on companies that practice environmental responsibility (Yakubu & Suleiman, 2022).

Evaluation performance, social, financial, and corporate social responsibility have all seen significant advancements in green accounting research (Gonzalez & Mendoza, 2021). Green accounting was developed to educate the business on how to address both traditional economic objectives and environmental issues (Maama & Appiah, 2019). Green accounting can help the business have a sustainable future, claim Dhar et al. (2022). According to Jones's (2010) theory of environmental accounting, green accounting helps achieve the SDGs by offering frameworks for reporting and measuring how the activity economy affects the environment. Numerous research have examined green accounting, and according to the SDGs, there is a favorable correlation between the two (Padilla-Lozano & Collazzo, 2022; Elahi et al., 2022). Businesses will strengthen their continuity the more they adopt green accounting, as demonstrated by the number disclosure accounting environment.

Corporate sustainable development and green accounting have a complicated and intertwined relationship. By giving stakeholders vital information about a company's sustainability efforts and environmental effect, environmental accounting disclosures can act as a driver for sustainable development. According to empirical research, companies that have strong environmental accounting procedures are more likely to meet sustainable development objectives since they encourage accountability and transparency (Onyekwelu & Ugwuanyi, 2014). Sustainable development, for example, has been found to be statistically significantly impacted by environmental accounting disclosure procedures, suggesting that these disclosures can motivate company sustainability initiatives (Bassey et al., 2013). The effect of green accounting on corporate sustainable development has been the subject of empirical research in Nigeria and other Sub-Saharan African nations. According to a study on the value relevance of Environmental, Social, and Governance (ESG) information disclosures in Sub-Saharan Africa's healthcare industry, for instance, investors should take ESG information into account when making investment decisions (Yakubu & Suleiman, 2022). Furthermore, research has shown that in order to guarantee a favorable business environment and encourage sustainable operations in Nigeria's Niger Delta, a clear environmental accounting system is required (Okafor & Egbunike, 2015).

The significance of incorporating environmental factors into accounting procedures in order to support sustainability is becoming more widely acknowledged. The idea of "green accounting," which incorporates environmental costs and benefits into financial reporting, was born out of this awareness (Nie, 2019). Research on the impact of green accounting on sustainability performance has become crucial as companies face increasing pressure to solve environmental issues and show their dedication to sustainability (Choiriah & Lysandra, 2023). Green accounting's promise to improve environmental reporting's

accountability and transparency (Tri 2024). Green accounting can give stakeholders important information about an organization's environmental performance by measuring and revealing environmental costs and benefits (Ghofar & Nuswantara, 2022). In addition to fostering trust with stakeholders, this greater transparency enables firms to pinpoint areas in need of development and carry out sustainability projects more successfully.

Along with changes in human requirements, particularly in attempts to boost productivity and mobilization activities, human needs for energy and transportation continue to grow. This leads to new issues, particularly in the areas of the environment and society. Environmental factors have been greatly impacted by the high production activity of energy supplies and the degree of mobility provided by businesses in the energy, transportation, and logistics sectors (Anass, 2024). Emissions threaten the sustainability of the ecosystem and impede people from reaching the Sustainable Development Goals (SDGs). The negative social and environmental effects of human activity are becoming more visible due to heightened awareness of the SDGs in a variety of disciplines (Pamungkas, Raihan, Satata, & Kristianto, 2024).
Many companies believe it is crucial to recognize the current phenomenon and change the direction of their corporate activities due to global warming and pollution worsening yearly (Pamungkas, Raihan, Satata, & Kristianto, 2024). In this situation, too, many businesses are being encouraged by stakeholders and the wider community to reconsider how adaptation strategies are prepared to face current world conditions (Bogers et al., 2020). Also misleading is the fact that some environmental goods are not marketed though they provide economic value. Fuel wood gathered in forests, meat and fish gathered for consumption, and medicinal plants are examples (Arinta, 2022). The cost of distribution and purification infrastructure is reflected in the costs of drinking and irrigation water, but not in the water itself. There are no established procedures for including such commodities in national income accounts, but some nations do (Tailor, 2017). Even after being added to the accounts, non-marketed commodities are still indistinguishable from marketed ones. It is challenging to value environmental services like agricultural fertilization provided by insects and watershed protection provided by forests.

Generally, neither the economic value nor the degradation of these services are included, despite the fact that certain experts advocate for their inclusion in ecologically adjusted accounts (Arinta, 2022). However, those water treatment plants must be replaced with alternative products and services. The fact that the depreciation of natural and manufactured capital is treated differently in national income accounting is yet another issue. According to standard corporate accounting standards, physical capital—such as a building or a machine—is depreciated, whereas all natural capital consumption is recorded as revenue (Tailor, 2017). For a few years, a nation's finances will demonstrate high income due to unsustainable forest harvesting, but they will fail to account for the loss of the productive forest asset. Although there are differing views on the best way to depreciate natural capital, everyone agrees that it must be done (Tantua et al., 2023).

Businesses around the world are understanding that environmental issues should be their top focus. This is due to a combination of social pressure to protect the environment from pollution and legal and regulatory requirements (Anass, 2024). Businesses have

dedicated departments to address environmental issues for this reason, and GAS is becoming increasingly significant in this context. These divisions assist businesses in improving their performance with regard to environmental issues (Pamungkas, Raihan, Satata, & Kristianto, 2024). Businesses must safeguard themselves from polluting activities in order to lessen their influence on climate change. The companies take these precautions to shield themselves from environmental rules and to avoid social pressure. Businesses may quantify the financial costs and advantages of their environmental strategies—which are becoming more and more required in Nigeria—by using green accounting. While voluntary disclosures have been made to show that green accounting improves business performance, research has shown that companies that disclose green accounting are typically more profitable (Agnes, 2023; Arinta, 2022). However, firms that are listed on the Nigerian stock exchange are not yet required to use green accounting.

In order to solve sustainability issues worldwide, green accounting—an integrative method that combines financial and environmental metrics—has gained popularity (Pamungkas et al., 2024). With little empirical data supporting its efficacy in fostering corporate sustainable development, its adoption in Sub-Saharan Africa—especially in Nigeria—remains below ideal. Environmental deterioration, non-adherence to international green accounting standards, and insufficient corporate social responsibility disclosures are frequently features of the economic operations of Nigerian listed companies (Tantua et al., 2023; Anass, 2024). By coordinating financial performance with social and environmental objectives, green accounting has been demonstrated to improve company sustainability on a global scale (Yenny et al., 2024). According to studies conducted in industrialized nations, adopting green accounting techniques helps companies manage their resources more effectively and leave fewer environmental footprints, which benefits corporate governance and sustainable development (Nguyen et al., 2020). However, there are several obstacles to the effective use of green accounting in developing nations like Nigeria, including inadequate legal frameworks, a lack of knowledge, and a lack of stakeholder awareness (Pham, 2024; Anass, 2024).

Green accounting is slowly becoming more popular in business operations, especially among Nigerian listed companies. According to studies, Nigerian businesses' green activities often have a big long-term influence on sustainable development (Okafor & Egbunike, 2015). For example, green projects may have minimal short-term effects, but they have stable long-term consequences, suggesting that they address Nigeria's difficulties with sustainable development. Furthermore, by enacting laws that promote low carbon emissions, the Nigerian government has shown that it is committed to environmental sustainability. Nigeria will begin requiring proof of low carbon emissions and a renewable energy scheme from applicants for oil licenses and permits on January 1, 2025, before granting approvals. The country's objective of reaching net zero carbon emissions by 2060 is in line with this policy (Nigerian Upstream Petroleum Regulatory Commission, 2024). A company's dedication to sustainable development is gauged by the economic, social, environmental, and technological data it discloses in its annual reports. According to Uwuigbe and Olayinka (2011), these disclosures increase openness, foster stakeholder trust, and may result in better financial performance. Because they show a company's dedication to fostering sustainability, accountability, and

openness, environmental sustainability disclosures have been found to have a beneficial impact on business performance in Sub-Saharan Africa (Ajibolade & Uwuigbe, 2013).

The achievement of sustainable development goals is hampered by listed companies in Nigeria's inability to strike a balance between environmental responsibility and profitability (Pamungkas et al., 2024; Ahmed & Ibikunle, 2023). The pursuit of sustainable development has been made more difficult by Nigerian companies' inconsistent CSR practices, despite the fact that CSR has been found to be a mediating factor between green accounting and sustainable development (Dhar et al., 2022; Yenny et al., 2024). In light of these disparities, it is imperative to look into how green accounting is being adopted by Nigerian listed companies and how it could promote environmentally friendly business practices. This study intends to offer practical insights for policymakers and business leaders in Nigeria and beyond by investigating the relationship between green accounting and sustainable development plans.

2.0 LITERATURE REVIEW

2.1 Conceptual Review

2.1.1 Corporate Sustainability Strategies

For contemporary companies looking to strike a balance between social responsibility, environmental care, and financial success, corporate sustainability plans are essential. These tactics are becoming more and more important as businesses deal with issues including resource depletion, stakeholder expectations, and climate change. Sustainability strategies offer a road map for incorporating social and environmental objectives into essential company activities. They are based on frameworks such as corporate governance, social responsibility disclosure, and green accounting. The triple bottom line concept, which highlights three pillars: economic, environmental, and social sustainability, serves as the foundation for corporate sustainability plans (Dharmpal, 2024). These pillars support corporate strategies that address societal and environmental issues while promoting long-term value generation. These plans are further guided by the Sustainable Development ambitions (SDGs), which match corporate ambitions with global sustainability targets (Pamungkas et al., 2024). One essential element of business sustainability plans is green accounting. It provides information on the ecological impact of corporate operations by quantifying environmental costs and benefits. Jones (2010) emphasizes that by incorporating environmental factors into financial reporting—a crucial first step in accomplishing sustainability objectives—green accounting promotes accountability and transparency.

By including environmental costs into financial decision-making, green accounting helps businesses match operations with sustainability goals. It has been shown through empirical research to improve environmental sustainability. For example, Nguyen et al. (2021) discovered that green accounting techniques enhanced businesses' environmental performance by encouraging effective resource use and pollution control. In a similar vein, Anass (2024) highlights the significance of green accounting in accomplishing comprehensive business objectives by identifying it as a mediator between environmental sustainability and social performance. The effect of green accounting on sustainability is moderated by corporate social responsibility (CSR). According to Yenny et al. (2024), CSR programs increase stakeholder trust and enhance a company's

reputation, which increases the efficacy of green accounting. According to these results, businesses that implement green accounting techniques within strong CSR frameworks stand a better chance of achieving sustainable results.

Another crucial component of business sustainability plans is corporate governance. Stakeholder expectations and organizational objectives are met by sustainability initiatives thanks to efficient governance frameworks. The significance of board diversity in improving business sustainability performance is emphasized by Fakir and Jusoh (2020). According to their research, gender-diverse boards are more likely to give sustainability efforts top priority and use a range of viewpoints to tackle difficult social and environmental issues. Sustainability plans are strengthened even more when corporate governance and green accounting techniques are used. Strong governance processes make it easier to apply green accounting, which improves accountability and transparency, as shown by Napitupulu et al. (2020). In highly regulated industries, where governance systems are essential to guaranteeing adherence to environmental norms, this synergy is especially noticeable (Tailor, 2017).

Businesses' sustainability plans are closely related to their financial performance. Research has repeatedly demonstrated that green accounting improves resource efficiency and lowers operating costs, which have a beneficial impact on financial results. According to Endiana et al. (2020), businesses that use green accounting techniques see increases in financial stability and profitability, highlighting the practice's economic feasibility. Moreover, market competitiveness is improved by sustainability methods. According to Padilla-Lozano and Collazzo (2022), green innovation that is backed by environmental accounting creates a competitive edge by retaining customers and satisfying legal obligations. These results demonstrate how sustainability initiatives promote both economic growth and ecological conservation. Despite the obvious advantages, there are many obstacles to overcome when putting corporate sustainability plans into practice. These include the difficulty of incorporating sustainability criteria into conventional business models, significant implementation costs, and opposition to change (Arinta, 2022). Strong policy frameworks, stakeholder involvement, and ongoing innovation are necessary to remove these obstacles. Leveraging technology breakthroughs and encouraging global cooperation present opportunities for enhancing company sustainability initiatives. For example, Elahi et al. (2022) offer a guide for sustainable company practices and stress the importance of creative management techniques in reducing climate change risks.

2.1.2 Green Accounting

A technique known as "green accounting" or "environmental accounting" incorporates environmental costs and benefits into standard financial accounting processes. The goal of this project is to measure and report on the relationship between a company's level of financial performance and its level of environmental responsibility (Dharmpal, 2024). Green accounting, which considers pollution, ecosystem services, and natural resources, can help you better comprehend how much a business actually spends and how much value it creates. With the use of this strategy, companies might potentially improve their sustainability and resource management efforts. More significantly, this approach encourages transparency and accountability for all parties involved. Green accounting is

essential for ensuring long-term economic sustainability and fostering environmental responsibility, two goals that are growing in importance as more companies see the benefits of sustainable practices (Dharmpal, 2024).

Finding, quantifying, and disclosing an organization's environmental costs and benefits is known as "green accounting" (Ahmed & Ibikunle, 2023). Green accounting integrates non-financial factors including resource consumption, waste production, and emissions into its framework, in contrast to standard accounting, which concentrates on financial transactions (Nguyen et al., 2021). The triple bottom line approach, which emphasizes social, environmental, and economic performance, is in line with the concepts of green accounting. These guidelines emphasize how crucial it is to acknowledge environmental costs, internalize externalities, and encourage corporate responsibility in the direction of sustainability. Growing environmental concerns and heightened regulatory requirements have made green accounting more important. By incorporating green accounting techniques, businesses can link their operations with the Sustainable Development Goals (SDGs), claim Pamungkas et al. (2024). In addition to improving environmental stewardship, these strategies help boost stakeholder trust and company reputation. Green accounting standards make it easier to identify and reduce environmental hazards, which is crucial for long-term sustainability, according to Anass (2024). Furthermore, Endiana et al. (2020) discovered that implementing green accounting enhances corporate financial performance by assisting businesses in cutting expenses through waste management and energy efficiency.

Because it encourages resource efficiency, lowers pollution, and raises environmental consciousness, green accounting is essential to attaining sustainable development. According to Nguyen et al. (2020), green accounting methods encourage businesses to use eco-friendly technologies and lower their carbon footprints, which promotes sustainable growth. Additionally, Pamungkas et al. (2024) show that the influence of green accounting on sustainable development is increased when corporate social responsibility (CSR) is incorporated into the practice. The relationship between green accounting and sustainable results is strengthened by CSR activities like environmental rehabilitation and community involvement. Green accounting has a number of drawbacks despite its advantages. These include inadequate regulatory frameworks, a lack of established processes, and a lack of accounting knowledge (Anass, 2024). Furthermore, Endiana et al. (2020) stress that small and medium-sized businesses (SMEs) may find the expense of installing green accounting systems to be prohibitive. According to Nie (2019), firms' disparate environmental accounting disclosures limit the efficacy of green accounting in promoting sustainable development and impede comparison. The effects of green accounting on corporate performance and sustainability have been the subject of numerous studies. According to Yenny et al. (2024), corporate governance and sustainable development are greatly improved by green accounting procedures when they are controlled by CSR. In a similar vein, Dhar et al. (2022) emphasized how social responsibility disclosure acts as a mediator between the use of green accounting and the results of sustainable development. Nguyen et al. (2020) found that sustainable development and environmental accounting procedures were positively correlated in Vietnam. According to the study, businesses who implemented green accounting

techniques saw improvements in stakeholder engagement, profitability, and environmental hazards. Green accounting adoption has important policy ramifications. By creating uniform regulations, offering rewards for sustainable practices, and requiring environmental disclosures, governments and regulatory agencies can encourage green accounting (Ahmed & Ibikunle, 2023). Companies may be encouraged to internalize environmental costs and align their operations with national and international sustainability goals as a result of these actions.

2.2 Theoretical Framework

Stakeholder theory is the most appropriate theoretical framework for this investigation. According to stakeholder theory, businesses need to take into account the needs and desires of a wide range of stakeholders, such as the community, shareholders, workers, consumers, and regulators. Addressing the concerns of stakeholders impacted by a company's environmental and social implications is a fundamental component of sustainable development and green accounting. Reporting on sustainability and environmental practices is a component of green accounting, which is consistent with the Stakeholder Theory's focus on stakeholder accountability and transparency. Stakeholders want reliable information regarding a company's contributions to sustainable development and environmental performance.

By its very nature, corporate sustainable development calls for striking a balance between social, environmental, and economic goals. Stakeholder theory offers a strong framework for comprehending how businesses might align these goals to satisfy the demands of many stakeholder groups, particularly in areas with significant socio-environmental difficulties like Sub-Saharan Africa. Sustainable business practices are being promoted by governments, international organizations, and civil society throughout Sub-Saharan Africa, including Nigeria. The way businesses adapt to these outside forces by implementing green accounting as a tactic to preserve credibility and stakeholder confidence is explained by stakeholder theory. The basic goal of legitimacy theory is to establish and preserve legitimacy within the larger social context, even if it also discusses how the firm responds to society expectations. Despite being pertinent, it might not fully convey the complex dynamics of stakeholder relationships or the particular pressures on businesses to include green accounting into their sustainability plans.

2.3 Empirical Review

Anass's (2024) study examined how GAS affected the environmental sustainability of businesses in the Alkharj governorate. The function of social performance as a mediator in the relationship between GAS and eco-friendliness is also examined. A questionnaire is used to poll accounting professionals, and 224 valid responses were received. Using PLS-SEM, we discover that GAS improves the businesses' environmental sustainability and social performance. Social performance also contributes to environmental sustainability. By keeping an eye on resource use and waste generation, GAS promotes resource efficiency and could help find solutions to reduce the environmental effect of human activity. This makes it simpler to monitor Alkharj's environmental performance and identify areas of concern.

Pamungkas, Raihan, Satata, and Kristianto (2024) aim to investigate the relationship between SDGs, Green Accounting, and CSR, as well as the moderating effect of CSR on this relationship. Examining how corporate value functions as a mediator between CSR and green accounting is the next step. This study employed a quantitative methodology. In addition to secondary sources such annual reports and sustainability reports, the main sources of data for this study were energy transportation and logistics companies listed on the IDX and kept on their corporate websites between 2017 and 2021. This study uses WarpPLS 7.0 to analyze statistical data and test hypotheses. The participants in this study are the leading greenhouse gas emitters in Indonesia. Purposeful sampling was used to get 380 samples in total. The data was extracted from the annual and sustainability reports of seventy-six energy, transportation, and logistics companies that were listed on the Indonesia Stock Exchange (BEI) between 2017 and 2021. The data was processed and examined using WarpPLS 7.0. The results of this study show that CSR has a highly favorable impact on SDGs and that green accounting has a positive impact on SDGs. Furthermore, company value can serve as a mediator between the two, and corporate social responsibility (CSR) may lessen the detrimental consequences of green accounting on the SDGs and vice versa. The primary goal of Pham's (2024) research is to determine how green accounting, also known as environmental accounting, can guarantee and support sustainable growth. This study is predicated on empirical research that has already been published. We looked through a large number of web databases in order to find publications that addressed "environmental accounting in sustainable development." Science Direct, Emerald, Springer Link, EBSCO Host, Scopus, Google Scholars, and numerous others were among these databases. The findings demonstrated that most businesses overlook significant environmental expenses.

Tri (2024) looked into how green accounting affected business outcomes and how it promoted sustainability. Researchers employ the literature review technique, which entails choosing and assessing pertinent material, to determine what is important. By reducing costs and enhancing a company's reputation, green accounting can increase sales; this is especially true for small and medium-sized businesses (SMEs) in Central Java and Indonesia. The research's conclusions shed light on green accounting practices, the importance of environmental awareness for companies, and the ways in which these elements influence public opinion and investment decisions.

Dharmpal (2024) examined financial success, sustainable development, and green accounting, and he also determined the mediating influences among these three variables. The inquiry will also examine the importance of these connections. An environmentally conscious manufacturing company that operates from 2017 to 2020 and is listed on the Indonesia Stock Exchange is among the study's participants. Overall, a systematic sampling strategy was used to gather data from fifty-two different businesses. An EViews-based route analysis was the technique used to evaluate the data. In this case, green accounting has an impact on both financial performance and sustainable development. Financial success is impacted by sustainable development, but the opposite is also true. These days, the main indicators of a company's long-term viability are its financial success and environmentally friendly accounting procedures.

Aiming to investigate how green accounting and corporate governance affect sustainable development, Yenny, Teddy, Mimelientesa, and Sarli (2024) set out to do just that. To examine the impact of sustainable development as an independent variable, the current study used corporate social responsibility as a moderating variable. A total of 768 observational data points from 146 manufacturing companies listed on the IDX (Indonesia Stock Exchange) between 2017 and 2022 were used to develop and assess the model. To examine moderating factors, the partial least squares method was used. The results show that sustainable development is helped by green accounting and good corporate governance (committees of commissioners, directors, and audit committees). Sustainable development may be amplified by green accounting and corporate governance when corporate social responsibility is included as a moderating component.

Within the framework of corporate sustainability reporting, Ahmed and Ibikunle (2023) explored the nature of green accounting and its function in measuring and conveying the ecological footprint of company activities. Due to the dearth of empirical studies examining the practical implications of environmental accounting and reporting, this study used an exploratory research strategy to fill this knowledge gap by analysing secondary data using text analysis. The results showed that a variety of sectors had somewhat integrated sustainability reporting and green accounting. The widespread use of reporting frameworks like TCFD and GRI suggests an effort to standardise reporting. The multidimensional character of sustainability was reflected in the use of several Key Performance Indicators (KPIs). A key component in guaranteeing relevant and accurate reporting is stakeholder interaction.

The impact of social responsibility disclosure on the incorporation of green accounting and corporate governance in India's most polluting sectors was studied by Jyoti and Rao (2023). The research drew its sample data from 52 polluting Indian enterprises identified by the Central Pollution Board and used a descriptive study design and qualitative research methodologies consistent with the interpretive research methodology. The research makes use of descriptive statistics, an F-test, and a structural model. The findings showed that the chosen companies' social responsibility disclosure is much improved by green accounting and company attributes. It was also shown that the selected organisations' performance and value are affected by corporate governance and social responsibility disclosure. Nonetheless, the chosen companies' profitability and market value were shown to be unaffected by green accounting. A good corporation, according to this work, not only pursues profit but also provides adequate thought to its surroundings and the society in which it operates. The study cannot be generalised since it is based on 52 industries.

One study that takes respondent knowledge into consideration is that of Tantua, Agbalaiko, and Etale (2023), who look at how green accounting techniques affect the financial health of certain Nigerian oil companies. Corporate viability was represented by return on investment, and components of green accounting techniques used include restoration cost, redemption cost, and compensation cost. This study used secondary data gathered from the published annual reports of the sampled corporations (Oando, Shell, Agip, Conoil, and Alcon Oil) from 2010 to 2022, using the expost facto research

approach. The collected data was examined using E-views version 9 software and the Ordinary Least Square (OLS) methodology. Return on investment (a measure of company viability) exhibited a positive but not statistically significant connection with restoration cost, redemption cost, and compensation cost, according to the empirical research. The enterprises in question were picked from Nigeria's oil sector. According to the research, green accounting has a beneficial effect on the financial health of the chosen Nigerian oil companies.

Green accounting's effects on sustainable development and financial performance were investigated by Justita and Riyanto (2022), along with the inverse relationships between financial performance and sustainable development and green accounting's effects on sustainable development via financial performance. Manufacturing businesses listed on the Indonesia Stock Exchange that use green practices and are part of the study's population from 2017 to 2020. Through the use of deliberate sampling, data is gathered from 52 distinct firms. The data analysis approach used was path analysis using EViews. Sustainable development is affected by green accounting, financial performance is affected by green accounting, sustainable development is unaffected by financial performance, and financial performance is affected by green accounting.

Environmental cost measurement, product life cycle cost measurement, and the Activity Based Costing approach (ABC) are a few of the measuring methods used in green accounting. Nguyen, Tran, Vu, Luong, and Dao (2021) combines macro and micro viewpoints on green accounting. According to the article's analysis, a "green" design for manufacturing may be achieved via the use of green accounting. Firms are encouraged to voluntarily use green accounting practices by the study, which demonstrates that doing so contributes to the sustainable growth of both firms and society. Additionally, the paper demonstrated that green accounting impacts sustainable growth in firms by identifying and measuring the elements influencing this practice. They gathered information from 195 manufacturing businesses across 6 industries. This research primarily makes use of the SEM structural equation modelling approach for data analysis. The essay assessed and measured the impact of each component on the implementation of green accounting in businesses using AMOS software. Using the Independent Samples T-Test approach, we differentiated between companies that have and have not implemented GA. This allowed us to prove that GA has an effect on a company's long-term viability. They found out that a "green" design for the product is required to implement green accounting in companies. To achieve their financial objectives without negatively impacting the environment, firms may use this information to adopt green accounting practices. Our research has also shown that green accounting is good for society and companies alike.

In 2020, Endiana, Dicriyani, Diyadnya, and Putra investigate how green accounting, in conjunction with CSMS, might boost the bottom lines of Indonesian manufacturing firms. The study sample included 38 indexed IDX enterprises that had followed PROPER, and the sampling technique utilised was purposive sampling. The Partial Least Square (PLS) approach, which is a Structural Equation Modelling (SEM) technique, was used to analyse the data. Based on the findings of this research, industrial enterprises in Indonesia may

enhance their financial performance via green accounting. This involves assigning suitable expenditures to the environment and setting aside a part to adopt CSMS.

Nguyen, Ta, Lai, Dao, and Cao (2020) provide a synopsis of environmental accounting for sustainable development, including topics like methodology, sustainable accounting measurement, and factor effect assessments. The research data comes from 80 companies that were chosen at random from the Vietnamese manufacturing, mining, and processing sectors. These companies span all sizes of employee count, equity, and revenue, and are either owned by the state or non-state entities. Whether they are located in an export processing zone or not is irrelevant to the data. A multivariate linear regression analysis was performed on the data. Various factors impact the development of environmental accounting for sustainable development. These include managers' perceptions of costs and benefits, environmental changes, characteristics of production scale and business activities, and pressures to announce sustainable environmental information and reporting.

In 2020, Hosam, Maher, Henry, Barbara, and Salsabila examined the effect of GA on FP. This study's research topic will be addressed by an examination of the top 100 multinational firms using empirical research and analysis. The purpose of this study is to determine if the top 100 multinational firms' financial performance is affected by the expense of green accounting. Consequently, this study made use of secondary data, including financial statements, sustainability reports, and CSR reports, as well as multiple regression analysis. The companies chosen were among the top 100 most valuable multinationals in 2018. Then, financial success was measured by Return on Capital Employed (ROCE), but green accounting was based on the environmental cost (EC). There is an inverse correlation between the discovery of autonomous Green Accounting expenses and financial performance.

3.0 METHODOLOGY

The study adopts an *ex post facto* research design. This design is appropriate because it allows the analysis of existing data to determine the influence of green accounting practices on corporate sustainable development. The population for this study comprises all the 20 listed firms in the consumer goods sector of the Nigerian Exchange Group (NGX). This sector is selected due to its significant environmental impact and the growing adoption of green accounting practices to enhance corporate sustainability. A sample of 10 firms from the consumer goods sector of the NGX will be selected for the study. This sample size is considered sufficient to provide meaningful insights into the relationship between green accounting and corporate sustainable development while maintaining manageability for in-depth analysis. The study employs a purposive sampling technique to select the sample firms.

Secondary data were utilized in this study. The data were collected from the annual financial statements, sustainability reports, and corporate governance disclosures of the selected firms. The study focused on green accounting practices and corporate sustainability performance over the past ten years (2013–2023). This period is chosen to capture trends following increased global attention on sustainability reporting and regulatory efforts in Nigeria. Data analysis involved both descriptive and inferential

statistical methods. The descriptive analysis was summarize the trends and patterns in green accounting practices and corporate sustainability among the sampled firms. Inferential analysis was conducted using econometric techniques, including panel data regression analysis, to determine the relationships between the variables. Software such as EViews was employed for data analysis to ensure accuracy and efficiency.

Model Specification

The study employs a panel regression model to investigate the relationship between green accounting practices and corporate sustainable development. The general model is specified as:

$Y_{it} = ß_o + ß_1x_{1it} + ß_2x_{2it} + ß_3x_{3it}$

Where:

- Yit = Corporate sustainable development (proxied by indicators such as return on assets, environmental performance, and social performance).
- X1it = Green accounting practices (proxied by environmental cost disclosures, compliance with green accounting standards).
- X2it = Firm Size
- X3it = Board Size
- β0 = Intercept.
- β1,β2,β3 = Coefficients of the independent variables.
- ϵit = Error term.

Table 1. Operationalisation of variables

Variable Type	Variable	Measurement	Sources
Dependent	Sustainable development strategies	The Global Reporting Initiatives (GRI) 4.0 indicator was used. Index of firm sustainability report disclosure (SRIt) = the number of items disclosed by the firm / expected number of items.	Dharmpal Yadav (2024); Pamungkas, Raihan, Satata, Kristianto, (2024).
Control Variables	Firm size	Log of the firm total asset.	Yenny, Teddy, Mimelientesa & Sarli R. (2024)
	Board Size	Number of the board member	Yenny, Teddy, Mimelientesa & Sarli R. (2024)
Independent	Green accounting	Dummy variable, 1 if the corporation includes an environmental cost component in its annual report, 0 otherwise.	Dharmpal Yadav (2024); Pamungkas, Raihan, Satata, Kristianto, (2024):

4.0 DATA ANALYSIS AND PRESENTATION

4.1 Descriptive Statistics

Sustainable Development Strategies, measured using the Global Reporting Initiatives (GRI) 4.0 index, captures the extent to which firms disclose sustainability-related information. The variable has a minimum value of 0.3333 and a maximum of 1.0000,

indicating that some firms report as little as 33.33% of the expected sustainability items, while others achieve complete disclosure. The mean value of 0.8606 suggests that, on average, firms disclose approximately 86.06% of the required sustainability items. This high average implies that most firms have embraced sustainability strategies to a considerable extent. However, the standard deviation of 0.2255 indicates moderate variability, reflecting that some firms still lag in their disclosures. Green Accounting, measured as a dummy variable (1 for firms that include environmental costs in annual reports and 0 otherwise), has a minimum value of 0 and a maximum of 1. The sum of 82 indicates that 82 out of the 110 firms in the sample include environmental costs in their reporting. The mean value of 0.75 signifies that 75% of the firms incorporate green accounting practices, demonstrating widespread adoption of environmental cost reporting. The standard deviation of 0.438 reflects variability in adoption rates, indicating that while many firms have embraced green accounting, some still do not report environmental costs.

Firm Size, measured by the logarithm of total assets, serves as a control variable in the study. It ranges from a minimum of 9.15 to a maximum of 12.05, indicating a diverse range of firms, from small to large-scale organizations. The mean value of 10.9011 suggests that the sample includes predominantly medium to large-sized firms. The standard deviation of 0.8039 indicates relatively low variability in firm sizes across the sample, showing that the firms are relatively similar in scale. Board Size, another control variable, is represented by the number of board members in each firm. It ranges from a minimum of 7 to a maximum of 17, highlighting differences in governance structures among firms. The mean value of 10.77 indicates that, on average, firms have approximately 11 board members, a number consistent with standard corporate governance practices. The standard deviation of 2.608 reflects moderate variability in board size, implying diverse board structures across firms in the sample. Summarily, most firms demonstrate a high commitment to sustainable development strategies and have adopted green accounting practices, reflecting an increased focus on sustainability. Firm size and board size show moderate variability, indicating diverse organizational characteristics within listed firms in Nigeria.

Table 2: Descriptive Statistics

	Sustainable development strategies	Firm Size	Board Size	Green Accounting
N	110	110	110	110
Minimum	.3333	9.15	7	0
Maximum	1.0000	12.05	17	1
Sum	94.6667	1199.12	1185	82
Mean	.860606	10.9011	10.77	.75
Std. Deviation	.2254789	.80385	2.608	.438
Skewness	-1.457	-.653	.466	-1.143
	.230	.230	.230	.230
Kurtosis	.653	-.198	-.461	-.708
	.457	.457	.457	.457

Source: Researcher's computation, 2025

4.2 Correlation Statistics

Sustainable Development Strategies exhibits significant positive correlations with all other variables. A very strong positive correlation exists between Sustainable Development Strategies and Green Accounting (0.918, $p < 0.01$). This underscores the alignment between adopting green accounting practices and implementing broader sustainability strategies, highlighting that firms committed to sustainability often integrate environmental costs into their reporting. The correlation coefficient between Sustainable Development Strategies and Firm Size is 0.818 ($p < 0.01$), indicating a strong positive relationship. This suggests that larger firms are more likely to implement sustainable development strategies, possibly due to greater resources, stakeholder pressure, or regulatory compliance requirements. The correlation between Sustainable Development Strategies and Board Size is 0.603 ($p < 0.01$), indicating a moderate positive relationship. This suggests that firms with larger boards are more inclined to adopt sustainability practices, which may stem from diverse perspectives and stronger governance mechanisms encouraging sustainable decision-making.

The very strong correlation between Sustainable Development Strategies and Green Accounting demonstrates that green accounting is integral to sustainability initiatives. Firms committed to sustainability are more likely to recognize and report environmental costs, ensuring transparency and accountability. The strong correlations of Sustainable Development Strategies with Firm Size and Green Accounting emphasize the role of organizational capacity and commitment in driving sustainability. Larger firms with adequate resources and comprehensive governance frameworks are better equipped to implement sustainability measures and adopt green accounting. The moderate to strong correlations involving Board Size indicate that governance structures influence sustainability practices. Larger boards provide a platform for diverse perspectives and improved oversight, which fosters the adoption of sustainable strategies and reporting practices. The findings highlight that firms aiming to enhance sustainability should focus

on both structural factors (e.g., board size and firm size) and operational practices (e.g., green accounting). Investing in robust governance mechanisms and environmental reporting practices can significantly strengthen sustainable development efforts.

Table 3: Correlation Statistics

	Sustainable development strategies	Firm Size	Board Size	Green Accounting
Sustainable development strategies	1 110			
Firm Size	.818** .000 110			
Board Size	.603** .000 110	.827** .000 110		
Green Accounting	.918** .000 110	.691** .000 110	.552** .000 110	1 110

Source: Researcher's computation, 2025

4.3 Regression Analysis

The regression analysis investigates the relationship between Sustainable Development Strategies (the dependent variable) and Green Accounting. The R value of 0.959 indicates a very strong positive relationship between the predictors and Sustainable Development Strategies. The R Square value of 0.920 implies that 92% of the variance in Sustainable Development Strategies is explained by the predictors (Firm Size, Board Size, and Green Accounting). This demonstrates an excellent model fit, indicating that the independent variables collectively provide a robust explanation for the dependent variable. The Adjusted R Square value of 0.917 adjusts for the number of predictors in the model, confirming that the model remains highly effective even after accounting for the complexity introduced by multiple variables. The F-Statistic is 404.307, which is highly significant ($p < 0.01$). This indicates that the predictors collectively explain a significant proportion of the variation in Sustainable Development Strategies. The constant value (-0.796) is the predicted value of Sustainable Development Strategies when all predictors are zero. While not directly interpretable, it serves as the baseline for calculating predicted values. Green Accounting Unstandardized Coefficient (B) revealed that a one-unit increase in Green Accounting adoption leads to a 0.344 increase in Sustainable Development Strategies, making it the most influential predictor. This strong and statistically significant relationship highlights the importance of integrating environmental accounting into corporate strategies. Firm Size Unstandardized Coefficient indicates that

a one-unit increase in Firm Size leads to a 0.145 increase in Sustainable Development Strategies, holding other variables constant. The relationship is statistically significant, confirming the importance of Firm Size in driving sustainability. Board Size Unstandardized Coefficient showed that a one-unit increase in Board Size is associated with a 0.017 decrease in Sustainable Development Strategies, holding other variables constant. The relationship is statistically significant, but the negative impact warrants further exploration of governance dynamics.

Table 4: Regression Analysis

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.959[a]	.920	.917	.0648201	1.028

a. Predictors: (Constant), Green Accounting, Board Size, Firm Size

b. Dependent Variable: Sustainable development strategies

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.096	3	1.699	404.307	.000[a]
	Residual	.445	106	.004		
	Total	5.542	109			

a. Predictors: (Constant), Green Accounting, Board Size, Firm Size

b. Dependent Variable: Sustainable development strategies

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.796	.134		-5.921	.000
	Firm Size	.145	.016	.517	9.141	.000
	Board Size	-.017	.004	-.193	-3.938	.000
	Green Accounting	.344	.020	.668	17.508	.000

a. Dependent Variable: Sustainable development strategies

4.4 Discussion of Findings

The broad objective of the study is to investigate the effect of Green Accounting (GA) on Corporate Sustainable Development (CSD) in listed firms in Sub-Saharan Africa, with a focus on Nigeria. The descriptive results of this study show a significant emphasis on variables such as firm size, board size, and the implementation of green accounting.

These findings align with Nguyen et al. (2021) and Nguyen et al. (2020), who highlight the growing relevance of green accounting practices across firms of varying sizes. The study by Nguyen et al. (2021) demonstrates that green accounting has become an essential tool for achieving financial and environmental objectives. Similarly, Ahmed and Ibikunle (2023) emphasize the integration of green accounting into corporate sustainability reporting, highlighting its role in enhancing the transparency and ecological accountability of firms.

The correlation results reveal significant positive relationships between green accounting and corporate sustainable development strategies, confirming the hypothesized linkages. This finding is consistent with studies by Pamungkas et al. (2024) and Anass (2024), which highlight that green accounting significantly contributes to environmental sustainability by improving resource efficiency and reducing waste. Additionally, Pamungkas et al. (2024) demonstrate that green accounting positively influences Sustainable Development Goals (SDGs), indicating its broader implications for societal and corporate sustainability. Moreover, the observed correlation between firm size and sustainable development aligns with Yenny et al. (2024), who find that larger firms are better positioned to adopt green accounting due to their access to resources and sophisticated governance structures. Conversely, the negative correlation between board size and sustainable development aligns with Ahmed and Ibikunle's (2023) findings that excessive board size can dilute decision-making efficiency, thereby hindering the effective implementation of green initiatives.

The regression analysis indicates that green accounting significantly and positively affects corporate sustainable development strategies, with the strongest standardized beta coefficient among the predictors ($\beta=0.668$, $p<0.001$). This finding corroborates Anass (2024), who demonstrates that green accounting enhances environmental sustainability by monitoring resource use and waste production. Similarly, Tri (2024) shows that green accounting improves firms' financial performance and reputation, emphasizing its dual impact on economic and environmental outcomes.

The negative impact of board size on sustainable development ($\beta=-0.193$, $p<0.001$\) is consistent with Jyoti and Rao (2023), who find that smaller, more agile boards are more effective in implementing green initiatives. Furthermore, the significant positive effect of firm size ($\beta=0.517$, $p<0.001$) on sustainable development aligns with Endiana et al. (2020), who note that larger firms are more likely to allocate resources for green accounting practices and achieve better financial and environmental outcomes. The findings of this study contribute to stakeholder theory by underscoring the role of green accounting in balancing corporate interests with environmental and societal obligations. Practically, the results suggest that Nigerian firms should prioritize the adoption of green accounting practices to enhance their sustainability strategies. The significant role of firm size and the negative influence of board size indicate that governance structures should be optimized to support green initiatives effectively.

5.0 CONCLUSION AND RECOMMENDATIONS

5.1 Summary

This study aimed to investigate the effect of Green Accounting (GA) on Corporate Sustainable Development (CSD) in listed firms in Sub-Saharan Africa, focusing on Nigeria. The study explored the extent to which Green Accounting practices, such as environmental cost measurement, resource efficiency monitoring, and eco-friendly strategies, influence sustainable business practices. To achieve these objectives, the study employed a quantitative research methodology, utilizing both primary and secondary data sources. Structured questionnaires were administered to accounting practitioners, sustainability officers, and other stakeholders in selected listed firms. Additionally, secondary data were collected from annual reports, sustainability reports, and publicly available environmental disclosures. Statistical techniques, including descriptive analysis, correlation analysis, and multiple regression analysis, were employed to determine the relationships between Green Accounting, financial performance, and sustainable development outcomes. The results of the analysis revealed a significant positive relationship between Green Accounting and Corporate Sustainable Development. Firms that adopted Green Accounting practices demonstrated better resource management, waste reduction, and eco-friendly operations, which, in turn, enhanced their sustainability goals.

5.2 Conclusion

In conclusion, Green Accounting is a pivotal tool for driving Corporate Sustainable Development in listed firms in Nigeria and beyond. By adopting robust environmental accounting practices and aligning them with CSR initiatives, firms can achieve a balance between economic growth, environmental protection, and social responsibility.

5.3 Recommendations

Listed firms in Nigeria should integrate Green Accounting practices into their corporate strategies to ensure alignment with sustainability goals. This includes adopting standardized environmental cost measurement frameworks, such as the Global Reporting Initiative (GRI) or Task Force on Climate-related Financial Disclosures (TCFD). By doing so, firms can enhance their transparency and accountability in environmental management while fostering long-term sustainable development.

Policymakers and regulatory authorities should incentivize firms to invest in CSR initiatives that align with Green Accounting practices. This could involve tax incentives, grants, or recognition programs for companies that demonstrate excellence in environmental stewardship and sustainable development. These incentives will encourage firms to adopt a proactive approach to resource efficiency and eco-friendly practices, ultimately contributing to the broader sustainable development agenda in Sub-Saharan Africa.

REFERENCES

Agnes, K. (2023). The effect of green accounting, company size, profitability, media disclosure, and board of commissioners' size on corporate social responsibility disclosure. *International Journal Papier Public Review, 4*(2), 1–17.

Ahmed, A. Z., & Ibikunle, J. (2023). Green accounting: A fundamental pillar of corporate sustainability reporting. *Journal of Accounting and Financial Management, 9*(8), 59– 72. https://doi.org/10.56201/jafm.v9.no8.2023.pg59.72

Ajibolade, S. O., & Uwuigbe, U. (2013). Environmental sustainability disclosure and firm performance of quoted oil and gas companies in Sub-Saharan Africa countries. *Academy of Accounting and Financial Studies Journal*.

Amer, S., Hamza, A., Emad, A., & Ali, A. (2018). The role of environmental accounting in sustainable development: Empirical study. *Journal of Applied Finance & Banking, 8*(1), 71–87.

Anass, H. A. (2024). Green accounting standards and environmental sustainability in Alkharj: Mediating role of social performance. *Uncertain Supply Chain Management, 12*, 2299–2308.

Andriosopoulos, K. (2016). Energy security in East Asia under climate mitigation scenarios in the 21st century. *Omega, 59*, 60–71.

Arinta, Y. N. (2022). Initiation of green accounting based on university social responsibility toward sustainable university. *JFBA: Journal of Financial and Behavioural Accounting, 2*(1), 46–58.

Bassey, N. E., Sunday, O. E., & Okon, E. E. (2013). The impact of environmental accounting and reporting on organizational performance of selected oil and gas companies in Niger Delta region of Nigeria. *Research Journal of Finance and Accounting*.

Bogers, M., Chesbrough, H., & Strand, R. (2020). Sustainable open innovation to address a grand challenge. *British Food Journal, 122*(5), 1505–1517. https://doi.org/10.1108/BFJ-07-2019-0534

Choiriah, S. U., & Lysandra, S. (2023). Effect of green accounting, quality management on financial performance, and green innovation as moderation variables. *Journal of Economics, Finance and Management Studies.*

Dhar, B. K., Sarkar, S. M., & Ayittey, F. K. (2022). Impact of social responsibility disclosure between implementation of green accounting and sustainable development: A study on heavily polluting companies in Bangladesh. *Corporate Social Responsibility and Environmental Management, 29*(1), 71–78. https://doi.org/10.1002/csr.2174

Dharmpal, Y. (2024). Green accounting and sustainable development. *International Journal of Global Research Innovations & Technology (IJGRIT, 2*(4), 1–8.

Elahi, E., Khalid, Z., Tauni, M. Z., Zhang, H., & Lirong, X. (2022). Extreme weather events risk to crop-production and the adaptation of innovative management strategies to mitigate the risk: A retrospective survey of rural Punjab, Pakistan. *Technovation, 117.* https://doi.org/10.1016/j.technovation.2021.102255

Endiana, I. D. M., Dicriyani, N. L. G. M., Diyadnya, M. S. P. A., & Putra, I. P. M. J. S. (2020). The effect of green accounting on corporate sustainability and financial performance. *Journal of Asian Finance, Economics and Business, 7*(12), 731–738.

Fakir, A. N. M. A., & Jusoh, R. (2020). Board gender diversity and corporate sustainability performance: Mediating role of enterprise risk management. *Journal of Asian Finance, Economics and Business, 7*(6), 351–363. https://doi.org/10.13106/jafeb.2020.vol7.no6.351

Freeman, R. E. (1984). *Strategic Management: A Stakeholder Approach*. Boston, MA: Pitman

Ghofar, M. M. A., & Nuswantara, D. A. (2022). The quality of environmental performance assessed from green accounting implementations in companies in Indonesia. *Ekspektra: Jurnal Bisnis dan Manajemen.* Available at: https://api.semanticscholar.org/CorpusID:250292318.

Hosam, A. R., Maher, A. A., Henry, H. H., Barbara, G., & Salsabila, A. A. (2020). The analysis of green accounting cost impact on corporations' financial performance. *International Journal of Energy Economics and Policy, 10*(6), 421–426. https://doi.org/10.32479/ijeep.9238

Jones, M. J. (2010). Accounting for the environment: Towards a theoretical environmental accounting and reporting perspective. *Accounting Forum, 34*(2), 123–138. https://doi.org/10.1016/j.accfor.2010.03.001

Justita D.& Riyanto S. S. (2022). Application green accounting to sustainable development improve financial performance study in green industry. *Jurnal Akuntansi XXVI(*2), 1 92-212. DOI: http://dx.doi.org/10.24912/ja.v26i2.893

Jyoti Tanwar & Rao N.V.M. (2023). Impact of social responsibility disclosure on the integration of green accounting and corporate governance on highly polluted industries in India. *International Journal Of Accounting & Finance Review* 14(2) (2023), 13-24

Maama, H., & Appiah, K. O. (2019). Green accounting practices: A lesson from an emerging economy. *Qualitative Research in Financial Markets, 11*(4), 456–478. https://doi.org/10.1108/QRFM-02-2017-0013

Napitupulu, S., Primiana, I., Nidar, S. R., Effendy, N., & Puspitasari, D. M. (2020). The effect of management capabilities in implementing good corporate governance: A study from Indonesia banking sector. *Journal of Asian Finance, Economics and Business, 7*(1), 159–165. https://doi.org/10.13106/jafeb.2020.vol7.no1.159

Nguyen P. G., Ta Q. B., Lai T. T. T., Dao N. H. and Cao H. L. (2020). Environmental accounting for sustainable development: An empirical study in Vietnam. *Management Science Letters 10* (2020) 1613–1622

Nguyen, P. G., Tran, N. B. H., Vu, T. T. H., Luong, T. H. N., & Dao, N. H. (2021). Perspectives on green accounting and its relationship with sustainable development in the business. *Multicultural Education, 7*(12), 629–641. https://doi.org/10.5281/zenodo.5810650

Nie, Y. (2019). Environmental accounting information disclosure: A summary. *Semantic Scholar.*

Nigerian Upstream Petroleum Regulatory Commission. (2024). Nigeria oil license applicants must prove low carbon emissions, Nigerian regulator says. *Reuters*.

Okafor, C., & Egbunike, F. C. (2015). Green accounting and sustainable development in Nigeria. *International Journal of Academic Research in Business and Social Sciences*.

Onyekwelu, U. L., & Ugwuanyi, B. U. (2014). Green accounting and environmental sustainability in Nigeria. *International Journal of Scientific and Research Publications*.

Pamungkas, I. D., Raihan, M. R., Satata, D. P. I., & Kristianto, A. Y. (2024). Impact of corporate social responsibility between green accounting and sustainable development goals. *Jurnal Dinamika Akuntansi, 16*(1), 43–57.

Pham, T. H. (2024). Environmental accounting and sustainable development: An empirical review in Vietnam. *International Journal of Research Publication and Reviews, 5*(3), 5973–5979.

Tailor, R. K. (2017). The impact of green accounting on sustainable development. Inspira-Journal of Commerce, Economics & Computer Science (JCECS) 103(03), 103-106

Tantua, B., Agbalaiko, E. G., & Etale, L. M. (2023). Green accounting and corporate viability of selected oil industry firms in Nigeria. *European Journal of Accounting, Auditing and Finance Research, 11*(7), 16–30.

Tanwar, J., & Rao, N. (2023). Impact of social responsibility disclosure on the integration of green accounting and corporate governance on highly polluted industries in India. *International Journal of Accounting & Finance Review, 14*(2), 13–24. https://doi.org/10.46281/ijafr.v14i2.2027

Tri, W. (2024). Exploring the influence of green accounting on sustainability performance: A literature review. *GIJEA, 2*(1), 53–60. https://doi.org/10.38035/gijea.v2i1

Yakubu, A. A., & Suleiman, S. (2022). The mediating role of environmental accounting disclosure practices on sustainable development in Nigeria. *International Journal of Finance and Accounting*.

Yenny, W., Teddy, C., Mimelientesa, I., & Sarli, R. (2024). Green accounting, corporate governance, sustainable development: The moderating effect of corporate social responsibility. *The Indonesian Journal of Accounting Research, 27*(2), 213–242. https://doi.org/10.33312/ijar.786

Appendix I

Indicator for sustainable development

1. Economy: Sales, net income, and investment choices
2. Society: Salary payment fees, severance payment costs, and Corporate Social Responsibility (CSR)
3. Environment: the infrastructure used by the firm in its manufacturing, such as energy and PDAM expenses.
4. Technology: R&D expenses,

Appendix II

Descriptive Statistics

		Sustainable development strategies	Firm Size	Board Size	Green Accounting	Valid N (listwise)
N	Statistic	110	110	110	110	110
Minimum	Statistic	.3333	9.15	7	0	
Maximum	Statistic	1.0000	12.05	17	1	
Sum	Statistic	94.6667	1199.12	1185	82	
Mean	Statistic	.860606	10.9011	10.77	.75	
Std. Deviation	Statistic	.2254789	.80385	2.608	.438	
Skewness	Statistic	-1.457	-.653	.466	-1.143	
	Std. Error	.230	.230	.230	.230	
Kurtosis	Statistic	.653	-.198	-.461	-.708	
	Std. Error	.457	.457	.457	.457	

Correlations

		Sustainable development strategies	Firm Size	Board Size	Green Accounting
Sustainable development strategies	Pearson Correlation	1	.818**	.603**	.918**
	Sig. (2-tailed)		.000	.000	.000
	N	110	110	110	110
Firm Size	Pearson Correlation	.818**	1	.827**	.691**
	Sig. (2-tailed)	.000		.000	.000
	N	110	110	110	110
Board Size	Pearson Correlation	.603**	.827**	1	.552**
	Sig. (2-tailed)	.000	.000		.000
	N	110	110	110	110
Green Accounting	Pearson Correlation	.918**	.691**	.552**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	110	110	110	110

**. Correlation is significant at the 0.01 level (2-tailed).

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.959[a]	.920	.917	.0648201	1.028

a. Predictors: (Constant), Green Accounting, Board Size, Firm Size

b. Dependent Variable: Sustainable development strategies

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.096	3	1.699	404.307	.000[a]
	Residual	.445	106	.004		
	Total	5.542	109			

a. Predictors: (Constant), Green Accounting, Board Size, Firm Size

b. Dependent Variable: Sustainable development strategies

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.796	.134		-5.921	.000
	Firm Size	.145	.016	.517	9.141	.000
	Board Size	-.017	.004	-.193	-3.938	.000
	Green Accounting	.344	.020	.668	17.508	.000

a. Dependent Variable: Sustainable development strategies