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Research Article

Disclosure and Value of Green Finance for Low and High Levered Quoted Natural Resources Companies in Nigeria

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Abstract

This study examined disclosure and value of green finance for low and high levered quoted natural resources companies in Nigeria. The study adopted ex post facto research design. Population of this study comprises all the four (4) quoted natural resources companies on the Nigerian Exchange Group (NGX) as at 31st December, 2024 which were all used as sample size for this study. This study covered a period fourteen (14) years from 2011 – 2024. Secondary data were used for this study and were sourced from the audited financial reports and accounts of quoted natural resources companies. The data obtained for this study were analyzed using both descriptive and inferential statistics. Inferentially, panel regression statistical tool was used to analyze the obtained data at 0.05 level of significant. The finding of this study revealed that green technology and innovation finance has negative insignificant effect on value (Tobin's Q) of quoted natural resources companies for both low and high levered. Waste and pollution management finance has positive significant effect on value (Tobin's Q) of quoted natural resources companies for both low and high levered. Also, the finding shows that green technology and innovation finance and waste and pollution management significantly differ between high and low levered quoted natural resources companies in Nigeria. Firm size has positive insignificant effect on the value of quoted natural resources companies for low levered while firm size has negative significant effect on the value of quoted natural resources companies for high levered. This study recommended that green technology and innovation finance should be paramount to quoted natural resources companies in Nigeria as this is capable of increasing the value of their companies especially at this era of technology. Also, it is recommended that quoted natural resources companies in Nigeria should improve on their green finance in terms of waste management and pollution since the findings showed that cost incurred on waste management and pollution enhanced their value. Lastly, that the management quoted natural resources companies should ensure that debts obtain is adequately used for their business operations in order to improve values and their green finance.

Keywords: *Value of Green Finance, Low and High Levered, green technology, waste and pollution management finance, value.*

1.0 Introduction

Major source of green degradation, including pollution, greenhouse gas emissions and unsustainable resource exploitation come from the business activities of some private sectors if not all private sectors. As global awareness of climate change and green sustainability intensifies, there is increasing pressure on companies, especially in high-impact industries like natural resources, to adopt sustainable business practices. The natural resources sector plays a pivotal role in Nigeria's economy, contributing significantly to the gross domestic product (GDP) and as well as employment. However, natural resources sector needs to engage in adequate green financing. Green finance encompasses investments and financing mechanisms that promote green (environmental) sustainability which emerged as a potential pathway for companies' transition towards more sustainable operations. According to Purwanti (2024), green financing plays a crucial role in enhancing firm value and risk management by aligning economic objectives with green sustainability. Thus, in this context, green finance is a financial initiative aimed at protecting the environment and achieving sustainable

use of resources. In addition, green finance is a fiscal model that integrates green preservation with economic growth. Although, research has explored its role in balancing green preservation with economic expansion but more research are still needed. Two schools of thought exist: One suggests that green financing hinders growth (Wei & Jinhua, 2014), while the other suggests it promotes growth and suggests enhancing green financing systems (Haiyang, 2017). Both schools of thought have been widely studied.

As global sustainability concerns intensify, there is mounting pressure on companies within many sectors to adopt greener practices. The Nigerian natural resources industry, one of the cornerstones of the nation's economy, is grappling with increasing scrutiny over its environmental impact, particularly in terms of pollution, waste management, and resource depletion. Hence, green finance, which includes investments aimed at mitigating green harm, has become a critical mechanism for achieving sustainability goals. These practices often involve significant waste and pollution management financing and green technology and innovation financing. However, while these measures are essential for addressing green challenges, it remains unclear how they influence the value of natural resources companies, particularly in developing economies like Nigeria. The researcher observed that many studies have been conducted in the area of green finance in developed countries like UK such as the study of Xi, Wang and Yang (2021) and in China such as the study of Zhang et al. (2022). And in emerging countries like Nigeria, Shehu et al. (2025), Samuel and Ifreke (2024), Nduokafor et al. (2023), Oyedele et al. (2022) and in Pakistan the study of Shafique and Majeed (2020); however, none of these examine disclosure and value of green finance for low and high levered quoted natural resources companies. Hence, this seminar aims to fill the identified gap. This study is timely and relevant because green finance is a topical issue of discussion among scholars and researchers in recent time particularly in this technology era. This study seeks to fill this gap by examining the effect of proxies of green finance such as waste and pollution management financing and green technology and innovation financing on the value of low and high levered quoted natural resources companies in Nigeria. Specifically, this study aims to determine whether higher investments in green sustainability through cleaner technologies, waste and pollution reduction efforts translate into improved value as measured by Tobin's Q.

Further, the escalating global challenge of green pollution, driven significantly by inadequate waste management practices is exacerbated by the lack of effective and sustainable financing mechanisms. This disconnect between the urgent need for improved waste and pollution management infrastructure and the availability of sufficient financial resources results in persistent green degradation, public health risks and economic inefficiencies. Thus, the urgent need to address escalating green challenges, such as climate change and pollution, necessitates the rapid development and widespread adoption of green technologies and innovations is necessary. However, a significant barrier to this progress is the lack of effective and adequate financing mechanisms, hindering the transition to a sustainable economy. The question to ask is; are quoted natural resource companies committed to green financing? What extent does green finance significantly differ between partitioning high and low levered quoted natural resources companies in Nigeria? Further, to what extent has waste and pollution management finance and green technology and innovation finance influence the value of quoted natural resources companies in Nigeria? To answer these questions raised, this seminar paper examined disclosure and value of green finance for low and high levered quoted natural resources companies in Nigeria. The following research questions are raised for the purpose of this seminar paper.

i) To what extent has green technology and innovation finance influence the value of quoted natural resources companies in Nigeria?
ii) What is the effect of waste and pollution management finance on the value of quoted natural resources companies in Nigeria?
iii) What extent does the effect of green technology and innovation finance and waste and pollution management finance on value significantly differ between high and low levered quoted natural resources companies in Nigeria?

The following hypotheses are formulated and tested at 0.05 significant level for the purpose of this seminar paper.

H_{01}: Green technology and innovation finance do not significantly influence value of quoted natural resources companies in Nigeria.

H_{02}: Waste and pollution management finance do not significantly influence value of quoted natural resources companies in Nigeria.

H_{03}: Green technology and innovation finance and waste and pollution management finance does not significantly differ between high and low levered quoted natural resources companies in Nigeria.

This study focuses on disclosure of green finance and value of quoted natural resources companies on the Nigeria Exchange Group (NGX) as at 31st December, 2024. This seminar paper covered a period of fourteen (14) years, spanning from 2011 to 2024. The decision to expand the research timeframe aims to provide a more comprehensive understanding of the long-term trends and patterns in green finance and their effect on value since the last stage for green accounting disclosure which ends in 2010. This extended duration allows for a thorough exploration of the evolving landscape, capturing significant shifts in policies, regulations, and global events that have influenced green finance disclosure of companies since 2010.

2.0 Literature Review

2.1.1 Concept of Green Finance

Green finance refers to financial investments flowing into sustainable development projects and initiatives that aim to have positive environmental impacts. Green finance aims to align financial decisions with green (environmental) sustainability. The distribution of funds to projects that promote economic growth and environmental benefits is known as Green Finance (Chukwunweike & Ogheneotegiri, 2023). Green finance, as defined by Mohammed and Kaushal (2018) from the perspective of profit-oriented companies, is defined as financial products and services that take environmental factors into account.

2.1.2 Concept of Value

A value as used in this paper is also known as Firm Value (FV). It is an economic concept that reflects the value of a business. It is the value that a business is worthy of at a particular date (Antwi et al., 2012). A company's value is what is useful to stakeholders. This figure is reflected in the share price of the firm. It emanates from the forces of demand and supply of the capital market. It is a reflection of the stakeholders' perception of the firm's value. Firm value is a crucial metric that reflects the overall financial health and future prospects of a company. It represents the market's assessment of a company's ability to generate cash flows and create long-term shareholder value. A higher firm value indicates strong performance, effective management and investor confidence.

2.1.3 Conceptual Framework

The diagram showing conceptual framework

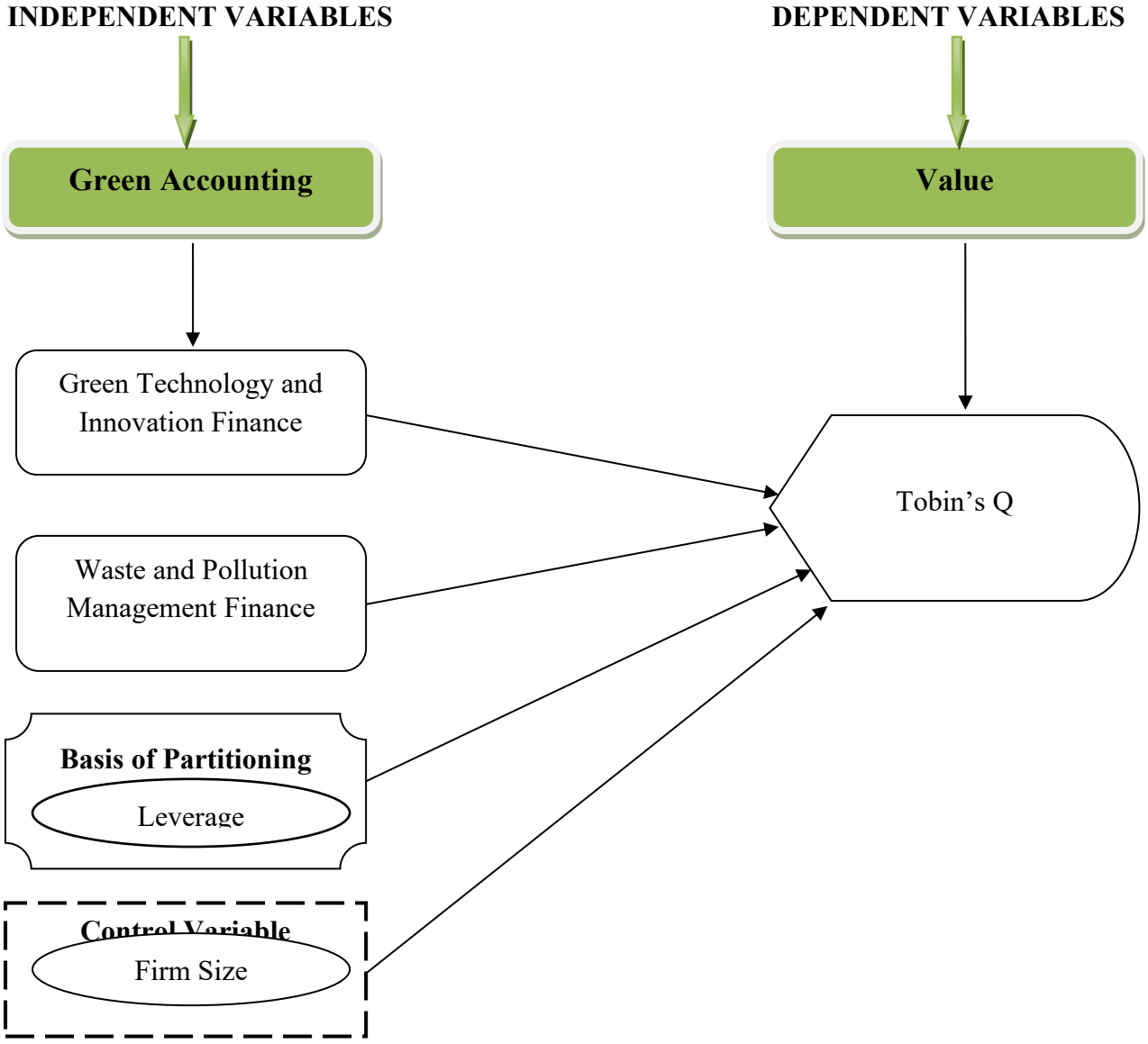

Figure 1: Conceptual Framework

Source: Researcher's Initiative (2025)

The conceptual framework as shown in figure 1 below indicates the disclosure and value of green finance for low and high levered quoted natural resources companies in Nigeria. Independent variables for green finance are Green Technology and Innovation Finance and Waste and Pollution Management Finance. Tobin's Q (Q Ratio) was used as an indicator to measure dependent variable. Further, leverage and firm size represent the control variables used for this seminar paper. The conceptual framework of this study reveals the interplay among the variables.

2.2.1 Theoretical Framework

This seminar paper used environmental theory as the underpinning theory. The use of environmental theory in this seminar paper is of paramount significance because it provides a crucial framework for understanding the profound impact of external environmental conditions on an organization's overall value and sustained growth. Environmental theory illuminates how factors such as regulatory changes, technological advancements, societal expectations regarding sustainability and even climate-related events are not mere peripheral considerations but rather exert a direct and often substantial influence on an organization's operations, reputation and firm value. The application of environmental theory explore how external pressures drive organizations to adopt more sophisticated green finance practices, which in turn enhance transparency, facilitate better internal decision-making regarding resource allocation and waste reduction, and ultimately impact the perceived and actual value of the organization to stakeholders.

Furthermore, this seminar paper will underscore that the long-term value and growth of any organization are highly dependent on the provision of a conducive environmental condition. This encompasses not only the physical environment (e.g., access to natural resources, stable climate) but also the regulatory, social, and economic environments that permit sustainable operations. Environmental theory helps to explain how organizations that adapt to and proactively manage these external conditions, perhaps by investing in green technologies, embracing circular economy principles or fostering strong community relations, are better positioned for resilience, innovation, and competitive advantage, thereby ensuring their continued prosperity. Thus, the theory allows for a comprehensive analysis of how environmental forces shape organizational survival and success, making its application indispensable for this seminar paper.

2.3 Empirical Review

Previous studies which are related to this seminar paper are thoroughly reviewed.

Shehu et al. (2025) investigated the effect of green finance on environmental planning of listed natural resources industries in Nigeria. The study adopted panel data regression approach. Findings reveal a significant positive relationship between green financial instruments and proactive environmental planning strategies. The adoption of green finance leads to better compliance with environmental regulations, increased investment in clean technologies, and improved sustainability disclosures. Samuel and Ifreke (2024) examined green accounting and the firm value of healthcare companies in Nigeria. The study covered 14 years (2010-2023). The data was analyzed using descriptive and inferential statistical techniques. The findings revealed that costs associated with greenhouse gas emissions have a positive effect on earnings per share (EPS) and market capitalization of healthcare firms in Nigeria. Also, investments in renewable energy have a positive effect on earnings per share (EPS) and market capitalization of healthcare firms in Nigeria. Purwanti (2024) ascertained the impact of sustainability reporting, green financing, corporate social responsibility (CSR), and environmental auditing on firm value and risk management in Indonesian manufacturing companies. The study adopted a quantitative research approach and data were analyzed using SEM-PLS. The findings showed that all factors studied - sustainability reporting, green financing, CSR, and environmental auditing are positively and significantly influencing firm value and enhance risk management practices.

Adebanjo and Wisdom (2024) analyzed green accounting practices and value of listed firms in Nigeria. The study covered ten (10) years between 2012 to 2021. The study adopted ex-post facto research design. The panel Generalized Method of Moments (GMM) was used to analyze data. The results demonstrated that green accounting practices (waste management disclosure (WMD) is not significantly related to Tobin's Q (TQ), but was positively and significantly related to price earnings ratio (PE). Usiomon and Iyoha (2024) explored the factors of environmental disclosure across oil and gas corporations operating in Nigeria over a ten-year period (2012-2021). The ex-post facto research design was employed. The data was analyzed using the panel least squares. The findings revealed that environmental disclosure and business size are positively correlated, while profitability has no statistically significant impact. Also, the study found that leverage positively improves corporate environmental disclosure. Nduokafor et al. (2023) ascertained the relationship between green accounting and the corporate performance of quoted oil and gas firms in Nigeria. The study adopted the ex post facto research design. The data were analyzed using descriptive and inferential statistical techniques (Pooled OLS technique). The results showed that oil spillage disclosure has a positive insignificant effect on Tobin's Q; there is a positive and significant effect of gas flaring disclosure on Tobin's Q; water pollution disclosure has a negative and significant effect on Tobin's Q; and, there is a positive non-significant effect of energy consumption disclosure on Tobin's Q. Chude et al. (2022) investigated the effect of green accounting practices on corporate performance of consumer goods manufacturing firms in Nigeria from 2011 to 2017. The study adopted an ex post facto research design and the data were analyzed using least squares regression. The findings of the study revealed that green accounting

practices have a positive and significant relationship with returns on assets but a negative insignificant effect on returns on equity.

Benson et al. (2021) examined the effect of green accounting on the financial performance of oil and gas companies for the periods 2010 to 2020. Ex post facto research design was employed for the study. The data were analyzed using multiple regression statistical tools. The results showed that environmental cost accounting has a significant effect on the financial performance of oil and gas companies. Also, the study found that green management accounting has significant effect on the financial performance of oil and gas firms. Cheng et al. (2021) investigated the relationship between green finance and firms' sustainable performance; and the moderating role of management innovation commitment. The result revealed that green finance had direct link with sustainability of firms. Also, management innovation commitment helped strengthened the relationship between green finance and firms' sustainability through improved performance. Elbousty and Boubakri (2021) examined green finance and firms' sustainability. The result indicated that green financing enhanced firms' environmental and social performance which led to improved economic performance. Al-Zadjali and Al-Hinai (2020) determined the impact of banks green finance on sustainability in Oman. The study revealed that there is indirect relationship between green finance and firms' sustainability. This was attributed to numerous challenges such as capacity building and lack of collaboration among stakeholder as key in disrupting green finance initiatives.

3.0 Methodology

This paper employed *ex post facto research design.* Ex post facto research design is appropriate for studying green finance and financial performance. This seminar paper employed the ex-post facto research design because of secondary nature of the variables under investigation and have existed in retrospect, and because it examines how past events and existing conditions influence current outcomes. This design allows the researcher to analyze historical data on green finance initiatives and their influence on value, providing insights into causality without manipulating variables. The population of the study consists all the four (4) quoted natural resources companies on the Nigeria Exchange Group (NGX) as at 31st December 2024. However, the quoted natural resources companies are; Aluminum Extrusion Industries Plc (ALEX), B.O.C Gases Plc (BOCGAS), Multiverse Plc (MULTIVERSE), Thomas Wyatt Nigeria Plc (THOMASWY) companies. The sample size of this seminar paper comprises all the four (4) quoted natural resources companies as sample size. The financial data used for this study were collected from the audited annual financial reports and accounts of quoted natural resources companies on the Nigerian Exchange Group (NGX) as at 31st December 2024.

3.5 Variable Definitions and Measurements

The variables for this study are defined and measured as stated below.

Table 3.1: Definitions and Measurements of Variables

S/No	Acronyms	Variables	Measurements	Author(s)
		Dependent Variable		
1.	Tobin's Q	Value	Measured as stock market value divided by corporate net worth	Adebanjo and Wisdom (2024)
		Independent Variables		
2.	GTIF	Green Technology and Innovation Finance	Measured as natural logarithm of annual total green technology and innovation financing.	Shehu et al. (2025); Samuel and Ifreke (2024)
3.	WPMF	Waste and Pollution Management Finance	Measured as natural logarithm of annual total waste and pollution management financing	Adebanjo and Wisdom (2024); Nduokafor et al. (2023)
		Basis of Partitioning		
4.	LERG	Leverage	Measured as total debt divided by total assets.	Usiomon and Iyoha (2024)
		Control Variable		
5.	FSIZ	Firm Size	Measured by the natural log of total asset	Usiomon and Iyoha (2024)

Source: **Researcher's Computation, 2025**

This study used both descriptive and inferential statistical tools for data analysis.

Model Specification

This seminar paper adapted the model used by Samuel & Ifreke (2024) to investigate Green Accounting and Firm Value of Healthcare Firms in Nigeria with little modification.

The model used by Samuel & Ifreke (2024) is stated as follows:
$MCP_{ij} = a_0 + b_1GHC_{ij} + b_2REI_{ij} + \mu$

Where:
MCP = Market Capitalization
GHC = Cost associated with Greenhouse gas emissions
REI = Investments in renewable Energy Sources

Model for this current study is adapted as follows:
$TOBQ_{it} = f(WPMF_{it}, GTIF, LERG_{it}, FSIZ_{it}) \ldots \quad (1)$

The model above in its econometric form becomes:
$TOBQ_{it} = \beta_0 + \beta_1 WPMF_{it} + \beta_2 GTIF_{it} + \beta_3 LERGit + \beta_4 FSIZit + \mu_{it} \ldots (2)$

Where:
GTIF = Green Technology and Innovation Finance
WPMF = Waste and Pollution Management Finance
LERG = Leverage
FSIZ = Firm Size
TOBQ = Tobin's Q
β_0 = Intercept
$\beta_1 - \beta_2$ = Regression coefficient of the independent variables (Green Finance Variables),
$\beta_3 - \beta_4$ = Coefficient of the control variables
μ_i = Stochastic error term
A priori expectations are positive effect on *β1, β2, β3, β4.*
Theoretically, there are expectations of WPMF, GTIF, LERG, FSIZ, having positive effect on Tobin's Q.

4.0 Results and Discussion of Findings

Data collected from the audited annual reports and accounts of quoted natural resources companies in Nigeria are analyzed and the results were interpreted.

4.1.1 Normality Test

The data used for this study were subjected to normality test. The researcher decided to use Shapiro-Wilk W test for normal data; therefore, the table 4.1 below shows the normality test for the purpose of this seminar paper.

Table 4.1: Normality Test (Shapiro-Francia W Test for Normal Data Test)

Variables	Observations	W'	V'	z	Prob. > z
TOBQ	56	0.74776	12.976	5.503	0.00000
GTIF	56	0.76096	12.297	5.387	0.00000
WPMF	56	0.83680	8.9100	4.696	0.00000
LERG	56	0.94924	2.6120	2.061	0.01966
FIZE	56	0.44374	28.616	7.200	0.00000

Source: **Output from STATA, 2025 (See appendix IV for details)**

The Shapiro-Wilk W test is a statistical test used to assess whether a dataset is normally distributed. It is commonly used for data normality test. The test's null hypothesis is that the data comes from a normal distribution. The Shapiro-Wilk test is based on the correlation between the observed values and the expected values under normal distribution. The results in table 4.1 showed the Shapiro-Wilk normality test and the results revealed that the p-value is less than the significance level (0.05), thus, this seminar paper reject the null hypothesis and conclude that the data are not normally distributed.

4.1.2 Model Fit Testing

A model fit test was carried out in order to evaluate how well is the statistical model used for this seminar paper. The results are shown in table 4.2 below.

Table 4.2: Result for Model Fit Testing

S/No.	Models	
	Model Fit Testing for Low Levered	**Model Fit Testing for High Levered**
1.	F(4,38) = 11.39	F(4,38) = 25.45
2.	Prob > F = 0.0371	Prob > F = 0.0001

Source: **Output from STATA, 2025 (See appendix IV for details)**

From table 4.2 above the Significant value F = 0.0000 < 0.05, it can be said that the models was fit, or the independent variables such as loan to deposit ratio, loan to asset ratio and liquid asset to total deposit ratio which are used for this study could be used to predict the dependents. Impliedly, Sig. value F = 0.0371 and 0.0001 < 0.05, means that the models was fit, and the independent variables could be used to predict the dependent variables.

4.1.3 Multicllinearity Test (Variance Inflation Factor)

Table 4.3: Result of Multicllinearity Test

Variables	VIF	1/VIF
GTIF	1.22	0.819701
WPMF	1.19	0.838779
FSIZ	1.15	0.866392
LERG	1.05	0.953055
Mean VIF	**1.15**	

Source: **Output from STATA, 2025 (See appendix III for details)**

Table 4.3 shows how multicollinearity affected the data series of the Green Financing variables. The presence of multicollinearity can impact the parameters of a regression model according to Field (2000); hence a multicollinearity test is required for this study. The tolerance levels and variation inflation factors (VIF) value, as shown in table 4.3, seemed to be in the usual range. Menard (1955) argued that a tolerance value less than 0.1 unquestionably indicate a major collinearity issue. A VIF rating greater than 10 raises red flags, according to Menard (1995). The researcher then moves on to estimate the parameters of the defined model using the stated estimator after determining from the multicollinearity test in table 4.3 that there is no existence of multicollinearity. There is no evidence of multicollinearity amongst the variables utilized in this study because all of the VIF values are below the value of 10.

4.1.4 Correlation Analysis

Correlation analysis was carried out in order to determine the degree of relationship between the dependent, independent and control variables. Summary of the results are shown in Table 4.4.

Table 4.4: Correlations Matrix Results

Variables	TOBQ	GTIF	WPMF	LERG	FSIZ
TOBQ	1.0000				
GTIF	0.1959	1.0000			
WPMF	0.3412	0.3752	1.0000		
LERG	0.0199	0.0731	0.0918	1.0000	
FSIZ	-0.0290	0.2825	0.2383	0.2125	1.0000

Source: **Output from STATA, 2025 (See appendix IV for details)**

From the correlation results in table 4.4, it indicates that green technology and innovation finance (GTIF), waste and pollution management finance (WPMF) and leverage (LERG) have positive relationship with Tobin's Q (TOBQ); this indicates that green technology and innovation finance, waste and pollution management finance and leverage has positive effects on Tobin's Q of quoted natural resources companies in Nigeria. This suggested that green technology and innovation finance, waste and pollution management finance and leverage increases Tobin's Q of quoted natural resources companies in Nigeria. On the other hand, firm size (FSIZ) have negative relationship with Tobin's Q (TOBQ); this indicates that firm size which was measured with total assets has negative effects on Tobin's Q of quoted natural resources companies in Nigeria. This suggested that firm size decreases Tobin's Q of quoted natural resources companies in Nigeria.

4.1.5 Descriptive Statistics

Table 4.5 presents the descriptive statistics of all the variables used in this seminar paper.

Table 4.5: Descriptive Statistics Results

Variables	TOBQ	GTIF	WPMF	LERG	FSIZ
Mean	0.074	4.438	2.552	0.521	8.906
Minimum	-7.692	0.000	0.000	0.000	0.000
Maximum	6.366	7.931	8.493	0.979	10.173
Std. Dev.	1.999	3.266	3.264	0.257	1.849
Skewness	-1.083	-0.576	0.556	0.209	-4.125
Kurtosis	8.939	1.455	1.467	2.153	20.010

Source: **Output from STATA, 2025 (See appendix IV for details)**

From table 4.5, the descriptive statistics reveals that Tobin's Q (TOBQ) has an average value of 0.07% and a 2.00% Standard Deviation (Std. Dev.) value. This implies that data points are above the mean, that is, data are more spread out (there is a high dispersion) in quoted natural resources companies total observations. This is further collaborated by the difference between the values of Maximum (Max.) and Minimum (Min.) values of 6.37 and -7.69 as reported for this study. The distribution shows negative skewness value of -1.08 and kurtosis value of 8.94. This result depicts the data are normally distributed.

Green Technology and Innovation Finance (GTIF) show a mean of 4.44% with a Std. Dev. of 3.26%. The implication of this is that GTIF distribution shows that data points are below the mean, that is, data clustered around the mean (there is, a lower dispersion) across the total observations of quoted natural resources companies in Nigeria. This is further collaborated by the difference between the values of Max. and Min. values of 7.93 and 0.00 as reported for this seminar paper. The distribution shows a negative skewness value of -0.58 and kurtosis distribution of 1.46. This result depicts the data are normally distributed.

Further, statistical observation from Waste and Pollution Management Finance (WPMF) shows that it has a mean of 2.55% with a Std. Dev. value of 3.26% which indicates that data points are above the mean, that is, data are more spread out (there is a high dispersion) in quoted natural resources companies total observations. This is further collaborated by the difference between the values of Max. and Min. values of 8.49 and 0.00 as reported in this seminar paper. The distribution shows a positive skewness value of 0.56 and kurtosis distribution of 1.47. This result depicts the data are normally distributed.

Leverage (LERG) has an average value of 0.52% with a Std. Dev. of 0.26%, this implies that data clustered around the mean (there is, a lower dispersion) quoted natural resources companies in Nigeria. This is further collaborated by the difference between the values of Max. and Min. values of 0.98 and 0.00 as reported in this study. The distribution shows a positive skewness value of 0.21 and kurtosis distribution of 2.15. This result depicts the data are normally distributed.

Lastly, Firm Size (FSIZ) which was used as control variable shows a mean of 8.91% with a Std. Dev. of 1.85%. The implication of this is that FSIZ distribution shows that data clustered around the mean (there is, a lower dispersion) across the total observations among the quoted natural resources companies in Nigeria. This is further collaborated by the difference between the values of Max. and Min. values of 10.17 and 0.00 as reported in this seminar paper. The distribution shows a negative skewness value of -4.13 and kurtosis distribution of 20.01. This result shows normally distributed data.

4.1.6 Inferential Statistics

The Multiple Regression analysis shown in table 4.6 is a panel regression

Table 4.6: Panel Regression Estimation

Variables	Low Levered Companies			High Levered Companies		
	Coefficient	**Prob.**	**Findings**	**Coefficient**	**Prob.**	**Findings**
WPMF	0.1456572	0.071	Significant	0.7850259	0.000	Significant
GTIF	-0.0198277	0.806	Insignificant	-0.1925936	0.179	Insignificant
LERG	-2.8585300	0.105	Insignificant	-33.092760	0.001	Significant
FSIZ	0.1356747	0.374	Insignificant	-1.9776170	0.000	Significant
_CONS	-0.4443069	0.695	Insignificant	46.444770	0.000	Significant
Number of Observations	43			13		
F (4, 38)	11.39	0.0371		25.45	0.0001	
R-squared	0.3273			0.9271		
Adjusted R-squared	0.2355			0.8907		

Source: **Output from STATA, 2025 (See appendix IV for details)**

Table 4.6 depicts the results of the panel regression analysis as specified by the econometric model. Waste and Pollution Management Finance (WPMF) has positive coefficient values of 0.1456572 for low levered and 0.7850259 for high levered respectively with significant effects on value of quoted natural resources companies in Nigeria. It means that an increase in waste and pollution management finance has the potential on the average to increase the value (Tobin's Q) of quoted natural resources companies in Nigeria by 14.57 and 78.50 percent respectively, while holding other variables constant. The effects are positive and statistically significant considering the p-value of 0.071for low levered and 0.425 for high levered.

As shown in table 4.3, the result reveals that Green Technology and Innovation Finance (GTIF) have negative coefficient value of -0.0198277 for low levered and also a negative coefficient value of -0.1925936. Both low and high levered has insignificant effect on value (Tobin's Q) of quoted natural resources companies in Nigeria. It means that a decrease in green technology and innovation finance has the potential on average to decrease value by 1.98 percent for low levered and has the potential to decrease the value of quoted natural resources companies in Nigeria by 19.26 percent while holding other variables constant, the effect of green technology and innovation finance is negative and statistically insignificant on value, considering the p-value of 0.806 for low levered and 0.179 for high levered.

The result shows that Leverage (LERG) has negative coefficient values of -2.8585300 for low levered and negative coefficient value of -33.092760 for high levered. Leverage for both low levered and high levered has negative effects on value (Tobin's Q) of quoted natural resources companies in Nigeria. It means that a decrease in leverage has the potential on the average to decrease value (Tobin's Q) for both low levered and high levered of quoted natural resources companies in Nigeria by -2.86 and -33.09 percent respectively, while holding other variables constant. The effect of leverage for low levered is negative and statistically insignificant considering the p-value of 0.105. Also, the effect of leverage on value (Tobin's Q) for high levered is negative and statistically significant considering the p-value of 0. 0001.

Firm Size (FSIZ) has positive coefficient values of 0.1356747 for low levered and has a negative coefficient value of -1.9776170 for high levered of quoted natural resources companies in Nigeria. It means that an increase in firm size for low levered has the potential on the average to increase the value of quoted natural resources companies in Nigeria by 13.57. On the other hand, it means that a decrease in firm size for high levered has the potential on the average to decrease the value of quoted natural resources companies in Nigeria by 1.98. While holding other variables constant, the effect for low levered is positive but statistically insignificant considering the p-value of 0.374 and the effect for high levered is negative but statistically significant considering the p-value of 0.000.

The findings in respect of the partitioned regression for low and high levered showed significant different of their effect on the value (Tobin's Q) of quoted natural resources companies in Nigeria. It therefore provides evidence of rejecting null hypothesis of the seminar paper.

The coefficient of determination for low levered is R^2 = 0.3273 and for high levered R^2 = 0.9271 which showed that 32.73 percent of the variation in low levered is explained by the independent variables; and also 92.71 percent of the variation in high levered is explained by the independent variables such as green finance are green technology and innovation finance and waste and pollution management finance and the control variables used in this study which are leverage and firm size of quoted natural resources companies in Nigeria (GTIF, WPMF, LERG and FSIZ).

4.3 Discussion of Findings

From the finding of this seminar paper, it was discovered that Green Technology and Innovation Finance (GTIF) has negative insignificant effect on value (Tobin's Q) of quoted natural resources companies in Nigeria for both low and high levered companies. This finding revealed that green technology and innovation finance has negative insignificant effect on the value of natural resources companies in Nigeria under the period reviewed. This finding of this seminar paper is not in line with findings of Shehu et al. (2025), Samuel and Ifreke (2024), Nduokafor et al. (2023).

Waste and Pollution Management Finance (WPMF) has positive significant effect on value (Tobin's Q) of quoted natural resources companies in Nigeria for both low and high levered companies. This implies that quoted natural resources companies in Nigeria are committed to waste and pollution management finance which in turn improving their value. Waste and pollution management finance has positive and statistically have significant effect on the value (Proxy by Tobin's Q) of quoted natural resources companies in Nigeria. Thus, the finding revealed a positive significant effect of waste and pollution management finance on Tobin's Q. This finding is not in tandem with findings of Purwanti (2024), Benson et al. (2021). However, the finding of this seminar paper is no not same with the submission of Adebanjo and Wisdom (2024) and Nduokafor et al. (2023).

Leverage (LERG) has a negative insignificant effect on the value (Tobin's Q) for low levered companies while it has negative significant effect on the value (Tobin's Q) of quoted natural resources companies for high levered companies in Nigeria. Impliedly, negative insignificant effect was observed between leverage and value (Tobin's Q) for low levered companies in Nigeria and on the other hand, negative significant effect was observed between leverage and value (Tobin's Q) for high levered companies in Nigeria. Without doubt, the finding of this seminar paper revealed that green technology and innovation finance and waste and pollution management significantly differ between high and low levered quoted natural resources companies in Nigeria. The finding of this study is not supported by the findings of Usiomon and Iyoha (2024).

Firm Size (FSIZ) has positive insignificant effect on the value of quoted natural resources companies in Nigeria for low levered companies while FSIZ has negative significant effect on the value of quoted natural resources companies in Nigeria for high levered companies. Impliedly, firm size has negative insignificant effect on value for low levered and firm size has negative significant effect on value for high levered quoted natural resources companies in Nigeria. The finding of this study is not in line with the findings of Usiomon and Iyoha (2024).

5.0 Conclusion and Recommendations

5.1 Conclusion

The conclusions from this seminar paper are based on the findings.

i) Green technology and innovation finance has negative insignificant effect on value (Tobin's Q) of quoted natural resources companies in Nigeria for both low and high levered companies. The implications of this finding is that any decrease in green technology and innovation finance will result to a decrease in the value (Tobin's Q) of quoted natural resources companies in Nigeria.

ii) Waste and Pollution Management Finance (WPMF) has positive significant effect on value (Tobin's Q) of quoted natural resources companies in Nigeria for both low and high levered companies. This shows that WMPF has positive significant effect on the value (Proxy by Tobin's Q). The implication of this finding is that waste and pollution management finance is capable of increasing value (Tobin's Q) of quoted natural resources companies in Nigeria when waste and pollution management are judiciously financed for the purpose of business operation in order to promote green financing.

iii) The finding for this seminar paper shows that green technology and innovation finance and waste and pollution management significantly differ between high and low levered quoted natural resources companies in Nigeria. The implication of this result revealed that low-levered natural resources companies rely more on equity (ownership) than debt to finance their primary operations and green technology and innovation while high-levered natural resources companies use a significant amount of debt to finance their primary operations and green technology and innovation.

iv) Firm Size (FSIZ) has positive insignificant effect on the value of quoted natural resources companies in Nigeria for low levered companies while FSIZ has negative significant effect on the value of quoted natural resources companies in Nigeria for high levered companies. The implication of this finding is that the finding revealed that firm size which is the total assets can increase or decrease the value (Tobin's Q) of quoted natural resources companies in Nigeria depending on the usage of the total assets at their disposal.

5.2 Recommendations

The following recommendations are made based on the findings of this seminar paper.

i) The researcher recommended that green technology and innovation finance should be paramount to quoted natural resources companies in Nigeria as this is capable of increasing the value of their companies especially at this era of technology.

ii) Also, it is recommended that quoted natural resources companies in Nigeria should improve on their green finance in terms of waste management and pollution since the findings showed that cost incurred on waste management and pollution enhanced the value of quoted natural resources companies.

iii) This study recommended that the management quoted natural resources companies should ensure that debts obtain is adequately used for their business operations in order to improve values and their green finance.

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