

## **ENVIRONMENTAL PREVENTION COST AND MARKET VALUE OF MULTINATIONAL FIRMS IN NIGERIA**

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### **Abstract**

Business entity cannot exist in isolation, but relate with its environment to enhance its productivity, hence it has a corporate social responsibility. However, organization often times prioritize and address the interest of its shareholders and neglect other stakeholder's interest. The constant environmental issues that occur as a result of the organization operations and activities has led to constant reduction in the market value of the firm. The study is therefore conducted to examine the effect of environmental prevention cost on market value of listed multinational firms in Nigeria. A longitudinal research design was adopted with extensive reliance on secondary data sourced from the annual reports of multinational companies listed on the floor of the Nigeria exchange group between year 2012 to 2022. The study focused on all the eighteen (18) multinational firms listed on the floor of NGX as at 31st December, 2022. The study utilized ordinary least square regression to examine the relationship between environmental prevention cost and market value. Environmental prevention cost has a positive and significant effect on market value of multinational companies in Nigeria indicating relationship. Environmental prevention cost is highly significant when evaluating environmental-related costs that have an impact on the market value of the company. Management of multinational companies should consider other means of detecting environmental problems and adequately ensure that the activities of the organization do not affect the environment negatively. Firms should adopt comprehensive reporting frameworks, such as the Global Reporting Initiative (GRI) standards, to provide clear and consistent information about their environmental efforts. Effective communication of environmental initiatives can build trust with investors and stakeholders, reinforcing the positive impact of sustainability on market valuation.

**Keywords:** Environmental cost, environmental prevention cost, market value, Tobin's Q.

### **1.0 Introduction**

The market value of a firm is often disclosures on the stock market. Hence, the stock market has become an important institution of great interest to investors, stakeholders and governments. It helps potential investors around the world to make decisions about investment and capital allocation (Anyanwu & Ohurogu 2024). However, the performance of various company's stock market determines its market value often fluctuate over years among listed firms in Nigeria due to various factors and environmental information of where the business entity operate has been identified as a factor that can influence the market value of such firm, Oyedokun et al. (2019).

The issue of environmental information has been debated in the recent years. Latest analyses by Oraka (2021), Oyedokun, and Erinoso (2022), Nkwoji, (2021), Uniamikogbo and Ali (2021) reported that most investors disregard environmental information disclosures in investment decision making process as it could not meet their expectations. The most challenging environmental problem the world is facing today is global warming and climate change which stem from business operations. This problem over time can affect the ecosystem and portend danger for the coming generation. Thus, it is exigent for organizations to protect the environment and society by giving more attention to environmental cost, especially environmental prevention cost. However, accounting for environmental prevention cost information in the annual reports of firms can help address environmental challenges faced by host communities and society has remained contentious, Emmanuel and Ifeanyichukwu, (2021).

Environmental cost accounting disclosures in the firms' annual report are of utmost importance to business organizations, host communities, stakeholders, society, and the entire nation. Environmental cost accounting issues have captured the business community's interest and the general public in recent times. As concerns towards environmentally friendly practices increase, corporate organizations are faced with the challenge of disseminating information about environmental issues in their annual reports (Etale & Otuya, 2018).

Furthermore, environmental cost accounting is induced by the fact that organizations do not operate in isolation, thus, seen as corporate entities that live within the people, community and carry out their business operations in society. Therefore, business entity in the course of carrying out their regular business activities produce one form of externalities or the other which are often negative to the environment, climate condition and the society where they function. According to Adediran and Alade (2013), the consequence of the activities of business corporations on the environment has brought about the depletion of the ozone layer thus, causing insecurity in the ecosystem. The growing concern about resource depletion, environmental degradation, resource scarcity, water, air and noise pollutions, oil spillages, health hazards and the search for sustainable economic activity led to the development of environmental reporting which is an area of significant interest to firms operating in Nigeria, specifically multinational companies within Nigeria and beyond to increase the awareness of the interaction between firms and the environment and its resultant effect on the environment of operation to ensure accountability and sustainability for the use of future generation, Eluka et al (2016).

The market value of business entity is essentially one of the measures of the effectiveness and managerial competence of the managers optimizing corporate resources, Emuebie et al (2021). Evidence from research in recent time's shows that meeting firm value expectations of shareholders has become a complex task considering Nigeria's infrastructural deficits and economic instability challenges prevalent in the country. Studies have shown that companies' sensitivity to environmental cost accounting practices tends to create good legitimacy, goodwill and corporate brand capable of ensuring effective corporate performance and improved market value.

In recent times, communities, alongside existing and potential customers, have increasingly lost trust and interest in patronizing multinational and manufacturing firms operating within their environment. This decline is largely attributed to the adverse environmental and social consequences of corporate activities, which threaten livelihoods, public health, and the

sustainability of future generations. These negative externalities have, in turn, raised concerns about their implications for firms' market value.

Empirical evidence suggests that the activities of multinational corporations in Nigeria are often perceived as unethical due to the significant harm inflicted on host communities. As noted by Eluka et al. (2016), firms; particularly in the oil and gas sector, which constitutes the backbone of the Nigerian economy; have been associated with environmental pollution, inadequate technology transfer, human rights violations, gas flaring, and the degradation of farmland and aquatic life in the Niger Delta region, often without adequate compensation.

These persistent environmental challenges have contributed to declining stakeholder confidence and may negatively affect firms' market valuation. In response, environmental accounting has been advocated as a mechanism to mitigate these adverse effects by promoting transparency in environmental cost reporting and enhancing corporate accountability. Prior studies like Carandang and Ferrer, 2020 suggest that firms that adopt environmental reporting practices may experience improvements in financial performance, corporate reputation, and market value.

However, despite these assertions, there remains limited empirical evidence on the extent to which environmental accounting practices influence market value within the Nigerian context, particularly in environmentally sensitive industries such as oil and gas. Additionally, existing studies have largely focused on developed economies, with insufficient attention to institutional, regulatory, and socio-economic peculiarities that characterize Nigeria.

Therefore, the gap this study seeks to fill lies in examining the relationship between environmental accounting practices and market value of firms in Nigeria, with a specific focus on how environmental cost disclosures influence investor perception and firm valuation in a developing economy context.

## **2.0 Literature Review and Hypotheses Development**

This section covers the relevant literature reviewed to provide in-depth explanation of concept. The theoretical underpinning, review of existing studies and gap identified.

### **Environmental cost**

The adoption and implementation of environmental reporting is to strengthening the efficacy of environmental management by evaluating environmental activities from the perception of it costs and benefits or effects (economic benefits), as well as promoting environmental protection efforts (Fabian et al, 2022). Environmental accounting provides evidence about the extent to which an organization makes a positive or negative impact on human life, ecosystem and the environment (Endiana, et al 2020). According to Ijeoma (2015), environmental accounting practice centers on the control of emissions and effluents into environment. It constitutes the use of materials, processes, or practices to reduce, minimize, or eliminate the creation of pollutants or wastes. It includes practices that reduce the use of toxic or hazardous materials, energy, water, and other resources, which is refers to environmental prevention cost (Ijeoma, 2015).

### **Environmental prevention cost**

Environmental prevention costs are costs incurred by a business to ensure that environmental problems do not arise, or the likelihood of environmental problems arising is minimized, Zhang et al, (2022). In application, installation of filtration system to stop chemicals from spilling into river streams, is a proactive step to ensure that future environmental pollution won't affect the ecosystem in which organization carries out its business activities. The cost of precaution activities carried out to stop the production of waste that could affect the environment negatively is also known as environmental prevention cost. According to Ighoroje and Ozigbo (2023) environmental prevention cost is the cost of cycles required to keep away from the losses underway which could achieve contamination of the environmental cost that might be involved incorporate confirmation for satisfying global and public guidelines, staff preparing, plan and plan to limit contamination and item reusing. According to (Major & Nwdighoha, 2023) benefits of derived from incurring additional cost to prevent the environmental pollution may not be monetary. In the long run, the business will reap social and financial rewards from its investments in the natural environment.

### **Market Value**

According to Adegbe et al. (2019), a company's value may be determined by its market or book values. A firm's market value is equivalent to all outstanding securities, debt, preferred shares, and common shares, are valued at their market value. (Sun et al., 2021). It is the amount that is supposedly required in order to purchase or take control of a business entity. According to Odoemelam and Okafor (2018) market value considers the possible economic worth of a firm because of economic activities of the management geared towards value creation, corporate stock appreciation as a result of high managerial competence, good image and rising corporate reputation (Aguguom, 2020). A company's share price is determined by the forces of demand and supply for shares in the market. Where there is a high demand for a company's shares due to favorable factors, the price will increase, otherwise, it will decrease, according to Emmanuel, and Ifeanyichukwu (2021). Ogunode and Adegbe (2022) noted that environmental accounting practice has a strong link with the possible economic value creation and firm value of a company. When there is clear evidence of environmental compliance, it provides the veritable ground for the economic growth and performance of such companies. Market value for businesses is the degree of expansion attained as a result of both internal entity characteristics and those unaffected by management policies, which is crucial to shareholders because it guarantees the continuity and wealth creation (Arhin, 2023).

### **Tobin's Q**

Tobin's Q is considered a measure of firm value in relation to financial performance from the market perspective. The market and financial performance of a company have a direct connection with the extent of image and reputation subsisting between the management of the company and the stakeholders, leveraging on the level of transparency and accountability attributable to the organization. Martinico et al. (2018) noted that Tobin's Q is closely related to measures in evaluating the financial performance of companies from the market perspective since the market participants' responses are the reflection of the performance of the companies. The ratio of a physical asset's market value to its replacement value is called Tobin's Q, or Q ratio with the purpose to ascertain whether a given business or market is being overvalued or undervalued in the stock market (Hayes, 2019). Therefore, this study seeks to examine the effect

of environmental prevention cost on Tobin's Q of selected multinational firms in Nigeria, with the hypotheses developed as stated below.

**H01: Environmental prevention cost has no significant effect on Tobin's Q of selected multinational firms in Nigeria**

**Theoretical Underpinning**

The theoretical approach that the study is anchored on is stakeholder's theory.

**Stakeholders' theory**

The theory argued that since organizations cannot operate and exist in isolation without relating to its immediate environment then the interest of other stakeholders like employees, customers, suppliers and local community might be considered in the process of strategic decision making. Therefore, the main argument of the theory, as pointed by Lawal (2020) is that organizations should not only maximize the returns of shareholders alone, but also the expectations of stakeholders should be considered. According to Artene et al. (2020), stakeholder theory assumes that managers tend to protect the interest of the shareholders at the expense of the other stakeholders. The stakeholder theory assumes that the role of peaceful coexistence between communities and the organization is significant in the going and corporate existence. Supporters of stakeholder theory suggested that the corporate structure can never be complete without the position of the stakeholders. Okpala and Iredele (2018) noted that corporate strategic decisions and companies that underscore the importance of stakeholders' protection in relation to social responsibility, transparency and accountability may not have a competitive edge over their peers in the industry.

Environmental accounting practices, particularly environmental prevention costs, serve as accountability and responsiveness to stakeholder's concern. By investing in environmental prevention, firms are able to reduce ecological damage, enhance corporate reputation and strengthened legitimacy among stakeholders. This can in turn influence investor confidence and positively affect firm valuation as captured by Tobin's Q. Therefore, stakeholder theory provides a theoretical basis for examining the effect of environmental prevention cost on market value of multinational firms in Nigeria.

**Empirical review**

Oyedokun *et al.* (2019), study examined the effect of environmental accounting disclosure on firm value of listed industrial goods companies in Nigeria from 2007- 2016. The *ex-post facto* research design was adopted in this study while the data were gathered through the individual sample company annual financial statement. Multiple regression was used to analyze the effect of environmental accounting disclosure on firm value. Environmental accounting disclosure was measured by non- financial indicators, financial indicators and performance indicators while the firm value is measured by Tobin's Q. From the result, it is evident that non-financial indicators have a positive significant effect on firm value while performance indicators have a negative significant effect on firm value and the financial indicator has no significant effect on firm value of industrial goods companies in Nigeria.

Carandang and Ferrer (2020) discussed the effect of environmental accounting disclosure on firm performance and value with the corporate governance as the moderating variable of twenty-four

listed oil and gas companies in Philippines for 2012-2016. The panel regression was utilized for data analysis and discovered that environmental accounting disclosure had significant relationship with the firm performance or value for given period when applied net profit margin, return on equity, and Tobin's Q.

Oraka (2021) conducted research on the impact that environmental costs have had on Nigerian oil and gas companies' financial performance. The study used secondary data, gathered from annual reports of 11 oil and gas companies quoted on the NGX between 2008 and 2019. According to the results of the OLS regression, the study findings revealed that Remediation Costs and compliance costs have a significant impact on Tobin's Q of oil and gas companies listed on the Nigeria Stock Exchange. Within the same year, Uniamikogbo and Ifeanyi-chukwu (2021) investigated the relationship between environmental accounting disclosure and the financial performance of manufacturing firms in Nigeria. The ex-post-facto research design was engaged in this study, using a sample of 40 manufacturing firms. The findings using the data gathered from the content analysis disclosure index and corporate annual reports of sampled population revealed that environmental accounting disclosures had a significant effect each on Share Price, Return on Asset, and Return on equity of manufacturing firms in Nigeria.

Mukah (2021) evaluated the implications of environmental costs prevention variables on the productivity of timber production in Cameroonian companies, explaining how the output of timber companies was affected by cost accounting for resource recycling, pollution prevention, and global environmental conservation. Data was gathered via a survey, and the Ordinary Least Square (OLS) estimation method was used for analysis. The empirical findings showed that cost accounting for resource recycling by environmental stakeholders, pollution prevention, and global environmental conservation is both profitable and cost-effective. Also, Haidar and Sohail (2021) argued on environmental reporting and value relevance of listed firms in Saudi and Tadawul; and data collected were analyzed using regression and model analysis for determining Tobin's Q value which was significant alongside with firm size, leverage and earnings per share. Odunayo et al (2023) investigated the effect of environmental accounting practices on firm value surrogated using Tobin's Q. The empirical result revealed mixed reactions to individual effects on Tobin's Q as each of, the economic accounting practices, and social accounting practice had insignificant effects, but environmental accounting practices exerted significant effect. Ighoroje and Ozigbo 2023 investigated the effect of environmental performance disclosure on the profitability of listed firms in the Oil and Gas industry in Nigeria. The ex post facto study used a panel model involving five firms and time series covering ten (2011 to 2020) years and the findings revealed that environmental prevention cost has negative and no significant effect on the profit for the year of the oil and gas firm in Nigeria while environmental evaluation costs disclosure have a negative and significant effect on the profit for the year of the oil and gas firms in Nigeria.

Alexandra et al (2023) examined the value relevance of environmental sustainability reporting of listed consumer goods firms in Nigeria and Ghana. The study adopted the longitudinal research design. The study sourced data from 13 consumer goods firms in Nigeria out of the 21 consumer goods firms recorded as at 31st of December, 2022 and 7 consumer goods firms in Ghana out of the 10 consumer goods firms recorded as at 31st of December, 2022. The data spanned from 2013 to 2021 as stated in the Global Reporting Initiative (GRI). The paper concludes that, GAS

flaring emission and energy consumption are value additive. Consequently, adequate laws should be put in place to compel oil firms to invest more on disclosure of the volumes of gas emission into the ozone layer and all commitments aimed at preserving the natural environment must be properly documented in the financial statement by way of environmental disclosure.

Onyebuanyi and Ofoegbu (2022) assessed the effect of environmental sustainability disclosure on financial performance of listed oil and gas companies in three countries within sub-Saharan Africa: Nigeria, Namibia, and Kenya. Using descriptive and ex-post facto research design panel data set collected from fifteen (15) firms within all three countries of interest within between year 2011 to 2019 were utilized, using content analyses procedure based on Global Reporting Initiative (GRI) standard to extract required information on environmental sustainability disclosure proxies, the Robust Least Square Regression analyses technique result revealed that biodiversity and water disclosure significantly affect performance measures of return on equity(positively) and gross profit after tax margin(negatively) while the effect of environmental sustainability protection expenditure disclosure is seen to be positive and statistically significant on performance measure of gross profit after tax margin during the period under investigation.

**Data and Methods**

The study adopted longitudinal research design. Secondary data were sourced from factbooks. Yearly publication and financial reports of multinational firms. The study focused on eighteen (18) multinational firms in Nigeria listed on the Nigerian exchange group as at 31<sup>st</sup> December, 2022. the study make used of census sampling technique as all the eighteen (18) multinational firms were considered. The study adopted Amaegbu and Onyali (2021), model stated as

$$Y = ROI_{it} = \alpha + \beta_1 EPC_{it} + \beta_2 EDC_{it} + \beta_3 EMEC_{it} + \mu_{it} \dots$$

The model is modified thus ;  $TBQ_{it} = \alpha + \beta_1 EPC_{it} + \mu_{it}$

Where: TBQ = Tobin’s Q

EPC = Environmental Prevention Cost

$\alpha$  = Constant; i = of a particular firm; t = Time Series;  $\beta_1$ , = Regression of the Independent Variable;  $\mu$  = Error Term. The apriori expectation of this study is that  $EPC > 0$ .

The data collected for the research was analyzed using the Ordinary Least Square (OLS) for the regression analysis. The descriptive statistics, correlation analysis and the unit root diagnostic tests was carried out on the data to determine its appropriateness of the model.

**Table 1**  
**Measurement of Variables**

Variables	Description	Measurement	Sources
Tobin’s Q	It serve as an economic value proxy of a firm making use of the firm’s market value	It is measured by dividing the market price of the company's equity plus debt divided by the value of its total assets.	Haidar and Sohail (2021); Oraka (2021)
Environmental	Development of	Cost of reducing	Ighoroje and Ozigbo

prevention cost	environmental performance measures, assessing the degree of contamination, installation of filtration system.	waste pollution at the source.	(2023);Zhang et al, (2022)
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**Source:** Author’s Compilation, 2025.

#### 4.0 Data Analysis and interpretation

This study focuses on eighteen multinational companies listed on the Nigerian Exchange Group (NXG) as of December 31, 2022. The analysis provides insights into whether these costs are perceived as value-adding or burdensome by the market, thus affecting the firms' financial performance and investor perception. This investigation is crucial for understanding the dynamics between environmental responsibility and financial success, offering a strategic perspective for firms navigating the complex landscape of corporate sustainability.

#### Descriptive statistics

Analyzing and interpreting descriptive statistics involves examining the central tendency, dispersion, and shape of the data distribution. These statistics provide a summary of the data set and insights into the relationships between variables.

	<b>TOBIN_Q</b>	<b>Environmental Prevention Cost</b>
Mean	1.495574	10471638
Median	1.037662	94102.00
Maximum	5.543513	2.47E+08
Minimum	0.620196	0.000000
Std. Dev.	1.019303	31060927
Skewness	2.031118	4.779084
Kurtosis	6.731292	29.07506
Jarque-Bera Probability	251.0005 0.000000	6362.956 0.000000
Sum	296.1236	2.07E+09
Sum Sq. Dev.	204.6789	1.90E+17
Observations	198	198

**Source:** Author’s Compilation, 2025.

Tobin's Q is a ratio comparing the market value of a company with the replacement cost of its assets. It is a measure often used to assess how well the market values a firm's assets and can serve as an indicator of investor perception and the company's growth potential. The mean value of Tobin's Q is 1.495574, while the median is 1.037662. The mean being higher than the median suggests that the distribution of Tobin's Q is positively skewed, with some firms having significantly higher market valuations relative to their asset replacement costs. This skewness indicates that most firms have a Tobin's Q close to or slightly above 1, but a few firms exhibit

much higher values, pulling the mean upwards. The standard deviation of 1.019303 reflects the variability of Tobin's Q across the firms. This relatively high variability suggests significant differences in how the market perceives and values different firms' assets within the sample, which might be due to industry-specific factors, company size, or financial performance. The Jarque-Bera statistic of 251.0005 with a probability of 0.000000 indicates that the distribution of Tobin's Q significantly deviates from normality. The highly skewed and leptokurtic nature of the data suggests that the Tobin's Q values do not follow a normal distribution, highlighting the diversity and complexity of market valuations among the firms studied.

The mean EPC is 10,471,638, while the median is 94,102. The substantial difference between the mean and median suggests a highly positively skewed distribution, where a few firms incur extraordinarily high environmental prevention costs compared to others. Most firms spend relatively small amounts, but a few firms with significant environmental investments elevate the mean. The standard deviation of 31,060,927 indicates a high level of dispersion in EPC across firms. This suggests substantial differences in how firms allocate resources for environmental prevention, which could be influenced by factors such as industry type, firm size, and geographic location. The Jarque-Bera statistic of 6362.956 with a probability of 0.000000 strongly indicates non-normality in the EPC distribution. The significant skewness and leptokurtic nature underscore the presence of outliers and non-uniform environmental expenditure practices across the firms.

**Correlations statistics**

The Pearson correlation coefficient is a statistical measure that assesses the strength and direction of a linear relationship between two continuous variables. The coefficient ranges from -1 to +1, where:

- +1 indicates a perfect positive linear relationship.
- 0 indicates no linear relationship.
- 1 indicates a perfect negative linear relationship.

	Environmental Prevention Cost	Tobin Q
Environmental Prevention Cost	1	
Tobin Q	.161*	1
	.024	
	198	198

**Source:** Author's Compilation, 2025.

The correlation coefficient between Environmental Prevention Cost and Tobin's Q is 0.161. This positive correlation suggests a mild association between the two variables, indicating that as environmental prevention costs increase, there is a slight tendency for Tobin's Q to also increase. The significance level (Sig.) for the correlation is 0.024, which is below the conventional threshold of 0.05. This indicates that the correlation between Environmental Prevention Cost and Tobin's Q is statistically significant at the 5% significance level. In other words, there is less than

a 2.4% probability that the observed correlation occurred by chance, providing reasonable confidence that a genuine association exists between the variables.

The positive correlation of 0.161, although weak, suggests that multinational firms in Nigeria that invest more in environmental prevention tend to have slightly higher market valuations as measured by Tobin's Q. This relationship implies that the market may perceive environmental investments as a positive factor contributing to a firm's market value. The significance of the correlation indicates that investors might view environmental prevention costs as beneficial or value-adding to the firm. This perception could stem from several factors, such as improved corporate reputation, compliance with environmental regulations, or anticipation of future financial benefits arising from sustainable practices. Companies that demonstrate a commitment to sustainability may be rewarded with higher market valuations due to increased investor confidence and a more favourable public image. For multinational firms operating in Nigeria, the positive correlation suggests that engaging in environmental prevention activities may enhance their market standing. Firms could leverage this insight to justify increased investments in sustainability initiatives, knowing that such efforts might align with market expectations and potentially boost their financial performance.

### Regression Analysis

#### Ordinary Least Square Panel Estimates

Dependent variable	<i>TOBIN_Q<sub>it</sub></i>
<i>Environmental Prevention Cost<sub>it</sub></i>	3.316694** (0.0011)
C	1.418572 (0.000)
R <sup>2</sup>	0.180482
F-stat	3.723877***(0.000081)
Adjusted R-squared	0.132016
Hausman Test	23.130789 (0.0000)

**Note:** \*\*\*, \*\* indicate the statistical significance of coefficients at 1%, and 5% respectively; the values in parentheses and block brackets are the probabilities.

**Source:** Author's Computation (2025).

The Hausman Test value is 23.130789, with a p-value of 0.0000. This test is used to determine whether a fixed effects model or a random effects model is more appropriate for panel data. The null hypothesis of the Hausman Test is that the random effects model is appropriate. However, the significant test result (p-value < 0.05) indicates that the fixed effects model is preferred, suggesting that individual-specific effects are correlated with the independent variable.

The estimated coefficient for Environmental Prevention Cost is 3.316694, with a p-value of 0.0011. This positive and statistically significant coefficient suggests that a one-unit increase in Environmental Prevention Cost is associated with an average increase of 3.316694 units in Tobin's Q, holding other factors constant. The p-value of 0.0011 indicates that this relationship is statistically significant at the 1% level, providing strong evidence that Environmental Prevention Cost positively influences market valuation. The intercept of the regression equation is 1.418572, with a p-value of 0.000. This value represents the expected level of Tobin's Q when

Environmental Prevention Cost is zero. While the intercept itself may not be of primary interest, its statistical significance suggests that Tobin's Q has a baseline value independent of environmental costs.

The R-squared value is 0.180482, indicating that approximately 18.05% of the variation in Tobin's Q can be explained by Environmental Prevention Cost. The adjusted R-squared value is 0.132016, which adjusts for the number of predictors in the model and provides a more accurate measure of model fit. While the R-squared value is relatively low, it is important to note that many factors can influence Tobin's Q, and a single predictor model may not capture all these influences.

The F-statistic is 3.723877, with a p-value of 0.000081, indicating that the overall regression model is statistically significant at the 1% level. This significance suggests that the independent variable, Environmental Prevention Cost, has a meaningful impact on the dependent variable, Tobin's Q, and that the model provides valuable insights into their relationship.

### **Discussion of Findings**

The findings from various empirical studies on the impact of environmental accounting disclosure and environmental costs on firm value provide a comprehensive understanding of the complex relationship between sustainability practices and financial performance. This discussion explores the alignment and contrast between these empirical studies and the analysis of the effect of Environmental Prevention Cost on Tobin's Q for multinational firms in Nigeria. Many studies have highlighted a positive relationship between environmental accounting disclosures and firm value, aligning with the analysis showing a significant positive effect of Environmental Prevention Cost on Tobin's Q.

Oyedokun et al. (2019) examined industrial goods companies in Nigeria and found that non-financial indicators of environmental disclosure significantly and positively affect firm value as measured by Tobin's Q. This aligns with the positive correlation found between Environmental Prevention Cost and Tobin's Q, suggesting that transparency in environmental efforts can enhance market valuation. Carandang and Ferrer (2020) also identified a significant relationship between environmental accounting disclosure and firm value in the oil and gas sector in the Philippines. Their study further emphasizes that environmental disclosures can improve firm performance and market valuation, especially when integrated with corporate governance practices. This suggests that investors are more likely to reward firms that demonstrate a commitment to environmental responsibility, aligning with the positive impact seen in the current analysis. Onyebuenyi and Ofoegbu (2022) showed that biodiversity and water disclosure positively affect return on equity, supporting the notion that certain environmental initiatives can lead to better financial outcomes. This is consistent with the idea that firms engaged in sustainable practices are perceived favorably by the market. Haidar and Sohail (2021) found a significant relationship between environmental reporting and Tobin's Q in Saudi Arabia, emphasizing the relevance of environmental disclosures alongside firm size, leverage, and earnings per share. This supports the analysis that environmental investments are perceived as value-adding by the market.

The empirical findings also reveal mixed effects of environmental accounting practices on firm value, indicating that not all environmental initiatives have a uniform impact. Oraka (2021) discovered that while remediation costs and compliance costs significantly impact Tobin's Q in

Nigerian oil and gas companies, other environmental costs may not have the same effect. This finding suggests that specific types of environmental expenditures are more critical in influencing market valuation, which might explain the varied impact seen in different sectors. Odunayo et al. (2023) found that while environmental accounting practices significantly affect firm value, economic and social accounting practices had insignificant effects. This highlights that environmental costs play a distinct role in shaping firm value, echoing the analysis's finding that Environmental Prevention Cost positively impacts Tobin's Q. Alexandra et al. (2023) concluded that gas flaring emission and energy consumption disclosures are value additive for consumer goods firms in Nigeria and Ghana. This finding reinforces the notion that certain environmental disclosures, particularly those related to emissions, can enhance market valuation, supporting the positive correlation between environmental prevention efforts and Tobin's Q. Uniamikogbo and Ifeanyichukwu (2021) found that environmental accounting disclosures significantly affect share price, return on assets, and return on equity for manufacturing firms in Nigeria. However, the varied effects on different performance measures highlight that the impact of environmental disclosures may differ based on the financial metrics used.

Interestingly, some studies reveal negative effects of certain environmental performance indicators on firm value, indicating potential trade-offs or challenges in aligning environmental goals with financial performance. Oyedokun et al. (2019) reported that performance indicators have a negative significant effect on firm value, suggesting that not all aspects of environmental performance contribute positively to market valuation. This may reflect the cost implications or short-term financial burdens associated with specific environmental initiatives. Ighoroje and Ozigbo (2023) found that environmental prevention costs negatively and insignificantly affect profitability in the Nigerian oil and gas industry. This contrasts with the positive relationship found in the analysis but suggests that the impact of environmental costs can vary across industries and profitability measures. Onyebuenyi and Ofoegbu (2022) also noted that biodiversity and water disclosure had a negative impact on gross profit after tax margin, highlighting the potential complexity in balancing environmental initiatives with financial performance.

### **Implications of Findings**

The positive skewness in Tobin's Q suggests that investors tend to value firms that exhibit strong asset growth potential, while the diversity in environmental prevention costs reflects varied strategic approaches to sustainability. Firms with higher Tobin's Q might be perceived as better aligned with growth and sustainability, potentially enhancing their market value. The considerable variance in EPC highlights differing strategic priorities and compliance levels among firms. Companies investing significantly in environmental prevention may be positioning themselves for long-term benefits, such as enhanced brand reputation and regulatory compliance, despite the immediate cost implications. The wide range of EPC values points to varying levels of regulatory compliance or voluntary commitment to environmental sustainability. Policymakers and stakeholders might use these insights to assess the effectiveness of environmental regulations and encourage broader industry adoption of sustainable practices. For investors, firms with higher Tobin's Q values and substantial environmental investments could represent attractive opportunities, reflecting robust market confidence and a commitment to long-term sustainability. However, investors must also consider the potential risks and challenges associated with high environmental costs.

The positive and significant coefficient of Environmental Prevention Cost highlights the beneficial role of environmental investments in enhancing market value. Firms that allocate resources to environmental prevention are likely to be rewarded with higher market valuations, reflecting the market's recognition of their commitment to sustainability and potential for long-term success. The statistically significant relationship between Environmental Prevention Cost and Tobin's Q suggests that investors and stakeholders view environmental responsibility as a value-adding attribute. This perception aligns with growing global awareness of sustainability and the increasing demand for environmentally responsible business practices. Firms that prioritize environmental investments may enjoy competitive advantages in the marketplace, attracting investors who value sustainability. For multinational firms in Nigeria, the findings underscore the importance of integrating environmental strategies into their business models. By investing in environmental prevention, firms can enhance their reputation, comply with regulations, and potentially improve their financial performance. This strategic alignment can lead to greater market valuation and long-term growth opportunities.

### **5.0 Conclusion and recommendation**

The examination of environmental prevention costs and their relationship with the market value of multinational firms in Nigeria reveals a significant positive correlation between environmental sustainability efforts and firm valuation. The analysis demonstrates that investments in environmental prevention, as reflected in increased Environmental Prevention Costs, contribute positively to a firm's market value, measured by Tobin's Q. This relationship underscores the growing recognition among investors and stakeholders of the importance of sustainability practices as a driver of firm performance and market perception.

The findings from this study align with existing empirical literature, which often highlights the beneficial impact of environmental accounting disclosures on firm value. Although the effects of environmental initiatives can vary across industries and financial performance metrics, the overall evidence supports the notion that firms that prioritize environmental sustainability are likely to experience enhanced market valuations and competitive advantages. However, the complexity of the relationship between environmental accounting practices and firm value necessitates a nuanced understanding. While some environmental initiatives positively impact firm value, others may have negligible or even negative effects, depending on the industry context and specific metrics considered. Thus, firms must strategically approach environmental investments, balancing short-term costs with long-term value creation.

Based on the findings and analysis of the relationship between environmental prevention costs and firm value, it is recommended that Firms should embed environmental sustainability into their core business strategies, recognizing it as a key component of long-term success. This integration will help align environmental initiatives with business objectives, potentially enhancing market value and competitive positioning. Also, transparency in environmental disclosures can positively influence market perception and firm value. Firms should adopt comprehensive reporting frameworks, such as the Global Reporting Initiative (GRI) standards, to provide clear and consistent information about their environmental efforts. Effective communication of environmental initiatives can build trust with investors and stakeholders, reinforcing the positive impact of sustainability on market valuation.

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