

ENVIRONMENTAL SUSTAINABILITY AND SHARE PRICE PERFORMANCE: EVIDENCE FROM NIGERIAN ICT FIRMS

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Abstract

The study investigated how legitimacy gains from environmental cost affect share prices of Nigerian Information and Communication Technology (ICT) firms. Based on the postulations of legitimacy theory, causal-comparative research strategy was applied on a population of eight (8) firms listed under the ICT sector of the Nigerian Exchange Group. Purposive sampling technique was employed to select five (5) firms that have been listed since 2013. Secondary data were extracted from the annual reports and statements of account of the selected firms from 2013 to 2022. Descriptive statistical analysis was carried out while the Least Square regression was estimated for the test of hypothesis. The finding showed that: legitimacy gains from environmental cost positively influence the share prices of Nigerian ICT firms ($p\text{-value} = 0.0086$). In conclusion, as environmental sustainability continues to gain prominence globally, Nigerian ICT firms that proactively invest in this area are well-positioned to reap long-term rewards in terms of both legitimacy and market valuation. Therefore, we recommend that Nigerian ICT firms should map out more investments in renewable energy sources, energy-efficient infrastructure, and sustainable product design which will help them to reduce environmental impact as well as lead to cost savings and improved financial performance in the long term.

Keywords: Legitimacy Gains, Environmental Cost, Share Prices

We deduce from legitimacy theory that the environmental expenses a firm incurs could be compensated by the increased social acceptability the firm gains through environmental cost disclosure. The push for environmental reporting has been driven by the collective efforts of various stakeholders, including professional organizations and governmental agencies, to encourage corporations to actively participate in environmental conservation and provide comprehensive accounts of their sustainability initiatives (Ukoh, Nduokafor & Nworie, 2024). This perspective is widely shared by corporate managers and environmental advocates, who consider corporate environmental reporting an essential component of improved environmental decision-making within organizations (Okudo & Amahalu, 2023; Olowookere, Taiwo & Onifade, 2021).

There is now a widespread belief that robust environmental reporting empowers companies to identify and implement financially beneficial environmental innovations that can ultimately enhance the overall value of corporate entities (Chiu, Zhang, Li, Wei, Xu & Chai, 2020; Doan & Sassen, 2020). In developing countries like Nigeria, an increasing number of firms are demonstrating growing environmental consciousness and making substantial efforts to adopt eco-friendly practices (Taiwo, Owowlabi, Adedokun & Ogundajo, 2022). Many of

these companies, when engaged in environmental accounting disclosure, include both financial and non-financial information in their financial statements to estimate the social costs associated with their production activities on the environment. This practice is based on the belief that accounting for the environment enables a more accurate evaluation of the costs and benefits associated with a company's environmental preservation efforts (Buallay, 2019).

Insufficient environmental disclosure has impeded firms and other entities from fostering greater trust and confidence among stakeholders, such as investors and creditors, who are essential in providing capital (Anyadufu & Orajekwe, 2023). This can result in an inaccurate market valuation of these organizations and potentially lower their corporate share value. Additionally, companies that have failed to meet their environmental regulatory obligations, such as those related to emissions or waste disposal, often face fines, penalties, and legal costs (Abiola, Elvis & Oyedokun, 2019). In fact, poor environmental accounting disclosure negatively influences how investors and lenders assess and decide on risks, returns, and investment options (Nworie, Obi, Anaike & Uchechukwu-Obi, 2022). In Nigeria, numerous instances of environmental degradation and atmospheric pollution require the urgent attention of corporate entities, institutions, stakeholders, accounting regulatory bodies, and governments. Even though the initiatives aimed at promoting environmental sustainability are essential and needed as urgently as possible (Okafor, Nworie & Onyebuchi, 2024), the rate of environmental reporting among Nigerian firms remains extremely low (Emmanuel & Ifeanyichukwu, 2021; Adebayo & Ezejiofor, 2021). Several studies have addressed similar issues in the existing body of literature (Igbinovia & Agbadua, 2023; Anyadufu & Orajekwe, 2023; Okudo & Amahalu, 2023; Taiwo, Owowlabi, Adedokun & Ogundajo, 2022; Kurawa & Shuaibu, 2022; Olagunju & Ajiboye, 2022). However, there is limited literature specifically focusing on the Nigerian ICT sector, which highlights the need for this study. The main objective of this study is to examine how legitimacy gains from environmental cost affect share prices of Nigerian ICT firms

2.0 Review of Related Literature 2.1 Conceptual Review

2.1.1 Environmental Cost Reporting

Environmental cost reporting refers to the process of disclosing expenditures related to an organization's environmental performance and impacts, including details on sustainability initiatives, compliance with environmental regulations, and environmental risks (Kurawa & Shuaibu, 2022). According to Omaliko, Nweze, and Nwadiolor (2020), environmental reporting involves sharing information about the management of emissions and effluents released into the environment. Dyllick and Hockerts (2016) suggest that environmental cost reporting involves disseminating data within a company's annual financial reports or in a separate document regarding its performance, standards, and activities related to environmental responsibility. Nwakaego, Uzoma, and Uche (2020) describe environmental cost reporting as the thorough effort made by corporate entities to

monitor, document, and communicate their interactions with the environment and natural resources, including the impact of their activities and efforts aimed at restoring vital natural resources.

Environmental reporting involves disclosing an organization's environmental practices, commitments, and investments to all relevant stakeholders, informing them about the company's actions and strategies for preserving the environment in the future (Olatunji, 2017). According to Ezeagba, John-Akamelu, and Umeoduagu (2017), environmental reporting focuses on the collaboration of accounting standard setters, professional organizations, and governmental agencies to actively engage corporations in environmental preservation and sustainability. This includes requiring companies to provide detailed descriptions of their environmental initiatives within their annual reports or in dedicated environmental disclosures. The structure of environmental disclosure is strategically designed to help firms enhance their brand image, secure customer loyalty, and gain approval from stakeholders, including investors. Additionally, environmental cost disclosure provides valuable information for management, improving their ability to make informed strategic decisions related to sustainability, such as optimizing waste management, managing environmental costs, and achieving cost reductions (Bataineh, Karasneh, Al-Omari & Hayajneh, 2019).

2.1.2 Share Price

Share price represents the current market price at which a single share of a company's stock is bought or sold on a stock exchange or over-the-counter market. Often referred to as the stock price, it denotes the monetary value per share of a company's stock, typically denominated in naira (Uwuigbe, Olusegun & Goodswill, 2012). This price reflects the amount investors are willing to pay for a single share of the company's stock. Essentially, the share price indicates the prevailing market rate for shares of common stock, showing the current market value attributed to each share (Emmanuel & Ifeanyichukwu, 2021). The share price is determined by the interaction of market participants' demands and supplies for a given share (Uwuigbe, 2013), reflecting the ongoing stock valuation in the market at any given time. It is expected to accurately mirror a company's financial performance, serving as an indicator of investor sentiment and the company's overall health.

The market price per share of stock, commonly known as the "share price," represents the monetary value in naira that investors are willing to pay for a single share of a company's stock (Bamidele & Luqman, 2018). Essentially, the share price is the cost associated with an individual share among the tradable stocks or financial assets offered by the company. In simpler terms, stock pricing involves determining the highest price a buyer is willing to pay or the lowest price at which a share can be sold. Share price indices are calculated from the values of common shares of companies traded on domestic or international stock exchanges. These indices are typically computed by the stock exchange, using the closing daily values as the basis for monthly data, and are often expressed as simple arithmetic averages of daily figures. Share prices play a crucial role as primary indicators that guide investors' decisions regarding investment in a specific bank's shares. Investors aim to maximize their expected

returns while minimizing associated risks in the stock market. Essentially, share prices serve as pivotal tools for investors evaluating whether to invest in a particular bank's shares, aiding them in optimizing returns while managing risk (Uwuigbe, Olusegun & Goodswill, 2012).

2.2 Development of Hypothesis from Legitimacy Theory Perspective

Legitimacy theory, initially conceptualized by Dowling and Pfeffer in 1975, emphasizes a company's efforts to align its fundamental values with those prevalent in the larger societal context in which it operates. This theory acknowledges the importance of balancing corporate performance and bridging the perceived gap between a company's actions and societal expectations (Deegan, 2014). It revolves around organizations adopting socially responsible behaviors to gain societal approval and acceptance within their operational milieu (Soyemi, Okewale & Olaniyan, 2021). According to this theory, corporations should not solely focus on maximizing profits; rather, they should also strive to enhance shareholder wealth while conducting their operations in a manner that does not harm the communities they serve (Pedron, Macagnan, Simon & Vancin, 2020). Essentially, legitimacy theory underscores the imperative for companies to pursue not only financial success but also to act as responsible corporate citizens by aligning their activities with societal values and expectations (Fernando & Lawrence, 2014). This balanced approach strengthens a company's standing within its operational environment and fosters positive relationships with broader society.

According to this theory, the ongoing social interaction between corporations and host communities plays a crucial role in the process of legitimacy. However, the stability of this relationship can be jeopardized if there is a disruption in the mutually understood terms of engagement. If the legitimacy process falters, it could potentially threaten the very existence of these corporations (Deegan, 2014). In today's business environment, shareholders no longer consider it sufficient for companies to merely provide goods and services and generate profits. They now expect businesses to invest resources, even at costs, to actively mitigate environmental degradation, address consumer interests, ensure employee safety, and safeguard the well-being of the communities where their operations are based. This shift in shareholder expectations highlights the critical importance of environmental performance, even when it involves expenditures for the company (Nworie, Obi, Anaike & Uchechukwu-Obi, 2022). Importantly, this perspective underscores that the environmental costs incurred by the firm are offset or better put justified by the legitimacy gained through corporate environmental disclosure. This enhanced legitimacy makes the company socially accepted, fostering investor loyalty and support, thereby increasing the overall value of the firm. Therefore, this study is grounded in legitimacy theory, which provides the framework for understanding the evolving dynamics of corporate behavior and meeting the broader expectations of stakeholders in today's business domain.

2.3 Synthesis of Prior Related Studies

Environmental cost disclosure and its impact on firm outcomes such as share price, financial performance and firm value have been the subject of extensive empirical research, particularly within emerging economies such as Nigeria. This synthesis evaluates findings from 30 studies to draw broader conclusions about the relationship between environmental cost reporting and various measures of firm outcomes. Several studies consistently indicate a positive relationship between environmental disclosure and firm performance. For instance, Anyadufu and Orajekwe (2023) demonstrated a significant positive impact of web-based environmental disclosure on the price-to-book value ratio of manufacturing firms in Nigeria. Similarly, Olagunju and Ajiboye (2022) found that environmental accounting disclosure positively influenced earnings per share and share price of non-financial firms. The study by Emmanuel and Ifeanyichukwu (2021) further supported this finding by showing significant positive effects of environmental accounting disclosures on share price, return on assets, and return on equity for manufacturing firms.

This positive correlation extends beyond Nigeria. Pedron et al. (2020) reported that environmental disclosure positively impacted the profitability and value of firms listed on the Brazilian Stock Market. Chiu et al. (2020) found similar results in Chinese energy companies, where environmental disclosure was positively correlated with return on assets.

Contrastingly, some studies revealed mixed or insignificant impacts. Igbinovia and Agbadua (2023) found that ESG reporting did not significantly influence the firm value of manufacturing firms in Nigeria. Likewise, Taiwo et al. (2022) concluded that sustainability reporting did not significantly affect market value growth among publicly traded companies in Nigeria, despite low compliance levels.

Kurawa and Shuaibu (2022) presented a nuanced view, showing that while certain types of environmental disclosures (such as environmental prevention expenditure) had a positive effect on earnings per share, they negatively impacted total equity for non-financial firms. Utomo et al. (2020) found that environmental disclosure did not directly affect firm value but was significant when environmental performance was also considered.

Sector-specific studies highlight how the impact of environmental disclosure can vary by industry. Okudo and Amahalu (2023) demonstrated that various environmental costs positively affected the profitability of oil and gas companies. Similarly, Obara et al. (2017) found that accounting for waste management expenditure significantly improved the profitability of oil and gas companies in Nigeria. In the cement industry, Olowookere et al. (2021) reported a significant positive impact of environmental accounting disclosure on financial performance.

The methodologies employed across these studies are largely consistent, utilizing secondary data from annual reports and applying regression analysis to test hypotheses. For instance, Igbinovia and Agbadua (2023) used regression analysis to examine the influence of ESG reporting, while Okudo and Amahalu (2023) employed

Pearson Correlation Coefficient and Panel Least Square Regression to assess the impact of environmental costs. This methodological consistency enhances the comparability of findings across different studies and sectors. The synthesis of these empirical works suggests several implications for policymakers, corporate managers, and researchers. First, the mixed findings suggest that the effectiveness of environmental cost disclosure can be context-specific, varying by industry, type of disclosure, and regional regulatory environment. This complexity necessitates tailored approaches to environmental cost reporting and performance evaluation. Lastly, the studies highlight the need for standardized reporting frameworks. Researchers like Nwakaego et al. (2020) and Okpala and Iredele (2018) advocate for integrating global standards such as the Global Reporting Initiative (GRI) guidelines to ensure consistency and comparability in environmental disclosures.

3.0 METHODOLOGY

This study employs a causal-comparative research strategy, utilizing data collected from the annual financial reports of selected ICT firms listed in Nigeria. This approach is used to analyze events that have already occurred. The study's population includes all ICT firms listed on the Nigerian Exchange Group at the end of the 2022 financial year, comprising 8 firms under the information and communication technology sector. The following are the firms: **Table 3.1 List of Population**

1.	<i>irtel Africa Plc</i>	A
2.	<i>riclinks Africa Plc</i>	B
3.	<i>hams Holding Company Plc</i>	C
4.	<i>wg Plc</i>	C
5.	<i>-Tranzact International Plc</i>	E
6.	<i>tn Nigeria Communications</i>	M
7.	<i>cr</i>	N
8.	<i>matek Ventures Plc</i>	O

Source: NGX Factbook (2022)

Airtel and MTN Plc were listed in 2019, while Briclinks Africa Plc was listed in 2021. Therefore, a purposive sampling technique was employed to select five firms that have complete financial data and have been listed from 2013 to 2022. The firms that met these criteria and were included in the sample are presented in Table 3.2 below.

Table 3.2 Sample Size of the Study

1.		C
hams Holding Company Plc		
2.		C
wg Plc		
3.		E
-Tranzact International Plc		
4.		N
cr		
5.		O
matek Ventures Plc		

Source: Author's Compilation, 2024

For this study on the sampled firms, the researcher utilized secondary data extracted from the annual reports and financial statements of the selected firms from 2013 to 2022. Share price was measured as the price of ordinary stock, while environmental costs were measured as the amount spent on environmental reporting. A descriptive statistical analysis was conducted on the data. Subsequently, the Ordinary Least Squares (OLS) regression analysis technique was employed to test the hypothesis. The models used in the study for estimating the linear regression analysis are shown below.

$SP_{it} = \beta_0 + \beta_1 ENC_{it} + \epsilon_{it}$ Eq. 1 for Hypothesis 1 Where: β_0 is constant

SP is share price

ENC is Environmental cost β_1 represents the regression coefficient; ϵ represents the error term; i represents individual firms and t represents the time/year.

4.0 Analysis and Discussion

The data collected were descriptively analysed as shown in Table 4.1.

Table 4.1 Descriptive Analysis

	<i>Environmental Expenditure</i>	<i>Share Price</i>
Mean	3285.340	2.748800

<i>Maximum</i>	28533.00	16.83000
<i>Minimum</i>	0.000000	0.200000
<i>Std. Dev.</i>	7441.684	3.395556
<i>Skewness</i>	2.248793	2.325935
<i>Kurtosis</i>	6.833001	8.847780
<i>Jarque-Bera</i>	72.75037	116.3259
<i>Probability</i>	0.000000	0.000000
<i>Observations</i>	50	50

Source: Analysis Output using Eviews 12 (2024)

The mean value of Environmental Expenditure is 3285.34. The wide range between the minimum (0) and the maximum (28533) indicates considerable variability in spending. The standard deviation of 7441.68 reflects the dispersion of environmental expenditure, showing that some firms have significantly higher or lower expenditures. The positive skewness of 2.2488 suggests that the distribution is highly skewed to the right, indicating a longer tail on the right side. The positive kurtosis of 6.8330 indicates a distribution with heavy tails and a more peaked shape than a normal distribution.

Share Price averaged 2.7488. The range, from a minimum of 0.2 to a maximum of 16.83, demonstrates variability in share prices. The standard deviation of 3.3956 indicates the dispersion of share prices around the mean. The positive skewness of 2.3259 suggests that the distribution is highly skewed to the right, indicating a longer tail on the right side. The high positive kurtosis of 8.8478 indicates a distribution with heavy tails and a more peaked shape than a normal distribution.

4.1 Test of Hypotheses

Null hypothesis: Legitimacy gains from environmental cost does not significantly influence the share prices of Nigerian ICT firms.

The above null hypothesis was tested using Ordinary Least Square regression. Table 4.2 shows the regression output.

The OLS regression analysis aimed to test the null hypothesis, which posits that legitimacy gains from environmental costs do not significantly influence the share prices of Nigerian ICT firms. The results from this analysis are presented in Table 4.2. The regression model includes the independent variable "Environmental Expenditure" and the constant term (C), with their respective coefficients and p-values indicating the statistical significance of the variables.

The R-squared value of 0.135099 suggests that approximately 13.51% of the variation in share prices can be explained by the environmental expenditure variable. While this indicates that environmental expenditure is a

significant factor, it also implies that there are other variables and factors not included in this model that influence the share prices of Nigerian ICT firms.

Also, the Prob(F-statistic) is 0.008642, which is highly significant and indicates that the overall regression model is statistically significant. This suggests that the regression equation provides a better fit to the data than a model with no independent variables, reinforcing the conclusion that environmental expenditure is a meaningful predictor of share prices. The constant term (C) has a coefficient of 2.197807, with a p-value of 0.0001. This intercept indicates that when environmental expenditure is zero, the baseline share price is approximately 2.197807 units.

The coefficient for Environmental Expenditure is 0.000168, with a p-value of 0.0086. This indicates a positive and statistically significant relationship between environmental expenditure and share prices at the 5% significance level. In other words, for every unit increase in environmental expenditure, the share price of the Nigerian ICT firms increases by 0.000168 units. The low p-value (0.0086) which is less than 0.05 strongly suggests that the observed effect is not due to random chance. Thus, the regression results provide strong evidence against the null hypothesis, indicating that legitimacy gains from environmental costs do significantly influence the share prices of Nigerian ICT firms. The positive coefficient of environmental expenditure, coupled with its statistical significance, highlights the importance of environmental investments in enhancing the market value of these firms.

4.2 Discussion of Findings

The study's findings reveal that legitimacy gains from environmental spending have a positive influence on the share prices of Nigerian ICT firms. Environmental spending often leads to an enhanced corporate image and reputation. When ICT firms in Nigeria invest in green technologies, waste reduction, and other sustainable practices, they are perceived as socially responsible entities. This improved public image can attract a wider range of investors who are increasingly concerned about environmental, social, and governance (ESG) criteria. As these investors choose to allocate their resources to companies with strong environmental practices, the demand for shares of these firms increases, subsequently driving up share prices. Also, sustainable practices often lead to long-term cost savings and improved financial performance. For instance, investments in energy-efficient technologies and waste reduction programs can result in significant cost reductions over time. Nigerian ICT firms that demonstrate a commitment to sustainability are likely to see these financial benefits reflected in their financial statements. Investors, recognizing the potential for improved profitability, are more likely to invest in these firms, which drives up share prices. Also, investors place a premium on firms with strong environmental reporting practices, possibly viewing them as socially responsible and sustainable. Companies actively managing their environmental impact may attract investors seeking ethical investments, leading to an increase in share prices.

This finding is in line with the studies by Anyadufu and Orajekwe (2023); Soyemi, Okewale, and Olaniyan (2021); Okudo and Amahalu (2023); Olagunju and Ajiboye (2022); and Tjahjadi and Soewarno (2021).

5.0 Conclusion and Recommendations

The findings of the study reveal a positive relationship between legitimacy gains from environmental spending and the share prices of Nigerian ICT firms. This result emphasises the importance of corporate environmental responsibility (CER) as a value-enhancing strategy in emerging markets like Nigeria. When ICT firms invest in environmental initiatives, such as sustainable practices or green technologies, they signal their commitment to social and environmental concerns, thereby enhancing their legitimacy among stakeholders, including investors. Several mechanisms can explain why legitimacy gains from environmental spending positively influence share prices. First, the disclosure of environmental expenditures and initiatives fosters transparency and accountability, building trust with shareholders and analysts. Investors increasingly consider environmental performance as a proxy for overall corporate governance and management quality. Thus, firms that demonstrate a strong commitment to environmental sustainability are likely to enjoy higher levels of investor confidence and support, reflected in upward movements in their share prices over time.

The Nigerian context adds another layer to these findings. As an emerging economy with evolving regulatory frameworks and growing awareness of sustainability issues, Nigerian ICT firms stand to benefit significantly from aligning with global environmental standards and practices. Investors, both domestic and international, increasingly factor in environmental performance when making investment decisions, contributing to the observed positive correlation between environmental spending and share prices in the Nigerian ICT sector. In conclusion, the findings underscore the dual benefits of environmental spending for Nigerian ICT firms: enhancing corporate legitimacy and positively influencing share prices. These results highlight the strategic importance of integrating environmental considerations into corporate strategy, not only for regulatory compliance but also for enhancing financial performance and shareholder value in emerging markets like Nigeria. As environmental sustainability continues to gain prominence globally, Nigerian ICT firms that proactively invest in this area are well-positioned to reap long-term rewards in terms of both legitimacy and market valuation. We recommend that Nigerian ICT firms should map out more investments in renewable energy sources, energy-efficient infrastructure, and sustainable product design which will help them to reduce environmental impact as well as lead to cost savings and improved financial performance in the long term.

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