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COST OF CAPITAL AND ENVIRONMENTAL ACCOUNTING PRACTICES OF LISTED OIL AND GAS COMPANIES IN NIGERIA

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ABSTRACT
The study explored Nigerian petroleum corporations' environmental accounting procedures and cost of capital between 2013 and 2022. To mitigate the impact of the independent factors on the dependent variable, the research employed firm size as a control variable. The research sampled five (5) oil and gas businesses and used ordinary least squares to analyse the data. The study revealed that the equity-weighted cost of capital does not have an important impact on the sustainability reporting practices of quoted petroleum firms in Nigeria. However, the dividend yield, cost of debt, and cost of capital were found to have a favourable and substantial association with environmental reporting practices. According to the study's findings, a business that used environmental reporting techniques paid less for loan capital and dividend yield. Consequently, it suggests that environmental accounting information disclosure is essential for business and enhances firms' cost of capital and brand.
KEYWORDS: *Accounting, Cost, Debt, Dividend, Environmental, Equity, Weighted, Yield,*

INTRODUCTION

The survival of companies often hinges on their level of environmental awareness. The environment plays a substantial function in ensuring the long-term viability of organisations. It is a matter of growing importance in the realms of economics, society, and politics. This is because any impact on the environment has significant consequences for the well-being of both individuals and ecosystems. Companies have become increasingly aware of the importance of being environmentally friendly and have implemented policies and activities to reflect this. These include initiatives such as awarding scholarships, employing local residents, and providing improved welfare programmes for the host community.

Environmental reporting organisations have aimed to reach a broader audience in order to share environmental information in their annual reports. There is growing concern among corporate stakeholders and regulatory bodies regarding the inclusion of environmental information in financial statements (Sabo, 2020). Companies have the option to provide information about their initiatives for managing the environment through reporting. Various researchers (Haninun et al. 2019; Yusoff, et al., 2018) have studied this practice. Environmental accounting practices demonstrate the companies' awareness of and commitment to the surrounding in which they operate, potentially impacting decisions of investors. In order to comprehend the workings of businesses, one can analyse financial or non-financial data, take into account the current state of the company, make projections about its future conditions (including potential risks), or consider various other factors. Including information that is both monetary and not monetary in a company's annual reports is crucial for financial accounting and can greatly enhance the value of the company. Various researchers extensively studied the inclusion of environmental information in financial statement reporting (Odoemelam & Okafor, 2018; Haninun et al., 2019).

According to Ohidoa et al. (2016), it is important for companies, particularly those that have an influence on the surroundings, to openly share their financial obligations towards been eco-friendly, particularly in relation to pollution and other potential risks. According to Aondoakaa (2015), the operation of business as a whole has detrimental effects on society, disrupting the social harmony required for a stable environment. As a result, the economic and social sustainability of commercial activity is questionable. He emphasised the detrimental impact of companies that harm the ecosystem, which ultimately hinders the ability to sustain a higher quality of human life. This clearly lacks social and economic sustainability, as it hinders any possibility of economic activity. According to a study by Herbert et al. (2020), there are significant health hazards linked to oil and gas exploration activities, as well as environmental and economic concerns.

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The social dynamics within native communities residing in oil-producing location are likewise subject to adverse consequences. In addition, the United Nations has been working for many years to address the significant issue of inadequate or weak enforcement of environmental laws through the Sustainable Development Goals (SDGs). Nigeria lacks specific accounting standards and instead relies on guidelines. It is crucial for the government to establish well-defined strategies for environmental reporting.

Researchers in developed countries are giving significant attention to the importance of environmental accounting practices and the information they provide. The studies conducted by Abd et al. (2017), and Nguyen, et al. (2020) have all put forth the argument that corporate environmental performance has the potential to enhance stakeholder satisfaction, improve the company's image, foster goodwill, and lower capital costs.

In Nigeria, there is a limited amount of research available on the cost of capital and sustainability reporting practices. This may likely contribute to the lack of disclosure of environmentally friendly practices by firms listed on the Nigerian Exchange Group to various stakeholder groups. Therefore, this study aims to address this gap.

OBJECTIVES OF THE STUDY

The precise aims are:

1. To examine the effects of environmental accounting methods on the dividend yield and cost of capital of listed oil and gas firms in Nigeria.
2. To examine the impact of environmental accounting methods on the equity-weighted cost of capital of listed oil and gas firms in Nigeria.
3. To examine the impact of environmental accounting methods on the debt cost of capital of listed oil and gas firms in Nigeria.

RESEARCH QUESTIONS

The research makes an effort to respond to the following queries:

1. What is the impact of environmental accounting methods on the dividend yield and cost of capital of listed oil and gas firms in Nigeria?
2. What is the impact of environmental accounting methods on the equity-weighted cost of capital of listed oil and gas firms in Nigeria?
3. What is the impact of environmental accounting methods on the debt cost of capital of listed oil and gas firms in Nigeria?

HYPOTHESES

The following hypotheses were tested in the study:

Ho_1: Environmental accounting methods have no significant effect on the dividend yield and cost of capital of listed oil and gas firms in Nigeria.

Ho_2: Environmental accounting methods have no significant effect on the equity-weighted cost of capital of listed oil and gas firms in Nigeria.

Ho_3: Environmental accounting methods have no significant effect on the debt cost of capital of listed oil and gas firms in Nigeria.

LITERATURE REVIEW

Conceptual Framework

Cost of Capital

Cost of capital is vital in finance and pertains to the anticipated level of return in capital markets on investments with comparable risk. Through a comprehensive grasp of the cost of capital, businesses are empowered to make well-informed decisions pertaining to their investments and financing strategies. Through a careful examination of market data and a thoughtful consideration of the impact of financial structure on market valuations, businesses can gain valuable insights into the cost of capital and make informed decisions regarding their capital allocation (Fama & French, 1999).

Cost of Debt

The cost of debt refers to the level of return that a firm delivers to its lenders. It is crucial to ensure that these financiers receive fair compensation for the diverse threats involved in giving-out funds to corporations. Understanding interest rates is essential for calculating the cost of borrowing funds. Figuring out the cost of debt is usually easier compared to determining the cost of equity. The default risk of a corporation and the market interest rates that are in effect at the time have an impact on debt costs. In addition, it plays a vital role in

determining a company's weighted average cost of capital.

Dividend Yield

Dividend yield is a financial indicator that compares the market value of a security's shares to the yearly value of dividends paid out. It determines the portion of an enterprise's stock market price that stockholders receive as dividends. The concept of dividend yield is essential in evaluating the appeal of an investment. Through a comprehensive examination of a stock's dividend yield, investors can assess the potential return on their investment and make well-informed choices regarding the purchase or sale of a specific stock (Dawar, 2013). In addition, the dividend yield is a crucial consideration for investors who prioritise generating income. In relation to the stock's current market price, it represents the yearly dividend payout.

Equity-Weighted Cost

The rate at which a business reimburses equity investors is known as the cost of equity. A business evaluates both internal initiatives and external acquisition opportunities for their comparative desirability using the cost of equity. Organisations utilise a blend of debt and equity financing, wherein equity financing incurs the highest cost.

Environmental Accounting Practices

According to Rabi (2019), social and economic developments in global markets significantly impact the significance of accounting information disclosure, which is a foundation for client decisions. In making decisions, the disclosed information assists numerous parties, including investors, consumers, the environment, consumer protection, and the general public. Assured stakeholders who are concerned with accountability anticipate the organisation to divulge the environmental supports rendered at the conclusion of each year. In Nigeria, 77% of companies spanning the eight (8) sectors analysed in Otu, John, and Sunday's (2015) study presented evidence of the disclosure of environmental report information. An effective legal framework and commendable corporate governance qualities have the potential to augment the calibre of eco-friendly reporting in Nigeria.

THEORETICAL FRAMEWORK

Stakeholders' Theory

In accordance with R. Edward Freeman's Stakeholder Theory, businesses have a moral duty to consider the welfare of all parties involved, not just investors. (Freeman, 1984). As per the principle, stakeholders—persons or firms that holds the potential to induce or be impacted by a business—have a right to be informed about the resources and decisions made by the company. Freeman contends that in addition to maximising shareholder wealth, firms should put the benefits of all stakeholders first. This theory challenges the conventional wisdom that a company's key goal is profits maximization for its stockholders by putting forth a more comprehensive viewpoint that considers the various interests of all parties engaged in or impacted by the company's activities.

The notion of "stakeholders" compels organisations to consider the broader ramifications of their decisions for communities and individuals beyond the realm of shareholders. In order to sustain its relationships with stakeholders, a business must address their desires and needs, particularly those who possess sway over the accessibility of resources that are essential to its operations, including labour, corporate product marketplaces, and other resources (Ghozali & Chariri, 2007).

Signal Theory

Signal Theory, established by Michael Spence during the 1970s, investigates the transmission of information in scenarios where the sender and receiver possess varying degrees of knowledge or motivation. Signal theory posits that people have unequal information about themselves, with some individuals possessing a superior understanding of their talents and traits compared to others. Signalling allows people to communicate reliable information about their skills and talents to prospective employers or other parties, which reduces ambiguity and promotes effective decision-making in different economic and social situations.

Given the current state of the economy, investors need management information that assists them in estimating the level of uncertainty before making funding decision (Ali et al., 2018). One way to share corporate financial information with people outside the company is via financial statements. Financial statement data provides information regarding corporate social responsibility programmes, according to signal theory. Signal theory explains why businesses provide financial data to users. Brigham and Houston (2016) acknowledged that the level of return that ordinary shareholders of the firm need establishes the cost of capital. The cost of financing a source of funding is known as the cost of capital.

Empirical Review

Jung et al. (2014) conducted a study on an enterprise's debt costs and its susceptibility to carbon-related risk.

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Based on the results, there is a clear and substantial correlation among a business' carbon threat and the cost of debt.

Nguyen et al. (2020) explored the correlation between the cost of capital of 408 Vietnamese businesses and their adoption of environmental reporting procedures. Regression analysis was utilised to assess the gathered data. Companies that demonstrate superior EFAP performance in Vietnam have the potential to reduce their capital costs at a faster rate, as indicated by the research. The results revealed a negative correlation between environmental reporting methods and debt costs.

Abdulsalam et al (2020) studied the link between Nigerian petroleum marketing businesses' return on equity and the expenditures associated with environmental protection between 2004 and 2018. In addition to the financial statements of (12) petroleum businesses in Nigeria, they also examined the NXG profile. Regression technique was used to analyse the study's hypotheses. The data revealed that Nigerian petroleum marketing companies' return on investment is positively and significantly impacted by expenses related to environmental protection. According to the report, the Nigerian Oil Marketing Company's management needs to become more involved in community cleanup, pollution control, and environmental protection. This will enhance the profitability of the business, particularly the return on assets in Nigeria.

Sharfman and Fernando (2008) studied 267 American companies' cost of capital and how they managed environmental hazards. The research provide a different views on the interplay among environmental and economic outcomes, refuting the widely held notion that increased economic performance results only from more effective use of resources. Improving the company's handling of environmental hazards would also benefit it in the form of lower equity costs, a change from stock to debt funding, and more tax benefits linked with borrowing capacity. These results support the creation of stronger ideas on the effects of improved risk management techniques on the environment.

Abd et al. (2017) utilised content analysis in their investigation to explore the link among the cost of capital and voluntary disclosure. They studied 247 Malaysian publicly listed companies throughout the course of the 2013–2014 fiscal years. Data analysis techniques included correlation analysis, multiple regression, and descriptive statistics. Their findings indicated that the calibre of the voluntary reporting had a little effect on the weighted average cost of capital.

METHODOLOGY

Researchers used an ex post facto design. The target population consists of petroleum enterprises quoted on Nigerian Exchange Group for the years 2013 through 2022. In light of the data availability for the periods covered, the research used the judgmental sampling approach to pick five (5) businesses as the sample size.

Model Specification

The actual data supports the previously discussed theories on environmental accounting procedures and capital costs.

The econometric model is given as:

$DIY = \beta_0 + \beta_1 EAP + \beta_2 FSZE + Ɛ$ ……. (Model 1)

$EWC = \beta_0 + \beta_1 EAP + \beta_2 FSZE + Ɛ$……. (Model 2)

$CoD = \beta_0 + \beta_1 EAP + \beta_2 FSZE + Ɛ$ ……. (Model 3)

Where;

B= coefficient of parameter

Ɛ= error term

EAP = Environmental Accounting Practices Proxies by Dummy 1 and 0.

DIY = Dividend Yield

EWC = Equity Weight Cost

CoD = Cost of Debt

Moderating Variable FSZE= Firm Size

RESULTS

The research used ordinary least squares regression and descriptive statistics to analyse the data in order to examine the environmental accounting procedures and cost of capital of Nigerian-listed oil and gas businesses.

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DATA ANALYSIS

Table 1: Descriptive Statistics

	EAP	COD	DIY	EWC	FSZE
Mean	0.015359375	3.898996758	4.141150944	0.465631372	7.531623125
Median	0	3.1585756	3.7174111	0.498381	7.66007665
Maximum	0.122875	14.2085769	11.8792601	0.696947	8.8779645
Minimum	0	0	0	-1.2087951	0
Std. Dev.	0.040893783	3.842373992	3.123951391	0.23368859	1.282429664
Skewness	2.229234621	0.73888178	0.50517353	-4.627607171	-4.982791612
Kurtosis	6.038428431	2.573455663	2.449646813	33.4797021	30.0682006
	0	0	0	0	0
Jarque-Bera	99.7711578	7.883416216	4.307069548	3451.280561	2830.667443
Probability	0	0.017827688	0.10992889	0	0
Sum	1.22875	311.9197603	331.2920362	37.2504901	602.52985
Sum Sq. Dev.	0.134394777	1186.513439	784.2998205	4.388825658	132.1723123
Observations	50	50	50	50	50

According to table 1's descriptive statistics, the research variables' means for EAP, CoD, DIY, EWC, and FSZE are, in order, 0.015, 3.899, 4.141, 0.465, and 7.532. The research variables have maximum values of 0.123, 14.21, 11.88, 0.697, and 8.877, in that order. Additionally, Table 1 demonstrates that, among the research variables, performance (EAP) has the least dispersion (value of 0.04), but COD has the most dispersion (value of 3.842).

Table 2 Regression Analysis
Hypotheses Method: Panel Least

Model	DIY			EWC			COD		
	Coeff.	***t-Stat.***	***Prob.***	***Coeff.***	***t-Stat.***	***Prob.***	***Coeff.***	***t-Stat.***	***Prob.***
C	0.0272	0.9172	0.42768	0.0338	1.1419	0.53245	0.0366	1.2345	0.57565
EAP	0.00452	3.4342	0.00226	0.00062	0.0343	0.49751	0.00439	4.03443	0.00043
FSZE	0.00095	0.2876	0.85105	0.00098	0.2962	0.87658	0.00114	0.34510	0.02125
R-squared	0.2850			0.3819			0.36537		
Adjusted R-squared	0.2428			0.19535			0.14127		
S.E. of regression	0.0394			0.05279			0.05051		
Sum squared resid	0.1082			0.14498			0.13871		
Log likelihood	165.49			221.756			212.158		
Durbin-Watson stat	1.544			2.06896			1.97940		
F-statistic	7.26963			9.74130			9.31966		
Prob(F-statistic)	0.00011			0.00015			0.00014		

The Durbin-Watson stats in models one to three were 1.544, 2.06896, and 1.97940, respectively. This implies that the models are a good fit. In the results of Models one to three, the adj. R^2 is 0.2428, 0.19535, and 0.14127, respectively. This suggests that variation in DIY, EWC, and COD can be explained by 24.3%, 19.5%, and 14.1% changes in the independent variables.

Ho_1: Environmental accounting methods have no significant effect on the dividend yield and cost of capital of listed oil and gas firms in Nigeria.

According to Table 2, the dividend yield has a favourable coefficient of 0.00452 and a p-value of 0.00226, < 0.05

alpha. This suggests that DIY performance increases by 0.452% for every percent rise in EAP. The results indicate that listed petroleum firms environmental accounting methods have a statistically significant impact on the dividend yield cost of capital. As a result, in our investigation, we reject the null hypothesis.

Ho_2: Environmental accounting methods have no significant effect on the equity-weighted cost of capital of listed oil and gas firms in Nigeria.
The equity cost of capital has a favourable coefficient of 0.00062 and a p-value of 0.49751 > 0.05. This data indicates that environmental reporting procedures have no substantial impact on the equity cost of capital of Nigerian-quoted petroleum firms. As a result, we agree with the null hypothesis in our research.

Ho_3: Environmental accounting methods have no significant effect on the debt cost of capital of listed oil and gas firms in Nigeria.
According to Table 2, the cost of debt has a coefficient of 0.00439 and a p-value of 0.00043 < 0.05. The data indicate that environmental reporting procedures have a substantial impact on the cost of capital (cost of debt) among quoted petroleum companies in Nigeria. Consequently, the null hypothesis is rejected.

DISCUSSION OF FINDINGS

As per the first hypothesis's result, there is a substantial favourable correlation among environmental accounting procedures and the dividend yield cost of capital. This outcome agrees with what Abd et al. (2017) findings. The research by Fernando and Sharfman (2008) did find a statistically insignificant unfavourable correlation among environmental reporting procedures and environmental reporting. The outcome of hypothesis two demonstrates that there is a favourable insignificant correlation between environmental accounting procedures and the equity cost of capital. This outcome agrees with Sharfman and Fernando's (2008) results. Abd Rahman, Johari, and Mohamad's (2017) investigation, however, produced a different outcome. The third hypothesis's result shows that there is a statistically significant favourable correlation among environmental accounting procedures and the debt cost of capital. The findings Jung, Herbohn, and Clarkson (2014) are in line with this outcome. Nguyen, Nguyen, and Ha's (2020) research did discover a statistically insignificant negative correlation with environmental accounting methods.

CONCLUSION

The study looked at the environmental accounting practices and cost of capital for Nigeria's petroleum sector from 2013 to 2022. The study assessed Nigerian-listed oil and gas companies by using the company's size as a control variable. The study performed multiple regression analyses on secondary data using E-View. The results showed that, in contrast, equity-weighted cost of capital had no bearing on environmental reporting procedures. But dividend yield (DIY) had a favourable and substantial connection with environmental reporting practices. The research's conclusions show that businesses that use environmental accounting methods have lower debt capital costs and dividend yields. Publicizing environmental accounting data benefits investors by lowering their cost of capital and improving the company's image.

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