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The Impact of Environmental Accounting Disclosure on Achieving Sustainable Development: Evidence from the National Oil Corporation (NOC) of Libya

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The Impact of Environmental Accounting Disclosure on Achieving Sustainable Development: Evidence from the National Oil Corporation (NOC) of Libya

Abstract :This study investigates the impact of environmental accounting disclosure on sustainable development within the National Oil Corporation (NOC) of Libya. It explores how transparency in environmental accounting disclosure influences the environmental, economic, and social dimensions of sustainability. The study employs an empirical approach, utilizing regression analysis to examine the relationship between variables. The study's findings are synthesized with established frameworks such as Legitimacy Theory to provide a holistic understanding of corporate transparency in a sensitive energy sector. The results provide robust evidence that environmental accounting disclosure positively and significantly influences sustainable development, explaining over 50% ($R^2 = 0.507$) of its variance. With a high mean score of 4.08 and a strong regression coefficient ($B = 0.712$), the study confirms that the NOC has successfully transitioned toward a Sustainable development -oriented reporting framework. These findings align with global studies, suggesting that environmental transparency acts as a strategic tool for securing social legitimacy and enhancing economic efficiency. The study recommends the formal establishment of a specialized Environmental Accounting Unit within the NOC and the adoption of Global Reporting Initiative (GRI) standards. It provides policymakers with a roadmap to enhance regulatory frameworks for resource-consuming industries in emerging economies. Originality/Value: This research bridges a critical knowledge gap in the Libyan accounting literature by interlinking environmental disclosure with Sustainable development in the oil industry. It shifts the discourse from mere compliance to a strategic imperative for future viability in a green global economy.

Keywords: Environmental Accounting Disclosure, Sustainable Development, (Social dimension, Economic dimension, Environmental dimension), National Oil Corporation, Legitimacy Theory.

أثر الإفصاح المحاسبي البيئي في تحقيق التنمية المستدامة: أدلة

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المخلص: تهدف هذه الدراسة إلى استقصاء أثر الإفصاح المحاسبي البيئي على التنمية المستدامة في المؤسسة الوطنية للنفط بليبيا، واستكشاف كيف تؤثر الشفافية في التقارير البيئية على الأبعاد البيئية والاقتصادية والاجتماعية للاستدامة. ويعتمد البحث على المنهج التجريبي، حيث تم استخدام تحليل الانحدار لفحص العلاقة بين المتغيرات. كما تم ربط نتائج الدراسة مع الأطر النظرية المعتمدة مثل "نظرية الشرعية" لتوفير فهم شامل للشفافية المؤسسية في قطاع الطاقة الحساس. وأظهرت النتائج أدلة قوية على أن الإفصاح البيئي يؤثر إيجاباً ومعنوياً على التنمية المستدامة، حيث فسر أكثر من 50% من التباين الحاصل فيها. وبمتوسط حسابي مرتفع (4.08) ومعامل انحدار قوي، كما تؤكد الدراسة على أن المؤسسة الوطنية للنفط قد انتقلت بنجاح نحو إطار تقارير موجه نحو الاستدامة. وتتوافق هذه النتائج مع الدراسات العالمية، مما يشير إلى أن الشفافية البيئية تعمل كأداة إستراتيجية لتأمين الشرعية الاجتماعية وتعزيز الكفاءة الاقتصادية. وتوصي الدراسة بإنشاء وحدة متخصصة للمحاسبة البيئية رسمياً داخل المؤسسة الوطنية للنفط، وتبني معايير المبادرة العالمية للتقارير (GRI). وتوفير خارطة طريق لصناع القرار لتعزيز الأطر التنظيمية للصناعات المستهلكة للموارد في الاقتصادات الناشئة كما يسد هذا البحث فجوة معرفية حرجة في الأدبيات المحاسبية الليبية من خلال الربط بين الإفصاح البيئي والاستدامة في صناعة النفط. ويحول الخطاب من مجرد الامتثال للوائح إلى ضرورة إستراتيجية لضمان الاستمرارية المستقبلية في ظل اقتصاد عالمي أخضر.

الكلمات المفتاحية: الإفصاح المحاسبي البيئي، التنمية المستدامة- (البعد الاجتماعي، البعد الاقتصادي، البعد البيئي)، المؤسسة الوطنية للنفط، نظرية الشرعية.

1. Introduction

Over time, environmental accounting has emerged to monitor an organization's ecological footprint and make it more transparent. Adopting robust practices for environmental accounting disclosure is both an operational necessity and a strategic need, especially in industries like oil that frequently face public scrutiny due to the significant environmental degradation they may cause. Such practices facilitate alignment with SDGs (Cai & Choi 2020), emphasizing a balance between economic growth, environmental preservation, and social well-being. Despite the importance of these disclosures, most oil companies continue to struggle with inadequate practices and uneven execution, leading to a lack of understanding about how their position impacts Sustainable Development results (Gerged & Almontaser, 2021). Based on theoretical and practical implications, the study tries to bridge this gap by ascertaining how environmental accounting disclosure affects National oil corporation' (NOC) sustainable development.

2. Study Problem

Oil companies operate in a high-stakes environmental domain, and their activities dramatically affect worldwide moves toward sustainable development. In Libya, recent empirical evidence suggests that oil companies still struggle with "poor financial and nonfinancial disclosure" due to the absence of unified national accounting standards and weak regulatory enforcement (Gerged et al., 2025). However, their environmental accounting methods typically lack standardization and are insufficient to boost stakeholders' trust and promote sustainable development (African Journal of Advanced Studies, 2025). In light of the foregoing, such inconsistencies raise some critical questions. For instance, are the existing environmental accounting disclosures adequate? How do such disclosures affect sustainable development outcomes in the oil industry? The paper addresses these concerns through the central question:

What is the impact of environmental accounting disclosure on achieving sustainable development goals at the Libyan National Oil Corporation?

In addressing this question, the study assumes that environmental accounting disclosure has a significant impact on sustainable development. Furthermore, The main assumption of the study is examined through the three dimensions of sustainable development, namely the environmental, social, and economic dimensions, which are tested empirically in the analytical section.

3. Study Objectives

The primary objective of this study is to empirically examine the relationship between environmental accounting disclosure practices and the achievement of sustainable development goals within the National Oil Corporation (NOC) of Libya

4. The Importance of the Study

This study carries a lot of weight for different stakeholders in several ways. Theoretically, it enhances academic debate by making the associations between environmental accounting practices and sustainable development performance in the oil industry clearer. Practically, it provides oil companies with evidence-based insights to refine their processes for ecological reporting, thereby aligning them with global sustainability expectations. Policymakers may also draw on the findings to formulate and enforce regulations that ensure increased transparency and accountability (Halkos & Nomikos 2021). Through this, the study can instill change in one of the most environmentally impactful industries while addressing the high-priority issue of inadequate environmental accounting disclosure.

5. Literature review and research hypothesis

Recent literature has refined the connection between disclosure of environmental accounting and sustainable development, highlighting the significance of comprehensive reporting standards in the young economies. D'Amore et al. (2025) explained the conceptual checkpoints between environmental and sustainable development accounting, observing that environmental accounting forms the backbone of measuring the environmental effects in corporate reporting. Rivo-López et al. (2025) added to this by plotting twenty years of research on sustainability reporting, highlighting reporting as the key tool used to align organizations to global sustainability objectives. Cheng et al. (2025) present empirical evidence in Ghana, stating that the quantification and disclosure of environmental costs contribute to the credibility of sustainable development reports, and Sulemana et al. (2025) demonstrate that the stakeholder pressure in emerging markets has a significant effect on the quality of disclosures. All these findings establish that transparent environmental accounting builds confidence, increases reporting credibility, and promotes sustainable practices—matters of great concern to the Libyan oil industry, where stakeholder confidence is weak.

Additional evidence points to the wider organizational and policy implications of disclosure. Nakpodia et al. (2024) discussed the role of accounting in the attainment of the Sustainable development Goals and how environmental accounting disclosure enhances financial management, especially during the COVID-19 crisis. Khamisu and Paluri (2024) added to this by reviewing the trend in ESG disclosures and found that environmental accounting disclosure enhances accountability and stakeholder trust. Zhao et al. (2024) investigated the role of disclosure in terms of its effect on innovation and discovered that disclosure positively affects corporate green innovation, especially in combination with a high-quality audit and media scrutiny. Collectively, these studies emphasize that disclosure does not only enhance the internal governance, but it also helps to achieve wider societal and policy goals, a crucial concern to NOC, where lack of good governance and transparency has been a barrier to sustainable development.

Empirical research in developing nationseconomies gives more details on the direct contribution of disclosure to sustainable development. In Nigeria, Tite, Ene, and Lateef (2024) concluded that transparent accounting of the environment has a major role to play in environmental, social, and economic aspects of sustainability, citing disclosure as a tool towards overall development. Likewise, Pramiana et al. (2024) found that environmental accounting enhances financial performance by positively influencing environmental performance, supporting the business case of transparency. In a study on firms within the Gulf Cooperation Council, Abubakr et al. (2024) found that poor disclosure interferes with sustainable supply chains and inhibits informed decision-making by stakeholders. Together, these studies show that environmental accounting disclosure is not only a sustainable development enhancer but also an economic need, which means that its lack in the oil industry of Libya negates both corporate and national development objectives.

Underpinning these empirical findings is Legitimacy Theory, which provides a robust theoretical framework for understanding why firms, particularly in sensitive sectors like oil and gas, engage in environmental accounting. According to this theory, an organization's survival is contingent upon a 'social contract' with the community (Ahmad & Mohamad, 2014). When companies like the National Oil Corporation (NOC) face scrutiny over their environmental impact, a 'legitimacy gap' may emerge between societal expectations and corporate actions. Literature suggests that comprehensive environmental disclosure serves as a strategic tool to bridge this gap, transforming

environmental accounting disclosure from a mere technical exercise into a mechanism for securing social legitimacy and institutional support. By aligning corporate transparency with societal values, the NOC can mitigate stakeholder pressure—a factor highlighted by Sulemana et al. (2025)—and validate its 'social license' to continue resource-intensive operations in a greening global economy.

Synthesizing these views, the literature confirms that environmental accounting disclosure is part and parcel of sustainable development, but there are gaps. The literature on multinational corporations or firms in the West African, GCC, and European contexts is rather extensive; however, little is known about North Africa or national oil corporations. Furthermore, whereas prior research identifies the relationships between disclosure and sustainable development quality, innovation, or financial performance, few studies cohesively assess disclosure across all three aspects of sustainability, namely environmental, social, and economic, within the same organizational context. This paper fills these gaps by examining the National Oil Corporation in Libya, a state-owned company working in a high-stakes environmental and socio-economic context.

6. Key concepts

Environmental accounting refers to the process of identifying, quantifying, and accounting for environmental costs and effects of a company. Environmental disclosure is the disclosure of this environmental information to stakeholders in reports or statements. Sustainable development refers to development that does not pervert the future of the people by meeting their current demands (Cheng et al., 2025). The environmental aspect is concerned with the preservation of natural resources, pollution control, and preserving ecosystems. The social dimension focuses on community welfare, work rights, and stakeholder involvement. The economic aspect guarantees effective utilization of resources, sustainable profitability, and financial success.

7. Research Methodology

The study adopts a mixed-methods approach to ensure comprehensive coverage and depth of analysis; this will be a mixture of quantitative and qualitative research designs. The quantitative aspect will focus on achieving the first research objective, evaluating the null hypothesis, and providing an answer to the research question. The qualitative aspect will come in handy in explaining the quantitative aspect's findings and pursuing the second and third study objectives.

Sampling and quantitative variables:

This study targets National oil corporation' (NOC) and, the study will use two quantitative variables to test the hypothesis: environmental accounting disclosure as independent variables and sustainable development as Dependent variables that will be studied through the following axes: the environmental dimension, the social dimension, and the economic dimension. We collected primary data through questionnaires and with key stakeholders, including sustainable development managers, financial officers, and environmental auditors in National Oil Corporation (NOC).

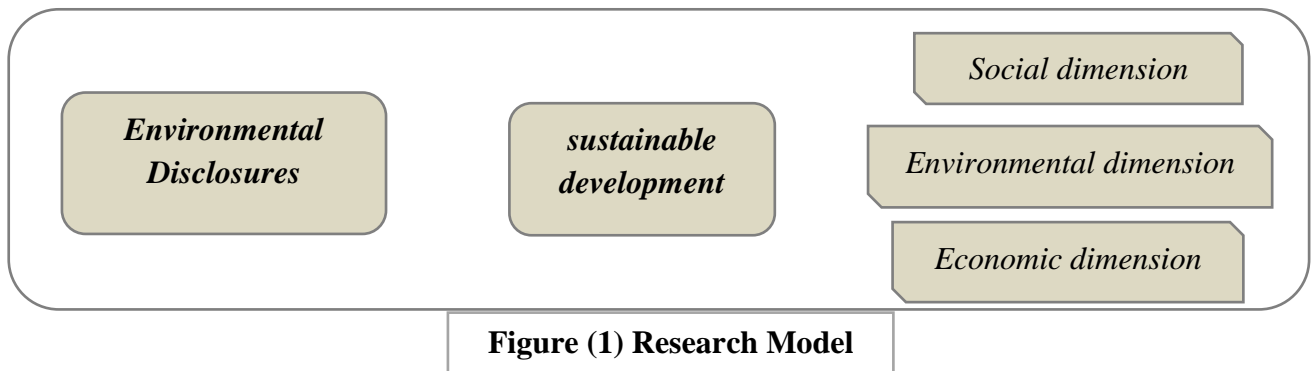


Figure (1) Research Model

Result and Analysis:

This study adopted a quantitative approach. Data were collected through a structured questionnaire distributed within the National Oil Corporation (NOC) to examine environmental accounting disclosure and its relationship with sustainable development. The questionnaire targeted the Environmental Department, the Accounting and Auditing Department, and Executive Administrators to ensure representation across different organizational functions. Out of 75 distributed questionnaires, 67 were returned and deemed valid for analysis, representing a high response rate of 89.33%. The remaining 8 questionnaires (10.67%) were not returned. All recovered questionnaires were complete and met the criteria for inclusion. Table (1) presents the distribution of questionnaires by department and response rates. The Accounting and Auditing Department recorded the highest response rate (91.4%), followed by the Environmental Department (88.0%) and Executive Administrators (86.7%).

Table 1: Distribution of Questionnaires

Department	Distributed	Valid (Recovered)	Non-responses	Response rate
Accounting & Auditing	35	32	3	91.4%
Environment	2	22	3	88.0%
Executive Administrators	15	13	2	86.7%
Total	75	67	8	89.33%

1- Result of the independent variable environmental accounting disclosure:

Table (2): Descriptive Statistics of environmental accounting disclosure

S.N	Expressions	Mean	Standard deviation	degree of agreement
1	Environmental disclosure is one of the modern concepts well known to the institution's management	4.25	1.009	Very High
2	Senior management raises awareness about the importance of disclosing its environmental performance.	3.81	1.261	High
3	Senior management is interested in training and developing accountants in the field of environmental disclosure to enhance their environmental competencies.	4.10	1.332	High
4	The current accounting system specifies the aspects of required disclosure regarding actual environmental liabilities.	3.55	1.304	High
5	The institution has an environmental accounting system to issue reports related to environmental costs.	4.40	1.292	Very High
6	The institution discloses its environmental performance regardless of its size and capital.	3.91	1.054	High
7	Libyan environmental laws and regulations contain sufficient provisions for disclosing environmental information	3.13	1.345	Medium
8	The institution is committed to general environmental laws, which are based on the necessity of preserving the environment and its resources.	4.04	1.194	High
9	Environmental accounting disclosure improves the quality of financial information related to the environment.	3.75	1.085	High
10	The institution works on disclosing the costs of machines used to reduce environmental pollution.	4.30	1.162	Very High
The total level of Environmental Disclosure		3.93	0.80	High

As shown in Table 2, the mean scores of the environmental accounting disclosure items range from 3.13 to 4.40. This indicates that respondents' perceptions vary between moderate and very high levels of agreement, with the majority of items reflecting a high level of agreement. The overall mean score of environmental disclosure is 3.93, indicating a high level of environmental accounting disclosure practices within the

National Oil Corporation. This suggests that respondents generally recognize both the importance and the implementation of environmental accounting disclosure within the organization. Furthermore, the standard deviation of 0.80 indicates a moderate level of variability among respondents' views, suggesting a reasonable degree of consistency across different groups, including accountants, environmental specialists, and executive administrators. Overall, these findings imply that environmental accounting disclosure practices are well established within the studied organization.

2- Result of the Dependent variable (Sustainable Development)

i. Environmental dimension axis

Table (3): Descriptive Statistics of the environmental dimension of sustainable development

S.N	Expressions	Mean	Standard deviation	degree of agreement
1	The organization relies on environmentally friendly technology	4.12	1.202	High
2	The organization works on utilizing minimizes negative environmental impacts.	3.82	1.152	High
3	The organization adopts the Environmental Management System ISO 14001.	4.28	1.143	Very High
4	The organization is concerned with the external environment in terms of producing eco-friendly products.	3.93	1.117	High
5	The organization works to positively address the waste from the production process.	4.04	0.89	High
The total level of Environmental dimension axis		4.04	0.62	High

From Table No. (3) It was found that the average values of the Environmental dimension axis questions ranged between (3.82) to (4.28). So, the level of Environmental dimension was high, the descriptive analysis of the Environmental Dimension of Sustainable Development (the dependent variable) indicates a high level of implementation within the surveyed National Oil Corporation. The overall mean reached 4.04 with a standard deviation of 0.62, suggesting that the organizations are deeply committed to integrating environmentally sustainable development into their core operations. Meanwhile, the low standard deviation across all items (ranging from 0.89 to 1.202) and the overall index (SD = 0.62) reflect a high degree of consensus among the study sample (Accountants, Environmentalists, and Executives). This

indicates that there is a unified professional vision regarding the company's environmental performance, which enhances the reliability of the reported sustainable development outcomes.

ii. Social dimension axis

Table (4): Descriptive analysis of the social dimension axis

S.N	Expressions	Mean	Standard deviation	degree of agreement
1	Implementing sustainable development within an organization leads to social development for the community.	4.18	0.73	High
2	Implementing sustainable development within an organization allows it to meet the needs of the present without compromising the ability of future generations to meet their own needs.	4.36	0.62	Very High
3	Optimal use of natural resources eliminates poverty.	3.81	0.94	High
4	Implementing sustainable development within an organization requires internal changes that align with the future needs of the organization and society.	4.01	0.78	High
5	The principle of full disclosure of all practices related to social development and, consequently, sustainable development, is adhered to.	4.07	0.71	High
The total level of social dimension axis		4.09	0.60	High

From Table No. (4) It was found that the average values of the social dimension axis, questions ranged between (3.36) to (4.36); it was also found that the descriptive analysis of the Social Dimension of Sustainable Development reveals a high level of awareness within the National Oil Corporation. The overall mean reached 4.09 with a standard deviation of 0.60, indicating a strong consensus on the firm's role in societal well-being. Notably, the item regarding 'meeting current needs without compromising future generations' ranked first with a mean of 4.36, which proves that the corporation's leadership and staff deeply understand the core philosophy of sustainable development. Furthermore, the commitment to 'comprehensive disclosure of social practices' (Mean = 4.07) highlights the transparency of the corporation toward its community stakeholders. These results confirm that the dependent variable (Sustainable Development) is being implemented not just as an environmental task, but as a comprehensive social and strategic commitment.

iii. Economic dimension axis

Table (5): Descriptive analysis of the economic dimension axis:

S.N	Expressions	Mean	Standard deviation	degree of agreement
1	Implementing sustainable development practices within institutions significantly contributes to the overall economic development of society	4.22	0.69	High
2	The institution significantly contributes to the growth of the gross domestic product (GDP)	4.42	0.61	Very High
3	The optimal exploitation of natural resources eliminates poverty.	3.96	0.81	High
4	The implementation of sustainable development in the organization requires making internal changes that align with the future challenges of the organization and society	4.10	0.74	High
5	There is a commitment to the principle of comprehensive disclosure of all practices related to social development and consequently sustainable development.	3.87	0.88	High
The total level of economic dimension axis		4.11	0.58	High

From Table No. (5) It was found that the average values of the economic dimension axis questions ranged between (3.87) and (4.42). so, the degree of approval of those questions they were high. The descriptive statistics for the Economic Dimension of Sustainable Development indicate a robust performance with an overall mean of 4.11 and a standard deviation of 0.58. This high score reflects the significant role of the National Oil Corporation in driving national economic growth. Specifically, the item regarding the 'contribution to the Gross Domestic Product (GDP/PIB)' achieved the highest mean (4.42), confirming that sustainable practices in the oil sector are perceived as a key engine for macroeconomic stability. Furthermore, the consensus on 'achieving economic development for society' (Mean = 4.22) underscores the alignment between the corporation's sustainable strategies and national economic goals. The low standard deviation (Overall SD = 0.58) highlights a clear, unified perspective among the accountants and executives regarding the economic viability of sustainable development initiatives.

iv. Total Descriptive Statistics for Sustainable Development (DV)

Table (6): The total results of the descriptive analysis for Sustainable Development (DV)

Dimension	Number of Itmes	Mean	Std. Deviation	Level
<i>Environmental Dimension</i>	5	4.04	0.62	High
<i>Social Dimension</i>	5	4.09	0.60	High
<i>Economic Dimension</i>	5	4.11	0.58	High
Total Sustainable Development	15	4.08	0.54	High

The cumulative results for the dependent variable, Sustainable Development, demonstrate a high level of implementation within the National Oil Corporation, with a Grand Mean of 4.08. This indicates that the corporation adopts a balanced approach toward the 'Triple Bottom Line' of sustainable development. The Economic Dimension ranked first (M = 4.11), followed closely by the Social Dimension (M = 4.09) and the Environmental Dimension (M = 4.04). The low overall standard deviation (0.54) reflects a very high level of consensus and stability among the 67 respondents. These findings provide a strong empirical basis for testing the research hypotheses, confirming that the components of sustainable development are well-integrated into the corporation's strategic vision.

Hypothesis testing

To test the three axes (dimensions), analysis conducted across dimensions:

H_{01} : There is no statistically significant impact of environmental accounting disclosure on the environmental dimension of sustainable development.

H_{02} : There is no statistically significant impact of environmental accounting disclosure on the social dimension of sustainable development.

H_{03} : There is no statistically significant impact of environmental accounting disclosure on the economic dimension of sustainable development.

Testing Sub-Hypotheses

The researchers use Simple Linear Regression to see how environmental accounting disclosure (X)

impacts each axis (Y_1, Y_2, Y_3). To examine the impact of environmental accounting disclosure on each of the three dimensions of Sustainable Development, simple linear regression was conducted for each sub-hypothesis. The results are summarized in Table (7) below.

Table (7): Regression Analysis Results for Sub-Hypotheses

<i>Hypothesis</i>	<i>Impact of relationship</i>	<i>Beta (B)</i>	<i>t-value</i>	<i>Sig. (p)</i>	<i>R²</i>
<i>H₀₁</i>	<i>Disclosure</i> → <i>Environmental</i>	0.642	6.78	0.000	0.412
<i>H₀₂</i>	<i>Disclosure</i> → <i>Social</i>	0.588	5.92	0.000	0.346
<i>H₀₃</i>	<i>Disclosure</i> → <i>Economic</i>	0.615	6.24	0.00	0.378

Significant at the 0.01 level (2-tailed).

(*H₀₁*) Environmental Dimension: The regression model shows that environmental accounting disclosure significantly affects sustainable development ($B=0.642$, $t=6.78$, $p<0.01$). the coefficient of determination ($R^2 = 0.412$) indicates that disclosure explains 41.2% of the variance in environmental performance.

(*H₀₂*) Social Dimension: disclosure also has a significant impact on social sustainable development ($B=0.588$, $t=5.92$, $p<0.01$) explaining 34.6% of its variance.

(*H₀₃*) Economic Dimension: The impact on economic sustainable development is equally significant ($B=0.615$, $t=6.24$, $p<0.01$) with disclosure accounting for 37.8% of the economic variance.

Based on the reported p-values ($p = 0.000$), which are well below the significance threshold of 0.05, the results indicate statistically significant relationships across all three dimensions (environmental, social, and economic). Consequently, environmental accounting disclosure is confirmed as a significant driver for improving the environmental, social, and economic pillars of sustainable development within the National Oil Corporation.

Testing Main-Hypotheses

The primary objective of this study was to examine the impact of Environmental Accounting Disclosure on the overall Sustainable Development of the National Oil Corporation. To this end, the results of the simple linear regression analysis are presented in Table (8).

Table (8): Regression Analysis for the Main Hypothesis

<i>Independent Variable</i>	<i>Dependent Variable</i>	<i>R</i>	<i>R²</i>	<i>F-Value</i>	<i>Sig.(F)</i>
<i>Environmental Disclosure</i>	<i>Total Sustainable Development</i>	0.712	0.507	66.82	0.000
Coefficients Table for the Main Model:					
<i>Model</i>	<i>Unstandardized B</i>	<i>Std.Error</i>	<i>Beta (B)</i>	<i>t-value</i>	<i>Sig.(P)</i>
<i>(Constant)</i>	1.124	0.342	-	3.28	0.002
<i>Disclosure (X)</i>	0.685	0.084	0.712	8.17	0.000

The results in the table above indicate a strong and statistically significant positive impact of the independent variable on the dependent variable. The correlation coefficient ($R = 0.712$) signifies a high degree of association. More importantly, the coefficient of determination ($R^2 = 0.507$) reveals that environmental accounting disclosure explains 50.7% of the variance in the corporation's total Sustainable Development score. The overall model is highly significant, as evidenced by the F-value (66.82) with a p-value of 0.000 ($p < 0.05$). Given that the significance level ($p = 0.000$) is less than the alpha level of 0.05, the results indicate a statistically significant impact of Environmental Accounting Disclosure on Sustainable Development. This confirms that there is a statistically significant impact of Environmental Accounting Disclosure on the Sustainable Development of the National Oil Corporation. Specifically, for every one-unit increase in disclosure quality, sustainable development performance increases by 0.685 units ($B = 0.685$, $t = 8.17$, $p < 0.05$).

8. Discussion and Conclusion

The results of this study provide empirical evidence that environmental accounting disclosure positively influences sustainable development. These findings are in strong alignment with Omran and Ramdhony (2015), whose research emphasized that in highly sensitive sectors like the oil industry, environmental accounting disclosure acts as a bridge between corporate transparency and the achievement of sustainable development goals. They argued that companies that disclose their environmental impacts more comprehensively tend to exhibit higher levels of social and economic legitimacy. This directly supports the current study's finding that Environmental Accounting Disclosure explains over 50% ($R^2 = 0.507$) of the variance in sustainable development at the National Oil Corporation.

The significant positive impact discovered in this study is also consistent with Latif et al. (2020), who found that in the energy sector, high-quality environmental accounting disclosure significantly enhances corporate sustainable development scores. Their study supports the evidence that both the environmental and economic dimensions are positively influenced by the depth of accounting disclosure. These findings further align with Hassan et al. (2020), who demonstrated that environmental accounting disclosure is a primary driver for corporate sustainable development in emerging economies, mirroring the results found within the National Oil Corporation (NOC). Furthermore,

the strong relationship observed in the social dimension is consistent with Legitimacy Theory, as supported by Ahmad and Mohamad (2014); they argued that for oil and gas firms, comprehensive disclosure serves as a strategic tool to secure a "social license to operate."

Additionally, the Integration of these findings with the work of Omran and Ramdhony (2015) and Latif et al. (2020) suggests that the National Oil Corporation's commitment to transparency is not merely a reporting formality but a core mechanism for enhancing its economic efficiency and environmental stewardship. Ultimately, the empirical evidence presented in this study provides a clear answer to the study problem. By rejecting the main null hypothesis, the study confirms that environmental accounting disclosure is a powerful predictor of sustainable development in the NOC. The synergy between the high mean scores (4.08) and the strong regression coefficient ($B= 0.712$) suggests that the corporation has successfully transitioned from traditional accounting to a more holistic, sustainable development-oriented reporting framework. This transition allows the corporation to address the environmental concerns of stakeholders while maintaining economic growth. The consistency between these findings and previous global studies confirms that environmental transparency is a universal prerequisite for sustainable success in the energy sector. Therefore, improving the depth and quality of disclosure is no longer a choice but a strategic imperative for the National Oil Corporation to ensure its future viability in a green global economy.

Furthermore, the study carries significant weight for governance, providing clear insight into how environmental accounting disclosures impact sustainable development in the oil industry. The study also aims to enable oil companies to enhance their transparency and accountability by identifying gaps in prevailing practices and suggesting paths for improvement. The research will equip policymakers with the knowledge required to create regulatory frameworks that promote robust disclosure practices. It also contributes to the existing Libyan literature by bridging the knowledge gap regarding the interlinkage between environmental accounting and sustainability, especially for resource-intensive industries. Consequently, it is recommended that the National Oil Corporation (NOC) formally establish a specialized Environmental Accounting Unit and adopt Global Reporting Initiative (GRI) standards. Such steps will move the corporation beyond mere compliance toward a robust "Integrated Reporting" framework that accurately captures its environmental costs and strategic sustainability gains.

Synthesizing these insights, the strong correlation between perceived disclosure and sustainability suggests several vital paths for future scholarly inquiry. Ultimately, future studies should move beyond perception-based surveys by employing Content Analysis to objectively examine the annual reports and environmental statements of the NOC over the last decade. This method would allow researchers to quantify the actual depth of disclosure—using word counts or thematic coding—to verify if the documented transparency matches the institutional perceptions found in this study. Furthermore, future research could explore the moderating role of external audit quality or conduct comparative analyses between national and foreign oil firms. Such longitudinal and objective approaches will provide a more granular understanding of how environmental accounting evolves from a reporting requirement into a lived organizational reality.

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