



Environmental Accounting and its Role in Promoting Sustainable Development for a Sample of Oil Companies (Exploratory Study)

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Abstract:

The objectives of the study are: the role of environmental accounting in promoting sustainable development; the possibility of preparing accounting information that reflects environmental responsibility; the role of companies in reducing risks resulting from environmental pollution affecting employees, local residents, and the environment; and in making decisions to prevent or address risks by providing economic and accounting information. The purpose is to demonstrate the effectiveness of environmental information, particularly accounting information. The study sample community was represented by a group of oil companies, from which thirty random samples were drawn. A questionnaire was distributed to them as a tool, and it was analyzed using the statistical program (SPSS).

Keywords: Accounting, environmental accounting, sustainable development.

Introduction

Environmental accounting is a branch of accounting that has recently emerged in response to social and global developments. It has gained prominence as a regulatory tool for monitoring environmental activities within economic and industrial organizations, aimed at reducing harmful emissions and the significant costs associated with environmental impacts on both society and the environment. Moreover, it plays a crucial role in achieving sustainable development, which is one of the state's primary objectives, by focusing on the preservation of natural resources and the reduction of product costs.

Environmental accounting contributes to supporting sustainable development through both economic and environmental means. The economic support is achieved by helping to reduce costs, while the environmental support is realized by providing information on the locations and quantities of waste, thereby aiding in the reduction of environmental pollution.

This research was developed based on this context and is structured into four main sections. The first section covers the research methodology and previous studies. The second section addresses the theoretical aspects of the research variables. The third section is dedicated to the practical aspect of the research. Finally, the fourth section concludes with findings and recommendations that serve the research community.

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Chapter One: Research Methodology

First: Research Problem

The research problem is articulated through the following central question:

"Does environmental accounting play a role in enhancing sustainable development?"

This primary question gives rise to several sub-questions:

- Does environmental accounting have a role in promoting sustainable development?
- Is there a significant correlation between environmental accounting and sustainable development?
- Is there a significant impact of environmental accounting on sustainable development?

Second: Importance of the Research

The importance of this research is highlighted by the following points:

1. The adoption of environmental accounting will contribute to the creation of accounting information that is essential for decision-makers.
2. The disclosure of environmental information is a pressing need for society at large, and especially for those involved in sustainable development.

Third: Research Objectives

Based on the research problem, this study aims to elucidate the role of environmental accounting in enhancing sustainable development. To achieve this, the following objectives are identified:

1. To explore the possibility of preparing accounting information that reflects environmental responsibility.
2. To demonstrate the role of companies in reducing risks associated with environmental pollution for employees, society, and the environment.
3. To assess the effectiveness of environmental information, particularly accounting data, in making decisions that help avoid or address risks by providing the necessary economic and accounting information.
4. To develop a proposed model for environmental accounting that enhances sustainable development.

Fourth: Research Hypothesis

Based on the content and objectives of the research, the following hypothesis is formulated:

"Environmental accounting plays a role in enhancing sustainable development." From this, the following sub-hypotheses are derived:

- There is a statistically significant correlation between environmental accounting and sustainable development.
- There is a statistically significant impact of environmental accounting on sustainable development.

Fifth: Research Methodology

This study employed an exploratory approach, where a hypothesis was formulated to address the research problem and tested to derive general and specific conclusions. The research methodology encompasses both theoretical and practical analytical aspects, as outlined below:

Theoretical Aspect: This aspect relies on available sources, including Iraqi, Arab, and foreign resources such as thesis, dissertations, and peer-reviewed scientific research. Additionally, publications containing standards issued by relevant professional organizations were utilized, obtained from libraries and the internet.

Practical Aspect: A questionnaire was designed and distributed to employees working in an oil company to gather data for analysis.

Chapter Two: Theoretical Framework

Theoretical Framework of Environmental Accounting

Introduction

The origins and development of environmental accounting have evolved through various stages, encompassing both monetary and physical forms. Several definitions have been provided to illustrate the evolution of the concept of environmental accounting by highlighting its impact on activities and projects across various economic sectors at both the micro and macro levels. The concept of green accounting, or environmental accounting, has emerged, and the environmental dimension has been incorporated into projects by considering both positive and negative aspects. This is particularly significant as countries around the world and international organizations have issued decisions and legislation to maintain environmental standards at the required level to mitigate the increasing risks of environmental pollution. This necessitates a set of additional measures to prevent pollution risks, leading to fundamental changes in the structure of the information provided, particularly in financial accounting, to adapt accounting systems with the aim of safeguarding the environment from pollution risks to the greatest extent possible (Ahmed et al., 2019: 365).

First: The Concept of Environmental Accounting

From an accounting perspective, the environment is defined as those components of natural resources and living organisms involved in the cosmic system under which individuals and entities operate. The responsibility for caring for and preserving the environment is a collective one, shared by all, to contribute to enhancing human life and well-being (Nashwan, 2002: 19).

In Iraqi legislation, the environment is defined as "the surroundings with all its elements where living organisms reside" (Ministry of Health, Environmental Legislation 1998, Regulation No. 1 of 1988: 174). The International Organization for Standardization (ISO) defines the environment as "the surroundings of an organization, including air, water, soil, natural resources, flora, fauna, and the interrelations among all these elements, extending from within the organization to the global system" (Al-Sarn, 2001: 27).

Second: Definition of Environmental Accounting

Environmental accounting is defined as the changes in the environment surrounding living organisms caused by human activities and daily operations, leading to the emergence of resources that are incompatible with the habitat of living organisms, resulting in ecological imbalance (Al-Hayali, 2009: 4). It is also defined as a means of measuring the extent of expenditures and social costs that a company must bear due to environmental damage caused by the use or depletion of resources, or the side effects resulting from the organization's activities (Aboud, 2011: 70).

In our view, environmental accounting is the process of measuring, examining, identifying, and assessing the damages caused by an economic unit to its surrounding environment due to its operational and manufacturing activities in producing and consuming goods, and then accounting for these damages and reflecting them in the financial statements.

Third: Areas of Application of Environmental Accounting

Environmental accounting is applied in three areas, which can be divided into the following three systems:

- Internal Environmental Accounting: This focuses on collecting information and providing it to management for internal use.
- External Environmental Accounting: This involves gathering environmental information and communicating it to the public, such as shareholders, lenders, and others.
- Other Environmental Accounting Systems: These include systems that collect environmental information and provide it to specific entities, such as tax accounting systems for environmental performance (Aboud, 2011: 80).

Fourth: Factors Affecting Environmental Accounting

Several factors impact environmental accounting, including:

- Environmental Problems: The environment faces numerous issues related to its components, framework, and future. The core problem lies in the conversion of many environmental resources into economic goods.
- Environmental Pollution: This refers to the quantitative or qualitative changes in the components of the biosphere in terms of chemical, physical, or biological characteristics of environmental elements. According to the United Nations' international law of 1977, pollution is defined as human activities that necessarily increase or add new materials or energy to the environment (Aboud, 2011: 32).

Fifth: Objectives of Environmental Accounting

The primary objective of environmental accounting is to provide comprehensive environmental information to internal and external stakeholders associated with the company, thereby enabling a more holistic evaluation of environmental performance. The objectives identified by organizations include:

- Identifying expenses and revenues related to environmental performance.
- Assessing the contribution of environmental benefits to net income.
- Determining the future benefits and returns (both financial and non-financial) resulting from the implementation of environmental management systems.
- Developing and designing new products that comply with environmental preservation requirements (Fian, 2000: 22).

Sixth: Advantages of Environmental Accounting

The benefits of environmental accounting measurement are outlined as follows:

1. Enabling the company to better estimate production costs to achieve accuracy and avoid fictitious calculations, thereby enhancing the credibility of product pricing and company profitability.
2. Allowing the company to appropriately allocate costs to products, processes, cost centers, or service centers, facilitating the implementation of responsibility accounting systems.
3. Stimulating the creative potential of company employees to explore methods and techniques that reduce environmental costs.
4. Encouraging the company to modify production processes to reduce waste, minimize resource use, and recycle or market waste (Aziz, 2002: 5).

Seventh: Challenges in Applying Environmental Accounting

As previously discussed, it can be said that accounting measurement is not without issues that lead to results that may not satisfy all parties involved. The problems encountered in accounting measurement can be summarized as follows (Aboud, 2011: 170):

- Difficulty in Applying Certain Accounting Assumptions and Principles: *Notable principles include the consistency of the monetary unit and the historical cost principle.* Accounting relies on the assumption of a stable monetary unit during the reporting period to present financial accounting information in reports.
- Objectivity and Bias in Accounting Measurement.
- Variety of Measurement Methods and Techniques: The diversity of methods makes it challenging to accurately judge and select one of these methods.
- Measurement of Income from Unusual Items: There are various perspectives on this issue.
- -Difficulty in Measuring Environmental Events and Processes: Due to the absence of prices for evaluating costs or determining market prices for environmental variables in economic unit activities.
- Lack of Data on Waste, Losses, and Damages Resulting from Environmental Events: This can lead to increased waste in natural and environmental resources.

Given the above, it can be concluded that environmental accounting, which calls for change, has increasingly gained prominence in contemporary accounting studies. It aligns with the rapid changes in the environment and the dynamic nature of conflict and ongoing development within organizations to address developments in both internal and external environments. Therefore, the next chapter is dedicated to highlighting the importance, objectives, dimensions, sources, and influencing factors of sustainable development.

Chapter Two: Sustainable Development

First: Concept and Definition of Sustainable Development

The main advantage of the concept of sustainable development lies in the quality of maintaining something over the long term. Sustainable development encompasses multiple concepts, some of which are based on linking sustainable development with the time constraint of the budget, while others rely on public finance principles to define the nature of sustainable development. Despite the various definitions, they all agree on a condition for achieving sustainable development, which requires that countries in the future generate a budget surplus sufficient to repay the public debt. In general, the concept of sustainable development involves achieving the principles of liquidity and suitability. Financial liquidity means having financial resources to meet financial obligations as they come due (Alvarado, 2004: 6).

It is also defined as an information system that measures, analyzes, and reports on economic, social, and environmental performance, providing the necessary information to support the strategic management process for sustainability (Poldrugovac, 2015: 29). It involves measuring, managing, and reporting on the company's sustainable activities, which either maintain or enhance the company's ability to achieve long-term value (SASB, 2017: 2). Alternatively, it is the measurement and disclosure of the company's sustainable activities, which provides relevant information to various stakeholders to support decisions that promote sustainable development (Ozili, 2021: 4).

Second: Importance of Sustainable Development

The importance of sustainable development is highlighted as a major political issue worldwide due to the severe financial imbalances experienced by many countries following the global financial and economic crisis, as well as the rising long-term financial costs of production resulting from increasing scarcity of economic resources. Consequently, there has been a growing focus on analyzing the results of fiscal policies and assessing their impact on the government's financial situation. Additionally, the significance of sustainable development extends to both advanced and developing economies. A sustainable fiscal policy signifies that the economy is moving in the right direction and that economic resources are being utilized effectively (SASB, 2017: 12).

Third: Principles of Sustainable Development

Several financial rules are designed to guide fiscal policy in the right direction. The financial rules of government fiscal policy act as a compass to ensure the conditions for sustainable development are met. These financial rules can be summarized as follows (Dagher&Sallah, 2017: 8):

- **The Golden Rule:** According to this rule, borrowing is allowed during the economic cycle to finance public investment expenditures, as these investments act as a financial lever for economic growth and infrastructure development. Conversely, current expenditures should be financed from tax and current revenues. In other words, borrowing should be restricted to investment expenditures, with the goal of balancing current revenues and expenditures, while allowing for sustainability in financing investment spending.
- **The Balanced Budget Rule:** The aim of this rule is to reduce deficits caused by exceptional economic conditions to a certain level by lowering public spending. This rule restricts the variable that affects the ratio of public debt and is under the control of policymakers. It provides clear practical guidance and helps in sustaining public debt by defining the balanced budget rule, such as general and structural balance, periodically adjusted balance, and balance over the economic cycle.
- **The Public Debt Rule:** This rule is considered more effective than other financial rules in terms of ensuring proximity to the debt target and ease of monitoring, as it is influenced by measures affecting the total public debt. However, the level of public debt takes time and monitoring, as the rule explicitly sets a budget limit but does not provide clear short-term guidance for policymakers. Additionally, debt levels are affected by developments beyond the government's control, such as changes in exchange rates and interest rates.
- **The Rule of Controlling Public Expenditure within Revenue Limits:** This rule aims to limit excessive revenue collection based on taxation and increase revenue to a practical level as a percentage of GDP. It is challenging to implement due to its cyclical nature, as it follows economic cycles of expansion and contraction. According to this rule, public expenditure should be constrained by a maximum limit relative to GDP or its growth rates, thereby controlling expenditures to prevent deficits and achieve a surplus in the general budget. This rule seeks to prevent public spending from growing faster than public revenue, thus avoiding budget deficits and ensuring a balanced budget.
- **The Debt Brake Rule:** This rule helps avoid structural imbalances in the state's general budget and prevents the public debt from rising excessively. It incorporates a counter-cyclical fiscal policy by allowing for budget deficits during economic downturns while requiring surpluses when the economy is in a period of expansion. The clear objective of this rule is to ensure overall sustainable development and facilitate economic cycles and growth fluctuations.

Fourth: Elements of Sustainable Development

There are economic factors that affect sustainable development both positively and negatively. The rates of growth in revenues and expenditures are among the most important factors influencing sustainable development. These factors include:

- **Public Debt:** Public debt is a tool of fiscal policy used by both developed and developing countries to cover public expenditures, whether operational or investment-related, when public revenues fall short. This can lead to increased government indebtedness. Rising government spending results in a growing public debt burden, which can impose future financial strains on the state, affecting future generations. Sustainable fiscal policies must ensure that the state does not have to cease debt servicing or declare bankruptcy. Public debt sustainability refers to a state's ability to meet its current and future debt obligations (Mouash, 2020: 4).
- **Economic Growth:** Economic growth is a primary goal for governments and societies, as it is essential for improving living standards and is an indicator of prosperity. Achieving acceptable economic growth requires essential factors that provide a favorable environment for development. Economic growth is linked to sustainable development; higher growth rates increase income levels and tax revenues, thereby reducing the gap between revenues and expenditures. It also boosts investment and consumption, which reduces domestic and external financial borrowing, supporting sustainable development. Conversely, a decline in economic growth rates has the opposite effect (Yamauchi, 2004: 7).
- **Interest Rates:** The interest rate represents the percentage of money earned by financial institutions for lending and the rate paid to individuals for keeping their money in savings accounts. Interest rates play a significant role in influencing individuals and financial institutions by affecting consumer spending and investment decisions, either directly or indirectly. High interest rates increase the cost of debt servicing (interest expenses), whether the debt is domestic or external. This financial burden decreases the government's ability to repay debts, negatively impacting sustainable development (Kathomi, 2017: 152).
- **Public Revenues and Expenditures:** Revenues have a direct relationship with sustainable development; higher revenue growth rates generally correlate with improved sustainable development indicators. In contrast, public expenditures have an inverse relationship with sustainable development. When public spending grows faster than revenues, it risks financial solvency and impairs sustainable development. To achieve sustainable development, there must be a balance between revenue growth and public expenditures. Prolonged periods of expenditure growth exceeding revenue growth can increase budget deficits, leading to higher borrowing and escalating public debt, which threatens sustainable development (Al-Wasal, 2016: 83).

Fifth: Objectives of Sustainable Development

The objective of *sustainability accounting* is to protect the environment and conserve natural resources by measuring the efficiency of resource use, and to achieve social well-being by assessing social contributions towards stable economic growth. The key objectives of sustainability accounting can be summarized as follows (SASB, 2017: 4):

- **Managing Environmental and Social Impacts:** Address the environmental and social impacts resulting from the production of goods and the provision of services.
- **Managing Environmental and Social Capital:** Oversee the environmental and social capital necessary to create long-term value.

Accordingly, corporate reporting should extend beyond financial statements to facilitate the measurement and reporting of sustainability information. This information enhances decision-makers' understanding of all material risks and opportunities and can be used to evaluate past performance, support future planning, and inform decisions as a complementary element to financial accounting. It provides a more comprehensive view of a company's performance concerning material factors that could affect its ability to create long-term value.

The objectives of sustainable development were established to meet the increasing demand from investors and other stakeholders for sustainability information. This demand led to the launch of an official initiative by *the Financial Accounting Standards Board (FASB)* to create the Sustainability Accounting Standards Board (SASB), a non-profit organization based in the United States. SASB's mission is to develop and publish sustainability accounting standards for reporting on sustainability issues within companies. These standards are designed for broad application and are of global importance for companies seeking to report on governance issues and environmental and social areas.

Sixth: Dimensions of Sustainable Development

Sustainable development encompasses various interconnected dimensions. Here, we focus on the three most integral and interrelated dimensions that should be emphasized and analyzed equally:

A. Environmental Dimension: This is a crucial aspect of sustainable development as it represents a primary focus in national concerns. It is the responsibility of both the government and individuals to preserve, develop, and enhance the environment to meet basic needs and provide better opportunities for future generations. Achieving sustainable development in the environmental context depends on two main factors:

1st: Population Density: One key goal of sustainable development is to address environmental problems, often caused by the significant increase in population. High population growth places pressure on natural resources, leading to depletion and contributing to higher poverty rates and various forms of unemployment. Sustainable development strategies aim to tackle these issues by understanding and managing environmental activities effectively.

2nd : Technology: Technology is comprises the knowledge, skills, tools, and equipment that enable a society to produce goods and services. It is fundamental to industrial development, as it involves the machinery and equipment used by institutions. The importance of selecting appropriate technology for projects and developing technologies that align with their nature and current capabilities cannot be overstated. Industrial development strategies must consider both short-term and long-term economic goals and the available resources, particularly within the industrial sector (Çalıyurt, 2020: 47; al et Peršić, 2017: 2).

B. Economic Dimension: Economic development necessitates the use of additional resources, which in turn influences the impact of economic development on the environment, either through degradation or pollution. Decision-makers need to implement economic policies that ensure environmental safety. For example, imposing taxes on environmental pollution can encourage better and more comprehensive long-term resource planning and equitable distribution. This ensures the sustainability of income and fairness among individuals. Economic development processes require the use of more natural and human resources, impacting project growth, development, and increased production. Achieving optimal welfare from economic activities while preserving economic resources over time is essential for ensuring general economic development (Gupta & Ekins, 2019: 512).

C. Social Dimension: This dimension reflects the broad scope of development processes as comprehensive changes and restructuring of existing social and economic systems. The lack of focus on social dimensions in development strategies has led to the failure of many programs aimed at achieving development. Development is primarily driven by individual actions, which can disrupt natural forces and lead to significant changes and impacts on projects and institutions. Thus, greater attention must be given to individuals in sustainable development policies and investment programs aimed at stimulating development.

D. Political Dimension: The political dimension is crucial in mitigating environmental issues (environmental security). One significant threat to environmental security is the use of military force to control environmental resources. Countries must develop methods to prevent the exploitation of natural resources in ways that threaten environmental security, such as through international cooperation on environmental issues. Achieving and sustaining development requires political awareness and active participation from individuals. It involves organizational structures where individuals feel empowered and capable of shaping their futures (Jenkins, 2019: 34).

In conclusion, sustainable development is characterized by a company's ability to outpace its competitors by providing greater and better value to customers. Announcing products or services with superior quality or lower prices attracts customer interest. The next section will explore the impact of leadership on achieving sustainable development, focusing on practical applications.

Practical Application

First: Statistical Methods

The **research community and its sample:**The research community consists of the total number of oil companies (oil company Y). As for the research sample, (oil Y) was selected as a random sample to represent that community. The number of forms distributed reached 30 questionnaire forms.

Table No. (1) Shows how to distribute questionnaire forms to the research community

Questionnaires to be distributed		Questionnaires received and included in the analysis		Questionnaires not received	
Number	Ratio	Number	Ratio	Number	Ratio
30	100 %	26	86 %	4	14%

This section describes some important characteristics of the people who responded to the questionnaire. These include gender, age, educational attainment, scientific specialization, job title, and finally years of service.

Firstly: Gender:

Table (2) Gender of respondents

Percentage	Frequencies	Sex
100 %	26	Males
100 %	26	Total

Source: Prepared by the researcher based on the questionnaire data

Table (2) shows that the percentage of respondents to whom the form was distributed was (100%) male.

Secondly: Age

Table No. (3) Age Distribution

Percentage	Frequencies	Age Group
15 %	4	25-35
38%	10	35-45
20%	5	45-50
27%	7	50 and more
100 %	26	Total

Source: Prepared by the researcher based on the questionnaire data

Table (3) shows that the percentage of respondents to whom the questionnaire was distributed was the highest at the age group 35-45 years by (38%), followed by the age group 45-50 by (20%), then the age group 50 and above by (27%), and then the age group 25-35 by (15%). This result clearly indicates that a large percentage of the respondents are young people who possess mental maturity and vitality that enables them to perform their financial work in the best way, as well as having a broad ability to understand, comprehend, and answer the paragraphs of the questionnaire accurately and objectively.

Thirdly . Academic Qualifications

Table No. (4) Academic Qualifications

Percentage	Frequencies	Academic Qualifications
11%	3	Preparatory
42%	11	Diploma
47%	12	Bachelor
100 %	26	Total

Source: Prepared by the researcher based on the questionnaire data

Table (4) shows the educational achievement of the respondents, as the percentage of those with a bachelor's degree reached (47%), which is the highest percentage, followed by a diploma at (42%) and preparatory school, at (11%) ,respectively. This gives us a good impression of the accuracy of the answer, which indicates the validity of the results of the research

Second: Analysis of the axis of the independent variable (environmental accounting):

Table No. (5) qAnalysis of the axis of environmental accounting

C	DESCRIPTION	Mean	Standard deviation
1	Modifying the disclosures according to the currently prevailing environmental accounting would lead to an increase in the amount of data to be collected.	4.66	1.58
2	The large number of amendments to the legal provisions governing accounting work leads to accounting problems in their application, as this requires continuous amendments in the inputs of environmental accounting	3.58	1.46
3	The accountant's adherence to integrity will affect the quality of environmental accounting inputs.	3.60	1.23
4	The development of accounting education programs in line with the	3.72	1.36

	development of the accounting profession will contribute to the development of the accountant's ability to accurately choose data and its sources.		
5	The use of environmental accounting makes it possible to easily collect data from several different locations.	4.09	1.25
6	The process of reorganizing companies entails several difficulties that will affect the inputs of environmental accounting.	3.33	0.63
7	The large number of amendments to the legal provisions governing accounting work leads to accounting problems in their application, and this requires continuous amendments in the operations of the accounting system.	3.46	1.27
8	The accountant's adherence to integrity will affect the objectivity of operations and adherence to internal control procedures.	3.64	1.23
9	The development of accounting education programs in line with the development of the accounting profession will increase the accountant's awareness and awareness of the correct accounting treatments and sound internal control procedures.	3.36	1.23
10	The use of environmental accounting leads to speed and accuracy in data processing, increased opportunities for manipulations, and the untraceability of operations.	3.70	1.28
12	Weak confidentiality of information through access to it by others. The process of reorganizing companies entails several difficulties that will affect environmental accounting processes and procedures.	3.73	1.32
13	Modifying the financial statements according to the prevailing inflation would improve the quality of the information provided to its users.	3.40	1.33
14	The frequent amendments to the legal provisions governing accounting work lead to problems in their application in that this requires changes in financial reports.	3.04	1.45
15	The lack of integrity of the accountant affects the credibility and reliability of environmental accounting.	3.30	1.26
16	The development of accounting education programs in line with the development of the accounting profession will improve the quality of environmental accounting outputs.	3.37	1.34
17	The use of environmental accounting leads to the speed in obtaining information and achieving the requirements of users of financial reports through the preparation of numerous financial reports.	3.37	0.91
18	It is preferable to connect the company's computers to the global information network (Internet) for the purpose of wide dissemination of financial reports.	3.36	1.30
19	The reorganization of companies results in the following difficulties, which affects the quality of the outputs of the accounting system and the difficulty of controlling and evaluating movable assets.	3.07	1.36
20	The current financial statements prepared at historical cost are misleading because they do not show the profits and financial position correctly and honestly.	3.78	1.27
21	The multiplicity of legal provisions governing accounting work, its dispersion, and the multiplicity of entities that issue them constitute an obstacle to the proper application of laws.	3.46	1.29
22	The circumstance of the siege that the Iraqi economy suffers from has contributed to the impact on the integrity of some accountants.	3.73	1.32
23	There is a deficiency in the accounting education program that is reflected in the performance of graduates and environmental accounting has not	3.40	1.33

	been used in the accounting work in our company adequately		
24	The process of reorganizing companies entails several difficulties that affect the effectiveness of the accounting information system.	3.04	1.45
25	The accountant may not be able to apply the laws or instructions correctly due to the lack of clarity of instructions and poor integrity of the accountants	3.30	1.26
26	The curricula focus on the academic aspect more than the practical aspect, the lack of references and modern teaching requirements, and the weakness of teaching adequacy.	3.37	1.34
Total		3.72	1.24636

Source: Prepared by the researcher based on the results of Excel

We believe that the best ways and procedures to reach a sound environmental accounting system include many characteristics, the most important of which is an organizational plan based on the separation of functions and responsibilities. One of the most important points that the environmental accounting system is concerned with regarding the division of jobs is the failure of one employee to carry out the entire process from the beginning to the end. On the other hand, the distribution of work and the definition of responsibilities leads to raising production efficiency through specialization and the possibility of automatic reviews that lead to accuracy, and reducing the wasted effort generated by duplication of work, and therefore this will lead to a sense of responsibility for them.

The above sample agrees that the existence of an organizational structure, a clear procedures manual and a job description is the starting point for achieving environmental accounting, as the respondents (1.24636) agreed with this view. This proves that the departments must have an organizational structure that shows the administrative centers and the hierarchy of different authorities and departments, and that the department must have an accurate job description system for all jobs that determines the full functions and specifications of their occupants, and that their powers and responsibilities are determined, especially for administrative and financial centers. The researcher believes that the existence of clarity of powers, the definition of responsibilities and the separation of functions must be accompanied by finding an appropriate flow of procedures for each process in detail so that no employee is left an opportunity to act personally except with the consent of another responsible person, and that each employee adheres to the procedures prescribed to him to avoid the occurrence of administrative corruption.

One of the important things that helps in developing and creating an administrative system for profits is the process of evaluating this system. The results that have been reached help to develop and improve this system. The development and evaluation of the environmental accounting system is one of the most recognized standards for carrying out the accounting function. The second standard of the American Society of Accountants (AICPA) standards stipulates that the evaluation of the environmental accounting system must be carried out as a basis for relying on it in order to identify the climate in the unit, take measures to ensure good performance, use available resources efficiently and effectively, and achieve the plans developed with the utmost success. Since the arithmetic mean of the total axis of sustainable development (3.72) is higher than the hypothetical mean (3), with which the answers are compared, this means accepting the hypothesis.

Third: Analyzing the data of the sustainable development axis

Table (6) Analysis of the theme of sustainable development

C	DESCRIPTION	Middle Mean	Standard deviation
1	The inability of the accountant to deal with environmental accounting and the lack of understanding of the programmer and systems analyst in accordance with the requirements of sustainable development.	3.73	1.32
2	Failure to use sufficient accounting and auditing programs Insufficient transitional period to liquidate the rights and obligations of all related parties.	3.40	1.33
3	Failure to develop an appropriate program to implement the reorganization procedures and failure of the specialized committees to carry out the work assigned to them in a serious, correct and accurate manner.	3.04	1.45
4	Absence of qualified accounting staff to deal with the reorganization process for sustainable development requirements	3.30	1.26
5	Take an annual reserve called (reserve for the rise in the general level of prices) deducted from the annual net profit of sustainable development	3.37	1.34
6	Compiling laws and instructions governing accounting work in a book and updating it annually and having adequate explanations and interpretations of accounting instructions and manuals.	3.37	0.91
7	Improve the economic situation to ensure the satisfaction of basic requirements, achieve effective control and commit management to ethical values.	3.36	1.30
8	Effective and efficient use of the computer in accounting work can be achieved by developing the skills of accountants and auditors through advanced courses in environmental accounting.	3.07	1.36
9	The following procedures can be adopted to address the problems of reorganization: Determine an appropriate transitional period to determine the rights and obligations of all relevant parties.	3.78	1.27
10	Forming competent committees to discuss reorganization issues and developing an appropriate work program to implement reorganization procedures.	3.46	1.29
11	Serious follow-up to liquidate the rights and obligations of related parties and determine the start date of the fiscal year to conduct the reorganization process whenever possible.	3.64	1.21
12	Training of accountants on how to deal with the reorganization of the learning level has a clear impact on accounting operating procedures in accordance with sustainable development	4.66	1.58
13	The accounting information disclosed in the underlying financial statements is sufficient to make decisions.	3.58	1.46
14	It is required to enhance the information disclosed in the basic financial statements in the management report and the analytical and explanatory statements.	3.60	1.23
15	Have the ability to assist in making comparisons between different facilities or between multiple years of the same company.	3.72	1.36
16	Inability to reach the true values of assets and liabilities and that the following reasons prevent the presentation of accounting information.	4.09	1.25
17	The lack of compatibility or harmony between the aspirations of the beneficiaries and what the accountant or auditor does and the lack of understanding of the accountants of what they should do.	3.33	0.63
18	Not asking beneficiaries for financial statements and not knowing how to deal with them and the lack of an appropriate investment climate that encourages benefiting from financial statements.	3.46	1.27
19	The accounting instructions and standards are rigid so that they do not provide	3.64	1.27

	flexibility in presenting financial statements as they should and lack of financial awareness in general.		
20	Financial statements are not widely disseminated and communicated to all willing beneficiaries.	3.36	1.23
21	Use a good typography with the use of colors, graphs, photographs, charts, etc.	3.70	1.28
22	The auditors shall duly perform their prescribed role for the purpose of presenting an honest and honest picture of the financial statements.	3.78	1.19
23	Provides the elements of independence and neutrality to the auditors and the integration of the presentation between financial performance and operational performance.	4.66	1.58
24	Display information on social and environmental performance and post financial statements online.	3.58	1.46
25	Organizations have the ability to offer new or modified covers to suit the wishes and needs of the customer .	3.60	1.23
Total		3.4109	0.12991

Source : Prepared by the researcher based on the results of Excel

We believe that sustainable development is the profits that reflect the real reality of the company's profits resulting from the realistic financial statements of the company's business and activities through which performance is evaluated and future profits are predicted. The percentage of absolute agreement with the opinion came at a rate of (0.12991) from the answers of the sample members. It is clear that sustainable development is increased by the presence of honest employees, as any system, regardless of the degree of integration of its elements, and the accuracy of its procedures will not be effective without competent and honest people based on it. The correct operation of any system depends on the efficiency and integrity of those who operate it, as the qualifications, selection and training of these people in addition to their qualities are important elements in sustainable development and since the arithmetic mean of the total axis of sustainable development (3.4109) is based on Hypothesis (3) with which the answers are compared, and therefore the hypothesis is accepted, which states that (environmental accounting has a role in promoting sustainable development) and the hypothesis that there is a statistically significant correlation between environmental accounting and sustainable development and the hypothesis that there is a statistically significant impact relationship between environmental accounting and sustainable development.

Section Four

Conclusions and Recommendations

I. Conclusions

The following conclusions have been reached:

1. Environmental Responsibility: Despite societal advancements, economic units often only adhere to the legal requirements for environmental responsibility rather than developing awareness through interaction between the unit and the environment.
2. Challenges in Accounting for Environmental Costs: There is difficulty in accounting for damage costs and industrial pollution. To expand environmental accounting practices, various measurement methods must be explored according to different knowledge branches to find suitable methods for measuring damage and addressing industrial pollution for environmental cost determination.
3. Environmental Accounting Support: Environmental accounting provides necessary information for assessing environmental performance and establishing a good environmental management system. However, it faces several obstacles, including a lack

of correct concepts, missing environmental information, and difficulties in identifying and measuring environmental assets and liabilities.

4. Traditional Accounting Systems: The oil refinery company relies on traditional accounting systems and goals, overlooking environmental performance areas that benefit society and the environment.

5. Lack of Environmental Disclosure: The annual management reports, certified by the Board of Supreme Audit, do not include disclosures about the company's environmental activities and measures, contrary to Accounting Rule No. 6 of 1995 issued by the Accounting and Auditing Standards Board at the Board of Supreme Audit.

6. Environmental Department Limitations: Although there is an environmental department and an industrial water treatment section considered environmental costs, these are categorized under production services and supporting administrative units. They require greater support in monitoring and addressing environmental pollution, and there is a lack of ability to determine pollution levels resulting from each unit's activity.

II. Recommendations

The following recommendations are proposed:

1. Internal System Modification: Initiate modifications to the internal system of the oil refinery (research sample) to include goals related to environmental protection and improvement. Additionally, establish a financial unit focused on environmental financial activities within the administrative and financial department, coordinating with the environmental department.

2. Expand Company Goals: Broaden the company's objectives beyond profit to include achieving environmental sustainability and treating natural resources as valuable and scarce resources that need to be preserved.

3. Annual Environmental Reporting: Include environmental activities in annual or periodic reports for the oil refinery, highlighting key environmental activities to protect the environment and reduce pollution. Adhere to Accounting Rule No. 6 from the Board of Supreme Audit regarding environmental activity disclosures and their impact on financial statements.

4. Implement and Amend Environmental Laws: Apply existing environmental laws (21 in total) and amend some current laws to include environmental activity aspects, such as the Public Companies Law No. 22 of 1997 (amended).

5. Adherence to ISO Standards: Comply with ISO environmental management standards, including ISO 14000 series (14001, 14010) and ISO 14031, which cover environmental management systems, environmental auditing, and related principles, procedures, and qualifications for auditors.

6. Develop Environmental Accounting System: Enhance the accounting system of the oil refinery (research sample) to incorporate environmental financial aspects by maintaining subsidiary records for environmental assets and expenses. This will help produce environmentally relevant financial reports, improve system outputs, and increase confidence in its performance. Expand audit and internal control functions.

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