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Assessment of Sustainable Performance in Iraqi Economic Units Within the framework of Sustainability Accounting

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Abstract

This research aims to evaluate the sustainable performance of economic units by adopting sustainability accounting as a comprehensive framework for measuring economic, environmental, and social dimensions. With the increasing global importance of sustainability, traditional financial evaluation methods are no longer sufficient to reflect the sustainable performance of economic units. The importance of sustainability accounting has thus emerged as a measurement tool that provides reliable financial and non-financial information to support decision-making. Sustainability accounting enables economic units to accurately measure sustainability costs and evaluate sustainable performance. The research employed both inductive and deductive methodologies, and sustainability performance indicators were applied to the research sample, the water-based dyes factory Al-Yaqout and Al-Marjan, for the years 2023-2024. The results show that sustainability accounting contributes to improving the quality of sustainable performance evaluation by providing a comprehensive database that supports management in achieving its long-term environmental, social, and economic objectives. The research also recommends focusing on the application of integrated accounting systems that reflect the three dimensions of sustainability in economic units, in addition to developing local standards for detecting sustainable performance in line with modern international standards and preparing global sustainability reports.

Keywords: Sustainability Accounting, Sustainable Performance Evaluation, Economic, Environmental, Social Dimensions.

1 Introduction

Alas, the alterations of business life over recent decades have been such a row that they produced responsibilities for economic entities. Maximum profit and financial return for investors as sole raison d'être is out. What is also needed is the sense of responsibility for sustainability, in the balance between economic, social and environmental domains. Sustainability accounting as a new trend or movement in the theory of accounting can provide high quality financial and extra-financial information enabling those with decision-making authority to evaluate how economic entities behave, overall and in their ability to be sustainable. Furthermore, the sustainability accounting is an important activity in measuring and disclosing activities impacting the eco-sustainability performance of an economic entity. In this sense, the use of sustainability indicators permits recognizing strengths and weaknesses of the operation type, answering to international reporting standards and optimizing economic efficiency unit. They also help the management to make better and stereo decisions.

2 Literature review

The Study of [1] aimed to identify sustainable performance as a concept and the key indicators for assessing sustainable performance in an economic unit and to show that they have affected the environmental and social costs. It is a long-run performance that integrates environmental, social and economic dimensions which would meet the interests of stakeholders and satisfy them. Study of [2] concentrated on creating a successful measurement system with regards to sustainable performance, which emphasize four dimensions: economic, environmental, social and responsibility management. It was found that the social dimension is most important then followed by environmental, economic and lastly responsibility management. It also proposed several steps to enhance sustainable performance, including promoting green innovation, safeguarding the rights of employees and setting up a sustainable development department. Study of [3] assessed the sustainable performance of food manufacturing and packaging operations at Tamar Coca–Cola in Malaysia, based on a novel methodology that ingeniously combined probability and fuzzy logic methods, a technique used to measure sustainability by providing an integrated and accurate methodological approach for evaluating performance. The result brought out the pluses and minuses of performance of the economic unit both economically, ecologically and socially. And it provided recommendations for ways to enhance the unit's sustainability performance. This study provides a transparent and refined insight into how sustainability accounting outputs may function as a mechanism to assess the performance of sustainability. This is an area that has not been emphasized by existing studies, which mostly view sustainability accounting and sustainable performance assessing as two separate

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phenomena. Besides, the study provides a new approach to enhance the Iraqi paint industry by using sustainability accounting for cost measurement and sustaining performance appraisal. This in turn facilitates the domestic production of eco-friendly paints such as low-leaded and VOC free ones, which are harmful to user health and environment when implemented. In contrast, however, such coatings or paints may 20 contain very low levels of VOC and are therefore much less harmful to health and the environment; they also provide a sustainable and healthy alternative for a better and more sustainable life.

3 Conceptual Framework

3.1 Sustainable Performance Evaluation

It is defined as the process of measuring and analyzing the sustained growth achieved by economic units in the areas of environmental, social, and economic sustainability, through the use of sustainability indicators and reports, with the aim of improving transparency and accountability and supporting sustainable decision-making. The Global Reporting Initiative framework or the United Nations Sustainable Development Goals (SDGs) indicators are often used in this context to assess performance in areas such as resource consumption, emissions, occupational health and safety, and community engagement [4] It is defined as a comprehensive evaluation process that goes beyond traditional financial metrics to integrate environmental and social dimensions into measuring the performance of an economic unit. This approach adopts an integrated perspective known as the "Triple Bottom Line" which breaks down performance into economic, environmental, and social dimensions. Thus, it moves beyond a narrow focus on financial profits to encompass the environmental impacts of the economic unit and its social responsibility [5]

3.2 Concept of Sustainability Accounting

It involves managing commercial and industrial operations, paying attention to the economic, environmental, and social dimensions to protect the assets of the economic unit and safeguard the interests of society. This includes integrating economic, environmental, and social considerations into all types of transactions and aims to achieve a balance between the objectives of the economic unit. This branch of accounting aims to measure and evaluate the impacts of economic units' activities on the environment and society, in addition to their economic effects. It seeks to provide comprehensive information that helps economic units make sustainable decisions that contribute to achieving sustainable development [6]. The concept of sustainability accounting refers to the disclosure of financial and non-financial information related to the economic, social, and environmental performance of an economic unit, with the aim of providing external stakeholders such as investors and government authorities with a comprehensive view of its performance. It differs from traditional financial accounting in that it focuses on the impacts of activities on various stakeholders, including suppliers, employees, and customers, this is achieved through sustainability reports, corporate social responsibility reports, and other non-financial reports [7]. Sustainability accounting measures are associated with several aspects, most notably decisions related to costs, revenues, and energy expenses [8].

3.3 Objectives of Sustainability Accounting

The purpose of sustainability accounting stems from its dual role: as an integrated system for measuring financial, economic, social, and environmental aspects, and as a tool for strategic management [9]. The objectives of sustainability accounting can be [10] to provide comprehensive reports on the environmental costs associated with economic activities, including the costs of environmental protection, ensuring compliance with environmental regulations, and addressing indirect costs resulting from environmental damage and resource depletion. Through accurate accounting and disclosure of these costs, economic units can make decisions that consider both financial success and environmental responsibility [11]. Sustainability accounting contributes to the transition towards a more sustainable economy by integrating environmental, social, and economic accounting to assess the impact of an organization's activities on the environment, society, and the economy. It aims to monitor the social and environmental impacts of operations within economic units and incorporate them into the decision-making process, reflecting the unit's commitments to shareholders, society, and the environment. It also provides a framework for understanding the unit's impact on key stakeholders and taking actions that align with their values and objectives [12].

3.4 Importance of Sustainability Accounting

Sustainability accounting aims to expand the scope of traditional financial accounting by providing integrated information that includes environmental and social impacts alongside economic ones, enabling economic units to make more informed decisions. It involves disclosing the financial and non-financial costs associated with a unit's performance and its relationship to society and the environment, as well as organizing accounts related to activities that affect the environment and society [13]. The purpose of sustainability accounting is to treat accounting as an integrated

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system for financial measurement with its economic, social, and environmental dimensions, in addition to being a tool for strategic management [14]. The main objectives of sustainability accounting can be summarized as to provide comprehensive reports on the environmental costs associated with operational activities, including the costs of environmental protection, compliance with environmental legislation, and indirect costs resulting from environmental damage and resource depletion. By accurately measuring and disclosing these costs, economic units can make more balanced decisions that consider both financial performance and environmental responsibility [13].

3.5 **Indicators** for **Measuring Sustainable Performance Evaluation**.

Sustainable performance indicators (SPIs) form an integrated system that provides economic units with essential information to support short-term and long-term sustainable performance planning, control, and evaluation [15]. Key Performance Indicators (KPIs) are vital tools for assessing an economic unit's success and guiding strategic decisions to achieve future goals sustainably [16]. They also enhance the ability of economic units to achieve their objectives by implementing critical success factors. These indicators are classified into financial indicators, which measure monetary results such as sales growth and return on equity, and non-financial indicators such as environmental and social performance, customer satisfaction, compliance, and ethics [17]. KPIs enable economic units to evaluate and manage sustainable performance in line with strategic and operational objectives.

3.6 Sustainable Accounting Performance Measures

Sustainable performance indicators are divided into three indicators, which is Environmental performance indicators (EPIs) focus on measuring the impact of an economic unit's activities on the natural environment. The Environmental Performance Index (EPI) provides a comprehensive, data-driven assessment of environmental sustainability globally, aiming to improve environmental health, protect ecosystem vitality, and mitigate the effects of climate change. It is a powerful analytical and methodological tool, offering a "scorecard" that highlights leading and lagging countries in environmental performance [18]**.** Social performance indicators are among the indicators of sustainable performance for economic units that strive to achieve a delicate balance between economic efficiency and productivity, whether at the individual or societal level. This is achieved through the optimal use of renewable and non-renewable natural resources with the aim of promoting social development stemming from the activities of these units. One of these indicators is Factory Contribution to Employee Social Welfare**.** Economic performance indicators are measures of an economic unit's financial performance and its ability to generate profits while maintaining sustainability. They help assess the unit's capacity for continued long-term economic growth and development. One of these indicators is ROA [19].

3.7 Evaluating Sustainable Performance through Sustainability Accounting Indicators

Environmental, economic, and social sustainability accounting performance metrics are fundamental conceptual and methodological pillars in building an integrated model for evaluating sustainable performance in economic units. This integration is based on a comprehensive perspective that links operational efficiency with achieving social value and preserving the environment. Integrating environmental indicators such as resource and energy consumption, waste reduction, and environmental risk management into the performance evaluation system contributes to ensuring environmental compliance and enhances the economic unit's transparency with responsible authorities and stakeholders. Economic indicators, such as cost analysis and ROA, are integrated into the sustainable performance evaluation system to assess the feasibility of economic decisions in light of sustainability value [20].

4 Research Methodology

4.1 Research Problem.

The research problem lies in the fact that many economic units in Iraq face difficulty in integrating sustainability dimensions into their traditional accounting systems. This can affect the accuracy of documenting and measuring environmental, social, and economic costs comprehensively, leading to an inaccurate assessment of sustainability-related actions and their impact on sustainable performance.

4.2 Research Objectives

The research aims to identify the concept of sustainable performance evaluation and the theoretical framework of sustainability accounting, highlighting its pivotal role in evaluating the sustainable performance of the economic unit.

4.3 Research Hypothesis

Sustainable accounting has a role in assessing the sustainable performance of economic units across their economic, environmental and social dimensions.

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4.4 Importance of research

The importance of this research lies in the practical application of sustainability accounting, which transcends traditional accounting that focuses solely on financial returns, to include environmental and social dimensions in performance reports, highlighting its role in evaluating the sustainable performance of economic units, in order to create a more sustainable society that meets the demands of the modern era.

5 Results

In this section, researchers will measure sustainable performance using sustainability accounting indicators at the Sapphire and Coral Watercolors Factory for three products: Excel, Deluxe, and Roof Coat, for the year 2023-2024.

5.1 Economic Performance Indicator.

Table 1. Return on Assets (ROA) Index according to the conventional system for the year 2023

Products	01/01/2023	31/12/2023	Average Assets	Profit	ROA
Akshal	826,108,819	775,656,987	800,882,903	179,144,634	0.22
Deluxe	732,232,817	687,514,148	709,873,482	158,787,290	0.22
Roof Coat	319,178,407	299,685,654	309,432,031	69,214,972	0.22
Total	826,108,819	775,656,987	800,882,903	179,144,634	0.22

Table 2. Return on Assets (ROA) Indicator under the Application of Sustainability Accounting in Cost Measurement for 2024

Products	01/01/2024	31/12/2024	Average Assets	Profit	ROA
Akshal	775.656.987	1.353.848.434	1064752711	378. 097451	0.36
Deluxe	687.514.148	1.196.424.198	941969173	271.700.102	0.29
Roof Coat	299.685.654	598.212.099	448948877	178.568.479	0.40
Total			2455670760	828. 366.032	0.34

Tables 1 and 2 show a clear improvement in ROA after the implementation of sustainability accounting in 2024. ROA increased significantly across all products, reaching 0.36 for Akshal, 0.29 for Deluxe, and 0.40 for Roof Coat. This represents a substantial improvement compared to the 2023 ROA for all products, which was 0.22. This reflects a limited view of performance based solely on financial data, neglecting environmental and social costs. With the implementation of sustainability accounting in 2024, the total ROA reached 0.34, indicating a more efficient use of assets.

5.2 Environmental Performance Indicator.

Table 3. Waste Generation Quantity Indicator under the Sustainability Accounting System for 2024

Products	Waste Quantity (kg)	Production Quantity (kg)	Waste Generation Ratio	Products	Waste Quantity (kg)
Akshal	126,360	4,212,000	0.03	Akshal	126,360
Deluxe	20,680	689,320	0.03	Deluxe	20,680
Roof Coat	10,340	344,660	0.03	Roof Coat	10,340

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Table (3) shows that the waste production ratio for all three products – Achill, Deluxe, and Roof Coat – is constant at 0.03, indicating that waste constitutes a negligible percentage of total production. Under the 2023 conventional accounting system, this value had no environmental significance, as the system focused solely on financial costs without considering waste as an indicator of environmental performance. The amount of waste was recorded only as part of operating expenses, without assessing its causes, environmental impact, or compliance with safety standards. However, under the 2024 Sustainability Accounting System, the waste ratio is considered an analytical value and a key indicator of environmental performance.

5.3 Social Performance Indicator.

Table 4. Social Responsibility Indicator toward Employees under the Sustainability Accounting System for 2024

Products	Social Responsibility (Cost)	Number of Employees	Waste Generation Ratio Contribution Ratio in Employee Social Responsibility
Akshal	14,870,696	11	1,351,810
Deluxe	13,454,440	10	1,345,444
Roof Coat	6,727,220	5	1,345,444

Table (4) shows an improvement in the company's social performance towards its employees after implementing the sustainability accounting system in 2024. The social responsibility index, measured by the cost of social responsibility per employee, represents a significant shift from the traditional system used in 2023, which was not disclosed separately. This made it difficult to assess the company's commitment to employee well-being. Overall, the implementation of sustainability accounting in 2024 represents a qualitative leap compared to the traditional costing system used in 2023. It enabled the company to identify and measure its social obligations more effectively, thus strengthening the economic unit's role in achieving long-term sustainable performance.

6 Conclusions

The research concluded that the application of sustainability accounting plays a crucial role in evaluating the sustainable performance of Iraqi economic units by integrating economic, environmental, and social dimensions. Economic indicators suggest that traditional accounting systems do not reflect the true value and environmental and social sustainability of these units. Furthermore, the absence of a clear professional framework in Iraq hinders the effective implementation of sustainability accounting, highlighting the need for legislation and guidelines to support its application.

7 Result

The study was conducted at "Al-Tabiah" Company, where a water-based paint factory producing environmentally friendly paints was selected as a case study. Interviews were conducted with production management, planning, and internal control personnel to gather comprehensive data on production processes. The results showed that the factory currently relies on a traditional accounting system that focuses solely on financial data related to operating costs. This system does not provide management with sufficient information to assess sustainable performance across environmental, social, and economic dimensions. Furthermore, it fails to cover the environmental impacts of production processes or evaluate the company’s responsibility towards its employees and the local community, creating a significant information gap that hinders informed decision-making.

8 Recommendations

1. Require economic units to prepare annual sustainability reports to be presented to stakeholders, enhancing transparency and accountability and increasing investor confidence.
2. Integrate sustainability principles into the strategic planning of economic units to ensure that investment and managerial decisions align with environmental and social objectives.
3. Provide training and capacity-building programs for develop skills related to preparing sustainability reports and measuring sustainable performance indicators.

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