# Sustainability accounting applications in water resources units Case Study in Water Directorate of Najaf Governorate

### Hussein Jassim Falah Al-Shammari (Prof. Dr.) 1, Hussein Hatem Abd Ali Al-Kanani 2

1.Lecturer in Accounting Techniques Department, Technical College of Management/ Kufa, Al-Furat Al-Awsat Technical University, Kufa, Iraq.

2.A master's student in Accounting Techniques Department - Technical College of Management/ Kufa - Al-Furat Al-Awsat Technical University, Kufa, Iraq.

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**ABSTRACT** – Sustainability deals with the economic unit as a social unit that affects and is affected by society. Therefore, this society needs to know the social, environmental and economic impacts as well as the financial impacts of the activities of the economic unit.

The aim of the study was evident in the non-use of modern accounting and statistical techniques in the study, the research sample (Najaf water directors), as the sustainability performance of the economic unit is not evaluated by analyzing the traditional axes of the dimensions of sustainability accounting and employing the special criteria of (GRI) in line with the economic unit of knowledge. The extent of its commitment to reporting its economic, environmental and social activities achieve governance standards to responsibility towards society in accordance with the perspective sustainability

The current study analyzed the data of the Najaf Water Directorate according to the dimensions of sustainability, with the addition of other axes, which are the financial axis. Through the results of the study, the main hypothesis was confirmed, which is the addition of the proposed axis of its importance at the present time and the extent to which the success of the economic unit depends on directly or Indirectly through its axes for the purpose of perpetuating the business of economic unity.

The study concluded with a set of recommendations that organized the necessity of paying attention to the traditional and proposed axes for the dimensions of sustainability, in order for the Directorate to be able to advance the administrative and technical reality again and keep pace with modern developments in all departments, divisions, units and projects.

Keywords - The concept of sustainability accounting, Dimensions of sustainability accounting, The relationship between financial and sustainability accounting, Financial sustainability in the water sector, The economic vitality of sustainability accounting, The emergence of the Water Directorate in Najaf Governorate.

### I. INTRODUCTION

The government service sector in Iraq, in general, does not depend on advanced accounting systems, and budget allocations are adopted in determining costs without linking them to the revenues generated by government units, especially the economic ones, as these units seek to meet the costs of services they provide to citizens and thus the accounting systems used by These units are unable to provide appropriate information for decisionmaking or provide misleading information that may result in incorrect decisions being taken by government units that may weaken the citizen's confidence in their decisions. Perhaps the most important of these is the responsibility of the economic units, which translates the extent of the unit's contribution to the sustainability process in its environmental, social and economic performance, in addition to its financial performance and its commitment to the rules of governance, which expresses the extent of its response to the needs and requirements of society and the extent of its keenness and ability to continue the sustainability of the unit, with the growing awareness of the importance of sustainability and its increasing reporting Attention to it by business institutions, accounting and professional organizations and associations. One of the most important global initiatives in the dimensions of sustainability is the Global Reporting Initiative (GRI), which is a non-profit organization that promotes the dimensions of economic, environmental and sustainability and provides comprehensive framework for reporting it to all economic units that is used widely around the world by setting standards for the initiative and approving it with a view to applying it to A globally consistent basis to provide a common language and a unified method for economic units and stakeholders to report and understand the impact of units on the economy, environment and society, increase its quality, and ensure the transparency of information for stakeholders. including future generations. By providing information about the environmental, social and economic policies and practices of economic units, it can be said that the development and expansion of this enhanced reporting framework over the past twenty years is the most important trend in modern accounting, and today most of the major general economic units around the world practice some form of sustainability reporting, Therefore, they should publish a separate independent report on sustainability that corresponds to the traditional annual report in that it documents the performance of economic units on a set of environmental, social and economic performance measures during the fiscal year that were included, and there is another way to disseminate sustainability information for the economic unit through the axes of the dimensions of sustainability to show the performance The economic unit in line with the global reporting standards (GRI) of the unit. As financial reporting systems are organized around generally accepted accounting principles, the development of a sustainability reporting system has been facilitated by the development of global reporting standards on sustainability and nowadays, as the most acceptable set of standards are those issued by the Global Reporting Initiative (GRI). As of 2017, (75%) of economic units around the world have used the reporting system for the Global Reporting Initiative Sustainability Accounting,

indicating their dominant role in preparing global reports.

### **Problem Description**

As a result of developments in various fields of life and the deteriorating economic, social, environmental and financial conditions that the year is going through in general and Iraq in particular and the resulting shortage of public resources, educating the service government unit of its responsibility towards society with the concept of sustainability accounting as an information system in measuring and reporting the results of its economic performance The environmental and social, in addition to its financial aspect and pushing it to adopt indicators that measure the level of that performance in conveying information to the community, are among the important issues facing the departments of the government service unit, and it is a cognitive problem that requires drawing attention to it.

### II. LITERATURE REVIEW AND HYPOTHESES DEVELOPMEN A-THE CONCEPT OF SUSTAINABILITY ACCOUNTING

Linguistically, sustainability (Butier, 2003:102), sustainability accounting means environmental or social accounting, as well as sustainability and responsibility of economic units or non-financial reporting. This term is usually used to describe new methods of information management, which is accounting that It aims to create and provide high-quality information to support the economic unit in its direction towards achieving sustainability (Schaltegger et al., 2006: 15). It is known as the most appropriate approach for the purpose of enhancing business competitiveness in the economic unit, as it achieves a high percentage among the sustainability measures related to economic. social and environmental performance. As the smart sustainable company is the means that enables it to achieve its mission and vision, by means of its skills, knowledge and capabilities available to it (Sebhatu, 2008: 8). As for the level of economic units, it has been known as a "system of collecting, recording, processing, analyzing and providing information on financial implications. Caused by the environment and society, and the environmental and social impacts of the economic system such as (company, factory, service projects, workplace ... etc)

### B-DIMENSIONS OF SUSTAINABILITY ACCOUNTING

Sustainability accounting is concerned with measuring the social, environmental and economic impacts of the public and private sectors as a result of regular activities to create long-term value for them, as well as the issues facing sustainability challenges in innovation, governance and the sustainable business model. Sustainability accounting is consistent with the establishment theory, which is based on the economic project of unity, which is a social organization that has a human role to play, and social responsibilities that it should assume towards all groups of society, including shareholders, employees, customers (customers), and various governmental and trade unions. Economic unity is from decisions that affect all of these parties, and the role of the administration extends to include the best use of economic, social and financial resources, and to provide opportunities for growth and continuity of economic unity for the benefit of all relevant groups, so that the profits achieved from them are distributed to all these parties, as they all have an interest Its continuity, and the management of the economic unit bears responsibility towards all of them (Matar & Al-Sweiti, 2012: 11).

As this framework includes three main dimensions of SASB sustainability, which can be illustrated as follows: (SASB Rules of Procedure, 2017: 2-4), (Aryal, 2017: 23)

- 1. Environment: This dimension is represented in the use of banks' non-renewable natural resources and their investments as one of the inputs to production factors or the management of harmful emissions into the environment as a result of normal activities that lead to positive or negative effects on the financial situation or their operational performance.
- 2. Social: This dimension is represented in that commercial businesses will contribute to the welfare of society as a measure for the purpose of obtaining approval to proceed with the work of the economic unit. It includes issues related to human rights, the economic development of the country, protection of minorities, affordability, access to quality services and products, and customer privacy.
- 3. Economic: This dimension is represented in managing issues related to the economic value-

added method or common processes in the economic unit that are likely to conflict with the interests of the broader group of stakeholders and society related to risk management, material sources, and others.

## C- The Relationship Between Financial Accounting And Sustainability Accounting

Financial accounting is related to the conceptual framework for capital flows, and it is considered one of the real expressions in numbers as well as budgets, monitoring and reporting on capital markets, international accounting standards (FASB) Financial Accounting Standards Board, and generally accepted accounting principles (GAAP) General Accepted Accounting Principles provide us with a quantitative framework For financial reporting, assets, liabilities and equity in the reporting system capital is the difference between measured and reported assets and measured and reported liabilities (Feigo et.al, 2013: 58). Financial accounting includes, in reality, nonfinancial elements and sustainable performance. Assets include cash and tangible assets that may also contain tangible assets as well as intangible financial assets (some of which may be linked to human and social capital and liabilities include liabilities, financial liabilities and operational obligations. (Some of them are related to social or environmental capital (Doane & Macgillivray, 2017: 52).

### D- FINANCIAL SUSTAINABILITY IN THE WATER SECTOR

The water situation has been placed in that of the Middle Eastern countries, and most of these countries have used more than 75% of their water resources, the Oman region which consumes more than 100%. These government agencies are in the Middle East. Grandparents Abundance by Cost. Tourism in economic tourism in 1992. Appropriately to make it good and affordable. Financial sustainability is important in any sector as well as in the water sector. Sustainable evolves from sustainable in front of water demand and future. One of the development challenges is low investment in service maintenance and the development of new networks; This resulted in lower water tariffs and thus a lack of financial resources to meet labor transactions. Oceans and public facilities. Covering all these costs as printing costs, subsidies, donations and grants. Covering the cost of water is a strong component of financial

sustainability and improving the service provided in terms of number and supply (UN WATER, 2011: 20).

The term "financial sustainability" in the context of this paper reflects the financial capacity of water utilities to meet their obligations. Therefore, financial sustainability can be defined simply as "providing sufficient revenue from the service provided to meet the sector's obligations". These liabilities include recovering the cost of water (full life cost) and the cost of capital investments needed to expand and maintain the service. While it should be noted that financial sustainability requires that the revenues received from the provision of water services be used to cover all costs associated with this service (Rehan.et al., 2013: 718-720).

### E- THE ECONOMIC VITALITY OF SUSTAINABILITY ACCOUNTING

The primary function of an economic unit is to create value for customers through continuous and sustainable economic performance. This section discusses the importance of economic performance, key performance indicators (KPIs), measurement, recognition, and reporting in the form of the financial statements economic, in environmental and social sustainability dimensions. The reliability of financial and statements. the effectiveness effectiveness of audits are vital if general economic units are to attract clients and build trust between clients and them. This applies to both financial statements that are subject to integrated financial and internal control reports (Ann Brockett, Z. R., 2012: 93-94).

Based on the above, the researcher sees the possibility of analyzing the traditional axes to count the axes (economic axis, environmental axis, social axis, financial axis)

### 1. Indicators of the economic axis

Appropriate measurement of the sustainability process can be achieved through its dimensions in the economic unit by focusing on key performance indicators. Traditional financial KPIs may not be sufficient to take into account sustainability. The economic unit has to consider its conditions and needs in order to make a decision on the relevant KPIs. The key to creating usable financial KPIs is to provide appropriate metrics for stakeholders to assess the sustainable performance of the unit's business performance. There are special key indicators of

economic performance in the financial statements as follows:

- 1. Economic value added.
- 2. The revenues generated.
- 3. The recognized costs.
- 4. The resources obtained.
- 5. Expenses incurred.

#### 2- Indicators of the environmental axis

The economic unit deals with achieving the proper measurement of the process of sustainability through its dimensions in the economic unit by focusing on environmental indicators. Traditional financial KPIs may not be sufficient for sustainability accounting (Block, 2004: 44). As environmental indicators are classified into three main categories, as follows:

- A- Operational performance indicators: focus on aspects related to the operations of the economic unit, including products, activities and services (emissions, recycling, energy use, water scarcity, international standards for drinking water ...), where the accounting system provides the necessary data to calculate some of these Indicators such as related to recycling costs and energy use costs. While it stands impotent in calculating other indicators such as liquid chemicals and emission volume.
- B- Management performance indicators: Focus on the efforts made by the administration to provide the infrastructure for environmental management (environmental programs, training, ...) and others.
- C- Environmental status indicators: give information about the quality of the surrounding environment (water, air quality, soil pollution, ...). Here, the accounting system is unable to provide data that contribute to the calculation of these indicators due to the difficulty of measuring and disclosing them.

### **3-Indicators Social axis**

It is concerned with the impact of the economic unit on social systems within the higher management or the project or station in which it operates, in the operations of the economic unit, including production, activities and services (training and qualification programs, active participation in courses, employee incentives, ....) where the accounting system provides The data needed to calculate some of these indicators, such as those related to costs to improve the performance of workers in

all departments or projects of all kinds, the contemporary business environment is facing rapid developments and the emergence of accelerated information technology, so the economic units must create changes that are commensurate with the information technology revolution, to be able to face the same competing units It has in the same field, and the units work to build the basic building blocks for them represented by the employees (workers) understanding the origin of the unit, because the success of their work is one of the most important reasons that lead to the success of the economic unit, and this axis is represented in the employees' ability to learn and be creative in their work, as well as the quality of the systems Available information and the use of the latest tools to meet the changing needs of customers, thus requiring employees to assume new responsibilities with suspicion responsibilities may require modern skills, capabilities, and technologies that were not available before, and this axis determines the capabilities of employees and reorient them "Employee education and development, employee satisfaction measurement, employee loyalty, employee productivity" This axis is concerned with employees and developing their capabilities and skills by following the latest methods In training, qualification and education to develop intellectual capabilities and try to adapt them to the technological progress that our world is witnessing today (Horngren.et.al, 2008: 778).

The research is based on the following hypotheses:

Hypothesis 1: Adopting sustainability accounting and GRI standards as an accounting approach that is based on concepts, principles and foundations that differ from traditional accounting and its ability to achieve the goal of long-term survival and continuity.

Hypothesis 2: The poor level of sustainability reporting according to the GRI standards affects the extent of its contribution to achieving the sustainability of the economic unit related to the economic, environmental and social aspects, in addition to the financial aspect.

# III. RESEARCH METHODOLOGY A- THE EMERGENCE OF THE DIRECTORATE OF WATER IN NAJAF GOVERNORATE

The Najaf Water Directorate was established in 1979 according to Law No. 46, as it was a public institution for water and sewage and was linked to the General Authority for Water and Sewage. In 2000, a Sewage Directorate was established in the governorate to become the Najaf Water Directorate for water Water Directorate of Najaf The Governorate operates according to the General Authority for Water and Sewage Law No. 27 of 1999, and currently the Directorate is linked to Najaf Governorate and the General Directorate of Water to complete the procedures for disengaging from the Ministry of Municipalities, Reconstruction and Public Housing. It provides its production services to more than one and a half million people over a 24-hour period through projects, complexes, systems and water networks affiliated to it and spread throughout the governorate, in addition to the basin mechanisms that deliver potable water to remote areas that are not served by water networks.

There are (9) water purification projects and (116) water complexes for producing pure water spread throughout the governorate that work on filtering and sterilizing water and distributing it. In this process, alum and chlorine are used (sterilization).

# B- PIVOTS ANAIYSIS TO ASSESS THE SUSTAINABILITY PERFORMANCE OF THE ECONOMIC UNIT.

The changing business environment and the changing government policy towards the economic units have led to dissatisfaction with the use of traditional financial measures only to measure performance, but with the continuous developments, these indicators alone do not mean the need for the economic unit to reach its goals and other axes have been proposed, namely the economic, environmental and social axes. And financial and in view of the importance of these indicators in evaluating the performance of the unit's business, the proposed directions for accounting for sustainability and economic. environmental and social dimensions represent great importance to it, and in particular, the financial trend, which is an integral part of the three trends, is based mainly on information and how to plan for the future and preserve the resources of generations The precedent of economic, environmental, social and financial for the economic unit.

### 1- The Economic Axis:

# Economic Added Value (EVA) = Revenue - Costs after subtraction (salaries and depreciations).

Table (1) the annual costs of the Directorate after deducting salaries and depreciation for the years 2010-2018 (amounts in millions of dinars)

The year	Annual costs A/3	(Salaries + Depreciation s)	Costs after deducting salaries and depreciation
2010	16,245.425	9,256.264	6,989.161
2011	17,896.127	9,425.690	8,470.437
2012	14,569.209	11,546.120	3,023.089
2013	18,746.371	11,875.985	6,870.386
2014	19,217.680	12,265.102	6,952.578
2015	15,076.458	12,127.971	2,948.487
2016	20,596.932	13,902.882	6,694.050
2017	21,706.133	13,957.260	7,748.873
2018	20,284.112	14,240.885	6,043.227

Source: Prepared by the researcher based on data from the Accounts Division in the Water Directorate.

Table (2) the added economic value of the directorate for the years 2010-2018 (amounts in millions of dinars)

The year	GRI standard	Revenues	Costs after deducting salaries and depreciation	EVA
2010	201.1 index	7,547	6,989	558
2011		6,897	8,470	-1,573
2012		8,144	3,023	5,121
2013		4,982	6,870	-1,889
2014		5,313	6,953	-1,640
2015		3,109	2,948	160
2016		3,014	6,694	-3,680
2017		10,741	7,749	2,993
2018		12,414	6,043	6,371

Source: Prepared by the researcher based on data from the Accounts Division and the above table.

There is a fluctuating decrease in the economic value added during the study years, except for (2016,2014,2013,2011). What was stated in the second chapter, the third section, regarding the special economic criteria of the GRI, the economic value-added index (201.1).

Average of electrical energy consumption = (the amount of energy consumption for the current year - the amount of energy consumption for the previous year)  $\div$  the amount of energy consumption for the previous year \* 100%

**Table (3):** Average electricity consumption for the years 2010-2018 (amounts in millions)

The year	GRI standar d	Electricity consumption for the current year	Electricity consumpti on for the previous year	% Change
2010		336	-	-
2011		335	336	-0.3
2012		336	335	0.2
2013	302.1	382	336	13.7
2014	index 302.4	429	382	12.3
2015	index	447	429	4.4
2016		456	447	1.9
2017		444	456	-2.6
2018		481	444	8.3

Source: Prepared by the researcher based on data from the Accounts Division in the Water Directorate.

#### 2- The Environmental Axis

The percentage of water scarcity in the governorate = the amount of water scarcity  $m^3$ : The need for urban and rural in the governorate of water per  $m^3$  / year

The following table indicates the percentage of water scarcity in the governorate through the production quantities per cubic meter that the governorate needs, the actual production quantities per cubic meter, and after reducing the waste from actual production.

Table (4) measuring the percentage of water scarcity in the governorate for the years 2010-2018

The	Conservative annual need of water / cubic meter / (1)		The amount of water production after reducing waste 10% / (3)	The annual scarcity of water / m3 / (4) / (3-1)	Scarcity ratio% / (4 ÷ 1)
2010	212,545,300	193,137,000	173,823,300	38,722,000	18.2
2011	213,642,350	193,390,000	174,051,000	39,591,350	18.5
2012	216,380,625	193,427,000	174,084,300	42,296,325	19.5
2013	214,987,400	193,703,000	174,332,700	40,654,700	18.9
2014	209,680,422	192,998,000	173,698,200	35,982,222	17.2
2015	211,700,000	193,486,500	174,137,850	37,562,150	17.7
2016	218,758,200	200,568,000	180,511,200	38,247,000	17.5
2017	218,881,300	200,570,000	180,513,000	38,368,300	17.5
2018	219,240,500	200,584,000	180,525,600	38,714,900	17.7

Source: Prepared by the researcher based on data from the planning Division in the Water Directorate.

As indicated by the GRI Indicator Standard (GRI 303.2) in the first chapter, the third study on water sources severely affected by water withdrawal and its scarcity, i.e. this indicator measures the extent of impacts associated with the use of the economic unit of

water and provides the possibility of assessing areas of risk or improvements in the event of a shortage of water in addition to the stability of the sources of the unit itself Where the governorate is exposed to desert weather and weather that contributes to a significant rise in

temperatures, as well as waves of dust and dust throughout the year, which constitutes an additional burden on the amount of water consumption per person in different proportions and the lack of rain and the lack of expansion of the General Directorate in projects and networks, especially in districts, districts and villages The lack of modernity of machinery and keeping pace with modern technology in filling the province's need of water. The highest percentage of water scarcity was (19.5%) in 2012 due to the lack of river water reaching the networks and the lack of rain that affects wells such as the network well and other wells in the villages that depend on it The networks pump water, which affects the actual production quantities in meeting the province's need of total production.

### 3- The Social Axis, Training and Rehabilitation.

The economic unit should provide suitable conditions for employees working in all

departments, divisions, stations, projects and networks, and take care of their health and safety by providing the best services, as well as the economic unit must pay attention to training and rehabilitation programs for employees and reward talented people to achieve employee satisfaction, which leaves positive effects on them and urges them to exert effort in fulfilling responsibilities Assigned to them.

# The percentage of costs of training and qualification programs = training and rehabilitation costs ÷ Total Costs of services for production stages \* 100%.

Represented by the sums paid for training and rehabilitation expenses A / 3367 employees inside the country, including the wages and remuneration of lecturers and trainers, as in the following table that shows the ratio of training and rehabilitation costs to the total costs of production services.

**Table (5):** Percentage of training and rehabilitation programs costs for the Directorate for the years 2010-2018 (amounts are in millions of dinars)

	GKI standard	Training and qualification costs		% Change
2010		3.891	5.850	66.5
2011		2.966	6.469	45.8
2012		3.651	8.789	41.5
2013	index	6.500	1.950	33.3
		4.500	2.900	15.5
2015		0.500	1.800	27.8
2016		1.380	2.750	50
2017		2.781	3.500	79
2018		3.181	4.900	65

Source: Prepared by the researcher based on data from the Accounts Division in the Water Directorate.

The economic unit should pay attention to training and education programs for workers and employees as indicated by the GRI standard through the second scale index 404.2 mentioned in the second chapter, the third study to enhance their skills and increase the efficiency of the process, as there is a decrease in the training and qualification programs for the research sample during the years of study, as it lacked or a small

percentage From the programs for many years to the training and rehabilitation programs, this is not a good indicator of the performance of the unit, which had negative effects on the employees. The training of employees enhances the skills of workers to complete the tasks assigned to them according to the administrative and technical specialties.

#### 4- Financial Axis

## Total revenue to total costs (covering costs) = annual revenue ÷ annual costs.

The following table shows the total revenues of the directorate, A / 41, and a

comparison with the annual costs of H/3 and the other, in order to know the impact of these costs on the financial position of the directorate.

**Table (6)** total revenues to total costs (covering costs) for the years 2010-2018 (amounts in millions).

The year	Annual revenue	Annual costs	Time (once)
2010	7,546.980	16,245.425	0.465
2011	6,897.231	17,896.127	0.385
2012	8,143.781	14,569.209	0.559
2013	4,981.763	18,746.371	0.266
2014	5,312.563	19,217.680	0.276
2015	3,108.664	15,076.458	0.206
2016	3,014.437	20,596.932	0.146
2017	10,741.439	21,706.133	0.495
2018	12,413.895	20,284.112	0.612

Source: Prepared by the researcher based on data from the Accounts Division in the Water Directorate.

There is a significant decrease in the annual revenues of the directorate in covering the high annual costs, which constitutes a great burden on it, and this is not a good indicator of the economic unit at the level of years. Study the research sample in general, that is, the administration should reduce administrative special costs that represent a burden on the economic unit compared to revenues Whoever has not achieved the required level for that, the economic unit must increase its annual revenues through collection and retrieval of the incentive system that motivates employees (collectors of levy) to exert efforts in collecting collection from citizens and other sectors, as well as training workers on modern systems, setting up electronic standards and comprehensive surveys in all neighborhoods The residential sector and other sectors in measuring water consumption, and this is what developed countries have intended that enjoy a high percentage of revenues in exchange for good service provided to the citizen with the latest technology means, and this is what the Directorate should do is concern the Imports Division (collection), which represents the important part in The success of the Directorate in achieving a good percentage of revenues and restoring the spirit of competition between collectors to collect and share money Obey the private to invest in collecting money, which is the most important part of increasing revenues

### C- Results of the hypotheses Results of the first and second hypothesis test

It is noted from the foregoing that the Hypotheses can be proven by presenting the economic, social, environmental and financial axes. It shows a failure in measuring the performance of the Directorate of Water, Najaf Governorate, where the results of many of the main economic performance indicators in the financial statements that were analyzed within these axes showed the fluctuation of the district's performance during the years of study, which means The lack of the strategic vision of the directorate to improve its performance, and there is a deficiency in evaluating the performance of the traditional axes mainly.

Through the foregoing, it is possible to prove the first hypothesis of the research represented in (adopting sustainability accounting and GRI standards) as an accounting methodology based on concepts, principles and foundations that differ from traditional accounting and its ability to achieve the goal of survival and continuity of unity in the long run) and the second hypothesis of the research represented by (poor reporting sustainability according to the special criteria (GRI) affecting the extent of its contribution to achieving the sustainability of the economic unit related to the economic, environmental and social aspects in addition to the financial aspect)

### IV. .RECOMMENDATIONS

- 1- Leaving the traditional methods in financial systems and enhancing accounting systems with sustainability reports to define economic, social and environmental directives, and in government institutions provides an accurate database that can be relied upon by the state to improve the planning process and develop strategic plans in the long term.
- 2- The economic unit should implement the dimensions called for by sustainability accounting, which is to include as much as possible with financial and non-financial measures, move away from relying on traditional systems that threaten the continuation of units, and work to add other axes to the main axes so that they can continue to perform their business.
- 3- It is imperative for the economic unit, according to the reporting standards of the (GRI), that is, the unit should be concerned with educating and training workers, which has spillover effects in other axes, and thus the unit can achieve the desired goals.
- 4 Issuing an accounting standard that guides accountants in conducting measurement, disclosure and reporting processes for sustainability accounting operations.

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