

The Role of the Accounting Profession in Controlling Environmental Pollution According to Requirements of Social Responsibility in Industrial Companies

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Abstract

Accounting as an information system is not only affected by the environment, but also affects it through its active role in making and implementing decisions, and this important role is achieved through information related to the environmental activities performed by the economic unit, and for the purpose of performing its mentioned role, it is necessary to strengthen accounting with procedures and treatments that can keep pace with the developments taking place. In the environment surrounding the economic unit, and be able to explain the economic phenomena that it performs, and this requires an effort from researchers and specialists in this field. Preparing the methodology is the first important step in the preparation of scientific research, through which the problem, its importance and the hypotheses on which it is based will be determined to reach the goal of the research, and then the methodology and sample of the research will be determined.

In this aspect, the researcher relied on several means to obtain data and information related to the topic of research, which are laws, instructions and legislation related to environmental activity, financial statements and reports issued by the Federal Financial Supervision Bureau in Iraq, reports issued by the Oil Industry Company, personal interviews with employees, and the use of statistical methods in Calculation of pollution rates One of the results of the research is that industrial companies do not respond to performing their role in controlling pollution in an effective manner, unless there is a legal obligation that other industrial companies do the same work. Descriptively and financially, as well as the need for the organization to include pollution control within the structure of its objectives, and then the costs of pollution control should be included within the framework of its planning budget.

Keywords: Accounting Profession, Environmental Pollution.

Introduction

Societies started asking business companies to play their role in controlling the pollution they cause. The public became interested in knowing each company's position on environmental pollution to the same degree of their interest in knowing the company's economic performance. Ignoring the pollution control process on the part of the industrial companies and the consequent failure to show any cost for the disposal of its waste will lead to negative effects whether with regard to the redistribution of income or what is related to the profit equation or the extent to which the published financial statements are comparable and verified. Therefore, it has become necessary for the accounting to carry out its responsibilities in this regard, allowing it to translate economic events within the entity, even if part of these events bears its burden on society. This is considered extremely important for Iraq in particular because of its policy of economic openness and the consequent unintended (import) that may result from part of this pollution.

Research Problem

The research problem is formed in that so far the country has not played an active role towards ensuring that industrial companies remove or abate the environmental pollution they cause, and on the other hand, the polluting industrial companies are not keen on protecting the environment. Based on the foregoing, accounting can play an important role in controlling pollution, by treating the expenses incurred by the entity as a production cost, and the entity's bearing of these costs will not be a matter of concern, also the contribution of accounting - indirectly - to spoiling the environment as it obscures from society the reality of the damage caused by industrial companies that cause pollution to the environment, as well as the failure of accountability to play its role in this field, which led to the search for other means, as the C.B.P. Organization was established in the United States of America to carry out this task. In light of this, the research problem is embodied in the following questions:

1. What is the role of the accounting profession to contribute to controlling environmental pollution and reducing or abating the phenomenon of pollution?
2. To what extent does the accounting profession bear its responsibilities in measuring and presenting financial statements in industrial companies according to the requirements of social responsibility?

Research Importance

1. Recognizing the importance of accounting for environmental pollution and increasing the interest of investors, legislators, economists and others in identifying the extent to which industrial companies respond to their social responsibilities - including their contribution to environmental pollution and their control position.
2. Identifying the negative impact of the entity on the environment, i.e. the extent of the entity's contribution to environmental pollution.
3. Presenting the programs and activities carried out by the entity to eliminate or abate the effects of doing so.
4. Identifying the extent of the contribution of the accounting profession and its social role in reducing the phenomenon of environmental pollution.

Research Objectives

Through the questions raised in the research problem, the research aims to identify the accounting profession and the extent of its contribution to preserving the environment from pollution in accordance with the requirements of its social responsibility to its users through:

1. Translating economic events inside the entity according to financial information and presenting them in the company's financial statements, even if part of these events bears its burden on society.
2. Stating the benefits of financial information provided by the accounting profession to customers and others as part of its social responsibility.
3. Identifying the problems and obstacles facing industrial companies that contribute to fulfilling their social and environmental responsibility.
4. Increasing the environmental awareness of industrial companies by recognizing the importance of environmental activities and linking them to their social responsibility as part of it.

Research Hypothesis

(There is a role for the accounting profession in supporting industrial companies to assume their responsibility in treating or abating damage from environmental pollution in accordance with the requirements of social responsibility).

Theoretical Side of the Research

Literature Review

I. The Accounting's Responsibility for Environmental Pollution and its Social Role

Economic units, regardless of their size, are considered one of the components of society. In the past, all that these units were concerned with was focused on making profit. Society became not satisfied with their economic role, but also the claims for their social role in order to improve the quality of life are raised from the industrial companies themselves to confirm this role. Therefore, the entity should not take a negative attitude towards the problems of the environment in which it is located because this affects its performance, and therefore its positive contribution to facing such problems will not benefit the society alone, but it will undoubtedly benefit from the effects of that and in the long term. Environmental pollution takes several forms, such as air pollution as a result of the emission of factory waste from fumes loaded with some gases harmful to health (Aderesontedor, 2020) and pollution of water sources as a result of some factories throwing their waste into them, which affects fisheries and various uses of water, as well as pollution may extend to the land as a result of using it as a repository of wastes, i.e., the air, water and land are estuaries for the wastes of productive activity from factories. The dissatisfaction of those harmed by pollution is based on the fact that they have the right to live in a clean environment, causing pollution may respond to this that there are no property rights related to the legal concept regarding the use of air, water and land (Natasha, 2018).

If the companies' motive is the desire to maximize profit, they may not have any incentive to preserve environmental resources that are free from their point of view, and therefore any expenses incurred to maintain such resources conflict with their original motivation, in fact, this is not considered a failure. In preserving the environment resources not only, but also leads to an imbalance in the profit equation because the failure of the entity in its role in controlling the pollution it causes made its profit numbers unreal as it is inflated by the value of what it must bear to play this role by considering the cost of pollution control (reducing or removing it) as a part of the production cost as it is caused by the same production process and it may lead to the same entity bearing other costs in the future (Marlin, Johan Tipper, 2010).

If the current application of accounting is sufficient to match revenues with specific costs only, without the social costs related to removing or abating the environmental pollution caused by the entity, this leads to the following negative results (Estes, Relish, 2010):

1. **First:** The country did not do its part in ensuring that the industrial companies that cause pollution remove this pollution and reduce its degree.
2. **Second:** The failure of these companies voluntarily to do so in most cases is considered a kind of indirect and unintended support provided by the state to these industrial companies. It can be said that the value of this support varies in light of the value of the costs necessary to remove or abate this pollution, which leads to causing undesirable effects and in the interest of society, such as the increasing tendency of producers to activities causing environmental pollution, in pursuit of high rates of profits as a result of neglecting a significant part of the production costs and charging the society with it.
3. **Third:** Failure to take into account the costs of pollution control also entails an unfair type of income redistribution. Part of the income of taxpayers, citizens, who are not consumers of the products of industrial companies that cause pollution, or investors who have no money in them, is transferred to investors in these industrial companies and citizens who consume their products.
4. **Fourth:** Failure to enter the cost of pollution control because the organization does not undertake it within the profit equation, as well as the failure to disclose in the financial statements the role of a certain entity in pollution and its control, leads to a degree of misleading in presenting data and reduces reliance on business results as an indicator for performance evaluation. This also spoils the comparison between industrial companies, which may lead to a weakening of confidence in the accounting data and the entity that appears to have sufficient machinery may be without writing, and those whose statements show sufficient income may be completely failed from an economic point of view (Aderesontedor, 2020).

It can be said that the great interest in the social responsibility of the organization does not mean, of course, neglecting the considerations of profitability, but it makes the profit achieved in an acceptable manner, and this concept, in addition to the current lack of information related to environmental pollution in particular, has led to an increase in the demand of the accounting profession to carry out its responsibilities in this field.

The researcher agrees with the view that accounting as an organized profession has a responsibility that goes beyond the internal view of private business companies, where the company's role in society must appear, which reflects its social responsibility as a profession, and this is the opposite of what some decide that accounting must adopt the company's viewpoint as the accountant is one of the professionals whose mission is to provide his customers with the best services because they are the ones who pay him for his efforts. The accounting's responsibility towards the society is established on the philosophy that the professional accountant belongs to an organized profession in the light of specific constituents and the society's recognition comes to the front. The existence of these constituents allowed the customers' communication with accountants, so if the accountant indulged in the company's requests only without taking into account his responsibility towards society, he thought that this might push this society to withdraw its recognition of the accounting profession. The circumstances currently became more suitable than before for the accountant to carry out this role after the severity of opposition began to abate between the entity and society ease, this confirms the current orientation in most industrial companies in developed countries to disclose social activities in one way or another in their annual reports as these industrial companies realize that the good performance of their social role improves their relationship with investors, workers, consumers and other groups in society, which led some to the performance of the social responsibility of the organization as a good drawing of its plan in the long term (Marlin, Johan Tipper, 2010).

Based on the foregoing, and in view of the environmental pollution of a special nature, given that the lack of control over it causes direct damage through the impact of the health of individuals, and indirect damage through its impact on the productivity of individuals, the accounting profession must play a role in disclosing the negative impact of the organization on the environment through a detailed report away from the rest of the information related to the activities and other programs of the social responsibility of the entity.

II. The Role of Accounting in Controlling Environmental Pollution Socially

It is necessary to emphasize the necessity of preparing social reports in addition to traditional financial reports as a result of their great importance in disclosing the extent to which the entity carries out its social responsibilities. Social reports provide information to various audiences regarding the impact of the entity's social activities on society.

Anderson (2020) has identified two models for the disclosure of social activities in general, including pollution control programs, which are:

1) Organization's Activity Model

This model analyzes social activities and programs from the organization's point of view. These activities and programs are grouped into four groups:

- (A) Programs related to employees:** These programs include opportunities for the employees' promotion and care and direct assistance for training them.
- (B) Programs related to the surrounding environment:** These programs include cooperation with government agencies, pollution abatement programs.
- (C) Programs related to the product:** These programs include product development researches and the use of alternatives to scarce resources.
- (D) Programs related to society:** These programs include contribution to charity companies and educational activities.

The entity activity model and its division in the previous form is easier to use and therefore it is the best basis that can be relied upon at the beginning in preparing the social responsibility reports of the organization.

2) The Model of Those Affected by the Organization's Activity

This model is represented in identifying the groups that are affected by the organization's activity and knowing their needs and interests provided that the organization's programs and social activities are analyzed from the point of view of these groups. It is noted that the report for these activities is made on the basis of the need of these groups for information and in the light of the accountant's understanding of their use of that information if they get it.

These groups include different categories such as lenders, employees, consumers, suppliers, competitors, managers, owners, government and society as a whole. Of course, each of them has different interests and expectations from the entity.

3) General Social Objectives Model 2015 (Paul, Beams, Plaid A. & Feting, 2015)

This model begins with identifying the general social objectives of the society, such as the objectives of health and safety, for example, and also identifying the indicators for their achievement. It is ordinary that business companies have a certain amount of contribution to achieving these objectives, and what is required - in light of this model - is to transfer the objectives and those indicators from the national level to the level of the organization so that the special effects of companies can be measured in the field of achieving general social objectives such as income, employment and safety health and others.

Although this model is considered the most comprehensive theoretically, because it does not reflect the final social effects, but practically it is considered more difficult because it is often impossible to find a direct relationship between all the social activities and programs that the entity undertakes and what the country seeks to achieve in terms of this type of activities and programs.

It can also be said that because the model of those affected by the activity of the entity is difficult to achieve, especially at the beginning of the report on its social performance (as defining the interests of the various users of these reports is one of the main problems in analyzing the performance of the social responsibility of the entity especially the programs related to pollution control are concerned with a part of the report as it represents the entity's endeavors to remove or abate the environmental damage and pollution it causes, and therefore we believe that it is better to prepare these reports in light of the organization's activity model.

We would then like to discuss how to disclose the activities related to pollution control in the reports. Are the programs and activities presented in a descriptive form? or is it translated quantitatively? or is there another way to express it?

There are many suggested approaches, one of which can be chosen to express the social activities carried out by the company including its efforts related to pollution control are: (Marlin, Johan Tipper, 2010).

1. Descriptive Approach of the Organization's Actual Activities

In light of this approach, the entity discloses all its activities related to social responsibility in a descriptive form, so that its reports include a description of its program activities in this regard, and this method is applied in many business companies in the United States of America.

2. Quantitative Approach of the Organization's Actual Activities

This approach requires the organization to disclose its activities on social responsibility by clarifying the amounts spent on each activity as well as disclosing quantitative information that has no financial nature.

3. Program Management Approach

This approach requires that the organization disclose the objectives of each social activity, while showing the amounts spent on each of them.

4. Cost-Benefit Approach

Rockiness, Board O., Beazley, John D., and Nikolai, Loren A. (2013):

This approach requires the organization disclose its activities related to social responsibility, indicating the amounts spent for each of them as well as the interest achieved from expenditure.

This approach differs - of course - from the program management approach. While the latter is concerned with the objective and benefit that the organization seeks to achieve for each program or activity, the former is concerned with the benefits actually achieved for each type of expenditure.

If we look at the previous four approaches, we find that while the descriptive approach is the least in terms of information, the cost-return approach is the best in this respect, but there are some difficulties that are sufficient to apply it, given that it is difficult to identify the return or benefit and determine its value in relation to all the social activities and programs carried out by the organization in light of the current measurement systems and methods.

On the other hand, (Davies, Keith, 2013), what reduces the reliance on the descriptive approach in this regard is that there are no bases that can be used in comparing business companies, while following the quantitative approach is better than the descriptive approach in terms of the organization's disclosure of the expenses it incurred for each activity or program it carried out, so we have a way to make some comparisons to some extent between business companies, but it does not give an accurate picture of the social performance of the organization because spending

money does not necessarily mean that there are benefits that have been achieved. It is proportional to the value of what was spent.

In sum, the quantitative approach and the program management approach are considered the most appropriate in the application in light of the current standards.

If we study these approaches in particular with regard to the accounting responsibility for pollution, we find that we must strive to try to apply the cost-benefit approach because there is a possibility to some extent to measure the benefit or return from activities and programs for pollution control (Bedlike, Alise 2015), which can be translated in the difference between pollution levels after carrying out those activities, and pollution levels caused by the production process.

At the same time, there must be acceptable levels of pollution determined in advance, because if the measurement of benefit or return is of particular importance in evaluating the performance of those programs and activities and their effectiveness for the company's management, identifying the extent to which the entity has caused real damage to the environment (through comparing the actual levels of pollution with the acceptable levels determined in advance) is more important for each of the external parties (Patents, William A., 2009). The levels of pollution caused by industrial companies must also be determined as well as the acceptable levels by specialists such as chemists and others, provided that the accountants shall be notified of it in preparation for its disclosure of the cost of the pollution control programs carried out by the entity. One of the most important items of this cost is the consumption of pollution control equipment for the administrative costs related to the management of these programs, the costs of operating the equipment, the costs of research related to pollution, and the cost of the raw materials used. When determining the costs of pollution control, it should be taken into account that they are measured according to the accrual basis, so that each period can be charged with its pollution control costs, and therefore it is possible to rely on data of the published lists when making the comparison, **and this requires from the researcher's point of view that these costs are included and linked with the current industrial activities as part of the current production cost.**

III. Acceptable Rates of Environmental Pollution (Abdu Allah, Rophered, Osama 2010)

It should be noted at the outset that it is impossible to achieve a complete cessation of environmental pollution caused by business companies because this can only be done by stopping their activities, and on the other hand, the environment can absorb a degree of harmless pollution.

When specialists determine the acceptable rates of pollution, it must be taken into account that these rates represent the maximum that can be allowed to pollute the environment from factory and other residues without having a harmful effect on living organisms, and then the real damage caused by the entity to the environment is determined in light of comparing the actual levels with those acceptable levels. Of course, the presence of these rates makes companies seek, by choice or force, to pursue it (Beams, Plaid A.& Feting, Paul E., 2015). However, most companies will not tend to bear costs for pollution control if there are no unified rates that obligate other companies. This is confirmed by what the major oil and chemical companies in the United States of America said that many of us are willing to spend financially on cleaning the environment from the dangerous level of pollution but we do not seek to do so unless each of us is compelled to do the same. History reminds us that people do better whenever external control over their behavior calls for control of themselves.

Based on the foregoing, governments must enact legislations that include both the permissible rates of pollution, and the penalties for non-compliance with them.

Of course, in light of this, companies will strive to maintain acceptable levels of pollution in order to avoid punishment on the one hand, and to show that they do not cause damage to the environment on the other hand.

We would like to point out here to the penalties resulting from companies' failure to control the pollution they cause or exceeding the acceptable rates. They must be determined in a manner that allows these companies to choose the best alternative for them to control pollution because the entity, in the process of making a decision regarding pollution control, may differentiate between several alternatives, including (Tiprgog, Waylon A., 2008):

1. Bearing the prescribed penalty without undertaking any activity in this regard.
2. Providing and using equipment and materials to allow reducing the current pollution rates to acceptable levels.
3. Making changes that would lead to the avoidance of pollution or part of it, such as:
 - A. Making a change in the method of production that leads to a reduction of waste to a degree that is commensurate with the acceptable rates, shifting to the use of kerosene as fuel instead of coal.

- B. Making a change in the quality of the products so as not to allow residues that result in pollution that exceed the acceptable rates. When the organization makes a comparison between the previous alternatives in light of the cost/return of each alternative, the entity may see that its failure to undertake any activity mentioned in pollution control while bearing the prescribed penalty is the best alternative for it to implement. This choice may not be preferred by the state because the losses and damages and the costs it bears to abate the pollution caused by this organization and treat its effects may greatly increase the collected penalty in addition to the low productivity of the workers in the society because they are affected by pollution, which are all losses and damages whose value is difficult to accurately determine. In such cases, the country must reconsider what it had previously decided on penalties.

On the other hand, the country's decision regarding rates and penalties is governed by two main considerations (Anderson, R.H., 2016):

1. Pollution rates that the environment can absorb without causing damage.
2. Cost of environmental pollution as a result of increased rates, which leads to health damages in the community and this cost includes, of course, the costs of treatment and cleaning in addition to the indirect burdens as a result of the low productivity of workers.

Of course, taking into account the two previous considerations requires the efforts of specialists, if defining the second consideration in an accurate manner is a very difficult matter. Nevertheless, there are great attempts in this regard in the developed countries.

When Setting Up these Procedures, The Legislator Must Take Into Account the Following

1. Gradual escalation with each increase in actual pollution rates over acceptable rates.
2. Penalties are proportional to the losses and damages that occur in society as a result of this pollution.

The country may use taxes instead of fines as a method of punishment, and thus it uses taxes as a tool to achieve a social and economic goal of controlling pollution. However, in all cases, penalties – whether fines or taxes - should not be used as a means of obtaining financial resources, but rather they must be used to encourage the companies to play their role in eliminating and abating the pollution they cause, and in the event that they do not do so, the proceeds of these penalties must be spent on treating the effects of the pollution caused by these companies.

IV. Descriptive and Financial Disclosure of Companies According to the Responsibility of Accounting

We have previously made it clear that for comparison and performance evaluation considerations and others, it is necessary to disclose the position of companies from their environment pollution, and therefore the accountant had a duty to disclose doing so.

We would like to point out here that it is necessary - based on the social responsibility of accountability - to disclose the organization's position on the environment in terms of pollution, whether there are legally imposed or voluntary rates or even in the absence of final rates and the disclosure in the last case is considered very important as it alerts and warns of the danger of pollution and the importance of controlling it in the future.

The auditor - relying on specialists - must in turn verify the correctness of what has been disclosed in this regard.

The pollution control should be disclosed descriptively and financially in order to achieve the importance of accounting for environmental pollution.

The descriptive disclosure includes presenting the company's position on the problems of environmental pollution in an introductory report that helps in making a correct comparison between the industrial companies that cause pollution, and **the most important content of this report is the following information: (Adriana tour, 2020):**

- A. Defining the main problems of pollution resulting from the activity practiced by the company.
- B. The deadline for implementing control standards or rates of pollution and the penalties for disobeying them.
- C. The planned rates of pollution on the basis of which the costs of controlling pollution were determined in the budget and the date set for their implementation.
- D. Actual rates of pollution and the date of their implementation.

As for the financial disclosure, it must include: (Beams, Plaid A. & Feting, Paul E., 2015).

- A. Planning budget for pollution control costs in light of what the organization seeks to achieve (taking into account the pollution rates that were set in advance).
- B. Deviation of the budget and its analysis.
- C. Treatment of pollution control costs in the income statement in a separate item.
- D. Showing the total expenditures related to pollution control in the list of sources of funds and their uses.

- E. Classification of pollution control assets and resources (tools and equipment their consumption provisions) in the statement of financial position (Balance Sheet).
- F. Showing the obligations that arise as a result of applying an accrual basis for the pollution control burden. These obligations are:
1. Obligations resulting from penalties - fine or tax - that are specified and unpaid as a result of non-compliance with the prescribed rates.
 2. Obligations resulting from unspecified penalties - fine or tax - for not responding or complying with the prescribed allowances on the specified date.
 3. Obligations resulting from the costs established to abate the pollution that happened to the environment in the current or past period.

Practical Side of the Research

- To achieve the objectives of the research, answer the questions and test the hypothesis, the researcher used the sources of information in collecting the data as follows:
- Books, research, scientific theses, periodicals and the Internet.
- A questionnaire was prepared for this purpose and the statistical software SPSS was used to analyze the questionnaire and test the hypothesis.
- The research population is the factories of Al-Tabieaa Paints Producing Co. Ltd. working in the production of dyes/private sector in the city of Al-Diwaniyah and its number is 70.
- The sample of the research is a group of managers and heads of financial departments, accountants and technicians using the stratified sampling method and it reached (101) male and female employees.
- With regard to the research tool, the questionnaire was divided into 8 statements in one axis: there is a role for the accounting profession in supporting industrial companies to assume their responsibility in treating or abating damage from environmental pollution according to the requirements of social responsibility, and the answers were according to the five-point Likert scale as follows:

Table 1: Likert Scale Scores

Classification	Very large	Large	Medium	Low	Very low
Agreement score	5	4	3	2	1

- The validity of the questionnaire by calculating the correlation coefficient between the total score of the axis and the total score of the questionnaire in its final form. The table below shows a correlation coefficient at the level of 0.05 and the probability value is less than 0.05.

Table 2: Correlation Coefficient

Axis	Correlation coefficient	Probability coefficient
There is a role for the accounting profession in supporting industrial companies to assume their responsibility in treating or abating damage from environmental pollution in accordance with the requirements of social responsibility.	0.876	0.000

The correlation is statistically significant at the level of significance ($\alpha \leq 0.05$).

- The reliability of the questionnaire for the purpose of making sure of the answer is almost the same if it is repeatedly applied to the same people at another time in the table below.

Table 3: Cronbach's Alpha Coefficient to Measure the Reliability of the Questionnaire

Axis	Number of statements	Cronbach's alpha coefficient	Intrinsic validity
There is a role for the accounting profession in supporting industrial companies to assume their responsibility in treating or abating damage from environmental pollution in accordance with the requirements of social responsibility.	8	0.942	0.983

Intrinsic validity = positive square root of the reliability coefficient (Cronbach's alpha).

- Analytical results show that the reliability and validity coefficients are high and statistically significant and the research tool is stable and valid in measuring what it was prepared to measure and is distributable.

- **Data Analysis and Testing**

The researcher used the (Kolmogorov) test to find out whether the data is normal or not. The table below shows that the calculated T value is greater than the tabular T value as well as the level of significance is greater and this indicates that the data follow a normal distribution as well as that parametric tests should be used.

Table 4: Normal Distribution Test

Axis	Number of statements	T value	Probability value
There is a role for the accounting profession in supporting industrial companies to assume their responsibility in treating or abating damage from environmental pollution in accordance with the requirements of social responsibility.	8	0.767	0.471

- **Research Hypothesis Testing**

To test the hypothesis, the researcher used the T-test for one sample and for all statements of the axis and the total score.

Table 5: T-test Results for One Sample for All Statements and Total Score of the Axis

No.	Statement	Mean	Standard deviation	Relative weight	T Value	Sig.	Order
1	The company is developing accounting and control information systems to suit environmental developments to reduce environmental pollution.	3.521	0.891	70.04	34.222	0.000	6
2	Accounting measurement and disclosure of environmental pollution in financial reports serves development objectives in accordance with social responsibility.	3.813	0.816	77.06	40.425	0.000	2
3	Narrowing the information gap on management and users of financial statements through the ability of financial reports to provide accounting information for the purposes of achieving sustainable development in accordance with social responsibility.	3.853	0.747	76.06	44.622	0.000	3
4	Accurate and clear information about the volume of consumption of natural resources is published in the company's annual report and presented to the financial and administrative audit committees.	3.893	0.813	77.86	40.556	0.000	1
5	The company views social responsibility as random efforts, meaning that it does not take an organizational form with plans and objectives that bear its social and legal responsibility.	3.417	0.549	68.34	53.830	0.000	8
6	The company's fear of the possibility of competing companies exploiting the information it discloses.	3.600	0.986	72.00	31.607	0.000	5
7	The company's lack of awareness of the importance of the accounting profession and its responsibility towards society.	3.706	0.712	74.12	45.066	0.000	4
8	The accounting profession and the disclosure of data in the financial statements require the existence of legislative bodies regulating the work of the accounting profession and the control of environmental pollution.	3.453	0.919	69.06	32.520	0.000	7
9	There is a role for the accounting profession in supporting industrial companies to assume their responsibility in treating or abating damage from environmental pollution in accordance with the requirements of social responsibility.	3.625	0.786	72.34	59.016	0.000	-

The correlation is statistically significant at the level of significance ($\alpha \leq 0.05$)

It is clear from Table (5) that the fourth paragraph fulfills the information about environmental activities that need to be accounted for in its role in controlling environmental pollution according to the requirements of social responsibility and it obtained the highest mean of (3.893), relative weight (77.860%) and deviation (0.831). While statement No.5 obtained the lowest mean (3.417), relative weight (68.34%) and deviation (0.549). In general and according to the results of examination and analysis of the arithmetic mean, relative weight and standard deviation in the table above for the hypothesis indicates that there is a role for the accounting profession in supporting industrial companies to bear Its responsibility is to treat or abate the damage from environmental pollution in accordance with the requirements of social responsibility, thus the hypothesis is accepted.

Analysis of Deviations and Costs of Environmental Pollution Control

1. Rates (Targets) Deviations

It arises as a result of comparing the actual achievement rates with the planned pollution level. This may happen in many cases that the planned achievement (planned level of pollution) is less than the acceptable level of the pollution defined legally, given that this provides the entity with a margin or a reserve transferred for error on the one hand and on the other hand, it restricts the entity in its public relations in order to achieve future gains in the long term on the other hand, and for this last advantage, we have previously mentioned the necessity of disclosing the rates planned by the entity as well as the legal rates imposed so that the person familiar with this report can identify what the organization aims to achieve it.

The deviation of rates (targets), negative or positive, is used in judging the efficiency of managers in achieving outputs (Churill, Neil C., 2014).

2. Deviation of Units Used in Resources

It represents the difference between the amount of actual inputs (resources used), and the standard quantities needed to achieve the actual outputs and this deviation reflects the extent of writing in the use of inputs.

The researcher believes that this deviation should be determined financially by determining the difference between the standard cost of the actual inputs and the standard cost of the standard inputs necessary to achieve the actual outputs and let's call it the quantity deviation of pollution control inputs.

3. Deviation in the Cost of the Resources Used

The difference between the actual cost of the inputs is their standard cost and this deviation reflects the extent of economy in the use of resources, and this deviation is exactly the same as what is known in cost accounting as the price deviation.

The researcher believes that it is necessary to determine the total deviations of the costs related to pollution control at first and then analyze them into both the quantitative deviations of the inputs and the deviations of their prices.

There is also another type of deviation, which is the deviation of penalties, which is represented in the difference between the penalties incurred by the entity between the penalties calculated in light of the pollution that it determines for itself. The penalties deviations can be expressed by the following equations: (Patents, William A. 2009).

1. Penalties deviations = planned penalties - actual penalties
2. Penalty rate x (amount of increase in the planned rates over acceptable ones) - penalty rate x (amount of increase in the actual rates over the acceptable ones).
3. Penalty Rate (amount of increase in the planned rates over the acceptable ones) - (amount of increase in the actual rates over the acceptable ones).

Accordingly, the nature of the penalties deviations can be clarified in light of the foregoing, as follows:

A) Penalties Deviations Equal Zero in the Following Cases

- The entity does not carry out any kind of pollution control, as the planned penalties are equal to the actual penalties.
- The entity's control over pollution, and the actual levels were equal or less than the acceptable levels, and the planned levels were equal or less than the acceptable levels.
- The organization's control of pollution, that the actual levels are greater than the acceptable levels, equal to the planned levels (Dilley, Steven C. and Weygand, Jerry J, 2013).

B) Penalties Deviations are Negative in the Following Cases

- The organization's control over pollution and the planned levels were equal to or less than the acceptable levels (i.e., the planned penalties are equal to zero) but the actual levels were greater than the acceptable levels.
- The organization's control of pollution, and the planned levels were greater than the acceptable levels (i.e., there is a planned penalty) and it was found that the actual levels are greater than the acceptable levels and also greater than the planned levels.

C) Penalties Deviations are Positive in the Following Cases

- The organization's control over pollution and the actual levels were equal to the acceptable rates or less than them, while the planned levels were greater than the acceptable rates.
- The organization's control over pollution, and the actual levels of pollution were greater than the acceptable levels but they were less than the planned levels.

It should be noted that this type of deviation must be added to the deviation of costs so that the total deviations related to pollution control in an organization can be identified.

To complete the benefit, the following example can be shown where each of the following deviations must be calculated:

- Rates (targets) deviation.
- Cost deviations, and they are analyzed into:
 - Quantitative deviation of the input.
 - Price deviations for inputs.
 - Penalties deviation.
 - Total deviations from pollution control.
 - Through the information obtained by the researcher from the company, it was analyzed according to the equations for calculating the fines that are imposed on the entity in the event that it does not respond to preserving the environment during its production activities where the production processes of the entity led to the disposal of one of the polluting substances in the river at a rate of 300 mg/L.

The permissible limit for this substance was 250 mg/L.

The prescribed fine was 1,000 dinars for each mg/L in excess of the permissible rates.

- The standard cost of pollution control inputs per 1 mg/liter was as follows:

Information	Quantity	Price	Total
Substances	10 kg	20	200
Wages	40 kg	5	200
Driving forces	1000 kg/hr	0.1	100
Total			500

Prepared by the researcher based on the company's data

- The entity has chosen to implement a pollution control program as the best alternative, given that the cost of pollution control = $500 \times (300 - 250) = 25000$.

While the fine determined in light of the current pollution rates:

$$1000 \times (300 - 200) = 50000$$

It is better for this entity to include in its planning budgets the pollution abatement cost of 25,000 (to reduce pollution from a level of 300 mg/liter to a level of 250 mg/L).

- If it turns out that the actual level of pollution (actual outputs) is 280 mg/liter, then the costs and the actual costs are:

Information	Quantity	Price	Total
Substances	250 kg	25	6250
Wages	1000	5	5000
Driving forces	25000 kg/hr	0.2	5000
Total			16250

Prepared by the researcher based on the company's data.

The deviations can be analyzed as follows:

1. Rates (targets) deviations = 250 - 280 = -30 mg/L

This means that there is a negative deviation in achieving the goal at a rate of 30 mg/L which represents the amount of damage that this organization contributes to polluting the environment, and it must be disclosed to the society.

2. Total deviation of pollution costs = standard costs of the actual pollution rates - actual cost.

$$500 \times (300-280) -16250$$

$$10000 - 16250 = - 6250$$

This total deviation is analyzed into the following:

1) Quantitative Deviation of the Inputs

$$\text{Substances} = (\text{Standard Quantity} - \text{Actual Quantity}) \times \text{Standard Price}$$

$$= (200 - 250) \times 20 = - 1000$$

$$\text{Wages} = (\text{standard hours} - \text{actual hours} \times \text{standard wage rate})$$

$$= (800 - 1000) \times 5 = -1000$$

$$\text{Driving forces} = (\text{Standard k/hr} - \text{Actual k/hr}) \times \text{Rate of your price/hr}$$

$$= (20000 - 25000) \times 0.1 = 5000 \times 0.1 = - 500$$

2) Inputs Price Deviation

$$\text{Materials} = (\text{Standard Price} - \text{Actual Price}) \times \text{Actual Quantity}$$

$$= (20 - 25) \times 200 = -1250$$

$$\text{Wages} = (\text{Standard Wage Rate} - \text{Actual Wage Rate}) \times \text{Actual Hours}$$

$$= (5- 4) \times 1000 = 1000$$

$$\text{Driving forces} = (\text{architectural average price} - \text{actual price average}) \times \text{actual kilowatts}$$

$$= (0.1 -0.2) \times 2500 = - 2500$$

3. Penalties Deviations

We have previously explained that there is more than one case for this type of deviation to occur, and accordingly, in the case we are dealing with, it is clear that the entity will be subject to a fine because the actual levels (280 mg/L) are greater than the acceptable levels (250 mg/L) and the planned penalties assumed to be zero because the organization was striving to achieve acceptable levels.

Therefore, the penalties deviation is = Penalty rate (Increase in the planned levels over the acceptable ones - Increase in the actual levels over the acceptable ones).

4. Total Deviations from Pollution Control

The total deviation of pollution control includes the total deviation of pollution costs, including the quantitative deviation of the inputs and the deviation of their prices, as well as the penalties deviation and knowing these deviations is useful in giving a clearer picture of the deviations in order for the entity to monitor its pollution-related programs in the future.

$$\text{Total Deviation of Pollution Control} = \text{Total Deviation of Costs} + \text{Penalties Deviation}$$

$$= (-2506) + (-30000) = -36250$$

Findings and Recommendations

1. Results

1. It has become clear from the research that although business companies in developing countries such as Iraq have not yet responded to their social responsibilities related to controlling the pollution they cause in the environment, such industrial companies in developed countries have mostly played their role in controlling pollution not because their conviction of their responsibilities for doing so only, but also not because they consider it a matter that binds them in the long term.

2. The failure to match the revenues with the expenses related to them, including the expenses related to pollution control, without disclosing the organization's failure to control the pollution it causes after contributing to the corruption of the environment and the failure of industrial companies to respond to pollution control is considered a kind of indirect and unintended support submitted by the country to these industrial companies, which may have undesirable effects and it also lead to a kind of unfair distribution of income, in addition to the inability of the published financial statements to be compared.
3. The costs related to the disposal of wastes without damaging the environment are considered part of the production cost that must be borne by the production and it is practically acceptable that the selling price of the product includes both the normal cost and the cost of pollution control and then the organization passes this cost to the consumer.
4. Accounting has a responsibility towards society represented in the necessity of disclosing the pollution caused by industrial companies to the environment and their position on it.
5. Industrial companies do not respond to perform their role in controlling pollution in an effective manner, unless there is a legal obligation that other industrial companies do the same work.
6. The environment can absorb a degree of harmless pollution and therefore it must determine the acceptable rates in light of what the environment allows to absorb without harm.

2. Recommendations

1. There should be in Iraq an independent body for environmental pollution affairs, comprising a group of specialized experts and technicians whose mission is to:
 - A) Determine the acceptable levels of environmental pollution (air, land and water) and enact legislations for them to oblige all industrial companies that cause pollution not to exceed them while developing penalties that commensurate with the losses and damages that occur as a result of the increase caused by industrial companies in pollution rates above the acceptable rates.
 - B) Monitoring the implementation of these rates by industrial companies.
2. The Capital Investment Authority must take into account accuracy and is in the process of evaluating and approving the establishment of new projects as it is necessary to study the effects of these projects on the environment and the pollution they may cause and to demand projects whose activities result in environmental pollution to prepare pollution control programs with adherence to rates Acceptable pollution - which must be determined in advance - because not to do so, which is what is currently being worked on. It is considered as an additional advantage that may push other countries to (export) pollution to us through the entity of their projects in Iraq.
3. The organization's programs and activities related to pollution must be presented in an independent report so that it can identify the effort it has provided in this regard and the damage it has caused to the community. According to the accrual basis, provided that this is offset by the return achieved from this agreement which is represented in the difference between the pollution rates after implementing the programs and the pollution rates caused by the organization's activity provided that it determines at the same time the acceptable levels of pollution.
4. The accountant must disclose the organization's position towards pollution in a report and the disclosure must be presented descriptively and financially.
 - A) **Descriptive Disclosure:** By presenting the main problems of pollution in this activity, the regulatory standards and rates, the date of their implementation, and the prescribed penalties.
 - Planned rates of pollution and the date of their implementation.
 - Actual rates of pollution and the date of their implementation.
 - B) **The Financial Disclosure Must Include**
 - The planning budget includes the intensification of pollution control.
 - Budget deviations and their analysis.
 - Addressing pollution control costs in the income statement in a separate item.
 - Showing the total expenditures related to pollution control in the list of funds sources and uses.
 - Showing the tools and devices for pollution control (allowance of their depreciation) within the assets in the budget.
 - Showing the obligations resulting from the unpaid specific and unspecified penalties as a result of non-compliance with the acceptable rates on the specified date as well as showing the obligations arising from the estimated costs of abating environmental pollution as a result of what happened in the current or past period.

- The organization should list the pollution control within the structure of its objectives and then the costs of pollution control should be included within the framework of its planning budget and this may enable it to determine the extent of achieving the objectives of the programs planned for pollution control as well as evaluation the sufficiency of these programs.

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