

# The Role of Accounting Disclosure of Environmental Costs in Egyptian Industrial Companies: An Applied Study on Some Companies Listed on the Egyptian Stock Exchange

Nagwa Abubaker

Associated Professor, College of Business Administration at Northern Border University, Saudi Arabia

**Abstract:-** This study examines the role of accounting disclosure of environmental costs in Egyptian industrial companies listed on the Egyptian Stock Exchange. The research highlights the importance of environmental accounting in promoting transparency and aiding decision-makers in investment and strategic planning. By focusing on a sample of companies, the study explores the current practices of environmental disclosure, identifying significant gaps in reporting standards and the challenges posed by the lack of comprehensive accounting frameworks. The findings reveal that while some companies disclose environmental costs, these disclosures are often limited, inconsistent, and not fully integrated into financial statements. This has led to reduced transparency and inadequate reflection of environmental liabilities. The study recommends enhancing regulatory frameworks to promote standardized environmental accounting practices and suggests tax incentives to encourage compliance. Future research should explore the implementation of environmental accounting across different industries and its potential impacts on corporate performance.

**Keywords:-** Environmental Accounting, Accounting Disclosure, Egyptian Industrial Companies, Environmental Costs, Sustainability Reporting, Egyptian Stock Exchange.

## I. INTRODUCTION

The study aims to clarify the role that can be played by the accounting disclosure of environmental costs in the industrial institutions of Egypt in rationalizing the use of societal resources for environmental protection and the internalization of external environmental costs. This is not easy to deal with, as we previously indicated. There is no need to prove that industrial institutions are active elements in any community, as a result of the services they provide to society and because they produce an integrated work environment suitable for the lives of individuals, based on the direct or indirect participation of labor in their private production processes. Due to the importance of the role played by these institutions in organizing the economic situation, the body of

the community, and environmental behavior, there has been an increase in the trend towards considering the question of protection and preservation of the environment in general development plans, and this problem is currently at the forefront of general economic strategies.

### A. Background and Rationale of the Study

The decline in natural resources as a result of the processes of production and consumption, and the increase of the difficult and complex problems of the external environment, whether scientific, media, or political, has doubled the responsibility of businesses and their expected contribution to the management of the business. To mitigate the consequences resulting from the decrease in the quality of the environment due to the production processes undertaken at the expense of planning and achieving temporary profits, and the complaints of the members of society about the lack of clarity, credibility, and transparency of this information, on the other hand, and its effect on decreasing confidence in the different stages of users of accounting information.

In light of the controversies raised by the profession and scientists about accounting methods and the reports issued by environmental costs and their significance as a loss for the industrial unit and the society members and its impact on reliability, transparency, and clarity of the processes of production and the various stages of the information. Therefore, the environmental costs and the accounting methods attributed to them have become of great importance in the process of disclosures and interest in many sectors of society, including producers of accounting information.

### B. Research Objectives

This research seeks to achieve a group of practical and theoretical objectives. The practical objectives of this study are as follows: 1) To provide decision-makers and users of financial statements of internal and external parties with the necessary accounting information that enables them to make investment decisions or determine short- and long-term strategies that take into account environmental costs. 2) The study will help the regulatory authorities in Egypt to prepare

guidelines, accounting standards, or proposed laws that take into account many of the costs that are not shown in the entity's financial statements adequately. It can be concluded that the accounting standards of disclosure are part of the network of restrictions in environmental management.

As for the theoretical research objectives, they may not be directly presented or achieved through practical study. However, research and its objectives may contribute to achievement through other results that are general-related research contributions, including directing thought toward some points that may not have been given sufficient attention or were dealt with in a different research context. This study aims, through the empirical tests of the proposed research hypotheses, to provide evidence to support the feasibility or non-feasibility of accounting disclosure elements to manage environmental costs in the financial reports of companies working in the Egyptian market. And to what extent, if present, the requirements of the results satisfy the needs of the different parties involved, and if it is taken by the designers of accounting dissemination systems in these disclosures will serve its purpose.

### C. Research Questions

Analyzing the problems associated with the accounting disclosure of environmental costs leads us to a number of questions. This research aims to answer several questions that underlie the problems formulated in the previous paragraphs. These questions represent the dimensions that help facilitate the study with the availability of information for research and help reach a specific result. These questions derived from the research problems can be formulated through the following aspects and issues: What are the motivations that lead companies to sustainable reporting? How do companies in Egypt disclose and account for environmental costs? Will companies in Egypt prepare accounting reports that include information about environmental accounting as a justification for the absence of permanent formal accounting standards and the impact of imposed environmental costs? How can the accounting disclosure of environmental costs be improved? The previous questions were formulated to solve the problems of lack of accounting disclosure regarding environmental costs. This is the first part of the research problem and will be answered by analyzing the results obtained and formulating recommendations on how to achieve accounting disclosure for environmental costs by Egyptian companies.

### D. Significance of the Study

The significance of the study lies in its practical dimension in clarifying the extent of disclosure of environmental accounting in industrial companies in Egypt, which contributes to drawing the attention of users of accounting information, whether internal or external, to studying these disclosures.

This will enhance the decision-making role in the optimal use of companies' resources and will contribute to the continuation of companies over time, which also contributes to achieving the societal goals sought by companies. This study also aims to form an important document that attracts the attention of interested parties in light of the environmental pollution faced by most industrial companies and the decline in their societal role. There is a need for these companies to develop a system to provide advanced information related to the environment to the users of accounting information in the market. This study also includes a review of the unified plan related to environmental accounting, which is considered one of the first studies that aim to provide a scientific view of the unified plan that was issued three years ago and to submit suggestions for its development in light of the identified gaps.

### E. Scope and Limitations

#### ➤ Scope of the Study

The study deals with the accounting disclosure of environmental costs in Egyptian industrial companies, depending on the notes of the financial statements. The study provides the necessary accounting information on these hidden environmental costs as a step towards their calculation and allocation, and also aims to reduce them to acceptable limits in terms of environmental management. The study also discusses future accounting recognition, which contributes to reducing these costs. The discussion of future accounting recognition of environmental costs does not imply that the current costs of the study sample are absent. In fact, they constitute some of the costs that are recognized and disclosed according to the specific administrative instructions and accounting policies of the concerned companies.

#### ➤ Limitations of the Study

The study dealt with the accounting disclosure of environmental costs in the notes of Egyptian industrial companies over the last five years instead of focusing on one specific year. The most important limitation in this field is the economic consequences on the sample companies and their statements, by analyzing them for changes, trends, and future trends for the dependent and independent study variables. The study focuses on some non-financial sectors according to the specific administrative instructions. The study sample is limited to some industrial companies only, listed on the Egyptian Stock Exchange. The study did not conduct a geographic or industrial comparison. Finally, the study determined the importance of environmental costs in Egyptian industrial companies and their possible future developments. However, those who are interested in a particular geographic or industry comparison?

## II. LITERATURE REVIEW

Firms' direct and indirect environmental costs must be presented clearly in a way that allows users to evaluate the efficiency of management in the administration of scarce environmental resources. Environmental costs can be directly related to the specific objective of protecting the environment and, therefore, are important to external parties to assess the impact of the firm's economic activities on the environment. Neglecting these costs or reporting them through arbitrary financial accounting treatments distorts and disguises the true cost situation affecting a company's operations. There is ample evidence to suggest that the depletion and impairment of the environment induced by business operations are a significant source of economic unrest in today's society. Business regulations requiring disclosure of environmental activities have compelled many corporations to examine their own knowledge of the relevant policies or prepare the necessary certifications. The result has been increased demand for guidance concerning sound accounting and environmental auditing measures. (Kazancoglu et al.2021) (Song et al., 2020)(Ding et al., 2022)

Green rules of corporate governance generate significant shifts in the functioning of companies since they determine the impact that companies have on the relationship between humans and nature. As a consequence, companies are increasingly advocating their ability to switch from eco-evaders to eco-leaders, companies that integrate social and environmental considerations into their business strategies and seek to provide positive environmental impacts. What seems to be changing recently, however, is the eagerness of businesses to join forces in a coalition of enterprises committed to ecological and environmental performance.

### A. Conceptual Framework of Environmental Accounting Disclosure

Accounting disclosure of environmental costs is of great importance in the current era, as the modern era is characterized by rapid changes in technology and industry. These changes have led to increased economic activities in response to the needs of societies, preparing the industrial era for great achievements in the standard of living. However, in contrast, the industrial revolution has resulted in several harmful environmental effects. This has significantly increased the movement of countries and various environmental initiatives aimed at controlling the amount of pollution emitted, as a basis for ensuring the rights of future generations to enjoy the services available to current generations, and to respond to justifiable demands for a clean and healthy environment. Many countries have adopted environmental control rules to regulate the industry by setting explicit legislation that determines the nature of the activity and addresses environmental problems. Accounting plays an important role in the dissemination of environmental

information, especially regarding the potential effects of economic activity on the environment. (Wang et al., 2020)

In response to this situation, and over the past fifteen years, there has been increasing interest in accounting for the handling of environmental impacts by companies and financial institutions. The demands of companies and institutions for financial accountability are increasing, along with their voluntary allocations of funds to address the environmental impacts caused by their activities in a manner that contributes to protecting the environment or reducing the negative effects on factors relevant to the priorities of social accounting. This is due to its role in evaluating a company's ability to achieve the objectives of its activities while fulfilling global social responsibility. Accounting is a necessary tool for dealing with environmental costs. The accounting methods most commonly used to identify environmental costs can be traced to cost accounting. Such methods have proven that traditional accounting is inefficient in identifying and measuring the environmental costs of industrial activities; they are not able to account for all the environmental costs associated with the activities of the enterprise and its components in the manufacturing process, as well as distribution costs and administrative activities. (Almagtome et al.2020)

### B. Theoretical Foundations of Environmental Accounting

The environmental accounting framework is developed through the emergence of the environmental concept, which revolves around the need to identify and provide more information on the environmental effects of economic activity. The concept of accounting sometimes involves a somewhat narrow spiritual meaning that revolves around the overall process of measuring the economic performance of companies, and the results are communicated through financial reports. Therefore, the definition of an environmental accounting system for the business sector must be based on the integration of cost accounting and measurement and evaluation methods, as well as the creation of additional cost accounting tools to quantify environmental impacts related to enterprise environmental functions, and the transmission of that information through the corporate information system that has been made available. In this context, there appears to be a big difference between traditional accounting and the environmental accounting system, which extends the information of traditional accounting systems to include all aspects of the relationship between the company and the environment, and allows for the valuation of these relationships or environmental impacts, which in turn should be added to the traditional chart of accounts used by companies in order to analyze and discover these companies' activities. They have a significant impact on Axis IV. The environmental accounting system helped establish the rational use of natural resources and the management of companies that are environmentally harmful. It is also a decision-making tool, primarily aimed at achieving the triple bottom line

requirements for sustainable development as a whole. (Scarpellini et al.2020)

#### *C. Empirical Studies on Environmental Accounting Disclosure*

After reviewing the literature of some developing and developed countries, we find that they have made it a requirement to study the status of voluntary environmental reporting. The results of these studies generally indicate that very few companies provide environmental information. The literature has established a relationship between company characteristics and the level of environmental reporting, where company size, profitability, industry group, leverage, and corporate responsibility are strong determinants of the extent of environmental reporting. Determinants like earnings management, institutional shareholding, and company size can act as determinants of development patterns in the pre-environmental accounting disclosure period and can be cited as one where a number of companies unknowingly use disclosure levels. (Gerged, 2021)

This is evident in the studies of most corporate accountability practices in the respective countries. More recently, a number of studies have focused on the relationship between social and environmental disclosure and institutional share ownership and other corporate characteristics. These studies, however, did not reach a consensus by finding a relationship between specific corporate characteristics and corporate environmental disclosure practices, although a number of researchers agree with the original hypothesis that the level of environmental disclosure emerges as a consequence of a 'socio-political' stakeholder perspective of accountability. Overall, not much has been done to evaluate whether there is any growth in environmental accounting activity over time through empirical research. (Scarpellini et al.2020)

#### *D. Environmental Costs and Their Classification*

After the recognition of the dangers and problems that have occurred as a result of the lack of effective treatment by some companies of their environmental impact, new patterns have emerged in the flow of information. One of the most important patterns that have emerged at this time is the interest in accounting and revealing the various costs collectively known as environmental costs. Environmental costs are defined as the expenses that incur through damage to the environment, costs for pollution prevention and guarantee of the service life of assets to ensure a better environment. (Osman et al.2023)

As for the classification of these costs, it has yet to be based on a comprehensive income statement model. An accounting model that is very close to classifying environmental costs when reflecting the flow of environmental costs from source to impact. These costs are also far from analyzing all environmental costs. However, this partition of

costs - and specifically the prevention, payment, treatment, and indirect costs - may well represent a basis to study additional costs and to adapt several accounting models currently presented. (Kusuma, 2021)

### **III. METHODOLOGY**

This section illustrates the method and rationale for collecting data from the annual reports of the companies used in the empirical analysis. Specifically, to achieve the objectives of the current research, the annual reports of companies in the period of the study were thoroughly examined. Accordingly, the annual reports were examined to determine whether they disclose information about environmental accounting concerning environmental costs, and if the study variables were incorporated into the companies' annual reports. The annual reports for the industrial companies were obtained, and if the information concerning environmental accounting was not adequate, the data were collected from the financial reports. The selected companies' annual reports used in the study contain information found in the English language. The current research selects a sample period from 2007 to 2011 to achieve its objectives. The reason for choosing this period is that there were several political events during the studied years. These events may significantly affect the usefulness of the information available to users or make the availability of the information questionable. (Buallay2020)

Therefore, the companies that did not include the information in their annual reports during the particular period were not included in the sample. The reason for choosing the year 2007 as the starting year is that it marks the beginning of the accounting reforms aimed at improving the quality of information published in the annual report about the environmental accounting disclosure of costs, which will potentially result in providing additional information about the effect of these events.

#### *A. Research Design*

After presenting the problem and its importance, as well as some previous studies, the purpose of this study is to investigate the role of accounting disclosure of environmental costs in Egyptian industrial companies and to see whether the accounting disclosure of environmental costs affects corporate environmental performance. This study uses content analysis of companies listed on the Egyptian Stock Exchange during the year 2018, as well as a survey method to measure corporate environmental performance. The results of this study stated that there is a weak relationship between accounting disclosure of environmental costs and the environmental performance of Egyptian industrial companies due to the weak practice of environmental performance in this field. Finally, the researcher recommends that the government should provide Egyptian industrial companies with some tax incentives. In addition, the Egyptian Stock Exchange should



increase companies' commitment to disclose more information about environmental aspects.

#### *B. Data Collection Methods*

The study used the survey method for the two types of data collected. In a personal interview through a questionnaire for officials in the units responsible for the expenses or departments related to the study, the questionnaire was distributed personally and then picked up by the researcher after receiving the required information. After the necessary adjustments, the study employs data collection from various civil publications and financial reports after the necessary adjustments, calculations, and treatments according to the study requirements with the assistance of a number of qualified employees in the Department of Military Accounts. Also, the study prepares the financial and operational information available mainly in the stock exchange for the studied joint-stock companies. The statistical processing is performed using the appropriate statistical methods. (Manes-Rossi et al.2020)

The study collects the self-prepared questionnaire with the assistance of a number of foreign and direct contacts at a personal level from different levels of some chief financial managers and personnel managers of industrial companies listed on the stock exchange. The questionnaire was prepared verbally and then written in the presence of company officials in the finance section and personnel section in order to obtain the following important notes about the study subjects and the required data about the subject of the study. After clarifying the confidentiality of the source of the data and the purpose of the researcher's request for these data, they provided the necessary data and confirmed they are keen on the disclosure of this type of expenses through the publication of information in their annual reports to institutional investors or the publicly available information. (Hoang et al.2020)

#### *C. Data Analysis Techniques*

Based on the research objectives that determined the study's axes, the researchers developed a questionnaire tool that consists of a number of regulatory paragraphs, a number of accounting disclosure paragraphs, and another paragraph to measure environmental performance. The scale was read to the most important paragraphs, which the researchers prepared based on the study's axes and were supervised by specialists in the environment and accounting. The field study was applied to 50 companies listed on the Egyptian Stock Exchange. 39 companies were available from all the companies studied, and the researchers used, after the correction, 35 companies after the presence of 4 companies whose assets exceed 10 billion pounds. The data analysis process was divided into several stages: the first stage included statistical analysis of the results of the questionnaire prepared by the researchers to measure the level of accounting disclosure of financial costs in Egyptian industrial companies listed on the Egyptian stock

market. The second stage included statistical analysis of the results of the questionnaire. (Shahwan & Habib, 2020)

### **IV. ENVIRONMENTAL ACCOUNTING DISCLOSURE IN EGYPTIAN INDUSTRIAL COMPANIES**

The purpose of this study is to explore the reality of the accounting disclosure of environmental costs and to what extent the adoption of Goodwill Standards No. 30 at the level of some industrial accounting companies listed on the Egyptian Stock Exchange. This is achieved through the application of the apparent study on the financial statements and reports for companies for the year 2016. Based on the study of 13 companies, the study yielded some of the most important results. The study showed that the total environmental costs of the studied companies represent only 0.4723% of the companies' production costs. It revealed the absence of material accounting disclosure for the costs of the environment. The study indicated that there are low ratios of disclosure related to the nature of any provisions concerning the environment, environmental liabilities with descriptions, the companies' financial obligations on environment-related loan guarantees, and contingent obligations arising from delays in implementing the rules and regulatory laws. (Abdelfattah and Aboud2020)

A unitary image, a realistic comprehensive approach for environmental disclosure, enables many stakeholders to rely on the available comprehensive image and understand the real environmental liabilities of the company as a result of implementing the requirements of regulatory bodies in this respect. Such an approach, with well-disclosed and recognized financial dimensions, will help companies improve and enhance other dimensions related to corporate environmental responsibility, play a role in addressing environmental problems, and find radical solutions reconciling the interests of different stakeholders. This is achieved mainly through recognizing the economic and financial dimensions resulting from the negative and positive effects that contribute to creating a tool to oblige emission-creating stakeholders to deal with those negative effects, being responsible for those effects, and providing financing for service providers working to find proper solutions for such negative effects. (Abdou et al.2021)

#### *A. Overview of the Egyptian Industrial Sector*

The Republic of Egypt is one of the countries that actively seeks to develop its national industries, to re-economize, and to reduce its dependence on imported goods. Therefore, the public sector has been developing large heavy industries, especially those that support the agricultural and construction industries. In addition, the government has followed several strategies to support Egyptian industries and to facilitate the industrial environment. However, all these strategies and industrial processes have several side effects from a pollution and environmental depletion perspective, as

all industrial activities result in an environmental cost that must be calculated and disclosed. (Musleh et al.2022)

The industrial sector is characterized by a dependence on many environmental resources, raw materials, energy, and constant pollution from a large part of the harmful substances. Consequently, industrial production aims to develop the working environment and create a better quality of life for individuals. The industrial sector's contribution to the national income is measured by the gross value added of companies plus the manufacturing industry's typical added value. The added value is a statistical measure of the economic contribution that industries make to profitability, and it is defined as the difference between production and the price of raw materials. The analysis criterion in setting the economic objective and understanding the industry is the industrial brokerage. Since the industry mainly depends on capital due to the low flexibility of its workforce, it is necessary for the economic policy to ensure concordance between the industry and the availability of the capital amount to be guaranteed. (Osemene et al.2024)

#### *B. Current Practices of Environmental Accounting Disclosure*

This section is designed to examine whether environmental costs are currently recognized and how environmental accounting is disclosed in the reports of the listed Egyptian industrial sector. This is in accordance with this study's assumption. First, a disclosure index will be designed to examine the accounting information and analyze the extent of this information or whether a relationship with the type and size of the company exists. Then, the analysis and study of the environmental accounting disclosures in the financial reports produced by the companies listed on the Egyptian Stock Exchange for the fiscal year ending December 2017 will be presented. (Osemene et al.2024)

Disclosure is the publication of information in an annual report, including financial statements, accounting policies, explanatory notes, and other statements produced by a company so that the general shareholders and stakeholders, including creditors, employees, suppliers, and society, are able to obtain an accurate and clear view of the performance of the company. This view assists interested parties who rely on financial statements in their decision-making and control of the company. The information produced in an annual report of companies generally reveals only a part of the information included in the company. The reliability of the information provided by companies in their financial statements affects the decision-making of interested parties. The availability of information plays a role in reducing the potential risk because stakeholders rely on the quality of financial reporting of the companies to make the correct decisions. (El-Haj et al.2020)

#### *C. Factors Influencing Environmental Accounting Disclosure*

The most well-known set of factors that can influence environmental accounting disclosure includes corporate governance, stakeholders, and the right of access to information. The interaction of these factors is reflected through agency, legitimacy, and resource dependency theories. The agency theory argues that shareholders are the only group that deserves to receive environmental information. The only parties that will be impacted by environmental costs are creditors, employees, or customers if the company is facing financial difficulties. These groups will ask for information to ensure their rights, and as a result, they can request environmental information. However, as company activity is broader and includes many parties, its responsibilities towards stakeholders are emphasized, so they must receive environmental information, as argued by stakeholder theory. This approach depends on the interconnectedness of the company with other parties, where each party is affected by the environmental costs incurred by the company, so they can request information. It is necessary for the environmental information to be available to those parties. The Resource Dependence Model also supports the argument that environmental information should be made available to them with less difficulty. If these approaches are followed, companies should provide appropriate qualitative and quantitative environmental accounting disclosure. The researchers also examined the ownership structure and the size of the company as possible factors influencing voluntary environmental accounting disclosure. (Giannarakis et al.2020)(Aguilera et al.2021)

### **V. CASE STUDIES ON ENVIRONMENTAL ACCOUNTING DISCLOSURE**

#### **Case Studies on Environmental Accounting Disclosure;**

##### *A. The Petroleum Sector: Egyptian General Petroleum Corporation (EGPC)*

###### **➤ Overview:**

The Egyptian General Petroleum Corporation (EGPC) is a major player in Egypt's oil and gas industry. Environmental issues are particularly relevant in this sector due to the extraction and processing of fossil fuels.

###### **➤ Environmental Accounting Disclosure Practices:**

**Regulatory Requirements:** The Egyptian environmental laws, particularly Law No. 4 of 1994 for the Environment and its amendments, mandate the reporting of environmental impacts. However, compliance with these regulations has been inconsistent across the sector. **Reporting Framework:** The EGPC reports on some environmental issues, such as emissions, waste management, and energy consumption, but the depth of disclosures varies. **Challenges:** One of the main issues is the lack of detailed financial reporting related to

environmental costs, such as pollution control, restoration, and carbon emissions.

➤ *Insights:*

**Lack of Standardization:** Environmental accounting disclosures in the petroleum sector are not standardized, leading to inconsistencies in the type and quality of information provided. **Recommendations:** There is a need for more rigorous enforcement of environmental accounting standards and the adoption of international frameworks such as the Global Reporting Initiative (GRI).

*B. The Cement Industry: Suez Cement Group*

➤ *Overview:*

The Suez Cement Group is one of the largest cement producers in Egypt. The cement industry is known for its significant environmental impact, particularly regarding CO<sub>2</sub> emissions and resource consumption.

➤ *Environmental Accounting Disclosure Practices:*

**Environmental Impact Reports:** The Suez Cement Group has adopted some level of environmental reporting, including data on emissions, energy usage, and waste management. **Sustainability Reporting:** The company's sustainability reports also disclose initiatives related to reducing carbon emissions, improving energy efficiency, and implementing alternative fuel sources. **Financial Disclosure:** However, there is a gap in explicitly linking environmental initiatives to financial performance, making it hard for stakeholders to assess the cost-benefit of environmental policies.

➤ *Insights:*

**Adoption of International Standards:** The Suez Cement Group has made strides in environmental disclosures, largely due to pressure from international investors and the adoption of global standards like the International Financial Reporting Standards (IFRS) for sustainability. **Challenges:** The lack of sector-specific environmental accounting regulations in Egypt has resulted in varied practices across companies in the cement industry.

*C. The Banking Sector: Commercial International Bank (CIB)*

➤ *Overview:*

Commercial International Bank (CIB) is one of the leading financial institutions in Egypt and has been proactive in integrating sustainability into its operations, including environmental accounting.

➤ *Environmental Accounting Disclosure Practices:*

**Green Finance:** CIB has been involved in funding environmentally friendly projects and has started to report on its environmental impact as part of its corporate social responsibility (CSR) framework. **Sustainability Reporting:** CIB issues annual sustainability reports that detail its initiatives on reducing its carbon footprint, energy consumption, and water usage. The bank also reports on its involvement in financing renewable energy projects and sustainable businesses. **Financial Integration:** Although CIB is leading in environmental disclosure, there is still room for improvement in how these initiatives are reflected in financial statements, such as cost savings from energy-efficient measures or revenue from green finance projects.

➤ *Insights:*

**Pioneering Role:** CIB is a pioneer in environmental accounting in the financial sector in Egypt. However, more detailed integration of environmental factors into financial reporting is needed to create a clear picture for investors. **Challenges:** The main challenge is the lack of a formal framework for environmental accounting in the banking sector, making it difficult for companies to report consistently.

## VI. DISCUSSION AND ANALYSIS

This section is dedicated to discussing the results of the study by addressing the previous questions. In order to answer the questions of the study, the researcher used the necessary scientific tools represented in tests of the difference between means and the coefficient of correlation. According to the concept of the means of the items used in the study and whether the variance of the items is equal to the others, the results were addressed accordingly. Is there compliance with the accounting disclosure of environmental costs of the industrial companies with the Egyptian accounting standards? The study presented the results of testing the association of accrued natural costs for support relating to contracts and other costs such as costs incurred before the acquisition of the contract and asset recovery costs from the contract. The results are presented as previously displayed in tables.

There is a significant differentiation between those means at the confidence level of 0.05. Performance indicators of accounting disclosure of natural costs for support related to contracts are significant at the level of 0.01. If there is a significant link, is it positive or negative? A coefficient of correlation is used to explain the association between the number of contracts and the performance of accounting of natural costs for assistance related to the contract through the following equation:  $Y = a + bx$ . The previous equation translates to  $Y = 6.927 - 0.065x$ . After that, the association was accepted, and the answers to the study questions were addressed through regression analysis. The results are as presented previously. There is a negative association between the costs of natural assistance relating to contracts and the

number of contracts, and the regression analysis confirms the existence of that association.

#### *A. Interpretation of Findings*

To interpret the findings in this study, and based on the analysis of the study results and the conclusions derived by the researcher from the tables extracted based on the study variables represented in the accounting disclosure of environmental costs in the industrial companies under review on the Egyptian Stock Exchange for the accounting disclosure of environmental costs in the industrial companies under review. This is in order to obtain a clear understanding of the researcher's thesis and its results so that the initial recommendations and the evaluation of the study may be emphasized. The study results are formulated as follows, and for the purpose of analyzing the first variables, analyzing the disclosure of environmental costs, we found that the actual figure shows that the value obtained by the entire sample was 16.5 percent. This percentage is an important measure of satisfaction with the actual value extracted from the environmental costs supported by the study companies, and according to the expectations of the researcher and the research test assumptions, it has been shown that it does not align with the expectations of the researcher, as most accounting standards do not deal clearly with the cognitive aspect of environmental resources in relation to the related costs and initiatives, as no material value was actually extracted from the value, which indicates that these companies did not care to disclose the value of the environmental user.

#### *B. Implications for Practice and Policy*

The present study is an attempt to examine the disclosure of environmental accounting in light of monthly, annual, and semiannual financial statements published by some Egyptian companies listed on the Egyptian Stock Exchange. It further analyzes the business field concerning environmental accounting costs in order to provide the new generations with sufficient integration and knowledge of the importance of such costs, especially as there is an increasing issuance of new legislation in the interest of environmental protection. The researcher recommends that the Egyptian Institute of Accountants and Auditors study the preparation of plans and courses in the field of accounting that are suitable for the advancement and speed of economic development. There is a need to choose a member to train accountants on accounting rules and laws, thus working towards achieving the researcher's goals. Finally, the researcher recommends that companies disclose all accounting data related to environmental pollution in their balance sheets according to more stringent standards, so that users can fully utilize this information in a way that increases the interaction between businesses and users of their accounting output, thereby enhancing their willingness to expand and rationalize the dissemination of such information by companies on an ongoing basis.

## **VII. CONCLUSION AND RECOMMENDATIONS**

The current study aimed to investigate the role of accounting disclosure of environmental costs in valuing Egyptian companies listed on the Egyptian stock exchange. It was divided into four main sections, with each section having its own set of results. At the end of the study, we found that there is weak awareness on the part of most Egyptian companies regarding the importance of accounting disclosure, and they are skeptical about its role in adding value to these companies. The companies work within the minimum limits of absolute commitment to apply the environmental system and implement green accounting concepts. The study also found that companies are trying to gain a competitive advantage and distinguish themselves from their competitors within the absolute minimum limits, which muddles the signal. There are personnel or departments concerned with environmental management and accounting treatment. The entities are sequestering a reasonable amount of money to treat the environment and follow a systematic approach. This is a good essence of disclosure that encourages the public, consumers, and state agencies to engage with these issues. Some companies have structured units concerned with environmental compliance, treatment, and accounting.

In light of these results, we recommend that the Egyptian government introduce controls for the private sector, governmental, and non-governmental organizations with the aim of raising awareness of the importance of establishing a national charter for effective laws and regulations for working with environmental accounting. There is also a need to set up executive programs to encourage companies operating in Egypt to disclose environmental expenses resulting from their activities and to prepare accounting reports in a way that reflects the actual internal and external status of the company. Therefore, this study will be considered a spark for future research that will assess the roles of all entities in the application of the environmental system within the institutional environment of the company and, in the future, apply the reality of the application of the provisions of the cost of natural accounting for companies that operate in Egypt.

#### *A. Summary of Key Findings*

Recently, much of the research and attention of investors and lenders has focused on environmental accounting and, in particular, accounting related to environmental costs. Accordingly, the legitimate question arises as to whether the amount of environmental disclosures given in the financial statements and annual reports meets the needs of the various user groups that need the information it contains. The importance of this study lies in the growing impact of environmental factors on economic processes, as knowledge and understanding in this area can help commercial businesses to better manage their environmental activities in a manner consistent with their economic needs and constraints in order to enhance the credibility of companies and increase investors'



confidence, given the importance of their role and the increasing interest of many stakeholders. This study aimed to find out the role played by accounting disclosure of environmental costs in Egyptian industrial companies listed on the Egyptian stock market. Our study examines 57 Egyptian industrial companies financially and economically through the use of a list of environmental costs in textual data analysis. The statistical tests show that there is a significant effect of acid rain, climate change, environmental management, environmental training, hazardous waste and spills, land, natural resource usage, ozone-depleting substances, solid waste, and raw materials on accounting disclosure of environmental costs, revealing that 12% of the variation in response to the text can be explained by liquidity, profitability, company size, and corporate governance. The study findings reveal that Egyptian industrial companies in our sample disclose limited environmental cost information beyond already established liabilities in the financial statements. The inadequate disclosure of environmental information assessed in this study suggests that users of environmental information cannot rely on the audited financial statements alone for a comprehensive examination of the potential environmental costs of economically significant transactions. These results may cause investors to incur information costs to obtain this information from sources other than the financial statements.

#### *B. Recommendations for Future Research*

It is hoped that the current research will contribute significantly to drawing the attention of planners and decision-makers in developing strategies and general policies for companies, especially those working in the environmental field, and other subjects related to providing help and support for environmental reporting, in a manner that leads to sustaining natural resources, achieving sustainable development, and maintaining a clean, healthy environment in our society. However, in the framework of the current research, the researcher presents a group of proposals for future research on the role of accounting disclosure of environmental costs in Egyptian industrial companies for the purpose of establishing a correct account for these costs, which contributes to taking appropriate methods for environmental investments, adopting a general policy through which environmental management can be conducted efficiently, and considering the issue of environmental quality deeper and deeper with more precise and accurate results. These proposals, whether they are practical in the accounting aspects of Arab companies or even innovations in the literature, can be of great importance and create solid factors for the continuation of scientific research. It will fit under the following classifications: 1. A comprehensive study can be conducted to evaluate reports of the environmental costs already in existence in the private sector to extract the most significant problems and challenges to be imposed in the following studies for the purpose of imposing solutions to the pending issues relating to the environmental costs reporting laws. 2. An inventory of requirements and services and

information for the environmental costs should be established, which would be disclosed and that are necessary for evaluating the environmental effects accurately. No environmental cost reporting can be undertaken or developed except for obtaining those initial requirements. 3. Conduct the behavioral operations research project in the field of accounting to estimate the relationship between the behavior of managers against adopting a specific environmental implementation option and the level of the state estate costs and the institutional organization. In particular, to examine the actual performance of the companies that consistently report costs with a high level of completeness.

#### *C. Practical Recommendations for Companies*

The study recommends that industrial companies should acknowledge the significance of accounting disclosure for environmental activities in their annual reports. It is important to draw the attention of potential investors to the company and the level of interest in environmental activities. Acknowledging the significance of making the needed environment-related information available to the relevant groups is important for the company. In addition, the possibility of present and future financial claims arising from companies that have already filed a claim with the court in many countries, or in accordance with the rules enforced and the recognition of many additional claims, is significant for these companies. In fact, taking lessons from the past can help in understanding the path the company should follow regarding its future financial and environmental activities. From this perspective, companies are called to consider old pending or executed court cases. Our recommendation for companies is to consciously consider how to present environmental information in the annual report in a credible manner, allowing the reports to be compared to each other. Most companies do not disclose critical economic and environmental data. Our recommendation to companies depends on carefully considering how they present environmental information to ensure credibility that allows reports to be contrasted.

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