

# THE ROLE OF THE TARGET COST SYSTEM IN ACTIVATING ENVIRONMENTAL COST MANAGEMENT AN APPLIED STUDY AT ASHOUR GENERAL CONSTRUCTIVE CONTRACT CO

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## ABSTRACT

*The problem of the study was to identify the possibility of benefiting from the application of the target cost system as a modern cost system to activate the environmental cost management instead of the traditional systems used in the company due to the great transformations witnessed by the business environment in all fields, which have resulted in the search for modern systems to provide more accurate and more appropriate information to reduce Costs, because accurate information makes the company have a complete vision to achieve the company's goals. To solve this problem, the research was based on the following hypothesis (that the role of the target cost system leads to the activation of environmental cost management). Target cost tool systems, which deprives them of many benefits, including low product cost and profitability, and depending on the results of the study, the target cost management system can be applied, through which environmental cost management can be activated despite the lack of a system to measure costs.*

**Keywords:** Cost, Accounting, Finance, Target Cost, Environmental Cost.

## INTRODUCTION

In light of global openness, markets today are witnessing intense competition in all sectors to ensure their survival by working to ensure the market share to provide them with survival and continuity. To achieve this goal, products and services should be provided with specifications and quality that meet the needs of customers. Cost management techniques, including target cost and environmental cost, are among the most important means that help economic units provide appropriate information to take appropriate decisions and thus increase their competitiveness by providing products and services that meet the needs of customers at competitive prices and in high quality. This research came to help solve the problem of the lack of awareness of economic units of the importance of cost management techniques because the target cost helps the economic unit and decision makers to know the costs of products and services provided to customers and competitive prices and thus help reduce costs and improve the competitiveness of the economic unit, on the other hand this research is interested in knowing The importance of managing environmental costs to improve environmental performance, which helps economic units to know and define environmental costs in a more transparent manner.

## RESEARCH METHODOLOGY

**Research Problem:** The research problem can be summarized in the following points:

1. Will the use of the target cost contribute to providing products or services at competitive prices in the market? Will it contribute to customer satisfaction?
2. Does the use of environmental cost management lead to a more transparent determination of environmental costs? To what extent are economic units aware of the importance of these costs?

**Search Objective:** The research aims to find out the following points:

1. Defining the concept of target cost in general and determining the target costs and prices in the contracting sector and thus arriving at calculating these costs.
2. Defining the concept of environmental cost management in general and determining the environmental costs in the contracting sector and thus arriving at the calculation of these costs.

**The importance of research:** The importance of the research can be summarized through the points listed below:

1. Introducing the importance of the target cost in knowing and determining the costs of services in the contracting sector.
2. Creating an organizational culture for senior management and workers in the economic unit about the importance of providing a specialized department for costs.
3. Introducing the importance of environmental cost management in the contracting sector and thus knowing and determining these costs.
4. Assisting the contracting sector in providing better economic impacts of environmental performance.

**Research Hypothesis:** In light of the research problem and in order to achieve its objectives, the following hypothesis was formulated: The role of the target cost system leads to the activation of environmental cost management.

**Research Limits:** The limitations of the search are as follows:

1. Time limits: The financial and cost data for the year 2018 have been relied upon.
2. Spatial boundaries: the financial and cost data of the Ministry of Construction and Housing / Ashur General Company / "S" project were relied on.

**Research Method:** The research focuses on the adoption of the inductive approach based on the relevant writings on the theoretical side, and on the descriptive analytical method based on the financial and cost data of the Ashur Public Company / Project (S) for the year 2018 in the practical aspect.

## PREVIOUS STUDIES

Study Abu Ragheef, (2012) (Using Target Costing and Value Engineering Techniques as an Integrated Framework in Reducing Product Costs) The research sought to address a realistic problem experienced by the General Company for Textile Industries / Wasit, which is represented in its adoption of the pricing approach based on cost plus a profit margin, as well as the low functional characteristics of its products as it does not take into account the response to customers' requirements, which leads to poor value of those products. The aim of the research is

to enhance the theoretical framework of strategic cost management techniques represented by target costing, value engineering and quality function dissemination (QFD), as well as identifying the possibility of applying value engineering with the support of QFD in reducing product costs by applying it in the above company. The research found:

1. The use of the techniques of target costing and value engineering with the support of spreading the quality function as an integrated framework helps to reduce costs by modifying the product design according to the requirements of customers by reaching the relative importance of each component, which shows the relationships between customer requirements and product components.
2. By determining the percentage of each component's contribution to achieving customers' requirements, it became clear that the two components (Berlun and Polyester) for the research sample represented by the mixed polyester fabric are among the most components that contribute to achieving their requirements, as their contribution rate reached (21.31%, 32.35%). Respectively, which means that they contribute more than 50% of the value of the product.

Study Mashkour, (2006) (Identification and allocation of waste costs using the material flow method) This research was conducted in the General Company for Southern Fertilizers / Basra. The research problem is summed up in the failure of traditional management accounting systems to provide management with information on the amount, costs and places of waste, which is known as (Environmental Impact Costs), the research aims to build a model that helps achieve transparency in the process of flow of materials, water and energy by identifying and allocating waste costs for the company's activities, as well as *“to identify the importance of environmental management accounting and the importance of following up the flow of materials, and to identify the areas of environmental impact of the activities of the company.”* The company by identifying waste and waste. Among the most prominent conclusions reached by the study:

1. Determining and allocating waste costs as a result of the company's operational activities can draw management's attention to the economic effects of those costs.
2. The need to expand environmental management accounting within the company.
3. Environmental management accounting helps to provide information about the environmental trends of the company's activity and its impact on its future and its relationship with investors.

The most important recommendations were:

1. The necessity of determining and accurately allocating the quantities and costs of waste in materials, water, and energy through Applying environmental management accounting with the provision of qualified scientific and technical cadres to apply management accounting environmental.
2. Encouraging the study of the possibility of reducing costs by using the product life cycle costs method.
3. Encouraging the development of environmental management accounting.

## THEORETICAL FRAMEWORK

### Target Cost Management System

The origin and concept of target cost management (Ansari) and others believe that the origin of the idea of the target cost management system was taken by the Japanese industry from a simple American idea called Value engineering and turned it into a system of cost reduction and profit management, and the (GE) General Electric Company used it during World War II for the purpose of producing products with the fewest number In parts, however, the Americans did not realize that value engineering has the potential to plan costs and profitability and worked on a

scale applied after World War II, while the Japanese were able to extend this concept (VE) to the process of determining the target cost (Faraj, 2004), a management system appeared Target cost technology in Japan in the sixties of the last century and it was applied by Toyota and applied in other companies, but it remained secret and undeclared because it was used by the Japanese in developing new products, and this technology became widely spread in the nineties and it supported the competitive position of economic units, especially After the emergence of many international variables, including the revolution in manufacturing and information technology, and economic agreements, which made traditional costing systems ineffective The ability to meet these requirements, especially after the intensification of global competition, which required economic units to obtain competitive advantages that help the continuation of the product in the market, and this requires that there be a cost system capable of providing information about the product (Al-Moussawi, 2010) as well as The Japanese Accounting Association formed a committee to discuss aspects related to target cost management from 1992-1994.

The committee concluded several future plans to develop the concept of target cost management and extracted them from the research presented (Al-Moussawi, 2014). And the most important reasons for the trend towards target cost management systems are the criticisms leveled at the traditional costing systems, as they set the cost first and add a second profit margin to determine the price, which makes the customers bear large costs because the cost is the vector of the price, and since the contemporary environment is characterized by competition and focus on the customer The technological progress in the industry and the shortening of the product life cycle and others, so the price became the vector of cost with the power of the market, and the producers began to offer their products that meet the needs and desires of the customer in terms of reduced price and high quality, so reducing the price of the product became inevitable without harming the quality of the product through the application of the target cost (Salman, 2012).

Target cost management systems can be defined as a profit planning strategy based on estimating the selling price of the product according to what the customer is expected to pay and the level of profit required for the economic unit to determine the cost of the desired product (Kocsoy et al., 2008). Managing the profits of economic units through the product development process (Dekker & Smidt, 2003), as it is known as a market-oriented strategy that makes the economic unit product basically priced at a level that gives it the best competitive advantage (Chen & Chung, 2002). Target cost as a plan for a long series of costs that the economic unit seeks to introduce to ensure the survival of the product in the market and compete successfully with competing economic units (Hilton & Platt, 2011).

## Principles of Target Cost Management Systems

Target costing is a systematic process in cost management and profit planning. Accordingly, there are six basic principles of target cost represented in (Slater, 2010).

1. Price leads to cost: the market condition determines the price, while the financial policy of the economic unit and the nature of the industry determine the target profit, as in the following equation: Target cost = Competitive market price - Target profit
2. Customer Focus: Target cost management systems are market oriented and customer perspectives are extremely important and therefore must be taken into consideration throughout the process. Understanding customers' needs and what competitors are doing will certainly lead us to meet those basic needs., and that the requirements of quality, cost and time for customers are taken into account in the product and the stages

of decision-making and cost analysis, and that the engineering development activities are directed to focus on the customer represented in the demands of the market.

3. Focus on design: It indicates that target cost management systems spend most of the time in the design phase in order to exclude costs and unnecessary time and make the necessary changes to the product and present it to the market later at a time when the reduction is effective.
4. Coordination between functions: Targeted cost management systems use multiple functions in production represented by design teams, industrial engineering, procurement, production, sales, marketing, cost accounting and support services, and from outside the economic unit suppliers, customers, traders, distributors and other service providers, and coordination is made between all these functional groups and these groups. Responsible for the product from the beginning to the completion of production, and that these functions are considered an essential part in developing products and avoiding problems that may occur later, through participation and coordination between functions.
5. Participation in the value chain: All parts of the value chain such as suppliers, traders, distributors and service providers participate in the target cost stages, and the development of the relationship between these parts leads to a greater possibility of reducing costs within the value chain, and the existence of long-term and mutually beneficial relationships with suppliers And other members of the value chain form the basis of a target cost management system. The value chain is the large organization that shares design information and cost information and is involved in setting cost-reduction goals.
6. Shortening the product life cycle: Blocher defines the product life cycle as a management technique used to determine and control costs along the life cycle of products that include research and development, design, manufacturing, marketing, distribution, sales and after-sales services (Blocher, 2010).

The basic steps for implementing the target cost management system to apply the target cost in producing the product, there are four basic steps, as shown below (CLIFTON et al., 2004).

1. Product identification: This process begins at the front end of product identification, when the product is conceived and this concept can arise directly from market inputs (customers), and by people who have great knowledge in the market (marketing) or through a new idea that meets the needs (Research and Development), and understanding that there is an unmet need in the market. There is another case where the target cost must be applied early to the product when the product is present and about to not keep pace with other products. Here we need a major review and re-design. In all cases, the step of identifying the product is based on the force imposed by the market.
2. Setting the goal: In defining the target cost management systems, it is important to start from the price. It is necessary to know what is the amount that the customer is willing to pay for obtaining the product, and to know the different capabilities of customers, and this means understanding the customer, and determining the target costs also means what competitors do? What are their cost structures?. After determining the selling prices and the required profit margin appropriate for the work environment, we can determine the target cost, and it is important to know that the target cost is the dependent variable and the price and margin are independent variables.  $\text{Target cost} = \text{target price} - \text{target profit}$
3. Achieving the goal: to achieve the goal means finding ways in which the product can be designed and produced to meet the target cost, and this usually requires getting out of the box of thinking and brainstorming and being open to the ideas of a group of workers in the production chain, and all this requires discipline in asking about all assumptions about each A cost component in the product, and this should be done very early in the design cycle, meaning that cost is a design measure as important as any other feature of the product. The idea of cost reduction needs to evaluate the feasibility and effectiveness of the reduction and then needs to be put into practice during the detailed design stage and during product production.
4. Maintaining competitive cost: Finally, after the product has been presented at the target cost, competition will continue and prices will tend to decrease. Therefore, continuous improvement is necessary, and this includes traditional efforts to reduce costs with a relatively small impact because it is applied after important decisions have been taken in setting costs (design stage). This process is continuous and dynamic and there should be a continuous scrutiny of the results at each stage and feedback and careful examination of assumptions in the previous stages, for example in maintaining competitive cost it is necessary to keep

and watch the pulse of the market and examine variables such as desired features of the product and price changes which will affect in (Define the product) and (Set the target).

## **Environmental Costs**

### **The Concept of Environmental Costs**

The traditional methods of cost accounting have become insufficient because they ignored the important environmental costs and activities that affect the environmental results. According to the standards in force to improve the environmental reality of industrial waste left by industrial processes, whether these waste belong to people working in the economic unit or others (Hilton & Platt, 2005), and (Robert & Peter) indicated that the environmental costs represent all the elements of environmental costs related to mitigating the environment.

Wastage of products or services, energy and other available economic resources, as well as recycling of waste, whether solid, liquid or gaseous, in addition to environmentally friendly costs, Drury sees that most economic units cannot determine the total Its environmental costs are unaware of controlling and reducing them, as these costs may constitute a large proportion of the total operating costs Being disclosed gives the possibility to reduce re-design operations in order to reduce the hazardous materials used or pollutants emitted into the environment (Drury, 2013), and the environmental costs information is usually integrated into the general accounts instead of being allocated in an inaccurate manner that leads to a distortion of product prices Or other decisions (Alkisher, 2013 ), and the inability of economic units to separate these costs from production costs will not only reflect their real production costs, but will negatively affect the pricing of products, as polluted products appear more profitable than they actually are because some of its production costs will be hidden and may be sold at lower prices than they are in reality, while petroleum products bear some environmental costs of polluting products, and their profitability may be lower than expected and priced at higher prices. demand and encourage economic units to continue their production and may exceed that to include products that are less polluting (Johnson, 2004), and it turns out that the environmental costs are not always clear, such as: For traditional costs, as these costs are randomly distributed within the allocation of public expenditures, and accordingly, these costs will be an important component of the overall structure of the costs of the economic unit (Drury, 2013), and Horngren sees it as a set of expenses incurred by the economic unit in order to maintain on the surrounding environment and that these expenses are as follows (Horngren, 2019):

1. Contribute to the elimination of pollution left by the production processes of the economic unit through the use of machines and equipment less polluting the environment.
2. Work to get rid of industrial waste and waste left by industrial processes.
3. Work to reduce the depletion of natural resources and preserve them.
4. Supporting social organizations that contribute to improving the environment surrounding the economic unit.
5. Working to protect the productive environment by preserving the environment surrounding the economic unit.

### **The Importance of Environmental Costs**

The importance of environmental costs increases with the increase in the development taking place in the industrial society, where its importance is launched for a number of considerations, the most important of which are: (Hansen & Mowen, 2007).

1. Environmental costs help the cost accountant to keep pace with the development taking place in the society and meet its requirements, as the society is moving towards preserving the environment and creating an environmental atmosphere that is environmentally friendly.
2. It motivates the cost accountant to disclose additional financial information, and the continued development of the cost accountant's work requires him to meet the social requirements of revealing all financial information.
3. The necessity of charging industrial establishments with the costs that can treat their waste as a result of their industrial operations, rather than being borne by society, which is a recent trend in the commercial environment.
4. Environmental costs bear a financial nature in terms of quantity and type and affect the assets and obligations of the economic unit directly, making disclosure of them one of the contemporary accounting necessities.
5. Not disclosing environmental information indirectly means encouraging companies that pollute the environment to continue their activities that are harmful to the environment.
6. Issuing standards for disclosure of environmental costs and resources contributes to reducing environmental damage.

### **Types of Environmental Costs**

Environmental costs arise when economic units carry out their activities, resulting in waste that can be used through recycling or disposal in a way that does not harm the environment. To achieve this goal, the economic unit bears costs that can be classified as environmental costs. These costs include the following:

#### **First, in terms of the nature of the environmental costs**

1. Capital costs: These include the costs of tools, equipment, and construction that are stated in the balance sheet to protect the environment, as they are considered assets in the economic unit. These assets are purchased for the purpose of treating environmental pollution items or reducing harmful environmental emissions such as polluted air emissions or for recycling production waste, and they are utilized for more than one financial year, it is depreciated according to appropriate rates (Al-Shehadeh, 2010).
2. Current environmental costs: These are all costs incurred by the economic unit to preserve the environment, such as operating costs of the environmental protection system, such as the costs of the air and water treatment system, which are used for one fiscal year and which appear in the income statement, which can be compared in environmental expenses with environmental revenues to produce revenue Or the environmental deficit in order to make the appropriate decisions. The environmental revenue represents the revenue from selling products that have been recycled from production waste.

#### **Second: In terms of its relationship to environmental quality:**

1. Environmental prevention costs: They are the costs of the activities of the economic unit to prevent the production of waste that may cause damage to the environment, and include all costs necessary to prevent the occurrence of the effects resulting from manufacturing processes that cause pollution, such as re-designing production processes so that polluting and harmful materials are not used and replacement costs Other types of energy sources are less polluting.
2. Environmental detection costs: They are the costs of the activities of the economic unit that occur as a result of ensuring that the activities, products and operations of the economic unit comply with the regulatory laws and voluntary standards. It includes the costs of examining products and processes to ensure regulatory compliance, reviewing and auditing environmental activities and conducting pollution tests, and it includes all costs that the economic unit engages for the purpose of Measuring and following up on potential sources of damage includes the following activities.
  - Activities to monitor pollution levels in the materials used within the economic unit.
  - Follow-up activities for pollution levels in the waste resulting from operation.

- Environmental audit follow-up activities.
- Follow-up activities for the relationship between the economic unit and the various environmental agencies.

The costs of internal environmental failure: they are the costs of the activities of the economic unit that occur as a result of performing the activities that produce pollutants and waste that are not discharged into the environment, and bear these costs to remove or reduce waste to levels that comply with regulatory requirements such as the costs of disposal of toxic materials and recycling of scrap. It includes all costs incurred by the economic unit for the purpose of controlling and controlling the sources of pollution in all the economic unit and includes:

1. Activities using environmentally friendly materials.
2. Activities using environmentally friendly production methods.
3. Pollution reduction activities.

The costs of external environmental failure: they are the costs of the activities of the economic unit that occur after unloading (discharging) pollutants and waste into the environment, such as the costs of cleaning polluted soil and restoring the lands to their natural state, and it includes all costs that actually occurred as a result of the economic unit's failure to prevent, limit and control them in the past and include The costs of treating production wastes harmful to the environment, in addition to the costs of violating the economic unit of environmental regulations, such as fines.

### **Third: In terms of the relationship of environmental costs to the life cycle of the product (Horngren, 2019)**

1. Environmental costs before production: They represent all the sacrifices that the economic unit incurs in a stage before production of products, such as processing costs, product design, costs of specifying and characterizing the inputs and environmental protection measures.
2. Environmental costs during operations and production: They represent all the sacrifices that the economic unit bears during the stages of production and marketing of the product, as they include the costs of environmental testing, measurement and evaluation, operating and maintenance costs of machinery and equipment, and the costs of removing wastes as they go.
3. Subsequent environmental costs of operations and production: They represent all the confirmed and potential sacrifices that the economic unit bears after the completion of the operation and production process, and they include waste and disposal costs, environmental compliance costs, and the costs of complying with environmental legislation expected to be applied in the future.

## **THE PRACTICAL SIDE**

### **Introduction to the company**

Ashour General Construction Contracting Company One of the formations of the Ministry of Construction, Housing and Public Municipalities (public company) Its headquarter is in Baghdad and has branches in (Baghdad, Nineveh, Diyala, Karbala, Dhi Qar, Maysan, Basra, Muthanna) One of the leading companies in the field of roads and bridge. It was incorporated under the General Companies Law No. (22) of 1997, It aims to contribute to supporting the national economy by carrying out construction contracting of all kinds in accordance with development plans and planning decisions to reach the highest level of growth in work and to adopt the principle of economic acquisition and the efficiency of investing public funds and its



effectiveness in achieving the state's goals and raising the level of national economic performance. The company aims to and the company is a self-financed economic production unit wholly owned by the state and enjoys legal personality and financial and administrative independence and operates according to economic foundations. And that its activity includes the implementation of construction contracting works of all kinds inside and outside Iraq as a contractor, Contracting for the implementation of construction projects contracting for state departments and other sectors inside and outside Iraq, preparing technical elements, establishing training centers and securing their requirements, establishing laboratories and securing the needed machines, equipment and materials, Possessing movable and immovable property, various machines, tools and means of transport, registering them in its name in the competent departments, selling and renting them, and carrying out legal actions in their regard Table 1.

### Calculation of Project Costs (X) based on the data Provided by the Company

| account number          |   | Project expenses |
|-------------------------|---|------------------|
| direct material         |   |                  |
| 321                     | Raw materials and raw materials                     | 32,744,750       |
| 3221                    | petroleum materials                                 | 4,500,750        |
| 3223                    | Oils and greases                                    | 409,000          |
| 323                     | spare tools   | 903,000          |
| 3411                    | Construction, Contracting                           | 4,056,000        |
| Total direct material   |   | 42,613,500       |
| direct wages            | payroll   | 15,670,000       |
| Total direct costs      |   | 58,283,500       |
| 3251                    | Supplies and errands                                | 1,465,990        |
| 3252                    | Stationery  | 141,000          |
| 3313                    | Maintenance of machinery and equipment              | 250,000          |
| 3314                    | Passenger transportation maintenance                | 330,000          |
| 33432                   | Travel and dispatch for the purpose of the activity | 645,000          |
| 3344                    | public communication                                | 228,500          |
| 3354                    | Rental of transportation and transportation         | 1540,000         |
| 3365                    | legal services                                      | 30,000           |
| 3369                    | Other service expenses                              | 592,000          |
| 395                     | Possible maintenance costs                          | 3000,000         |
| Total indirect costs    |   | 8,222,490        |
| Total project costs (x) |   | 66,505,990       |

### Preparing the two Researchers based on the Company's Data

In light of the foregoing, the cost of the project (x) can be determined on the basis of the supporting services estimated at (5560) a service provided, so that:

Loading rate = total project costs (x) / number of services performed for the project

66,505,990 / 5560=

IQD 11962 =

After conducting a personal interview with a project manager (X), it was found that the method adopted in project pricing is as follows:

Selling price of services provided = Loading rate + Profit margin

And the profit margin is (20%)

The selling price of the services provided =  $11,962 \times (20) = 2392$   
 $2392 + 11962 = 14354$  IQD

From this point, we will apply the target cost approach in pricing the project through the following:

1. Determine the competitive price

For the purpose of determining the competitive price service, the two researchers conducted a survey on competitive prices Competing companies, and the choice fell on Company (y) in the public sector, and it was concluded that the competitive selling price is (13560) IQD

2. Determine your target cost

After the sale price and the desired profit have been determined, the target cost can be determined according to the following equation:

Target cost = Target selling price – Desired profit  
 $= 2392 - 13560 = 11168$  IQD

It is possible to compare pricing according to the target cost method and the traditional method of the project according to the following Table 2:

| Statement             | The Target cost | The Traditional method |
|-----------------------|-----------------|------------------------|
| Project selling price | 13560           | 11962                  |
| Profit margin         | 2392-           | 2392+                  |
| Target cost           | 11168           | 14354                  |

### Preparing the two Researchers based on the Company's Data

Through the previous table, it can be said that the selling price of the project according to the target cost method is lower in comparison with the project prices according to the traditional method, and this is a positive indicator towards adopting the target cost method.

Total target cost amount = target cost per unit x number of services performed for the project  
 $= 5560 \times 11168 = 62,094,080$  IQD

It will be the results of the application of the total target cost for the distribution of the costs of the project (X) according to the proportion of part to take advantage of them in the application of the environment and costs as follows:

$66,505,990 \div 32,744,750 = 2,03104284 \times 62,094,080 = 30,572,511$  IQD

And so on for the rest of the costs in Table 3.

| account number | account name                    | Project expenses |
|----------------|---------------------------------|------------------|
|                | direct material                 |                  |
| 321            | Raw materials and raw materials | 30,572,511       |
| 3221           | petroleum materials             | 4,202,177        |

|                            |   |            |
|----------------------------|---|------------|
| 3223                       | Oils and greases                                    | 381,868    |
| 323                        | spare tools   | 843,096    |
| 3411                       | Construction, Contracting                           | 3,786,931  |
| Total direct material      |   | 39,786,581 |
| direct wages               | payroll   | 14,630,475 |
| Total direct costs         |   | 54,417,056 |
| 3251                       | Supplies and errands                                | 1,368,738  |
| 3252                       | Stationery  | 131,646    |
| 3313                       | Maintenance of machinery and equipment              | 233,415    |
| 3314                       | Passenger transportation maintenance                | 308,108    |
| 33432                      | Travel and dispatch for the purpose of the activity | 602,212    |
| 3344                       | public communication                                | 213,342    |
| 3354                       | Rental of transportation and transportation         | 1,437,839  |
| 3365                       | legal services                                      | 28,010     |
| 3369                       | Other service expenses                              | 552,728    |
| 395                        | Possible maintenance costs                          | 2,800,984  |
| Total indirect costs       |   | 7,677,022  |
| Total project costs<br>(x) |   | 62,094,080 |

### Preparing the two researchers based on the company's data

#### Measuring environmental costs

After completing the application of the cost-based technology, the environmental costs are measured by estimating the costs that the company spends on the environmental costs, by giving the responsible for quality, planning and follow-up a questionnaire to estimate the percentage of environmental costs.

As there is no cost division in the company's accounts to know the environmental costs and the following table 4:

| account name                    | Project expenses                       | Environmental Cost Ratio % | The value of the environmental costs % |
|---------------------------------|--|----------------------------|--|
| direct material                 | 30,572,511                             | 15                         | 4,585,877                              |
| Raw materials and raw materials | 4,202,177                              | 5                          | 210,108                                |
| petroleum materials             | 381,868                                | 5                          | 19,093                                 |
| Oils and greases                | 843,096                                | 5                          | 42,155                                 |
| spare tools                     | 3,786,931                              | 15                         | 189,347                                |
| Construction, Contracting       | 39,786,581                             |                            | 5,046,580                              |
| Total direct material           | 14,630,475                             |                            |  |
| Payroll                         | 54,417,056                             | 20                         | 2,926,095                              |
| Total direct costs              | 1,368,738                              |                            | 7,676,936                              |
| 3251                            | Supplies and errands                   | 3                          | 41,062                                 |
| 3252                            | Stationery                             | 3                          | 3,949                                  |
| 3313                            | Maintenance of machinery and equipment | 5                          | 11,671                                 |

|                         |   |            |     |           |
|-------------------------|---|------------|-----|-----------|
| 3314                    | Passenger transportation maintenance                | 602,212    | 5   | 15,405    |
| 33432                   | Travel and dispatch for the purpose of the activity | 213,342    | 5   | 30,111    |
| 3344                    | public communication                                | 1,437,839  | 3   | 6,400     |
| 3354                    | Rental of transportation and transportation         | 28,010     | 2   | 28,757    |
| 3365                    | legal services                                      | 552,728    | 3   | 840       |
| 3369                    | Other service expenses                              | 2,800,984  | 3   | 16,582    |
| 395                     | Possible maintenance costs                          | 7,677,022  | 3   | 84,030    |
| Total indirect costs    |   | 62,094,080 |     | 238,807   |
| Total project costs (x) |   | 30,572,511 | 100 | 8,211,482 |

### Preparing the two Researchers Based on The Company's Data

After completing the application of the target cost technique, the environmental costs were measured through Table 4, where we note that the total environmental costs of the project (x) amounted to (8,211,482) dinars out of the total project costs of (62,094,080) dinars, which shows that there are no accounting methods to measure costs Environmental activities in the company due to the presence of difficulties and problems facing the process of separating and determining these costs and the absence of objective rules that can separate between environmental and non-environmental activities.

Based on the hypothesis of the study, which is that the role of the target cost system leads to the activation of environmental cost management and leads to the provision of data and information necessary to determine and measure environmental costs, the company's accounting system is not sufficient to give a complete picture of environmental costs, and there are some overlapping data that are difficult to separate. It is necessary to measure the environmental costs by giving a clear picture of the company's activities, it also contributes to evaluating the environmental performance of the company, and the need for the company's management to pay attention to this information and to create a system for managing environmental costs.

### CONCLUSIONS

1. The company's failure to use the research sample's target cost tool systems, which deprives it of many benefits, including the low cost of the product when applying the target cost technique.
2. The target cost system is a new approach to obtaining profits and thus reducing costs.
3. The absence of objective rules for separating environmental and non-environmental costs in the company, meaning that the separation depends on personal judgment.
4. Absence of information on costs and the use of estimated percentages in some cases.
5. The study found that the target cost management system can be applied through which environmental cost management can be activated despite the lack of a system to measure costs.

## RECOMMENDATIONS

1. The need to use the target cost management system because it will help it reduce costs and thus achieve profits.
2. The necessity of having objective rules to separate between environmental and non-environmental costs in the company.
3. Working on developing the information systems currently available in the company, especially the costing system, because it provides detailed information on all costs and environmental activities of the company to account and measure these costs.
4. Urging the company to deal with environmental costs at the required level, in addition to developing plans and programs, which contributes to setting standards for measuring environmental costs.
5. Work to allocate a special cost center to measure environmental costs.

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