

The Integration Of The Two Techniques Of Target Costing And Value Analysis And Its Role In Managing And Reducing The Cost Of The Product (Applied Study In The General Company For Electrical Industries / Air Conditioner Factory)

Zainab Hadi Mahdi¹, Alaa miran Hussein², Baraa bazzawi Hussein³

^{1,2}Department of Accounting College of Administration and Economics
University of Al-Qadisiyah, Iraq.

³Oil and Gas Economics Department, Imam Jaafar Al-Sadiq University, Kirkuk,
Iraq.

Abstract:

The research aims to address the knowledge bases of the target cost technology by addressing the concept and importance of this technology and its basic principles and steps for its application in economic units, in addition to clarifying the role of target cost technology and value analysis in reducing costs associated with components and functions that do not add value. A basic hypothesis has been put forward: There is a possibility to reduce costs using target costing, analysis and value analysis in a way that helps reduce costs associated with components and functions that do not add value. The research was applied in the General Company for Electrical Industries for the data for the year 2020, and a set of conclusions was reached, the most important of which was the integration of the two techniques of target cost and value analysis and its role in managing and reducing the cost of air conditioning (2) tons of heating and cooling windows.

Introduction:

The target cost technique is one of the techniques concerned with designing the product in addition to designing all the processes associated with its production in order to manufacture it with costs that enable to achieve the required level of profits based on the price directed in the market, and this technology seeks to reduce costs during the research and development phase and the design phase Taking into account the acceptable amount of quality and the degree of confidence and satisfaction from customers by focusing on the dimensions affecting the cost in light of the cost of competitors, and therefore the target cost technique is more appropriate to the requirements of the modern manufacturing environment, as it helps in achieving the strategic objectives of the economic unit in relation to managing cost effectively and efficiently. Economic units also seek to achieve the highest perceived value for the customer, so these units must choose the technologies that suit their capabilities and

available resources through managing and reducing the costs of both the product and the process.

1.1 Research problem:

Economic units seek to reduce costs while maintaining an acceptable level of quality, so these units must choose the cost and administrative techniques that suit their circumstances, their capabilities and available resources, with the need to focus on achieving strategic goals effectively and efficiently. And functions that do not add value, and the research problem can be expressed through the following intellectual questions:

1. What is meant by target cost and value analysis?, and can they be applied in economic units in light of the changes and developments accompanying the modern manufacturing environment?.
2. Is it possible to use target costing and value analysis in a way that helps in managing and reducing the costs of both the product and the process?

1.2 The importance of the research:

The importance of the research stems from the importance of the target cost technology because it plays a major role in providing adequate guarantees that help economic units reduce costs during the early stages of product design and development, and the importance of research comes from the importance of value analysis in reducing unjustified costs associated with components and functions that do not add value. .

1.3 Aims of the research:

The research aims to address the knowledge bases of the target cost technology by addressing the concept and importance of this technology and its basic principles and steps for its application in economic units, in addition to clarifying the role of target cost technology and value analysis in reducing costs associated with components and functions that do not add value.

1.4 Research hypothesis:

The research is based on a basic premise that:

There is a possibility to reduce costs using target costing, analysis and value analysis in a way that helps reduce costs associated with components and functions that do not add value.

1.5 Research Sample:

The General Company for Electrical Industries/Air Conditioners Factory was chosen due to the presence of many similar foreign products competing in the local market, which led to an increase in the intensity of competition, in addition to the high costs of

air conditioner product (2) ton heating and cooling windows, and the search for financial year data was applied Ended on December 31, 2020.

2.1 The concept, importance and steps of applying the target costing technique:

The target cost technique is seen as one of the strategic cost management techniques that is concerned with the design of the product in addition to designing all the processes associated with its production in order to manufacture it with costs that enable to achieve the required level of profits based on the price directed in the market (Hilton, 2005: 670), This technology is also seen as the technology that is concerned with profit planning and cost management in the economic unit, so that the price is the cost vector by focusing on the customer in addition to focusing on both the product design and its functions that the customer desires, and thus the target cost technology is only an initiative To manage costs during the early stages of the product life cycle (Ansari, et.al., 2006:22), and some researchers have indicated that the target cost technique seeks to reduce costs during the research and development phase and the design phase, taking into account the acceptable amount of quality and the degree of confidence and satisfaction by customers (Dekker & Smidit, 2003:12).

As for the importance of the target cost technique, it can be clarified through a set of points, which are as follows:

1. The target cost technique is one of the strategic cost management techniques that help achieve the objectives of the economic unit related to planning, control and production (Filomena, et.al., 2009:6).
2. It provides sufficient guarantees that help in the success of the new product in the market, in order to help it reduce the degree of uncertainty and achieve the target profit margin (Kocsoy, et.al., 2008:9).
3. It helps reduce costs during the early stages of product design and development, as reducing costs is a strategic goal that helps in achieving competitive advantage (Rattray, et.al., 2007:8).
4. The target cost technique is more realistic by focusing on the dimensions affecting the cost in light of the cost of competitors, in addition to the extent to which customers accept this cost (Ellram, 2006:15).

The application of the target cost technique requires four main steps, which are as follows:

The first step: Determining the target selling price: To determine the target selling price, the economic unit must conduct market research and studies regarding the characteristics and quality that the customer desires in accordance with the price he is willing to pay for the mentioned characteristics and quality (Horngren, et.al., 2015:523)

The second step: Determining the target profit margin: The target profit margin is seen as the financial return that the economic unit needs in order to survive in its business environment, in addition to growth and expansion (Cooper & Salgmulder, 1997:100).

The third step: Determine the target cost: The target cost can be reached through the difference between the target selling price and the target profit margin, and the target cost can be calculated through the following equation: (Horngren, et.al., 2015:523)

Target cost = Target selling price – Target profit margin

2.2 The concept and importance of the value analysis technique:

The value analysis technique is a method of organized and creative competition between economic units, and aims to satisfy the needs, desires and requirements of customers by providing products that can perform the primary and secondary functions they require at the lowest cost and highest quality, by relying on functional analysis of the components and functions of those products (Gheorghe, et.al., 2013:163). Value analysis is viewed as a systematic method aimed at improving processes, products, services, procedures and projects, and is used to analyze the components and functions of a product in order to achieve a balance between its functional entitlements in terms of performance, quality, safety and security requirements, with an indication of its relationship to cost in order to improve the value of the product from the point of view of each of the The economic unit and the customer (Ansari, et.al., 2006: 20).

Thus, value analysis is a technique characterized by a set of characteristics, which are as follows: (Dell'Isola, 2003:7)

1. Value analysis is one of the techniques that came as a result of the need for it in response to changes and developments in the business environment, and it is one of the requirements for excellence, success and excellence in this environment.
2. It is concerned with the functional analysis of the product in order to improve its value by improving its functional entitlements represented in performance and quality while reducing unnecessary and unjustified costs associated with the components and functions of the product that do not add value from the point of view of both the economic unit and the customer.
3. It requires a collective effort and teamwork with the necessity of coordination among its members. The cost accountant has an active role in this team by calculating the cost after applying this technique.
4. It is a customer-oriented technology, so that the value of the product is improved through improving its functionality without compromising or improving quality while reducing costs, and thus providing products and services that can match what the customer desires according to his needs, desires and requirements, which helps in achieving his satisfaction. .
5. This technology can be applied to both new and existing products, in addition to the possibility of applying it to each of the processes, services, procedures, programs and projects, to solve problems related to its value.

Accordingly, the importance of the value analysis technique comes from its adoption of a distinctive method of job analysis (based on the technology of functional analysis systems), its appropriate action plan that is compatible with the requirements of the business environment, and its embrace of a multifunctional work team, in addition to the quality of coordination among team members, and the following can be added. (Gheorghe, et.al., 2013:163)

1. The efforts of creativity and ideas put forward to improve the value of the product can increase the importance of the value analysis technique by improving both the functional performance of the product and its quality while reducing its unjustified costs.
2. It helps reduce costs and thus help achieve the competitive advantage of the economic unit because it is geared towards the customer to meet his needs and desires and then achieve his satisfaction and loyalty to this unit, and thus the importance of value analysis technology comes from its suitability to modern variables in the competitive business environment.

2.3A proposed model for the integration of the two techniques of target costing and value analysis:

It is possible to achieve integration between the two techniques of target cost and value analysis by benefiting from certain technical outputs in order to apply the other technology, as the outputs of the target cost technology are inputs to the value analysis technique, and thus it is possible to achieve integration between the two techniques of target cost and value analysis under the strategic approach to cost management through There are two main stages, and these two stages can be explained through the following: The first stage: preparing for the study and determining the target cost: This stage includes a set of steps, which are as follows:

1. Forming a multi-functional team consisting of experts specialized in management, cost accounting, management accounting, design engineering, manufacturing and assembly engineering, maintenance engineering, operations management, and production management (Tenkorang, 2011:1).
2. Preparing the study plan after identifying the most important problems facing the economic unit and its products in relation to value, especially those problems related to product functionality and quality (Gheorghe, et.al., 2013: 163).
3. Determine the target cost of the product, which is part of the comprehensive management system of strategic cost management, and is determined by the difference between the target price and the target profit margin according to market conditions and competition (Horngren, et.al., 2015:523).

The second stage: the application of the value analysis technique: This stage aims to improve the performance and quality of the product and reduce its costs. This stage includes the following steps:

1. Gathering information from within the economic unit related to the product, work procedures, human resources, jobs, and costs (Dell'Isola, 2003:7).

2. Functional analysis, as the functional analysis focuses on the functions of the product that the customer needs and that can meet his needs and requirements and that it corresponds to the money he pays to obtain that product (Tenkorang, 2011:4).
3. Creativity and brainstorming. During this step, a group of new ideas is reached, which includes solutions to the problems that the product suffers from.
4. Evaluating ideas and estimating costs, as this matter can be adopted as a basis for comparison with other competitors or with the previous model of the product.
5. Comparing the estimated costs with the target costs and making a decision. If the estimated costs are greater than the target, the product needs to be developed and re-designed.

2.4 The role of integrating target costing and value analysis techniques in cost management and reduction:

The integration of the two techniques of target cost and value analysis helps in conducting two types of analyzes, and these two analyzes can be clarified through the following: - (Dell'Isola, 2003:1-2)

1. Analysis of components, functions and resources: During this analysis, the components of the product that are not needed or that can be replaced with cheaper components are identified, provided that they perform the same previous functions with the required quality. Either job analysis is to identify the low-value product functions in which the value index is less than the correct one. With regard to the analysis of resources, the human resources in excess of the need in the production process are identified.
2. Cost analysis: This analysis is concerned with the cost related to the areas where real reductions can be made with respect to each of the components, functions and unnecessary activities that do not add value.

The value analysis technique relies on a distinctive method of job analysis, through which it can help in using cheaper materials or fewer components that make the product perform the same or better than its previous functions and thus improve the value of the product from the point of view of both the economic unit and the customer (Ansari, et.al). .,2006:22.

When applying this technique, consideration must be given to the costs of materials and configuration in order to analyze them to exclude the unnecessary ones, that is, to reduce the costs associated with components and functions that do not add value, as there are two basic concepts that must be paid attention to when analyzing the cost in light of the value analysis technique with defining the concept that This technology should adopt it, and these two concepts are as follows: (Dell'Isola, 2003:3), (Gheorghe, et.al., 2013:163)

.3 Optimization on the basis of cost: It is the traditional concept of cost reduction, for example, if the costs of item (A) are to be reduced, a modified version of this item is created which is (A\') that is less costly than the original item regardless of the impact on its performance and quality.

1. Optimum cost versus job: It is the contemporary concept of cost reduction adopted by the value analysis technique, whereby the costs of item (A) are reduced while

maintaining or improving its basic functions and quality, and thus this item is developed into a new item, which is (B) which It is a model developed for the first model.

2. Based on the foregoing, it is noted the importance of the techniques of target cost and value analysis in reducing costs in a way that improves the value of the product from the point of view of both the economic unit and the customer, and therefore through this technology can help achieve the lower cost dimension, which in turn will help achieve the competitive advantage of this Unit.

3.1 An introduction to the company, the research sample:

The General Company for Electrical Industries, one of the formations of the Iraqi Ministry of Industry and Minerals, was established in 1967. This company specializes in the production of household and industrial electrical appliances. The company produces many products for domestic and industrial use. There are several factors that push the company to develop its products, the most important of which are: The company owns Qualified administrative, accounting, engineering and technical staff who follow up on the latest developments and technological and industrial research in the field of electrical industries, in addition to the company conducting periodic market research in order to identify the needs and desires of customers and the changes that have occurred in them.

3.2 The application of the two techniques of target costing and value analysis and their integration in the research sample:

The two techniques of target cost and value analysis will be applied and integrated in the air-conditioning plant, particularly on the product of an air-conditioner (2) ton heating and cooling windows, by following the following stages:

- .1 The stage of preparing for the study and determining the target cost.
- .2 The stage of applying the value analysis technique.

These stages can be clarified through the following:

The first stage: preparing for the study and determining the target cost:

It is the first stage to apply the two techniques of target cost and value analysis and achieve integration between them in the air-conditioning plant for the data of the fiscal year 2020, according to the following steps:

First: Forming a multifunctional and multidisciplinary work team: This team consists of specialists in management, cost accounting, design engineering, manufacturing and assembly engineering, maintenance engineering, and operations management.

Second: Preparing the study plan: The study plan is prepared after identifying the problem that the air conditioner factory suffers from, which is the high costs of an air conditioner product (2) tons, heating and cooling windows.

Third: Determining the target cost of an air conditioner product (2) ton heating and cooling windows: For the purpose of determining the target cost of the product in question, the following steps are required:

1. Determining the target selling price: Determining the target selling price for an air conditioner product (2) ton heating and cooling windows requires conducting a field survey and survey of the local market in which this product is sold in order to identify the competing products and their selling prices, and the following table shows the average selling prices of competitors Air conditioner product (2) ton grille heating and cooling:

Table (1) Average selling prices of competitors for an air conditioner product (2) ton heating and cooling windows

No	Competitor product name	UNIT SELLING PRICE (JD)
1	LG Air Conditioner 2 Ton Heating Cooling	630000
2	Samsung Air Conditioner 2 Ton Heating Cooling	650000
3	General Air Conditioner 2 Ton Heating Cooling	700000
	Total	1980000
	÷ number of competing species	3 ÷
	= Average selling prices of competitors for a 2-ton air conditioner product	660000

Source: Prepared by the researcher based on the company's marketing department.

The above table shows the most competitive products for the air conditioner product (2) ton heating and cooling windows and their selling prices for the year 2020, and according to the factory management policy, the target selling price for the product in question is 660000 dinars.

2. Determining the target profit margin: The factory management wants to achieve a target profit margin for the product of air conditioner (2) ton heating grilles at a rate of 10% of the target cost.
3. Determining the target cost: The target cost of the product of an air conditioner (2) ton heating and cooling windows can be calculated as follows:

Target cost = Target selling price – Target profit margin

Target selling price = target cost + target profit margin
 $= 660000x + 0.10 x$
 $1.10 = 660000x$

660000

----- = 600,000 dinars

1.10

It is clear from the foregoing, that the target cost of an air conditioner product (2) ton heating and cooling windows is 600,000 dinars, knowing that the actual cost of this product was 700,000 dinars, and thus the gap between the actual cost and the target cost reached 100,000 dinars, which is a negative gap, and the research seeks To close this gap and turn it into a positive gap.

The second stage: the application of the value analysis technique:

This stage includes the following steps:

First: Gathering information: After the product that suffers from the problem of its high costs has been identified, which is an air conditioner product (2) tons of heating and cooling nets, information will be collected about this product from inside the factory related to work procedures, the machines used in its production, and the number of participating workers In the production process, their wages and other information.

Second: Job analysis: Through this analysis, the components and functions of the product in question are determined and their cost is determined, then job entitlement is determined, and then the value indicator and the functions to be improved are determined, and awareness is required to take the following steps:

1. Determining the components and functions of a (2) ton air conditioner, heating and cooling windows, and determining their cost:

The components and functions of the product in question can be identified through the following table:

Table (2) Air conditioner product components and functions (2) ton heating and cooling grilles

THE INGREDIENTS			JOBS		Category (primary, secondary)
N o.	Compon ent name	Compon ent Code	job description	Job code	
1	compress or	C1	The refrigerant gas is drawn from the evaporator and compressed into the condenser	F1	basic
2	capacitor	C2	Receiving refrigerant gas from the compressor and converting it to liquid	F2	basic
3	capillary tube	C3	Regulating the passage of the refrigerant liquid into the evaporator	F3	basic
4	evaporato r	C4	Receiving liquid refrigerant from the capillary tube and converting it to gas	F4	basic

5	Cooling Compound	C5	Absorbing the heat from the evaporator and disposing of it in the condenser	F5	High School
6	drag line	C6	Transferring the low pressure and temperature refrigerant compound gas from the evaporator to the intake inlet of the compressor	F6	High School
7	ejection line	C7	Transfer of high temperature and pressure refrigerant gas from the compressor to the condenser	F7	High School
8	service line	C18	Carrying out unloading, compressing and charging operations with refrigerant compound	F8	High School
9	desiccant	C9	Purification of the cooling compound liquid from impurities and moisture inside the capillary tube	F9	High School
10	sprayer	C10	Increasing or decreasing the temperature and atomizing the cooling compound	F10	High School

Source: Prepared by the researcher based on the planning and follow-up divisions in the company.

The actual cost, the target cost and the target reduction for a (2) ton window air conditioner for the year 2020 can be clarified through the following table:

Table (3) Actual cost, target cost and target reduction for a (2) ton window air conditioner

No.	cost elements	Actual cost (JD)	TARGET COST (JD)	FUNCTIONAL COST RATIO (%)	TARGET REDUCTION (JD)
1	F1	50000	42858	7.13%	12475
2	F2	70000	60000	10.00%	11005
3	F3	80000	68571	11.43%	5836
4	F4	40000	34284	5.71%	13607
5	F5	90000	77143	12.87%	17599

6	F6	70000	60000	10.00%	2982
7	F7	80000	68571	11.43%	3214
8	F8	50000	42859	7.13%	3138
9	F9	90000	77143	12.87%	1379
10	F10	80000	68571	11.43%	11909
11	Total	700000	600000	100%	100000

Source: Prepared by the researcher based on the costs division of the Financial Affairs Department.

2. Determining the job entitlement:

The job entitlement for each job of a (2) ton window air conditioner for the year 2020 can be determined, including through the following table:

Table (4) Determination of job entitlement (%) for jobs and cost elements of an air conditioner (2) ton window

No.	CONVERSION RATE (%)	JOB MERIT (%) × 2) (4) = (3	WEIGHTED ARITHMETIC MEAN	RELATIVE IMPORTANCE (%)	DEGREE OF RELATIVE IMPORTANCE				
					5	4	3	2	1
1	%1.000	%3.150	12.930	%3.150	-	45	4	1	-
2	%1.000	%3.060	12.600	%3.060	-	44	3	1	2
3	%0.930	%2.930	12.930	%3.150	2	40	8	-	-
4	%1.000	%3.050	12.530	%3.050	-	43	3	3	1
5	%1.020	%3.160	12.730	%3.100	-	41	9	-	-
6	%1.020	%2.430	9.8000	%2.380	-	4	39	7	-
7	%1.000	%3.060	12.600	%3.060	-	42	6	1	1
8	%1.070	%2.540	9.7300	%2.370	-	1	46	1	2
9	%1.070	%2.510	9.6700	%2.350	3	1	35	10	1
10	%0.890	%2.320	10.730	%2.61	-	11	39	-	-
11	28.210 %	28.28%	116.25	-	-	-	-	-	-

Source: Prepared by the researcher based on the opinions of engineers and technicians in the factory.

.3Determining the value index and the functions to be improved:

The value index of the functions and cost elements of an air conditioner (2) ton window can be calculated through the following table:

Table (5) Calculation of the value index of the functions and cost elements of an air conditioner (2) ton window

NO	COST ELEMENTS THAT NEED IMPROVEMENT	VALUE INDEX = (1 ÷ 2) (3)	JOB MERIT (2) (%)	FUNCTIONAL COST (1) (%)	COST ELEMENTS
1	need improvement	0.98	%3.15	%3.20	F1
2	-	1.09	%3.06	%2.82	F2
3	-	1.95	%2.93	%1.50	F3
4	need improvement	0.87	%3.05	%3.49	F4
5	need improvement	0.70	%3.16	%4.52	F5
6	-	3.16	%2.43	%0.77	F6
7	-	3.69	%3.06	%0.83	F7
8	-	2.18	%2.54	%0.80	F8
9	-	7.17	%2.51	%0.35	F9
10	need improvement	0.76	%2.32	%3.06	F10
		1.322	%28.21	%21.34	Total

Source: Prepared by the researcher based on the previous two tables.

It is clear from table (5) that there are a group of jobs in which the value index has fallen below the correct one, and they need improvement, and these jobs are: F1, F4, F5, F10, by reducing the unjustified costs associated with these elements.

- Determining the cost gap, job cost and candidate elements for improvement and targeted reduction for each of them:

It is possible to determine the cost gap between the actual cost and the target cost, the cost of jobs and the candidate elements for improvement in which the value indicator is less than the correct one through the following table:

Table (6) Cost gap, job cost and improvement candidates for (2) ton window air conditioner

PRODUCT COST (IN DINARS)		COST GAP BETWEEN) ACTUAL AND (TARGET (DINAR)	COST OF IMPROVEMENT CANDIDATES (DINAR)	COST TO GAP RATIO : (%)	
actual	target			Actual cost	Cost of improvement candidates
700000	600000	100000	260000	%14.28	%38.46

Source: Prepared by the researcher based on the opinions of engineers and technicians in the factory.

Determining the value index and the functions to be improved:

The value index of the functions and cost elements of an air conditioner (2) ton window can be calculated through the following table:

Table (5) Calculation of the value index of the functions and cost elements of an air conditioner (2) ton window

NO.	COST ELEMENTS FOR OPTIMIZATION	ACTUAL COST (DINAR)	COST ELEMENTS FOR OPTIMIZATION	RATIO OF ITEM COST TO TOTAL COST OF IMPROVEMENT (%) CANDIDATES
3	F11	50000	F11	%19.2
4	F14	40000	F14	%15.4
5	F15	90000	F15	%34.6
6	F20	80000	F20	%30.8
-	Total	260000	-	%100

Source: Prepared by the researcher based on the two tables.

Third: Creativity and brainstorming:

After the jobs and elements with a high functional cost that exceed their job entitlements (value index < 1) have been identified, a new step will be moved to creativity and brainstorming by following a structured approach to thinking in order to reduce the cost of direct materials, direct wages and indirect expenses, As follows:

1. Reducing the cost of the function of withdrawing, compressing, and expelling refrigerant gas from the evaporator to the condenser (F1): To achieve the function of withdrawing, compressing, and expelling refrigerant gas from the evaporator to the condenser, a reciprocating compressor is used, which is a compressor with a relatively high cost of up to 50000 dinars compared to similar types. On the other hand, and in order to reduce the cost of this component, an alternative compressor that performs the same function must be used, which costs 30,000 dinars, and therefore when using the alternative compressor it is possible to achieve cost savings related to this function of the product in the amount of 20,000 dinars.
2. Reducing the cost of the function of receiving refrigerant liquid from the capillary tube and converting it to gas (F4): The actual cost of the function of receiving refrigerant liquid from the capillary tube and converting it to gas amounted to 40,000 dinars and it is related to the evaporator component, and for the purpose of reducing the cost of this function, it must be used Cheaper materials provided that they perform the same previous function with the highest quality, and an evaporator can be used that costs 30,000 dinars, and when using it, the cost of this function can be reduced by 10,000 dinars.
3. Reducing the cost of the function of absorbing heat from the evaporator and getting rid of it (F5): - The actual cost of the function of absorbing heat from the evaporator and

getting rid of it in the condenser was in the amount of 90,000 dinars, noting that the refrigeration component is what performs this function, and the manufacturing engineers in the plant referred to Some of the refrigerant compound leaked during the process of charging the compressor, and they pointed out that the standard quantity of this compound costs 60,000 dinars, and the leakage of the refrigerant compound can be avoided by accelerating its charging to the compressor before it leaks, and when taking this action, the cost will be reduced by 30,000 dinars.

4. Reducing the cost of the function of increasing or decreasing the temperature and atomizing the cooling component (F10): The sprayer performs the function of increasing or decreasing the temperature and atomizing the cooling component. The cost of the sprayer used in the air conditioner is 80,000 dinars, and the cost of this sprayer can be reduced by using cheaper materials related to the panels When using this sprayer, the cost of this job can be reduced by 40,000 dinars.

After completing the cost-reduction proposals for each function or component of the cost of an air-conditioning product (2) ton Heating-cooling window whose functional entitlements are less than its functional cost (value index is less than one), it is possible to clarify the amount of reduction in the cost of this product due to the application of an analysis technique The value for the year 2020 based on the previous paragraphs, and as shown in the following table:

Table (8) The amount of reduction in the cost of an air conditioner (2) ton window due to the application of value analysis technology

No	Cost elements for optimization	areas of reduction the cost	Actual cost (Dinar)	Amount of reduction in the cost of the item (Dinar)	Item cost after discount (Dinar) (3) = (2 - 1)
1	F1	Use cheaper materials	50000	30000	20000
2	F4	Use cheaper materials	40000	30000	10000
3	F5	Refrigerant wastage reduction	90000	60000	30000
4	F10	Use cheaper materials	80000	40000	40000
-	-	Total	260000	160000	100000

Source: prepared by the researcher.

Fourth: Evaluating ideas and estimating costs:

During this step, the previously proposed ideas are evaluated and modified according to new developments and circumstances, with an estimate of the costs incurred by the product and for each of its cost elements. This can be adopted as a basis for comparison with competitors or with the previous model of the product. To reduce its costs can be accepted, because it has positive effects on the value of the product in question.

Fifth: Comparing the estimated costs with the target costs and making a decision:

The details of the cost of an air conditioner (2) ton before and after the integration of the target cost and value analysis techniques can be clarified through the following table:

(Table 9)
Air conditioner cost details (2) ton before and after the integration of target cost and value analysis technique

NO	Ratio to total cost	Cost after applying the technique (VA)	Ratio to total cost	Target cost of the product	Actual cost of the product	For the cost after applying the technique (VA)	Ratio to total cost
1	F1	30000	%7.13	42858	50000	30000	%5.00
2	F2	70000	%10.00	60000	70000	70000	%11.6
3	F3	80000	%11.43	68571	80000	80000	%13.4
4	F4	30000	%5.71	34284	40000	30000	%5.00
5	F5	60000	%12.87	77143	90000	60000	%10.0
6	F6	70000	%10.00	60000	70000	70000	%11.6
7	F7	80000	%11.43	68571	80000	80000	%13.4
8	F8	50000	%7.13	42859	50000	50000	%8.30
9	F9	90000	%12.87	77143	90000	90000	%15.0
10	F10	40000	%11.43	68571	80000	40000	%6.70
	Total	600000	%100	600000	700000	Total	

Source: Prepared by the researcher based on the previous tables.

It can be seen from the above table, that the total cost of an air conditioner (2) ton has become after the integration of the two technologies of the target cost and value analysis in the amount of 600,000 dinars, and thus the costs have been reduced by 100,000 dinars (after the actual cost was 700,000 dinars), and thus it can be said that the integration of The techniques of target costing and value analysis can help in managing and reducing costs, and accordingly, the research hypothesis has been proven .

Conclusions and Recommendations :

4.1 Conclusions:

During this research, a set of conclusions were reached, which are as follows:

1. The target cost technique is one of the strategic cost management techniques, which is concerned with profit planning and cost management, so that the selling price of the product is the cost oriented by focusing on the customer and his requirements.

2. The application of the target cost technique requires four main steps, namely: determining the target selling price, determining the target profit margin, and determining the target cost.
3. Value analysis is the process that seeks to develop and improve the product of the economic unit and reduce its costs compared to the products of the best competitors.
4. The actual cost of the air conditioner product, 2 tons, for heating and cooling, amounted to 700,000 dinars, the target cost was 600,000 dinars, and the target reduction was 100,000 dinars.
5. The application of the target cost and value analysis in the General Company for Electrical Industries on the product of the air conditioner 2 tons heating and cooling will help reduce the costs of the product in addition to improving its quality.

4.2 Recommendations:

In light of the conclusions reached, the research recommends the following:

1. Developing costing systems in a way that is compatible with the requirements of the modern manufacturing environment and benefiting from costly and administrative techniques, the most important of which is the target cost technique in order to help reduce costs by using the value analysis technique.
2. Understand and adhere to the principles of target cost technology, because these principles are the basic principles of target cost technology, which should be taken into account when applying this technology on the ground in order to achieve its objectives effectively.
3. Commitment to the steps of applying the target cost technology in order to achieve the goals of this technology represented in managing and reducing costs during the early stages of the product life cycle in an effective and efficient manner.
4. The use of value analysis in order to help reach the target cost, as well as to obtain a low-cost and high-quality product that contains components and functions that can add value to both the economic unit and the customer.
5. The dependence of the General Company for Electrical Industries on the data of this research and following the specific methodology and initial steps to apply the target cost and value analysis in order to reduce costs in a manner that is compatible with the requirements of the modern manufacturing environment .

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