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The Impact of Functional Analysis in Reducing Costs Under the Strategic Approach of Cost Management: An Exploratory Study

Ahmed Maher Mohammed Ali
University of Kufa,
Najaf, Iraq
E-mail:
ahmedm.fadhil@uokufa.edu.iq
ORCID

Qasim Habeeb Nashid Jay
University of Kufa,
Najaf, Iraq
E-mail: qasm850@gmail.com
ORCID

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ABSTRACT. Intense competition between economic units is today's most noticeable in the business world. Because of this competition, traditional cost management systems can't provide information that helps economic units in general and Iraq, in particular, meet the new requirements that focus on customer satisfaction. This led to the creation of There was a need for a strategic technique that helps break down a product into its features and functions in a way that allows the economic unit to cut costs without having to change the quality the customer wants. There was also a need for information with a strategic dimension that would help the economic unit uniquely make decisions. However, adopting one strategy without another is hard. The current research aims to show the impact of adopting the functional analysis technique and strategic cost management to reduce product costs and achieve customer satisfaction with product functions and quality. Where the results of the statistical analysis indicated the highest mean (4.2) and standard deviation (86%) and the coefficient of variation of (20.66) within the percentage weight of (77.14) indicating that the compatibility of functional analysis and the strategic approach to cost management works to eliminate and enhance the value At the lowest total cost by providing the level of performance that the customer expects from the sample size of (35) workers in the Kufa Cement Factory.

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Keywords: *Functional analysis technique, strategic cost management, cost reduction.*

JEL Classification: example D02, O17, P31

Introduction

Functional analysis is a technique that focuses on designing product functions to match customers' wishes at the lowest cost. It also focuses on improving product functions and analysis from its components to its primary and secondary functions to exclude functions that do not add value to the customer and ensure that critical processes are carried out at the lowest possible cost while continuing to meet the requirements of performance, reliability, quality, and safety. , based on the evaluation, analysis, and management of costs and analysis of product functions. This technique allows designers to define design concepts to achieve target costs by combining functional analysis and strategic cost management, an essential prerequisite for economic units to gain a competitive advantage in the market. Therefore, this research focuses on available analysis and strategic cost management, starting with the concept and importance of strategic cost management to improve knowledge of cost management from its strategic perspective (cost leadership, differentiation, focus), which aims to achieve a competitive advantage in a particular field.

1. The methodology of research.

The research methodology includes the field path and the scientific method to explain the research problem and how to address it in a way that ensures the objective test of the research hypothesis and the achievement of its objectives. On this basis, the section discusses the definition of the research problem, its objectives, importance, hypothesis, and the limits of the research committed to intention and spatial according to the following:

2. The Problem of Research

The rapid developments in the contemporary business environment, most notably the intense competition between economic units, have made traditional systems and graphic entrances unable to provide information that helps economic units in general and Iraq, in particular, meet the new requirements through which success should be achieved in the light of these developments. So it was clear to these units that if they wanted to continue in the conditions of this environment of progress and innovation in the different areas of techniques, they think about the application and search for administrative and accounting techniques concerned with cost management strategically while maintaining the quality of the product, which leads to supporting the competitive advantages of these units in the market, according to this basis, the research problem will be formulated in the following questions:

1. Does functional analysis technology help overcome the problems of traditional cost and administrative accounting systems?
2. Has the functional analysis technique helped to improve the production process, allowing the economic unit to reduce the costs and selling price of the product and create a competitive advantage according to the strategy adopted by the economic unit?

3. The Research Objectives

The research seeks to provide a cognitive discussion of some contemporary techniques of cost management, represented by the technique of functional analysis and the statement of the role of cost management according to the strategic perspective in providing information provided by contemporary methods of management about the structure and behavior of costs and their essential role in determining the guidelines of strategic management by improving its competitive advantages and what this reflects of a significant role in cost management by reducing it.

4. The importance of research

The importance of research highlights the need for economic units to apply contemporary techniques in the field of cost and administrative accounting, perhaps the most prominent of which in this field is the technique of functional analysis and cost management according to their strategic perspective and the role it plays in helping economic units to keep pace with the developments witnessed by the contemporary business environment.

5. The Research Hypothesis

Current research is based on the following hypotheses:

1. There is a significant relationship between the functional analysis technique and the possibility of reducing costs without compromising quality.
2. There is a significant relationship between strategic cost management and the possibility of providing objective information for cost reduction in light of the evolution of competition.
3. There is a significant correlation between functional analysis technology and strategic cost management to reduce product costs.

6. The Research Methodology

The research was carried out using two methodologies:

1. The deductive approach: relies on various Arab and foreign sources, periodicals and references, and the World Wide Web (Internet).

2. Inductive Approach: The researcher, in this aspect, relied on multiple means to obtain the required data and information, the most important of which are coexistence, field visits, and meeting officials and employees in the Kufa cement plant.

The hypothetical model

Figure 1 shows the hypothetical model of the research

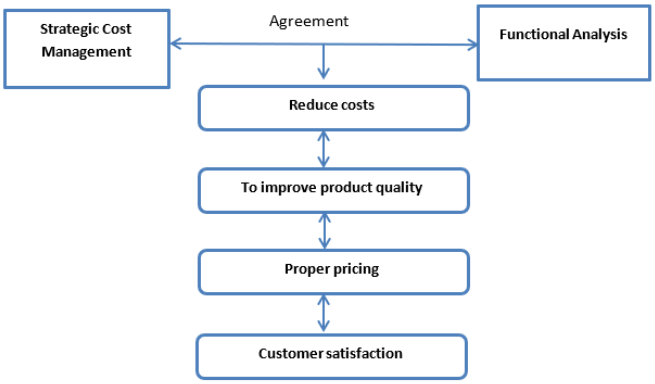


Figure 1. the research model

7. The Cognitive Pillars of Functional Analysis Technology

Functional Analysis (F.A.) is one of the strategic techniques that came from the response of cost accounting and management accounting to the rapid and successive changes and developments accompanying the business environment. The engineering design process is an essential part of the new product. It can be considered an activity to solve problems associated with the customer's needs for functional specifications and final specifications of the product. As the complexity of products and processes increases, there is a growing demand for engineering designers to understand the complex relationships between behavior. What is required and the physical structure of the design element and its control is, therefore, the provision of effective support in understanding beneficial and harmful functional relationships is an essential aspect of functional analysis (Aurisicchio, Bracewell, & Armstrong, 2012).

7.1.First, the concept of job analysis

Researchers differ in developing a unified concept of functional analysis; some see it as a management philosophy, method, or organized or technical methodology. Table 1 shows the most important of those concepts presented.

TABLE (1) CONCEPT OF FUNCTIONAL ANALYSIS

#	Concept	Sources
2	Functional analysis is a technique geared towards analyzing the functions of a product, element, or process to determine the best value or the best relationship between value and cost so that it consistently performs the basic function at the lowest cost and that may be successfully applied at any stage of the life cycle of products or economic unit.	(Soni, 2019:76)

3	A method of systematically reducing cost aimed at developing ideas to reduce cost in products (product value analysis) or procedures (process value analysis) and basic principles related to the manufacture of the product in question where the product is developed new or old product and should perform certain functions or more cost-effective manufacturing and the main objective is to reach the optimal allocation of resources related to the product.	(Freidank,& Sassen,2020:462)
4	Cost search technology in structured and innovative ways is used to analyze the function of a product to increase its value without affecting its quality, performance, and efficiency through a systematic process that seeks to achieve value for money at the lowest possible cost under the level of the system and equipment.	(Sharma & Srikonda, 2021:30_31)

Source: Prepare the researcher to rely on the sources vis-à-vis each of them.

It is noted in Table (1) that some view functional analysis as a management philosophy, and some of them see it as an organized method or methodology. Still, the majority of concepts emphasize that it is a technique with an emphasis on teamwork and the development of ideas in flexible ways and a scientific method oriented towards the analysis of product functions to improve the value of the product from the point of view of the economic unit and the customer, so functional analysis is only a technique that integrates multi-disciplinary teamwork and technical expertise in a technological format aimed at analyzing the primary and secondary functions of the product from the customer's point of view, which is reflected in achieving the advantages of cost savings in light of the exclusion of jobs that do not add value to the customer and replace them with valuable resources that meet the needs and requirements of the customer, which reflects positively on the value of the economic unit.

7.2. Second: The importance of the functional analysis technique

The customer has become a target for economic units to sell products and improve technology and quick information, which made customers choose a high-quality product at a low price and high quality, so customers seek products of the same quality and acceptable prices, so the use of the method of functional analysis enables the management of the economic unit to replace a material, design or sub-part but does not reduce the primary function of the product so that it can reduce the price of the product and achieve cost savings and reduce the price Selling a product without eliminating a function of the product by replacing cheaper materials or changing (ALJAWAHERI, OJAH, MACHI, & ALMAGTOME, 2021). Therefore, it is necessary to perform a functional analysis of products to increase the product's value by reducing the cost without affecting the initial function of the item. The main goal is to increase sales because prices are falling and quality is not falling (Suwandi & Hadi, 2020). Functional analysis corresponds to modern philosophies of proactive cost management by analyzing cost parameters and drivers in the early stages, analyzing product functions and subsequent evaluation to follow up on cost reduction without reducing product functionality and quality with a focus on integrating customer values, perspectives, desires and needs from the early design process and this appears as identifying opportunities to remove unnecessary costs ensuring product quality and functionality by working on job analysis, cost reduction and calculation of possible results. This methodology aims to achieve the best functional balance between product cost, quality, and performance (A. H. Almagtome, Al-Yasiri, Ali, Kadhim, & Heider, 2020). The available analysis is an approach to quickly identify weaknesses and problems in product functions and try to provide solutions and understand the relationship between product characteristics and functions as well as their relationships with each other by solving problems during job analysis and improvement. Most engineers focus on the specific

essence of the situation to identify problems or weaknesses in a product that is used Functional analysis. Graphical functional models are widespread in this context (Daniilidis, Eben, & Lindemann, 2011).

8. Objectives of Functional Analysis Technique

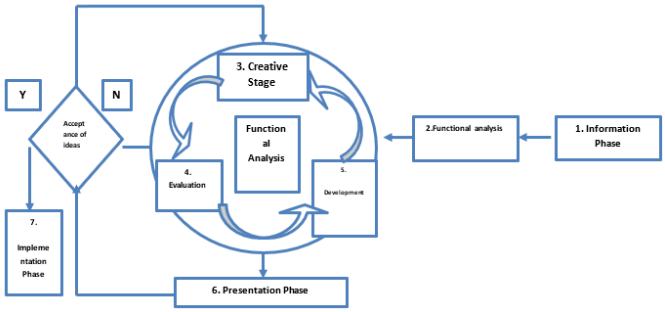
1. Providing the best value for a product or service: Functional analysis technology contributes to understanding the functionality of the element, its value, and the costs associated with it to reduce costs or increase the value of the functions of the product, i.e., to achieve a balance between the function to satisfy the customer and the cost of that function. (6:Jadoun et al., 2015) .
2. Improving the competitive position of the economic unit: Functional analysis contributes to making prices competitive, improving quality, reducing waste of resources, exploiting potential opportunities as much as possible, creating innovative and creative elements, and saving time and energy (2:Toulabi & Toubab, 2015), eliminating unnecessary times and adding the required elements to improve the product and satisfy the customer to achieve the possibility of identification (5030:Gandhi et al., 2019).
3. Removal of unnecessary cost: Functional analysis technology seeks to achieve the best design and cost-effectiveness by identifying functions that do not add value from the customer's point of view and removing unnecessary costs in product design (Arivazhagan, Partheeban, Guru, & Rachel, 2017).
4. Solving problems related to product development: Functional analysis technology is a powerful tool for solving design and product development problems and can reduce costs while maintaining or improving performance and quality requirements through the possibility of introducing alternative resources that achieve the same function as the original product and also help in the decision-making process (Ilayaraja & Zafar, 2015:1).
5. Improving and enhancing customer satisfaction: The technique of functional analysis contributes to the improvement of functions that meet the needs of the customer and that are considered a tool for the natural impact on the customer, and therefore the promotion of functions that meet the satisfaction of the customer and work to eliminate unwanted jobs contributes effectively to the satisfaction of existing customers and work to win new customers (Ravish & Vinoth, 2016).
6. Creativity and Innovation: The quest of economic units to balance costs, quality, and the required functions cannot be achieved by replacing resources only unless there are creative possibilities of the development team that require full knowledge of all the functions of the product and throughout the life cycle of the product (A. Almagtome, Khaghaany, & Önce, 2020).

9. The stages of applying the functional analysis technique

Functional analysis technology is a systematic application of tools and techniques recognized by a multi-disciplinary team to identify and classify product functions to create, select and develop alternative approaches to cost reduction and are applied throughout the product life cycle through value engineering and value analysis in a way that achieves the

creation of new ideas leading to improvements in the value of functions (Arabiyyat, 2016) stages of application of the functional analysis technique are illustrated in Figure 2.

Figure 2. Stages of application of functional analysis technique



Source: Arabiyyat, A. R. (2016). The Possibility of Applying the Value Engineering: Case of Municipality of Al-Salt. 10(1), 38–42 Adoptedly quoted.

1) Information Collection Phase: This phase involves collecting information about the current product regarding costs, quantities, and overall design. The team also conducts functional analysis and implements a timely action plan with a relative cost order for sub-functions to identify potential high-cost areas (Alketbi, 2020). Quarter & Governorate, 2018 adds that the information-gathering phase requires the preparation of cost and energy models and knowledge of job alternatives and their cost in light of the analysis of critical functions before starting the design process (A. Almagtome & Abdlazez, 2021). The process of collecting information is highly related to the time required to analyze each function, whether that information relates to the products of the unit itself or competing products (A. Almagtome & Abdlazez, 2021).
2) Functional Analysis Phase: The analysis process aims to identify the functions provided by the product or part of it and work to organize the functions according to their importance (weight) and cost, and this leads to the creation of a list of jobs arranged according to their reputation and value, which means that there is an analysis of how each job meets the needs of the customer and then analyze the cost of these functions. This stage can be considered the analysis of the product's value as the main stage of the entire methodology because it represents the translation of needs into Posts.
3) Innovation Phase: Once the job is identified and evaluated, the team moves to the creative stage and encourages linking future perceptions with current jobs to reach alternative ways to achieve the position required by the customer by seeking to remove all non-value-adding jobs with other jobs of value from the point of view of the unit and the customer (Mohamad, 2014). This stage is highly linked to two main factors: the creative ideas of the team and the technological level on which the design process is based while giving the team sufficient freedom to judge the available alternatives to the form of designs or alternative processes to help accomplish the functions.
4) Evaluation Phase: At this stage, a suitable alternative is selected from among several alternatives arranged in the creative phase, and the appropriate function is selected that achieves both the highest cost savings and the highest quality, taking into account the possibility of manufacturing, which provides ease of implementation and less expensive

than other alternatives obtained in the creative phase Pratama and Tistogondo (2021) believes that this stage can be reached its actual results through the working group that includes the evaluation of all the primary and secondary product functions existing in the same product and those that other functions can replace in light of the possibility of adding value, reducing costs, maintaining or enhancing the current quality. Coetzee (2010) offers, 2009:38 and (Zamili, 2017:65) that this stage only assesses the ideas put forward and the extent to which those ideas can be implemented or applied on the ground. The availability of the material capabilities of the economic unit to meet those functions to maximize the product's value and improve its job entitlement by focusing on cost, quality, time, and flexibility.

5) Development Phase: This stage is based on the results of the evaluation phase and here the conclusions of the evaluation are compared with the specific and required functions with the preparation and development of alternatives to the ideas taking into account the risks related to increased costs and decreased quality in the light of the timetable to determine the implementation steps and responsibilities of each alternative selected for the purpose of development at this stage (212:Diputera et al., 2018), this stage requires conducting technical analysis calculations of the cost of the product lifecycle to reach the points of realization of cost savings on the type of functions analyzed by the functional analysis as the development team prepares descriptions, drawings and estimates of the cost of the product lifecycle to support the official recommendations during the development phase to reach the recommended design with the preparation of a descriptive assessment of the advantages and disadvantages of the proposed recommendations (MA, 2018).
6) Display Phase : In the presentation stage, a report or presentation of the results of the analysis performed is presented and the production is directed to the developer in the form of selected alternative data with the reasons for his choice and the difference in the costs of the initial plan after conducting the functional analysis of the product and identifying the advantages and disadvantages of the chosen alternative and the savings in the costs of the product life cycle and after completion the presentation will be used to convince the decision makers of the results that fit the plan developed by them (Diputera et al., 2018:212), The presentation report should provide a degree of persuasion of existing or alternative jobs to two core groups of teams, the first of which is the design team, which will be interested in the technical aspects of the product, and the second is the management team, which is the owner of management decisions based on the competitive position of the economic unit by focusing on the dimensions of cost, quality, flexibility, and timeliness (Coetzee, 2010).
7) Implementation Phase: At this stage, the proposed solutions are initiated with the presentation of a comprehensive report that includes all the functions that are implemented in the light of the needs of the customer as well as the goal pursued by the management of the economic unit of adding value (MA, 2018), that this stage is only an applied translation of the studies and proposals generated during the previous stages of the study through which the desired result can be achieved and from two sides the first side Technical through the preparation of detailed reports to show the technical form of the product and the nature of its function and productivity. The second is the financial aspects, which include preparing detailed reports with financial and economic dimensions that will result from implementing the recommended changes to show the positive aspects of the savings to be achieved.

10. The Strategic Approach to Cost Management

The strategic decisions of the economic unit should correspond to its capabilities and market opportunities. In other words, the strategy should describe the integrated set of choices made by the unit to create value for customers while distinguishing itself from its competitors.

10.1. Strategic Cost Management Philosophy

To provide the same or better value to customers at a lower cost than other competitors, its goal is to increase the value of customers by reducing cost. For example, reducing the cost of making a product by improving the production process would allow the economic unit to reduce the selling price of the product, thus reducing the amount customers pay (Aurisicchio et al., 2011). Providing the customer with something other competitors don't offer creates a competitive advantage, so different strategies require different cost information. The system's Cost May Vary According To The Strategy Adopted By The Economic Unit (Mowen, Hansen, & Guan, 2006). The choice of a particular strategy also depends on the nature of the production process, the technology used in production, the ratio between direct and indirect costs in the total costs of the economic unit, as well as other factors (Gracanin, Lalic, Beker, Lalic, & Buchmeister, 2013). Thus, strategic cost management is the process of cost analysis to develop an organizational strategy that aims to achieve a competitive advantage over other competitors and ensure its implementation. It should also include preliminary information to assess strategic alternatives for the expected level of costs by types of activities of the economic unit and types of products (Nevmatulina, 2018:45). Managers should not only take into account the costs or events that occur within the monetary unit but also consider the costs from a broader perspective as well as the costs of the economic unit, which includes all the costs of product design and development (Sulanjaku & Shingjergji, 2015).

10.2. The concept of strategic cost management

Researchers differed in formulating a unified cost management concept according to its strategic perspective. Some define it as philosophy, position, technique, and input, and Table (2) illustrates the most important of these concepts.

Table (2) Strategic Cost Management Concepts

#	Concept	source
1	Strategic cost management is the philosophy of cost and revenue improvement; cost management is limited but also includes revenue management and therefore seeks to improve productivity, maximize profits and improve customer satisfaction. The economic unit helps to make the right decisions to create more value for customers at a lower cost.	(65: ElKelety, 2006)
2	Strategic cost management as a proactive attitude is based on the principle that the costs produced result from administrative decisions within the economic unit. Thus, the administration has to decide to enhance the market's competitive position by improving the product's value and reducing costs using a set of techniques to support a decision.	(Khalid and Hamdan, 2016: 91)
3	According to its strategic perspective, cost management is a set of modern technologies that help economic units meet the challenges witnessed by the contemporary business environment through cost management by reducing it while maintaining	(Tribulation,2020:21)

	product quality and thus achieving a competitive advantage.	

Source: Prepare the researcher to rely on the sources vis-à-vis each of them.

It is noted from the above concepts that strategic cost management focuses on a set of techniques and tools that are used to achieve a strategic position, cost analysis to plan and control the cost and revenue, as well as seeks to achieve a cost reduction, and as a result, the economic unit seeks to achieve customer satisfaction and achieve competitive advantage. Therefore, the researchers believe that cost management, according to the strategic perspective, is a set of administrative and accounting techniques Affecting the reduction of costs while improving the strategic position of the unit.

10.3.Types of cost management according to its strategic perspective

Horngren et al., 2012:27, Isa and Mohsen, 2020: 677, and Janabi (2011: 177) believe that strategic decisions should be determined that correspond to the capabilities of the particular economic unit and the opportunities available in the market to achieve its goals.

1. The cost management strategy is to offer a high-quality product at low prices by managing its costs wisely.
2. The product differentiation strategy is the ability to develop and provide distinctive or unique products or services that appeal to customers and are often priced higher than those less known to their competitors.
3. The strategy of concentration is not to focus on a specific product line or product or focus on the customer or a particular market, i.e., choosing a specific sector and not dealing with the market as a whole and what divides the market by counting parts or industries and then focuses on the best part that suits the capabilities of the unit to achieve profitability.

The advantages achieved by the above strategies are:

- ✓ The quality and cost are combined, and the best quality product is provided to satisfy the wishes and needs of customers.
- ✓ Discrimination based on quality and excellence in product design.
- ✓ Discrimination is based on providing more excellent value to the customer against the amount paid.
- ✓ Provide lower costs for the product in the target sector than competitors' products.

Choosing between these strategies is integral to strategy formulation by providing information about sources of competitive advantage cost, productivity, or pricing decisions that an economic unit can impose (Horngren et al., 2012:27).

10.4. Factors of the emergence of contemporary technologies for strategic cost management

Several factors contributed to the emergence of contemporary techniques for cost management, the most important of which are:

1) The strength of competition between economic units. Attention to competitive advantage is the dominant characteristic in the business environment, which makes it necessary for the economic unit to distinguish itself from others and gain a new share in the market. Any unit can achieve competitive advantage in several ways, but the most important of these methods is to produce the product at the lowest costs (competitive costs and sell it at a low price). Hence, the emergence of competitive advantage prompted these units to adopt contemporary ideas and technologies. However, to continue in the competitive market and achieve competitive advantage requires the economic unit to develop appropriate strategies in light of its human and material resources and capabilities that meet the needs and requirements of customers (Kleer & Piller, 2019).
2) The use of intelligent learning techniques in design and manufacturing. The manufacturing environment

is undergoing revolutionary changes in many industries with the advent of advanced production technologies as many economic units adopt new manufacturing and information technologies to remain competitive in the face of increasing global competition. These include timely production systems to reduce or eliminate unnecessary costs in the manufacturing cycle to reduce cost, improve quality, performance, and delivery, add flexibility and increase innovation (Ammar, Haleem, Javaid, Walia, & Bahl, 2021).

3) Customer-oriented. Customer satisfaction has led to the building strong brands, which in turn have helped acquire new and potential customers. Moreover, it leads to increased customer satisfaction and the willingness of the customer to pay for goods and services at a higher price and thus increases the market share of the economic unit.
4) Traditional cost management and its inadequacy to the requirements of the business environment. Conventional cost management methods cannot provide the necessary information to the economic units on which they rely for planning and strategic decisions. In this regard, the traditional approach is based on short-term planning processes and historical data to compare actual performance with the line since it focuses on internal processes without external processes, although necessary in the business environment (Lv, Li, Xu, & Yang, 2020).

10.5. The difference between traditional and strategic cost management

Between (ElKelety, 2006: 68) The difference between conventional cost management and strategy Table 3 A set of differences between them

Table No. (3) Differences between Strategic Cost Management and Traditional Cost

#	Difference	Strategic Cost Management	Traditional Cost Management
1	Cost Analysis	It varies according to the stages of the value chain in the economic unit and the focus on the external influences of the unit, either the added value, it is considered a narrow concept.	It varies according to the function of the product and customers and the focus on the internal effects of the economic unit. However, as for the added value, it is a crucial concept.
2	Significance of the cost wave	Multiple cost drivers, such as structural drivers (such as scale, scope, experience, technology, and complexity), executive motivations (such as co-management and total quality management) for each value activity, and a set of unique cost drivers.	One concept in this regard is that the cost is a sign of the volume of activities in the economic unit and is applied to it.
3	Main Focus	It studies the correlation between revenue, cost, and value.	He is interested in studying the impact of cost.

4	The objective of the cost analysis	Although the three objectives are always present, the design of the cost management system changes dramatically depending on the important strategic position of the economic unit: either under the cost leadership strategy or within the framework of the product differentiation strategy.	It aims to find solutions to its problems, receives management's attention, and retains only the strengths related to increasing production volume.

Source: Prepare the researcher to rely on the sources vis-à-vis each of them.

11. Compatibility of Functional Analysis and strategic Approach to Cost Management in Cost Reduction

Strategic cost management involves the application of cost management techniques that affect cost reduction while improving the strategic position of the economic unit, often referring to the use of information obtained from contemporary technologies as strategic information, specifically the data provided by contemporary methods of cost management have the most crucial role in determining the guidelines of strategic management including E provides managers with information on the structure and behavior of costs, thus allowing the company to improve its strategic competitive advantages (Ciffolilli & Muscio, 2018). Roma, Panniello, and Nigro (2019) indicate that the emergence of competitive markets providing products to customers at the lowest price and lowest cost is one of the most critical factors for the success of the competition, so economic units have put performance measures at the heart of their plans to achieve a competitive advantage and various techniques for cost management have been proposed. Undoubtedly, functional analysis is one of the most effective techniques as a systematic technological development approach. Sadi identifies unnecessary costs and works to increase product quality, reduce costs, and eliminate waste. This approach tries to enhance value at the lowest cost by providing the level of performance that customers expect. He stressed (Stiglitz, 2019) that reducing unjustified costs associated with components and functions of the product that do not add value helps the economic unit to facilitate the sale prices of its products as a result of its adoption of strategic cost management on functional analysis starting from the stage of research and development to customer service to manage costs in a high and efficient manner as cost reduction can help determine the competitive price that customers earn, and then achieve an increase in sales and Preaching profitability (Tang, Zhang, & Peng, 2021). The researchers believe that the technique of functional analysis is one of the most important contemporary management techniques that aim to calculate costs and provide products that meet the desire of customers in terms of functions, specifications and price are appropriate without affecting the quality of the product to achieve success in the application of functional analysis technology requires appropriate information that helps in achieving the goal of managing the cost of resources, as well as objective measurement For costs and provision of information that can be used in formulating strategies to best customize a mix of production decisions and pricing decisions.

12. The Results

12.1. Analysis of the opinions and responsibility of the research sample

The research sample was represented by the technical, administrative, and accounting cadres of the workers in the Kufa cement laboratory. To prove the hypotheses' validity or not, the method (Likert) was used five-a-side with the need to reach the weighted arithmetic media, standard deviation, coefficients of difference, and relative weights to know the contribution of each variable. Furthermore, it relied on the hypothetical mean of (3) as a criterion for measuring and evaluating the degree of The response of the individuals of the research sample, which is shown in Table (4).

Table (4) Description of the research sample

#	Variables	Target groups	No	Job Title	No
1	Academic Achievement	diploma	10	accountant	4
		Bachelor degree	18	Administrative	11
		Master	5	Engineer	15
		Doctor	2	Other	5
Total			35	Total	35
2	Years of Service	5 F D Wen	0		
		More than 5-10	16		
		More than 10-15	9		
		More than 15	10		
Total			35		

Source: Preparation of researchers.

1. First hypothesis test:

This hypothesis states that "there is a significant relationship between the technique of functional analysis and the possibility of reducing costs without compromising quality." In contrast, the test of the validity of this hypothesis is illustrated by Table (5), the results of which indicated that the percentage weight of the response intensity of the sample members reached (76.43%) with weighted arithmetic mean of (4.05) and a standard deviation of (0.92) and a coefficient of difference of (22.8%). The highest paragraph that contributed to the enrichment of this variable is the fourth paragraph, where its percentage weight (is 85.71%) with a weighted mean of (4) and a standard deviation of (0.84) versus a coefficient of difference (21.00%). However, we find that all percentage weights have exceeded (60) %, in addition to the fact that the mean has exceeded the hypothetical mean of (3) and in a meaningful sense (0.05) for all the variables of the first hypothesis. In contrast, the test (t) of the sample of variables of the first hypothesis at a significant level (0.05) and with a degree of freedom (55), we find that the general rate of these calculated variables is of value (6.98)) is greater than the tabular value of (t) of (1.671) which can accept the first hypothesis.

2. Test the second hypothesis:

This hypothesis states that "there is a significant relationship between the strategic management of cost and the possibility of providing objective information to reduce costs in the light of the development of competition." In contrast, the test of the validity of this hypothesis is illustrated by Table (6), the results of which indicated that the percentage weight of the response intensity of the sample members reached (80.83%) with a weighted mean of (3.98) and a standard deviation of (0.88).) and a coefficient of difference of (22.29%), as the

highest paragraph that contributed to the enrichment of this variable is the first paragraph, as its percentage weight (83.33%) with a weighted arithmetic mean of (3.83) and a standard deviation of (0.79) against a coefficient of difference (20.65%), while the lowest percentage was in this. The variables are for the fourth paragraph, where their percentage weight (is 77.14%) with a weighted mean of (4) and a standard deviation of (0.97) against a coefficient of difference (24.25%). However, we find that all the percentage weights have exceeded (77%), and the mean has exceeded the hypothetical mean of (3).) In a significant sense (0.05) and for all the variables of the second hypothesis, either the test (t) for the sample of variables of the second hypothesis at a significant level (0.05) and with a degree of freedom (55) we find that the general rate of these calculated variables has a value of (6.4) which is greater than the value of (t) The tabular is (1.671) which enables the second hypothesis to be accepted.

1. Test the third hypothesis:

This hypothesis states that "there is a significant relationship between the technique of functional analysis and strategic cost management to reduce the costs of the product." In contrast, the test of the validity of this hypothesis is illustrated in Table (7), the results of which indicated that the percentage weight of the response intensity of the sample members reached (74.28%) with a weighted arithmetic mean of (4.17) and a standard deviation of (0.94) and a coefficient of difference of (22.92). %, since the highest paragraphs that contributed to the enrichment of this variable is the first paragraph, where its percentage weight (77.14%) with a weighted mean of calculation of (4.37) and a standard deviation of (0.84) against a coefficient of difference (19.29%), while the lowest percentage in these variables was For the third paragraph, if its percentage weight (68.57%) with a weighted mean of (3.94) and a standard deviation of (1.13) against a coefficient of difference (28.81%), although we find that all the percentage weights have exceeded (68%), in addition to the fact that the mean has exceeded the hypothetical mean of (3) and in a significant sense (0.05) and for all the variables of the third hypothesis, either the test (t) for the sample of variables of the third hypothesis and at a significant level (0.05) and with a degree of freedom (55) we find that the general rate of these calculated variables has a value of (7.57) which is greater than the value of (t) tabular (1.671)) through which the third hypothesis can be accepted.

Concussions and Discussion

The functional analysis technique aims to develop and analyze the costs of the product's functions by analyzing customers' needs for the product functions. Once the team has reached a comprehensive analysis and put forward creative ideas, it helps to identify the tasks that contribute to adding the most outstanding value, exclude jobs that do not add value, and focus on other factors such as (time, quality, and flexibility). The functional analysis technique helps to reduce costs without compromising quality. It is concerned with analyzing product functions by focusing on the components and parts of the product, excluding functions that do not add value from the customer's point of view and concentrating on the main product functions. The functional analysis technique provides more accurate and objective information on the strategic management of costs to reduce costs. In light of the development of intense competition, the data it offers for cost management has the most critical role in determining the structure and behavior of costs, thus allowing the company to improve its strategic competitive advantages. The technique of functional analysis and strategic cost management will reduce product costs through performance metrics at the core of its plans as a systematic approach to technological

and economic development to identify unnecessary costs and works to increase the quality of product functions, reduce costs, and eliminate waste in materials as this approach attempts to enhance the value of product functions at the lowest total cost. The functional analysis technique helps to reduce the unexplained costs associated with the components and functions of the product that do not add value and supports the economic unit to facilitate the sale prices of its products as a result of its adoption of strategic cost management on the analysis of the performance of product functions starting from the stage of design, research, and development, operational processes (manufacturing) to customer service. The technique of functional analysis enables it to reduce costs. It works to increase the quality of the functions of the product, and thus helps in determining the competitive price that earns customers, and then achieves an increase in sales and maximizes profitability in a way that reflects positively on the value of the economic unit in the market and achieves competitive advantage. Focus on integrating customer values, perspectives, desires, and needs for product functions from the beginning of the early design process as the beginning of identifying opportunities to remove unnecessary job costs, ensuring the quality of product functions by working on a job analysis and cost reduction to achieve the best functional balance between product cost, quality, and performance. Considering customer values as a source of revenue and strength for the economic unit, it is a strategic competitive weapon in the competition process and a basis for survival and growth in the business environment. The need for the economic unit to adopt the strategic cost management approach in the application of cost management techniques that affect cost reduction while improving the strategic position of the economic unit and the use of information obtained from contemporary technologies in the processes of planning, design, control, decision-making and performance evaluation of operational processes as strategic information, the data provided by contemporary cost management methods have the most critical role in determining guidelines that include information on the structure and behavior of costs. The economic unit shall achieve a balance between values from the customer's point of view and value from the point of view of the economic unit by producing products with high-quality and low-cost job entitlements that they provide to customers so that they can meet the needs of the customer as well as the goal pursued by the management of the economic unit of adding value and achieving profits. The economic unit shall determine strategic decisions corresponding to its capabilities, potentials, resources, and opportunities in the market to achieve its objectives. In other words, the economic unit must choose one of the appropriate strategies (cost, differentiation, or concentration leadership) that is appropriate for the unit and can achieve a competitive advantage. Furthermore, the economic unit must use smart learning techniques in design, manufacturing, and new information to remain competitive in the face of competition. The goal is to eliminate unnecessary costs in the manufacturing cycle to reduce costs improve quality, performance, and delivery, add flexibility and increase innovation.

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