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Role of the target cost method in achieving competitive advantage.



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Abstract:

This research work seeks to explore the extent of Target Costing system adoption and implementation by the manufacturing industry in Beirut the capital of Lebanon and the impact on their performance, as well as identifying the obstacles to the application of the target cost approach in these companies. In the research work, the performance was defined in terms of profitability, Return on Capital Employed, and reduction in the cost of production. The study adopted the survey research method, using a structured questionnaire to collect data from the sample data group which represents all manufacturing firms in Beirut listed on the Lebanese Stock Exchange as of the first of 2021. A total of 30 firms were included in the study. The results appeared that the level of selection and application of target costing by the manufacturing industry in Beirut is low. However, the discoveries also appeared that there's a strong positive relationship between adoption of Target costing and of change in Return on Investment and reduction of cost.

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1. INTRODUCTION

In the presence of the modern industrial environment, and the technological development, and due to the intense competition between industrial companies at the local and global levels it was necessary for industrial companies and business organizations to provide a competitive advantage in the field of their business, products and services in order to reach the required level of competitiveness and in light of the inability to change the prices of products in terms of raising their prices, it was necessary to focus on cost and working to reduce it, therefore it was necessary to pay attention to the cost of the inputs used, and in this framework, some strategies related to cost reduction emerged, including the target cost method as one of the methods that have proven effectiveness in reducing production costs in companies, and efforts are still going on to develop new solutions to reduce costs, develop more efficient and effective programs in managing the available economic resources and provide products or services that satisfy customers' desires, and meet the conditions and requirements of local and international competition .

Target cost can be defined as a cost management tool that aims to reduce the cost of the product during the planning, developing and organization phase, and then this tool tries to reduce the cost at the design stage due to the large volume of savings that can be achieved at that stage while preserving the quality and functional capabilities of the product, in addition to the degree of customer's trust.

Target cost, as defined by the Association of Japanese Accountants, can be defined as “a process of managing profits in a general coordination of your organization by determining the quality of the product and the product. Its profit-making strategy is to achieve the aforementioned levels in the planning stages of the product as well as its development, which meets the aspirations and needs of customers (Al-Rifai, 2007).

The target costs idea was an idea that was pioneered by the American General Electric during the Second World War, through what is known as the concept of value engineering which represents an organized engineering approach and method that seeks to produce the product

in the presence of a shortage of food contemporary production from mother materials and intermediate products.

Value engineering can also be defined as the process of checking each component in the product to determine the possibility of reducing the cost of the product while preserving the functional condition of the product and the quality of the performance of this product.

Japan has reached the progress and development in the field of industry as a result of its experience for many years, and also as a result of its continuous endeavor to search for the best accounting, administrative and productive systems and methods that help it to reduce costs and increase earnings as target cost system and other helping systems as Quality Function Deployment, Value Continuous Improvement System, and Value Engineering System.

2. Literature Review

In this section we will discuss the explanation of the previous studies on the role of the target costs in some countries and companies and the differences between the companies that uses the target costs and the ones that do not and the advantages of the companies using them.

According to a study by Filomena (2009), on behalf of target costing operationalization during product development, it aimed to know the experience of developing countries at an early stage where they are located signs of the cost of producing a specific product under the development process. The study was applied to companies Brazilian manufacturing industries, activating the targeted costs method to reduce costs on parts of the product, with the necessity to create standards for controlling expenditures during the procurement process, have been used a detailed case study with a view to strategic use of target costing those involved in procurement, especially engineers and designers, are the ones who have the most control over costs.

The study indicated that there are limitations to this study represented in the absence of discussion to estimate specific costs and techniques to reduce costs.

However a new study by Dekker and Smidt (2003) in accordance to a survey of the adoption and use of target costing in Dutch firms it reports the results of a survey among Dutch firms listed at the Amsterdam stock exchange on the adoption and use of costing practices that resemble the Japanese target costing concept. Nineteen out of thirty-two manufacturing firms claimed to use these practices, although they used different names for them. The study suggests that these practices were developed independently of the Japanese practice. Adoption is highest among assembling firms and is related to a competitive and unpredictable environment. Cost reduction is the main objective and benefit of these practices. The product development and design departments are leading in the target cost management process, which is mainly performed in team structures.

Even so Kocsoy (2008) study in Turkish manufacturing enterprises aimed at aimed at how companies benefit from modern techniques in management accounting and the most important of these methods is the targeted costs, especially in light of the rapid

developments in technology and change in customer expectations, shortening of product life cycle, increase in strength of competition it has been conducted internationally, especially among companies, and its endeavor to reduce product cost and high quality the study is on the largest manufacturing companies listed in the Istanbul Chamber of Commerce and holding a certificate ISO, and disclosing the basic differences between these companies that apply the costing method the target and the non-implementation of the target cost method and the analysis of the application of the cost method and its impact on the companies applying it. The study indicated that companies should follow balanced competitive strategies, especially since the majority of companies operate under market conditions competitiveness, and for the companies to reap the expected benefits from the costs targeted on them, to give importance to greater for determining customer expectations prior to product design Greater for determining customer expectations prior to product design.

Moreover the study of Borgernas and Fridth (2003) aimed to identify the extent of application of the target cost in the Swedish industrial companies and what level they apply at compared to other companies. The study concluded that 16.5% of the companies it was surveyed the study uses the target cost out of 81 Swedish manufacturing firms, and this is one of the most important reasons failure to implement target cost is due to companies 'fear of adopting new approaches that differ from traditional methods.

Not only...but also Rattray (2007) study in New Zealand manufacturing firms aimed to demonstrate the extent to which the target cost is applied in industrial companies. A survey questionnaire was sent by e-mail to thirty-one a New Zealand company out of eighty companies, i.e. a rate of (39%) and their opinions regarding targeted cost, and the study found that only a dozen companies use the cost and that the target cost is being used for the currently existing products, and that it receives attention from before the manufacturing departments than in the procurement departments, the reasons for using the target cost were also it is similar to the results of previous studies in terms of reducing costs and increasing sales the sample and the small number of firms applying the target cost limit the ability to draw accurate conclusions they can be generalized and adopted.

In like manner Ell ram (2002) study in relation to supply management involvement in the target costing process aimed to clarify the role of procurement management in the target cost stages through cases applied to a number of American facilities that apply this

principle. The study concluded to demonstrate the importance of the procurement management role in the targeted cost stages, especially the initial stages the study also showed that procurement management is more effective when it participates in the application of the target cost approach, in addition to that there is no specific function that can implement the target cost.

In addition, Yazdifar and Askarany (2011) study taking about the Comparative study of the adoption and implementation of target costing in UK, Australia and New Zealand aimed to make a comparison of the adoption and implementation of the target cost in the United Kingdom Australia and New Zealand, through its application to qualified management accountants who hold a certificate.

Certified management accountant, who work in industrial and service companies in previous countries, and whose total number reached 2041 accountants, who used the survey method to reach results the study: Through the distribution and approval of 584 questionnaires for the year 2007, the study tested the level of adoption and the application of the target cost approach by measuring the characteristics of the target and representative cost approach, in (comparative advantage, compatibility, ease of use, usability results, application results).

The results of the study showed the widespread use of the target cost approach among industrial firms and service in the previous countries, but there are fundamental differences in the level of implementation between companies the results showed that companies are increasingly interested in testing all industrial and service strategies. Reducing costs in the planning stage, while adopting value engineering to integrate customer requirements, rather than focusing on adopting a cost-cutting strategy in the production phase.

Numerous studies have emerged to explain and clarify the concept of the target cost system, its objectives, and its functions;

Sakurai (1) has shown that it is "one of the cost management tools that reduce scalability over the course of the product life cycle with the help of engineers in production, design, shopping research and accounting." As he knew) Horvath (2) as "the planned management cost used in the initial stages of product design, it affects the process of product production according to market requirements.

Yoshikawa (3) is known as "a set of activities that are processed and determined to reach the required cost levels, which are usually phased in, making it easy to achieve the financial objectives planned by the administration." The high-quality product life cycle, which meets customers' needs to examine all ideas that can reduce the cost in the planning and development phases, is known as Brausch(5) as "one of the most innovative tools that reduce the cost of products." during her cycle of her years." Bhimani (6) defines it as "an integrated cost management system used when designing a new product or when developing a previous product.

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- 1) M. Sakurai, Target Costing and How to Use It, Journal of Cost Management, Vol.3, No.2, Sum (1989):39
 - 2) P. Horvath, Target Costing: State of the Art Report, Arlington-Texas: Computer Aided Manufacturing-International (CAM-I), (1993): 33
 - 3) T. Yoshikawa, J. Innes, F. Mitchell, and T. Masayasu, Target Cost, Chapter Four, Contemporary Cost Management, first edition, Chapman and Hall, (1993):33.
 - 4) Y. Kato, Target Costing Support System: Lesson from Leading Japanese Companies, Management Accounting Research, Japan, Vol.4, No.1, Mar (1993):33.
 - 5) J. Brausch, Target Costing for Profit Enhancement, Management Accounting, Vol.76, No.5, Nov (1994):45
 - 6) A. Bhimani, and H. Okano, Targeting Excellence: Target Cost Management at Toyota in the UK, Management Accounting, London, Vol.73, No.6, Jun (1995):42.

Through previous understandings, it is possible to define the understanding of the system of cost-effectiveness after taking into account the following:

- 1- Target costs is one of the most important cost management systems that regulate all the functions of the project from planning, designing, producing and controlling it to gain strong competition and important market position.
- 2- Target cost is aimed at reducing cost and offering products of appropriate quality and price that satisfy the needs of customers and achieve the required profits.
- 3- Target costs achieves its planned administrative and financial objectives more effectively when producing several products within the same project.

There are also two concepts that are essentially linked to the target cost concept:

Target Price:

Is defined by (1) Kato as "the estimated price of the product, which The consumer is willing to pay for the product, and is considered the starting point for the activities of the targeted cost, and is determined on the basis of a market study of several factors including the quality of the product and its characteristics and the price desired to be paid by the consumer. in addition to knowing the reaction of competitors towards that specified price".

Target Profit:

Kato defines the target profit as "the amount of profit that management wishes to make from the specific product, which is determined on the basis of the long- and medium-term profit plan that reflects the project's contingency plans.

1) Y, Kato, op.cit, 33.

The idea of the target costs originated in Japan at the beginning of the 1960s and remained secret for many years until the beginning of the 1980s, and then the understanding of the target costs was spread as a key factor in the competition between The Japan companies and then the understanding moved to western companies where many of the These companies have tried to adopt the target cost input to reduce cost and increase competition.(1). The recently targeted cost-effectiveness system has emerged as different from other previous calcification systems, because its activity is not limited to the target costs, but also exceeds its interest in the process of inactivity. The organization of all departments and departments of the project, where the production process is dealt with from the beginning of the planning and until the product reaches the end of the consumer hand, but may exceed this stage to take care of also the maintenance stage and Follow -up and operation of some products that need it)(2). Also this system that does not design products in light of the possibilities and industrial techniques available at the project, but designs products that meet the wishes of customers and satisfy their needs with the right quality and price (3).

1) Feil, et.al. 2004

2) M. Fell man, Selling IT goods to disable end-user, Marketing News, Chicago, Vol.33, No.6, Mar (1999):1.

3) M. Morgan and Weerakoon, P. (1989) Japanese Management Accounting: it's Contribution to the Japanese Economic Miracle, Management Accounting,42.

1) Research Objectives

3.1. Issue of the study:

The study issue revolves around the following main question: “The role of target cost method in achieving the Competitive Advantage” and the following questions are derived from it:

- What is the extent of awareness about the target cost approach in the companies?
- What is the availability of a suitable and appropriate business environment for implementing the target cost approach in companies?
- What are the difficulties and obstacles that prevent the implementation of the target cost approach in companies?
- What is the availability of an adequate accounting system for implementing the target cost approach in companies?
- Are the traditional costing systems commensurate with the data of the competitive environment?

Competitive advantage refers to factors that allow a company to produce goods or services better or more cheaply than its rivals. These factors allow the productive entity to generate more sales or superior margins compared to its market rivals.

3.2. Importance of the study:

- The importance of the study is reflected in the identification of the most important approaches to cost reduction and the ways they interact with the environment. Modern business in order to achieve the most important sources of competitive advantage that the institution depends on

Facing today's challenges.

- Control costs and product design, as this input plays a vital and major role in reducing costs and helping to develop products as this input uses some systems cost-specific engineering, most notably value engineering.

- The components of the application of the targeted cost method, and the most important problems facing the implementation process.

3.3. Characteristics of the current study:

It is considered one of the first studies that seek to explore the possibility of applying the target costs approach in the Lebanese industrial companies as a modern scientific approach to cost management that contributed to the realization of many benefits for companies that adopted this approach, especially with regard to reducing the cost of products, especially in designing and developing stage, In addition to increasing its market share and its reflection on the development of those companies, improving their performance and maintaining their continuity in light of the intense competition created by the modern business environment.

This study has provided a brief presentation of the target cost entry in relation to its concept and principles their characteristics and the factors helping in their application, and it also provided a comprehensive presentation that shows the factors affecting the target cost analysis by resorting to the original sources that wrote in this the entrance.

This study was also able to explore the obstacles and difficulties that prevent this implementation the entrance and then work to develop appropriate solutions and a mechanism capable of overcoming and avoiding these obstacles.

3.4. Research limits:

Research limits are limited to industrial projects in The City of Beirut to provide a sufficient number of industrial projects, as well as the city of Beirut is the residence of the researcher and is considered one of the largest commercial and industrial cities in Lebanon.

- Take advantage of previous studies and the leading Experience of Japan in the field of cost-effectiveness.
- The research was able to clarify some of the auxiliary systems of the target costs system and help it achieve its objectives.

4. General concept of target cost

There have recently been several technological developments in production and management systems starting with Japanese companies, followed by most of the major industrial companies in the developed countries, especially after these systems and portals achieved remarkable successes for Japanese companies that made them In the forefront of the international companies competing in the case of control on cost and high quality, there is no doubt that these developments in administrative thought and systems and technology of production have been accompanied by a parallel development in accounting thinking, especially information systems supporting the administrative continent, and from here The target cost intake and the entrance to the valuable engineering have emerged as one of the important entrances in the management of the cost by reducing it while maintaining the level of quality in the way of reaching the targeted profit that the establishment seeks to achieve.

Cost is one of the most important elements of the era, although the ability to compete between institutions in the markets depends to a great extent on the control and control of the element and to control it with the aim of reducing it as much as possible and thus increase disprofitability Institutions and the potential of their competition in the market, so the cost is gaining significant importance in any organization as well as the product determines that the survival of any organization in the market is linked to the offer of the right product at the right price. For this purpose, organizations use cost-effectiveness calculation systems, the most important of which is the target cost system, which is the process of adjusting and limiting the total cost of the proposed product, the production of which generates the required profit ability at the expected price in the future.

4.1. Reasons for the appearance of target costs

The target costs system was innovated and used by advanced projects for many reasons, the most important of which are the following:

- (1) The increase in competition between projects pushed their owners and managers to search for a new method that enables them to stay and last as long as possible in the market, by providing products that are less expensive and better in quality and technology.
- (2) Industrial projects nowadays are not designing products for the purpose of achieving higher technology, but rather have turned to designing products that achieve the required technology.
- (3) Difficulty in making pricing decisions for new products due to the uncertainty and ambiguity surrounding the decision environment, which prompted projects to search for a system that studies the product's internal and external environment well and repeats it continuously).
- (4) Prices are increasing today due to supply and demand conditions, the cost system has emerged to decrease production costs to certain limits and avoiding all aspects of extravagance and activities that do not add value.
- (5) There are many criticisms of the traditional cost systems from academics and those in charge of projects, therefore, this system was innovated to avoid the previous deficiency.
- (6) The inability of traditional control methods to accurately compare actual performance with the scheme made the department Innovate a target cost approach that follows the method that said. (A prevention approach is better than treatment)

1) R. Bear, Mills and F. Schmidt, Product Costing in Advanced Technology Environments, Management Accounting, Dec (1994):20-22.

2) M. Morgan and Weerakoon, op.cit., P. 40-43

3) J. Wood, First Annual International Congress on Target Costing, Management Accounting, Vol.79, No.7, Jan (1998):63.

4) G. Boer, and J. Ettl, Target Costing Can Boost Your Bottom-Line, Management Accounting, US, Vol.81, No.1, (1999):49-52.

5) Koons, F. (1994) Applying ABC to Target Costs, Transaction of the American Association of Cost Engineers, US, 4p CSC.11. P. 39

4.2. Characteristics of target costs

The target cost entry is a modern cost management approach that includes a group of the following characteristics:

- 1- The target cost is applied during the development and design stage, as it differs from the traditional methods of cost management applied in the production phase.
- 2- Targeted cost is not an administrative method for controlling costs but rather a way to reduce costs.

- 3- Target cost processes and procedures have many primary methods used because the initial objectives for target cost includes design and development techniques.
- 4- Cooperation between the different departments is required to achieve the target cost.
- 5- Target cost is suitable to be applied in multiple industries or small products more than the few big products.

The researcher found, through the previous characteristics, that the target cost entry is represented as an open and complex system from a large number of relationships between the functional departments of the company and the suppliers since it focuses primary on gaining customer's satisfaction, in addition to that applying target cost leads to the visibility and solution of many purchasing related problems that have an impact on the cost of the product.

Kwah, Discole Ganye (2004) Target Costing In Swedish Firms -Fiction, fad or fact?

4.3. Objectives of target cost

The objective of the target costs system is mainly to reduce costs and upgrade products, and it also aims to achieve the following sub-objectives:

- 1) Achieve customer desires and satisfy their needs by providing advanced products with suitable quality and price.
- 2) Achieving the objectives of senior management in the project from profits and competition in the long term despite economic and technological changes and despite renewed market needs and internal and external pressures
- 3) Creating a balance between cost, price and invested capital, because when producing a new product using target costs, the cost of that product is determined by subtracting the desired profits from the price at which it will be sold, that is determined based on market conditions and the available project's capabilities.

S. Ansari, J. Bell, and CAM-I Target Cost Core Group, Target Costing, Management Accounting, Mar (1997):72.

2) J. Lee, USE Target Costing to Improve Your Bottom-Line, CPA Journal, S-JAP, Vol.64-, No.1, Jan (1994):68-70.

3) R. Cooper and B. Chew, op.cit., 88

4.4. Target costs principles

The target costs system is based for achieving its goals on a set of principles as follows:

- 1) The target cost system is based on medium and long-term planning of costs and profits
- 2) It determines the cost of the product according to the following equation: Target price - target profit = target cost
- 3) Emphasizes on the importance of running a team with appropriate skill for the tasks assigned to it, whether from within the project or from outside it, such as suppliers, intermediaries, and distributors.
- 4) It is concerned in making a trusted relationship with suppliers as long as possible, or making some of them project partners or an essential part in the planning and design process of products.
- 5) Calls for the importance of producing many products in one project, in order to facilitate the process of making profits for the group as a whole.
- 6) It involves all workers in developing the industrial plan, which motivates them to implement the plan efficiently high.
- 7) It is based on an accurate and correct basis of new information from inside and outside the project.

J. Brausch, op.cit, 45-49.

b. R. Cooper and R. Slagmulder, op.cit., 23.

c. A. Bhimani and H. Okano, op.cit., 42-44.

d. T. Yoshikawa, J. Innes, F. Mitchell, and T. Masayasu, op.cit., 39.

e. J. Dyer, How Chrysler Created an American Keiretsu, Harvard Business Review, US, Vol.74, No.4, Jul/Aug(1996):42

4.5. Subdivisions of target cost

The target cost is divided into several sections according to the stages that the product goes through during its life cycle this classification differs from one project to another and also from one product to another, according to the need and importance to it.

Therefore, the division, which aims to focus the efforts of the target cost team, in determining the cost Necessary for each production stage of the product, and also in determining the incidence of the increase In the cost and taking the necessary actions to reduce it and thus reach the target profits.

One of the studies divided the targeted costs as follows:

First: target cost for manufacturing such as:

- Target cost for design.
- Target cost for production.
- Target cost for selling expenses.

Second: Target costs for clients, such as:

- Target cost for product operating.
- Target cost for product maintenance.
- Target cost for product sales returns.

1) T. Yoshikawa, J. Innes, F. Mitchell, and T. Masayasu, op.cit,39,

Based on these divisions and from the point of view of the researcher, it is possible to divide the target cost over the life cycle of the product as follows:
Figure No. (1)

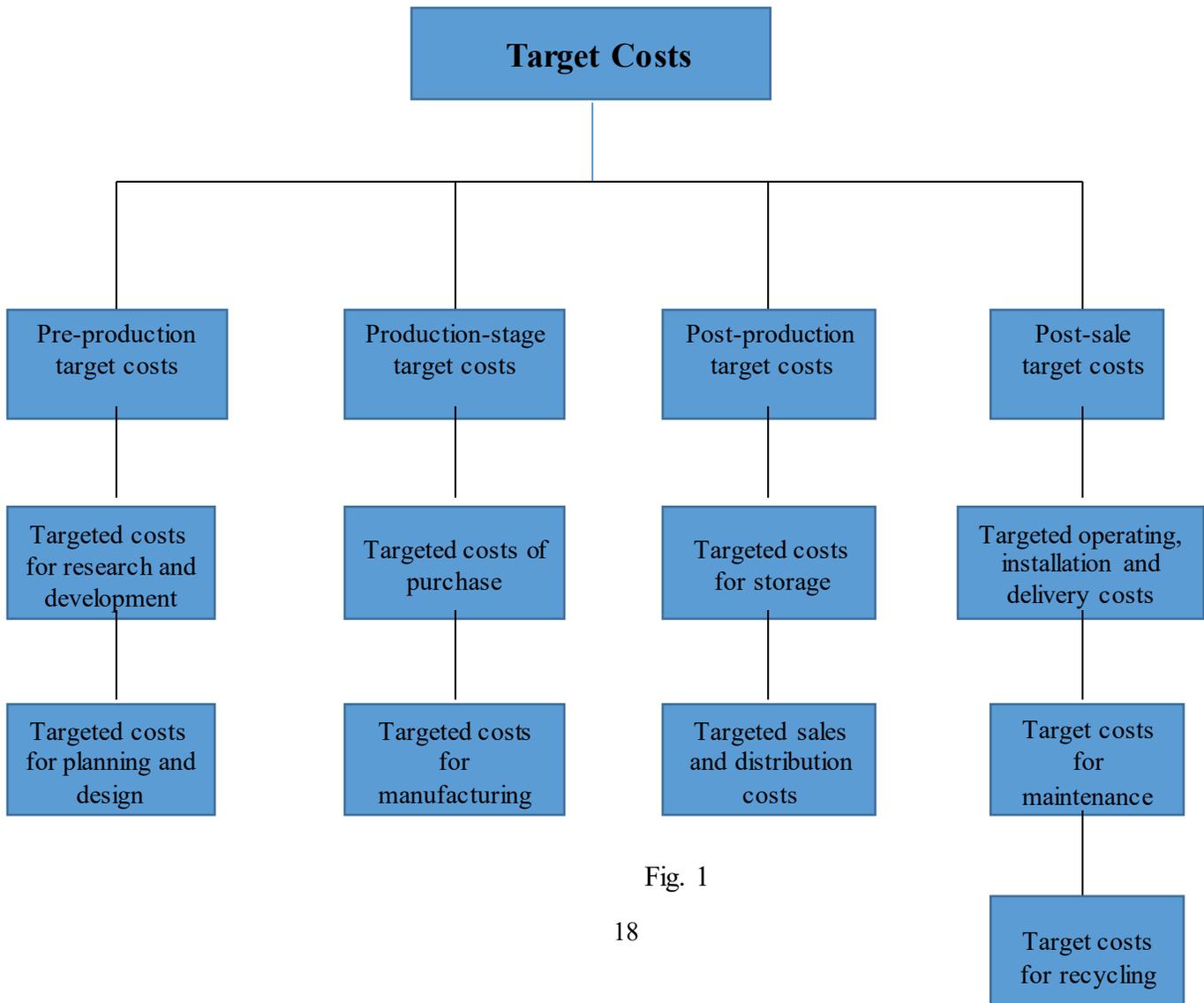


Fig. 1

5. The method for determining the target costs and applying it in industrial projects

5.1. Factors affecting identification and reaching targeted costs:

There are five main factors that influence the determination of a target cost, two of which are relevant to market conditions and two are related to the target cost at the product level and the last factor is related to the target cost on the level of product components (Cooper and Slagmulder, 1997)

These five factors have been listed under three types as follows:

5.1.1. Factors affecting the target cost at the market level:

They represent two factors that determine the amount of difficulty that the company can face in order to ensure the success of the product when it is introduced into the market is the intensity of the competition and the nature of the customer through which it can be determined. The nature and amount of information collected about consumers and competitors through market analysis as shown. From Figure No. (2).

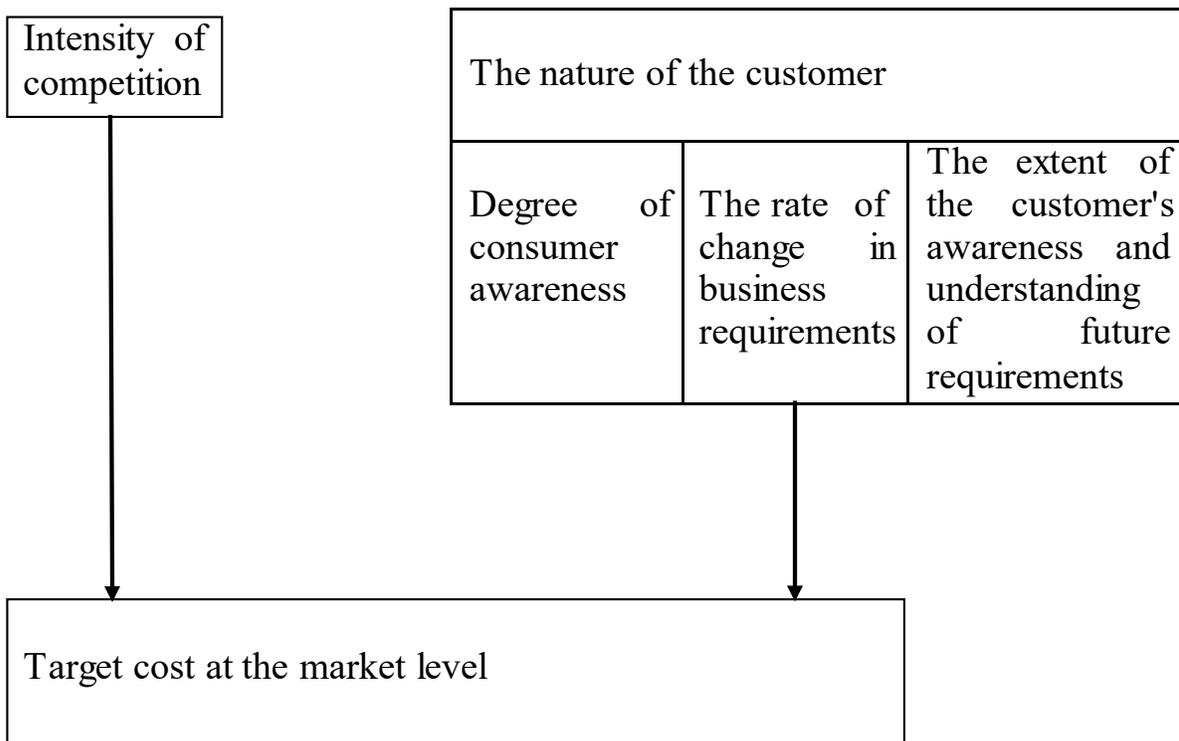


Fig. 2

Here's the analysis of the factors:

Intensity of competition:

The intensity of competition is one of the most important factors in determining the ability of other competitors at the level of industry. In the event of high competition, the competing enterprises may be forced to purchase its competitor's products and disassemble them, which is known as dismantling engineering (Tear Down) to analyze it and utilizing them in product innovation, invention and design, which incurs the company with significant additional costs.

Therefore, the target costs are necessary and beneficial in the case of intense competition while in the case of normal competition the benefits of target costs are less.

The nature of clients:

The target cost process is influenced by customer characteristics that aid in the success of applying the target cost and achieving the desired benefit from it, and these characteristics are as follows:

A- The maturity and awareness of clients:

The customer's experiences and skills show that a good customer can discover the difference and distinguish between price, quality and functionality of the competing products, thus differences can be discovered. Moreover he can move freely between different products and factories to purchase the product that better satisfies his needs, and the more aware the client, the greater the area of residence and continuation of the products is narrowed, the easier the product may fail and exit from the survival zone (the market), and thus the need increases here to apply target cost. So that the product does not come out of the survival zone.

B- Customer requirements change rate:

The rate of change of customer requirements affects the importance of the target costs and the extent of the benefits resulting from them.

For example, in the automotive industry, we find rapid change in customer requirements, leading operational projects to make, great and continuous efforts to forecast future customer requirements, but when customer requirements are fixed, this requires less effort in forecasting future requirements, for example the manufacturing of bulldozers and loaders, they require less effort in forecasting processes and thus the benefit is less than the target costs.

C- The extent to which clients understand and realize their future requirements. The degree to which clients know their future requirements determines the effort expended by projects operating the target costs system in determining clients' future requests and desires.

The greater the level of customers knowledge of their future requirements, the greater the need for the target costing system. Therefore the higher the benefit from it, and vice versa.

5.1.2. Factors affecting target cost at the product level:

There are two factors that influence target cost at the product level, they are product strategies and product characteristics as shown in this Figure No. (3)

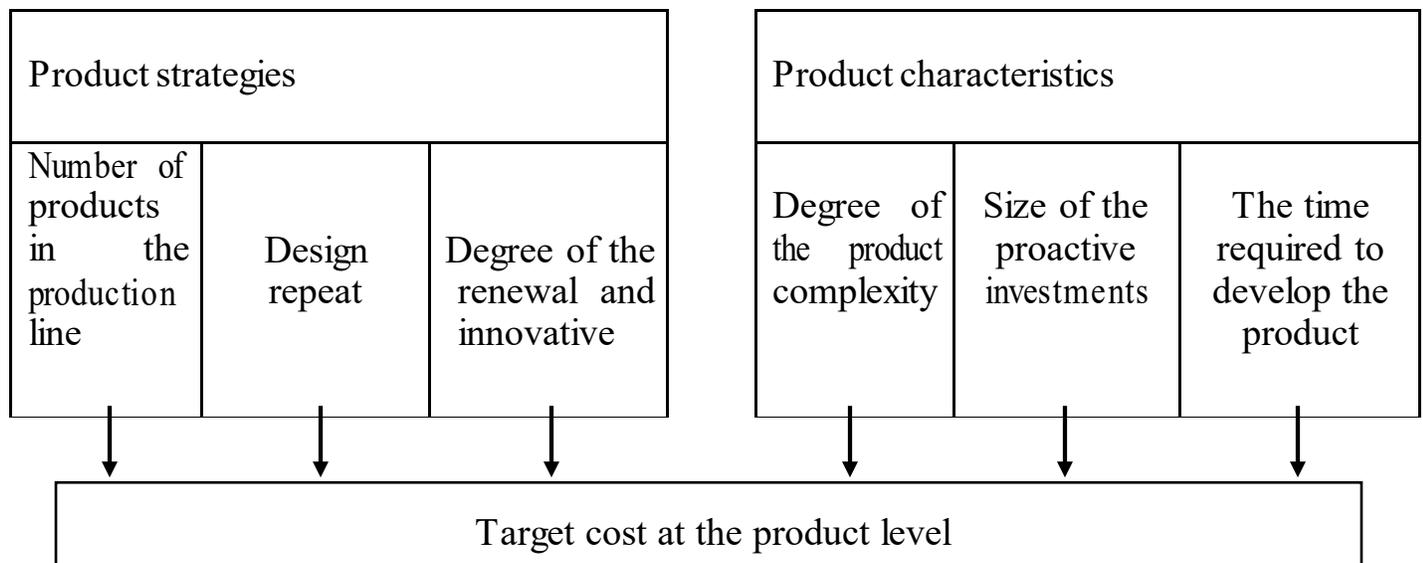


Fig. 3

1) (Cooper and Slagmulde , 1997)

Here's the analysis of the factors

Product strategy:

The product strategy that a company pursues is the primary determinant of the amount of effort expended because it determines the number of products on the production line, whether those that lead to horizontal differentiation or vertical differentiation. Horizontal differentiation means the products that are sold at the same price but differ in quality and functionality grade. As for the products that are distinguished vertically, they are those that differ in terms of functionality grade offered by the product in addition to the difference in selling prices, where the higher the selling prices, the more the functional grade was high and possibly the quality as well. In addition to the number of products on the production line, there are what known as the number of times of redesign (repeat design) (in addition to the degree of renewal in the product).

The following is an explanation of what is included in the product strategy:

A. Number of products on the production line:

The number of products on the production line is an important and major factor in determining the allocated budget for developing products, the higher the number of products, the higher the allocated budget to develop products and thus the possibility of increasing their profits, and therefore this requires increased efforts to achieve the targeted costs and achieve the desired benefit.

B. Repetitive renewal of design (i.e. repeated introduction of new products to the market).

Among the strategies related to the product, the goal is to increase the functional degree of the product as soon as possible, as this goal can be achieved through the rapid introduction of new products.

These products should include the latest technologies and then provide increased functionality for the product, and decreasing the number of times of product development, by being able to introduce a new product in the market, through the intense competition that the company faces, it becomes an expert in the field of development in terms of

introducing the product to the market at faster rates. As most companies prefer to enter new products more than developing a previous product if it was not profitable enough or if it has some undesirable specifications, and the reason for this is the high costs of development operations, which are more costly than the process of introducing new products. In addition to the limited time and insufficient time to correct errors in light of intense competition, if an unprofitable product occurred and was produced, it will remain like this until it is withdrawn from the market.

1) Kwah,2004, op.cit

C. Degree of renewal and innovation in a generation of product:

It means whether the products introduced in the market are completely new or similar to the pre-existing products; the degree of product renewal depends on two elements which are, the size of the allocated budget for product development, and the amount of information available to the company about the cost of previous products. The higher the degree of renewal and innovation in product development, the higher its cost and the higher the need to obtain new information because the old information of the project becomes useless. Consequently, the expected benefit of implementing the target costs is small, and thus it is difficult to apply target cost to variable products for several reasons:

The difficulty of creating target cost- absence of historical target cost - not fully aware of customers' desires (for example, when Toyota introduced the Lexus car, it did not gain significant benefits from the target cost implementation, because it contained a high degree of regeneration).

And vice versa if the degree of renewal and innovation in the product is low, then the desired benefits from target costs are the largest as a result of having historical information on previous products and the similarity between them that can be relied upon.

Product characteristics:

Product characteristics have a strong influence on the method for implementing target cost and the desired benefits from it. These characteristics are:

A. The size of proactive investments:

It refers to the funds consumed in the research and development process and the willingness to produce and introduce the product on the market, as the greater the size of

these investments the fewer the number of products that the company wants to introduce on the market to avoid risks. Therefore companies that produce products with high proactive investments have limited varieties of products that are precisely designed to meet the needs of the market. Under these circumstances the need for target cost is greater, in contrary to the companies with simple and limited proactive investments, which produce small and cost-effective products and thus spend limited amount of money in developing their products, and hence they will face a greater risk when introducing many of the products hopefully that some of them will success, although no huge harm will take place if some of the products do not success, and thus the desired benefit is less than the previous need, such as soft drinks .

1) R. Cooper and B. Chew, op.cit

B. Time required to develop the product:

Which is, the period extending from designing the product to allowing its actual production, and this period varies from one product to another. Therefore the benefit desired from the application of the target cost varies, as product design period increases, within certain limits, the benefit from the application of the target cost increases. This is due to the risks arising from increasing the length of the design period, at which the market's conditions may change at the period that imposed the existence of that design. Consequently, the need to apply target cost increases.

C. The degree of complexity of the product:

The degree of complexity of the product is the number of elements involved in the manufacture of this product, and the extent of its availability or the ability of manufacturing it, in addition to the number of steps required to produce it, and the difficulties that may be encountered through manufacturing and production. Moreover it reflects the necessary technology for its production. Since the higher the complexity of the product, the greater the need for target costs and the greater the intended benefit, and vice versa (Cooper and Slagmulder, 1997).

5.1.3. Factors affecting the target cost at the product component level:

It is the strategy followed with suppliers, where one of the most important outputs of the target cost method for product items at the prices the company is willing to pay for this items, and for which it is obtained from external parties, where target costs of the product components are affected with the strategy that the company follows with its suppliers, which is represented in the characteristics shown in the figure No. (4)

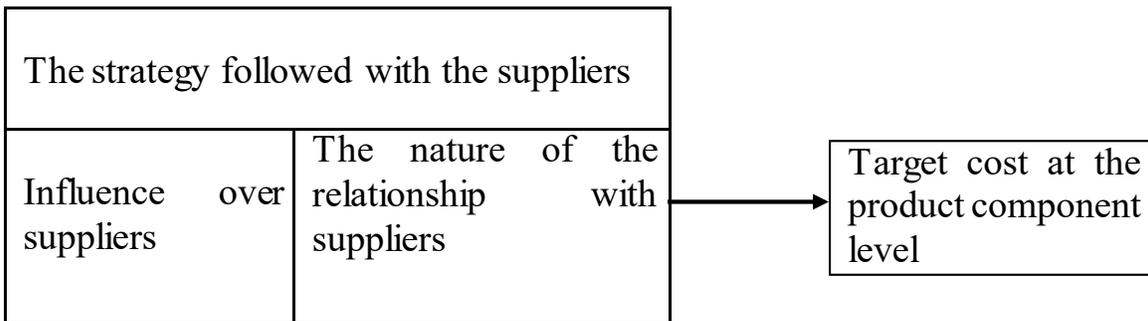


Fig. 4

1) (Cooper and Slagmulder,1997)

The following is an analysis of these characteristics:

A. Degree of horizontal integration:

Horizontal integration means the separation of the main project from the projects that supply it, and provides it with the necessary elements to produce the product. As for vertical integration, it is the merger of the main project with Projects that supply it so that the supplier project is an integral part of the main project.

This horizontal and vertical characteristic are for assembly industries. The desired benefit from the application of the target cost increases in the assembly industries that are characterized by the horizontal integration because a large proportion of the elements involved in the production of the product is obtained from external sources and thus cost savings increase because of the greater pressure on suppliers to reduce their prices, and vice versa in the case of vertical integration.

B. The extent of projects authority and influence over the suppliers:

If the company has a high power and influence that enables it to decide the purchase cost of the items involved in the production of the product from its suppliers, then the desired benefit from target cost application is significant, and vice versa in the case of lack of influence over suppliers.

C. Nature of the relationship with suppliers:

The intended benefit of applying the target costs will vary depending on the kind of the relationship that links projects with their suppliers. The more the relationship is characterized by close cooperation between them, the more the benefit to be gained from implementing the target costs and vice versa.

5.2. Method and components for determining target costs:

There are different ways to determine the target cost, the most prominent of which is the deduction method and the addition method:

1) Subtractive or Top Down Methods:

Where the target cost is determined as the level of the allowed cost, which is the difference between the target selling price and target profit margin according to the following equation:

$$\text{Target Cost} = \text{Target Selling Price} - \text{Target profit margin}$$

This is a commonly used method, therefore in this case the target cost is imposed on the design and new product development team.

2) Adding Up or Bottom down Methods:

It starts with the new product development cycle and the cost is estimated (based on skills and experiences of the engineers and the availability of facilities related to production), according to the CURRENT cost of each part of the product, so when reducing the cost, the reduction is taken into account for each part of the product to reach the target cost related to each part of it, and thus the target cost can be

calculated for the product as a whole, by adding the target cost for each part of the new product separately.

3) Combination Method:

It is a combination between the addition method and the discount method. This combination can lead to the best results, since the senior management determines the target profit, and at the same time, the engineers and workers cooperate in order to go towards achieving the target cost.

1) M. Sakurai, op.cit

5.3. The constituents that determine the target costs in industrial projects

After the concept of target costs has been identified in addition to its importance for all projects that aim to achieve profit, now it's time to talk about the constituents that determine it in industrial projects. Here are the most important components.

1) Market study:

The market study process for a new or developed product is carried out for the aim of identifying the market conditions that sales will take place in, in addition to the supply and demand conditions, and thus reaching the quality of the product that can be invested in, and also to the characteristics, prices, and its target costs within which production and sale will take place using the following equation: $\text{Target Cost} = \text{Target selling Price} - \text{Target profit margin}$.

2) Study of the project's capabilities in preparation for their modification:

The interest earned from the target costs varies according to the project's capital that are used.

Moreover, according to the funds that are allocated to the process of developing the products. Projects that have limited capitals produce small and affordable products, these projects spend limited amount of money on developing their products, and thus target costs for them are less beneficial. As for the projects that have large capital and produce high-

cost products, as they spend a lot of money to develop their products, and are not able to risk their money and launch many products that may success or fail. Consequently, they need to apply target costs and the benefit from it will be much higher.

After the specifications of the product under study are determined and the selling price and the profit required from it are determined in order to reach their target cost, the target costs team gets to know all the financial and human capabilities of the project. Moreover, the team determines the cost of that product according to the project capabilities available before they modified, with the aim of knowing how much the amount of increase in costs, if founded: $\text{current cost} - \text{target cost}$) allowed.

3) Carry out modification, cost reduction and product design:

Design engineering is the main component of target cost, as engineers must design the product in the form that can be produced without exceeding the target cost. This requires an examination of the phases of production process to ensure that the product is manufactured efficiently and after the aspects of the rise in costs and the amount of that rise are determined, the target cost team begins to study all the possible ways to get rid of that increase and thus reach the permissible target cost or get close to it as possible, by using some of the helping systems for target cost system at reducing costs such (Testing and Designing of the Value (QFD) and Value Engineering (VE) and Continuous Improvement (CI), this inspection process is only carried out with the cooperation of diverse teams disciplines and from various departments, such as specialists in marketing, sales research, design engineering, production and process scheduling and other departments.

4) Focusing on the design process rather than re-development;

Most enterprises prefer introducing new products on developing a previous product if it is not profitable enough, or if it has some undesirable characteristics, and the reason is the high cost of the redevelopment process than the introduction of new products, in addition to not having enough time to correct errors due limited time availability. Thus if an unprofitable product occurred and produced, It will remain so until it is withdrawn from the market.

Many projects prefer to introduce new products in place of previous ones that are not profitable, because the consumer is often unwilling to spend his money to try the product

more than one time if it was not acceptable to him the first time, thus these projects prefer to produce new products that avoid the previous defects and achieve the desired satisfaction by the consumer and thus achieve the desired profit.

5) The degree of product complexity and the orientation of the value chain:

The complexity of the product reflects the number of components in the product and how difficult it is to manufacture them, it also reflects the number of steps required for the production process and the technology required to do so. The higher the degree of complexity of the product, the greater the need for the target costs and the greater the benefit achieved from it, because of its good effect on the process of introducing the necessary modifications to the design so that it becomes more easy and more cost-effective, sometimes the planned cost may exceed the target cost prior to starting manufacturing, and consequently efforts should be made to eliminate costs that do not add value to the product in order to reduce the cost.

1) A. Bhimani and H. Okano, op.cit., 42-43.

2) R. Cooper and R. Slagmulder, Develop Profitable, op.cit,23.

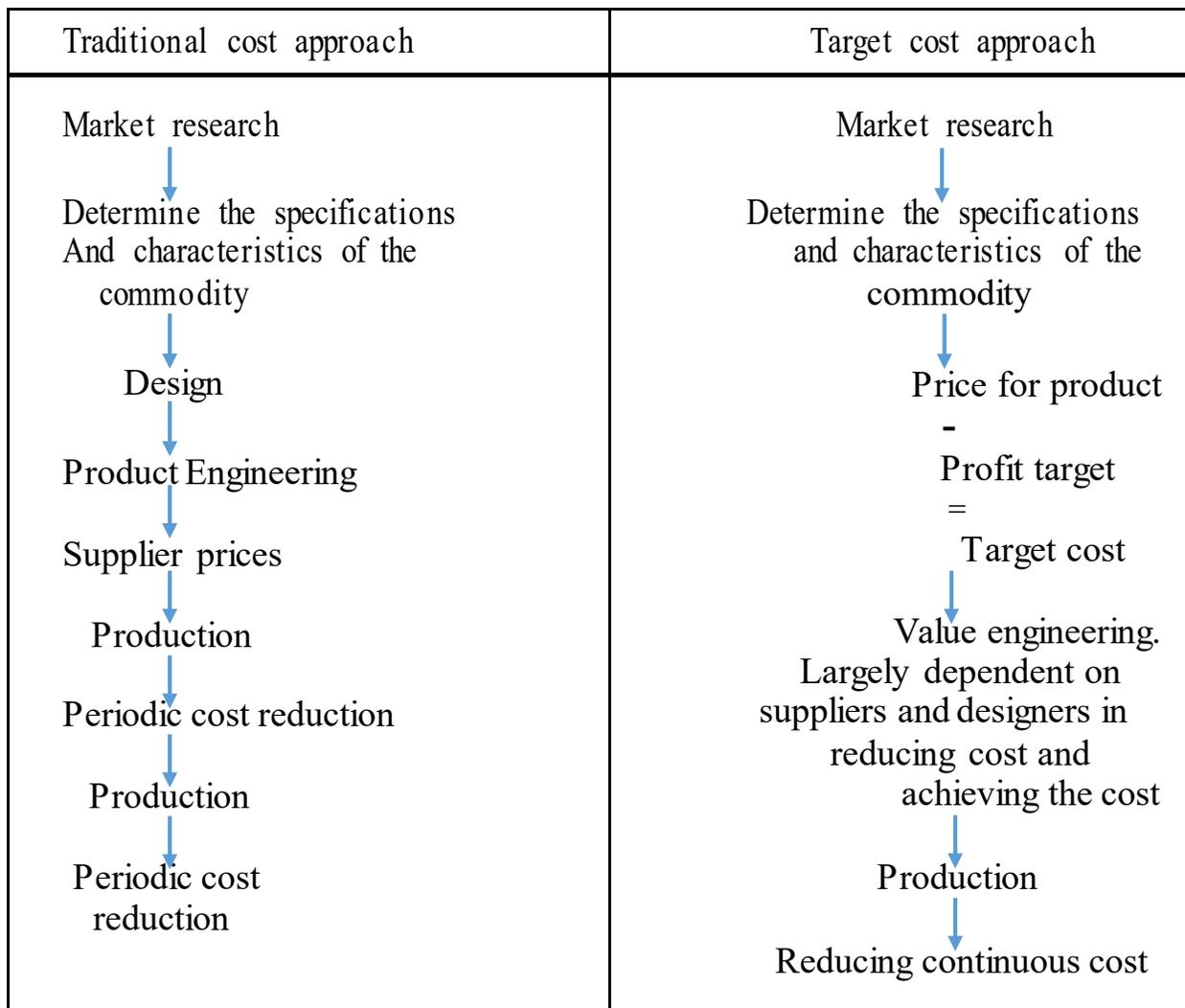
3) S. Ansari, J. Bell, and CAM-I Target Cost Core Group, The Next Frontier in Strategic Cost Management, op.cit., 23-27.

6. Target cost and competitive advantage

6.1. Achieving competitive advantage through target cost

6.1.1. Compare the conventional cost entry and the target cost income:

Fig. 5



Through Figure (5), the researcher sees that the target cost method aims to control Costs at an early stage of product development and design unlike the traditional cost method, which places a large part of the costs as fixed one which is difficult to change and control.

The comparison also shows that the traditional method to reducing costs starts from market research to determine the customer requirements then determine the characteristics and specifications of the product. Thus a great effort is made by the company to determine the characteristics and specifications of the product based on the suppliers' prices. Thus the product's cost at this stage is not important, and after the design of the product is determined, its cost is assessed according to the traditional cost entry. If the cost is high, then the product must be redesigned. In this case, there are significant costs that have been spent, and then the cost of the product is calculated and added to the desired profit margin to determine the selling price at which the product will be sold in the market, which means that the cost leads to the selling price, so the equation according to the traditional method is as follows:

$$\text{Expected Selling Price} = \text{Expected Product Cost} + \text{Desired Profit Margin}$$

As for the target cost approach, the first and second steps of market research and identification of the product specifications are similar in both methods, as for the following steps in terms of determining the selling price and target profit, it depends on the extent of the company's awareness of the value of the product for the consumer, thus target profit margin is determined by a long-term target profit plan.

Consequently, the target cost approach is based on a one-time product design, so that there is no return to this stage when costs are high for redesign as the case in the traditional method. Also, the design stage is the stage in which the target costs that must be reached are defined, and this can be achieved through value engineering. From here it appears that the target cost axis revolves around the following question, what should be the cost of the product? Theoretically, this question can be answered by the well-known equation, which is:

$$\text{Target Cost} = \text{Selling Price} - \text{Profit Margin}.$$

Therefore the selling price drives to the cost, which is the opposite of what the traditional cost approach is based on.

The difference between the two previous methods can be summarized as follows:

Table 6: The difference between the Traditional Approach and the Target Cost Approach:

Number	Traditional Approach	Target Cost Approach
1.	Market considerations are not an essential part of cost planning operations	Market considerations control cost planning processes
2.	Costs are used in determining the selling price	Sale price is used to determine the costs
3.	No relationship between the value chain and cost planning	Heavy reliance on the value chain in planning the cost
4.	Method of controlling costs the first place	Way to plan costs in the first place
5.	Corrections to costs are post-production by analyzing the deviations	Correction process in costs is during product design phase where cost is pre-controlled before occurrence
6.	Cost is reduced by eliminating waste and spoilage factors during the actual production process	Cost scaling tools such as value engineering are used during the product design and development stage

Fig. 6

6.1.2. The concept of competitive advantage, its types and foundations:

1- Defining the competitive advantage

There are many definitions provided for the competitive advantage, including:

It is “the element of the institution’s superiority that is achieved if it follows a specific strategy to compete”

It is “the ability of the institution to formulate and implement the strategy that makes it in a better position with regard to other institutions operating in the same activity.”

Others define it as “the critical element that offers a fundamental opportunity for organization to achieve a continuous profitable compared to its competitors.

Through these definitions, we conclude: that the competitive advantage are the characteristics that distinguish the organization over its competitors in the market, and helps it to reach the satisfaction of the customer.

2- Types of competitive advantage:

The competitive advantage is characterized by two basic types:

Lower cost advantage: which is the organization's ability to design and market the product at the lowest possible cost compared to the costs of competitors and to get this advantage, activities in the organization value chain should be understood , which is an important source of cost advantage.

Advantage of differentiation: The ability of an organization to deliver a unique and distinctive product that is of high value from the consumer’s point of view (high quality, unique features and provision of post-sale services.

Where these two types of competitive advantage are considered as apparent in the figure number (7), owning or acquiring at least one of them by the organization enables it to obtain competitiveness

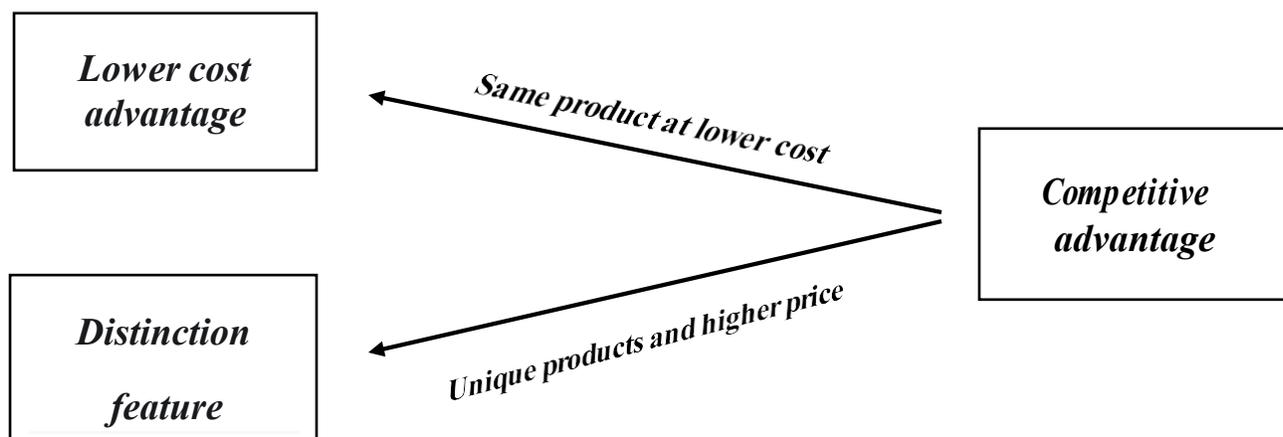


Fig.7

3-General foundations for building competitive advantage:

Porter has indicated that low cost and differentiation can be considered two essential strategies for creating value and improving competitive advantages in a particular industry; in other words, competitive advantages are available to institutions that are able to create superior value, and how to create this value is embodied by lowering cost structure rates or by differentiating the product, and this is achieved through four key elements: efficiency, modernization, quality, responsiveness to customer needs. These elements form the general foundations for building competitive advantage that any organization can adopt regardless of the nature of its activity, the products it produces or the services it provides. These elements are shown in Figure (8)

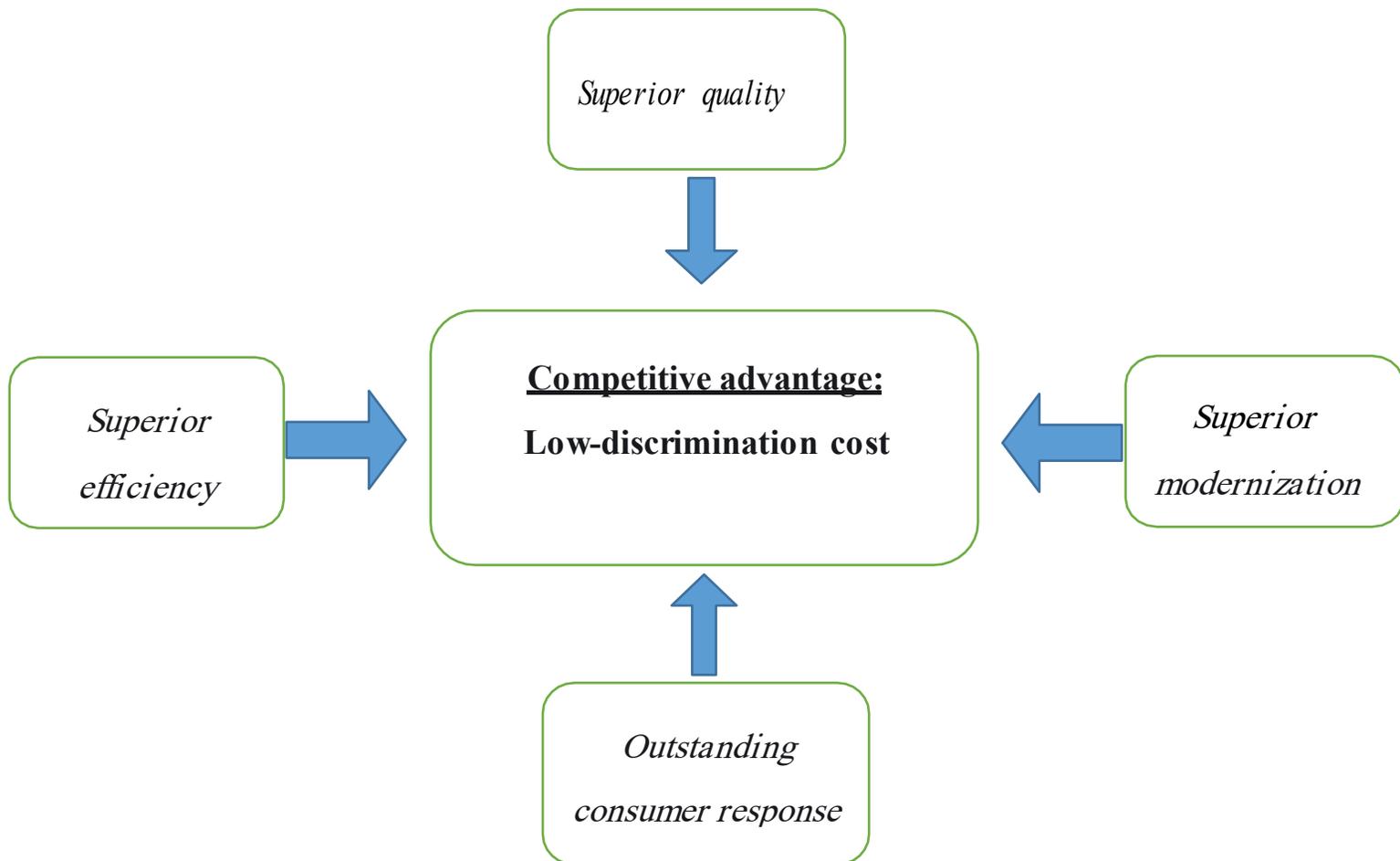


Fig. 8

It is clear from figure (8) that achieving a competitive advantage for the organization, whether through lowering Costs, or product differentiation, are based on four basic elements: efficiency, quality, modernization, and respond to the customer.

The following is an explanation of each of these elements:

First: Efficiency

Efficiency is embodied in the optimum utilization of available resources, measured by the amount of input used to produce specific units of output, the organization is only a tool for transforming the inputs represented in the basic factors of production such as labor, land, capital ... to the output that are represented in products and services, and the more efficient the institution, the less inputs required to produce specific outputs and so the institution will be more competitive. The institution can raise the level of efficiency through several factors, including for example:

- Exploiting economies of scale: means the reductions in unit cost associated with production on a large scale, the more the institution is able to increase its output, the lower the unit costs as a result of the distribution of fixed costs over a large volume of production.
- Effects of learning: The effects of learning are cost savings resulting from learning in practice Tasks.

For example, the worker learns by repetition which is the best way to perform the tasks and thus increases productivity over time and cost decreases as people learn the most efficient way to perform tasks.

- The institution can use the research and development activities to achieve greater efficiency and reduce the cost structure by designing an easy to manufacture product.

Second: Quality

As a result of the increase in competition, which imposed on the institutions that wishes to remain and continue its work to provide high quality products/ services, and then to meet consumers' desires and pay attention for their satisfaction, since price alone is no longer the only factor that drive consumer's behavior; since the value wanted, in addition to the quality became the first concern for the consumer.

Product / service can be classified as high quality when consumers realize that there is high value in Characteristics of a specific product / service compared to the same characteristics of competing products / services).

The effect of higher product quality on competitive advantage is of two-dimensions:

- First dimension: providing high-quality products increases their value in front of consumers. Accordingly, this supported perception of value gives the organization the option of charging a higher price for its products.

- Second dimension: The second effect of quality on competitive advantage comes from the high efficiency that leads to significantly reducing costs by ensuring the safety of the productive process, for example, a time worker's shortcut increases productivity and lowers costs of the unit or product. Therefore, a high-quality product not only allows the company to distinguish its products, but also lowers cost, which boosts value creation for the product.

-Third: Innovation

The terms creation and innovation are often used synonymously, however a distinction must be made between the two terms. Some professional writers tend to differentiate between the two terms, innovation is related to exploring a new distinct idea, while creativity is related to implementing this idea in the form of a process, good or service. Therefore innovation is related to the exploitation of new ideas to present to the market in the form of goods and services, and that creativity is the starting point.

In general, we can say that innovation precedes creativity and is considered one of the conditions for its success.

Modernization is considered one of the main sources in building competitive advantages, since it gives the institution something unique through products or processes that its competitors lack, which allows for the strengthen of the value of its products / services in front of its customers ,and thus achieving their difference and distinction, as well as the possibility of imposing high prices for their products or a significant reduction in the costs of their products compared to their competitors.

-Fourth: Respond to the customer

Superior response to customer needs is achieved when an organization is able to perform tasks in a way better than their competitors, and more specifically, to satisfy their

customers' needs, which leads to creating greater value for the organization's products and greater loyalty to the brand.

Achieving a superior customer response requires three conditions:

- focus on the customer by focusing on knowing their needs and desires
- focus on satisfying customer needs
- focus on response time.

6.1.3. Supporting systems for the target cost system to reduce costs.

The target costs system in industrial projects is mainly aimed at reducing costs and product development. In order to achieve this, it deals with the production process as a whole from inside and outside the project, with the help of some advanced administrative and production systems which agrees with target cost system on the importance of focusing on the customer and satisfying his desires, by providing advanced products with adequate quality and costs. The most important support systems for target cost system in achieving its objectives are QUALITY FUNCTION DEPLOYMENT SYSTEM, VALUE ENGINEERING, and CONTINUES IMPROVEMENT SYSTEM, as it appeared from previous studies that each of these three systems has an effective role to play in achieving the desired goals in cooperation with the target costs system, they form a continuous and organized cycle of business flow.

First, the target costs system determines the product to be produced or developed, and the target cost for which the design and production will be carried out within its limits, then the quality function deployment system starts studying all parts and components of the product to determine the most important specifications and parts that the product must contain. Then comes the role of the value engineering system that makes sure that the previously identified parts of the product are effective and important in making the product as desired. It also checks those parts that are high in costs and do not add value to get rid of them and replace them with the best that achieve the target costs. As for the continuous improvement system, it plays role in making the fundamental changes the project needs or its production process to reduce costs and develop products, by permanent monitoring, detection of the incidence of the rise in costs, and their causes, in order to try to get rid of it.

6.1.4. Introduction to cost reduction and product development.

Most of the advanced projects today face many types of competition among themselves, which pushed them to search for all means that would enable them to face that competition and achieve continuity in the markets.

These projects have found customer satisfaction to be one of the most important means that help them achieve success and continuity in the market, also they found that customer's satisfaction can be achieved by producing products that meet their needs and desires and are at an acceptable level of quality, development and costs.

In order to produce such distinctive products, these projects aim to reduce costs and develop products from the start of planning, design of the project, and the production process, by that such projects will follow a completely different path from the past. Previously, cost reduction and products development were not applied unless no satisfactory profits are made or when losses are sustained.

Today, with strong competition among advanced projects to offer the best products, these projects are becoming more cost-effective and product-development-intensive from the early stages of the project, in addition to the production process, before the increase in costs or production technology delay occur.

Therefore, both **cost reduction** and **product development** of the products will be addressed because they are important to the success of industrial projects, since they are one of the most important target cost targets.

- **Cost reduction**

Projects may experience higher costs or lower required level of profits due to many factors such as: the presence of bad management, untrained workers, or bad distribution of this labor, also may be due to the cessation of employees from work for long periods of time, or the suspension of some machines at all or for certain periods. In addition to an increase in the expenses of advertising, training and public relations more than needs, so the important thing in this case is to study the incidence and amount of this rise in costs and the reasons for its occurrence, to start treatment immediately according to priority and importance, in the presence of specific target cost.

Definition of cost reduction

Reducing costs is a reduction in the total number of money, and this type may be done without planning or administrative efforts, such as if the reason for the decrease is a reduction in the quantity of production. Thus, the actual result is an increase in the cost, not a decrease, and this is not the point, since the intention is to reduce the inevitable areas of waste and eliminate those activities that do not add a value

One writer defined the reduction in costs as “achieving a real and permanent reduction in the cost of the activities carried out by the project or the unit cost produced in it without affecting the quality of the product or its functions.

Principles of reduction

In order for the process of reducing costs to be carried out successfully and effectively, some principles must be observed.

The following principles:

- Focus on the elements that can have the greatest cost reduction with the least efforts compared to other elements.
- The cost of studying and analyzing costs and the application of proposals should not be greater than the cost reduction.
- The reduction in costs should not lead to a reduction in quality, which affects total revenues.
- Reducing costs should not lead to making wrong strategic decisions, such as dispensing with a fixed asset that the project may need in the near future.
- Reducing costs should not weaken the morale of workers, which affects productivity.

Cost reduction by using target costs:

Target cost is concerned with reducing costs from the beginning of the planning and design phase. Following the principle of prevention is better than treatment, by that it avoids the occurrence of high costs through optimum utilization of the resources available for the project, including raw materials, labor, wages, space and more, and by following all possible means to reduce costs after determining the target cost. In addition to that target cost applies the appropriate control method that can always ensure the validity of the record

and implement what was planned. Moreover, it depends to a large extent on the close relationship and collaboration with suppliers to reduce costs.

Japanese projects are considered pioneers in the development and use of the target costs system as well the pioneer in finding and developing the relationship with suppliers, as they make suppliers part of the project and hold them responsible for achieving quality and supply in a timely manner, as well as involving them in invention processes, the reduction of defects and improvement in production plans, and this great cooperation are based on the trust between the project and its suppliers for many years .Some US projects tried to adopt this method in dealing with suppliers such as Chrysler company for auto industry that have developed the contract period with suppliers from two years to an indefinite period that extends as long as the product or model remains in the market, it has also engaged suppliers with the formulation of ideas, which helped to have a common goal of reducing costs.

Because of this cooperation, Chrysler was able to reduce the time required to produce the new car model from 234 to 160 weeks, followed by a reduction in costs estimated at less than 1 billion dollars, this was between 1994 and 1980, during this period Chrysler corporation was able to produce many models such as Dodge and Cirrus, in addition to the international fame that was achieved.

- **Products development:**

Today's markets are characterized by intense competition and global openness. According to that, if the project wants to stay in the market for a long time, achieve penetration and maintain large gains it should continue to develop its products according to the renewed requirements of consumers, as this is important in driving demand for its products, achieving economic savings and increasing profitability.

Target costs are the effective way to ensure that the desired profits are achieved when product development takes place, as development operations costs fall within the target cost limits, moreover, the development process and target costs work in parallel, which helps to save time, effort and therefore costs.

-Definition of the product development process:

In order to be able to define the development process in products, it is necessary to first expose the concept of a product, which is defined as “what the project offers for sale and represents a set of features and tangible and intangible characteristics.” For example: when buying a car, its tangible characteristics are color, size, model, strength and quality, therefore, the combination of these characteristics present a car which is ready to drive, but besides these tangible characteristics there are also intangible ones , such as model fame, store fame, sense of pride, etc.

-The principles of product development:

In order to successfully develop products and play the role for which they were found, not to achieve the required profits, must be carried out within the foundations and principles summarized by the researcher:

- Identify the elements that need to develop more, and start with them whether those elements of the production process or the project as a whole.
- The process of development in the characteristics and functions of the product since the stage of designing the new product or developer.
- Development should be done within the target cost limits to ensure the achievement of its targeted profitability.
- Development does not lead to a quality breach or loss of properties that were originally present in the product and its excellence.
- Take into account the process of easy operation and training of the developed product with advanced technology.

-Sources of ideas for development in products:

The process of developing products is a joint responsibility among all the parties involved in the project, especially those that have a direct relationship with the process of designing, and these sources can be divided into two main sources from which the sources are derived from the following sources:

-Internal sources

-External sources.

1)S. Levy, Symbols for Sale, Harvard Business Review, xxxvll, Jul/Aug (1979):143

○ **Internal sources:**

The internal sources are represented in all departments and departments within the project, where the process of finding ideas of development in products is responsible and important for all workers of the project, and should instill the spirit of initiative and innovation among these workers and encourage them to make suggestions for the development and improvement of products. The department of shopping is one of the most important sources of development to advance the ideas of development, due to the quality of the function performed by this department and its access to important and renewable information always about the market and its needs, and this administration has an opportunity to get to know The products offered by the project through the individuals in charge of the sale, shopping and banking, as well as they have the opportunity to learn about the tastes and characteristics of the competing products, and thus they are able to find constructive and useful ideas for the development process.

○ **External sources:**

Some projects may resort to external sources, i.e. outside the departments and workers of the project to look for new ideas for the development of their products and from these external sources what follows: inventors: they work for their own account and are considered one of the most effective sources In the development of products, they provide an opportunity for the project to recover the cost of introducing a new product to the market when it is not successful, so the project must ensure that the inventors it deals with are able to protect the rights of their property to be invented.

- **Designers:** In some industries such as clothing or furniture, designers may be from outside the project, and it is often small projects that benefit from these external designers to limit their potential and the low cost of obtaining their services.

- **Research Department:** The Research Department and government agencies are sources that can provide constructive ideas and suggestions for the development of products, where many benefits can be obtained when participating in the formulation of ideas, and the most important of these benefits is: (1)

1. Provide information about the price or the price required by customers.
2. To reduce as much as possible the degree of complexity of all products in the production line.
3. The appropriate technology for the product or for its production.

4. Reducing instability on the appropriate design of the development process.
5. Stop any abuses of the targeted cost.

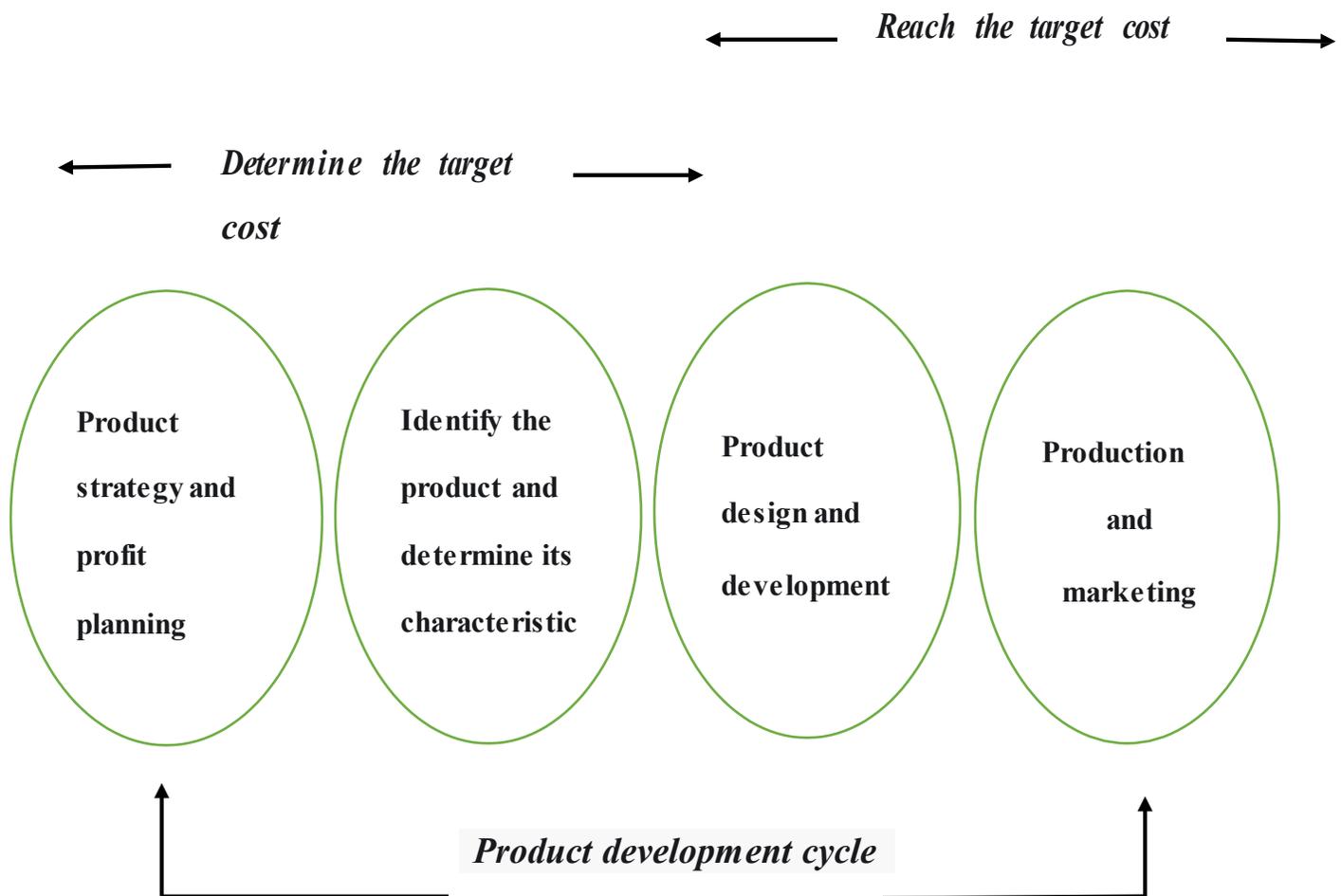
1) T. Laster, Supply Chain Management: Ins Outs of Target Costing, Purchasing, Vol.124, No.3, US Mar (1998): 22-25.

7. Product development process using target costs

The process of developing products using the technology is one of the most important targets of the target cost, and it is received through the process of reducing the cost and achieving the cost of the target without making any additional instruments through the stages shown by Figure 9:

Fig. 9

Product development cycle using target costs ⁽¹⁾



1) Ansari, S., bell, J. and CAM-I target Cost Core Group (1997) Target Costing: The Next Frontier in Strategic Cost Management, US, Consortium for Advanced Manufacturing International: 21-24

The following is an explanation of the product development cycle using targeted costs:

1- Strategy of the product and profit plans: the process of developing the product begins by studying the market and determines the nature and type of product that can be produced and invested in, and then its profit is based on strategic plan for project management.

2- Product definition and specific characteristics: After identifying the type and taste of the product in which the investment will be made, the market is studied again to identify the requirements of customers in the product and the characteristics of the products competing for it, and then determine its cost and life span. The energy and resources needed and considered by this phase are estimated as the most important stage of the product development process, as it converts customer requirements into product characteristics and specifications (1)

3- Product design and development of the product. After the process of achieving the product's concept, conceptualization and acceptance, it is subject to the process of designing according to the characteristics, specifications and methods of manufacturing developed, and at this stage the suppliers are used to obtain ideas through which improvements can be introduced to the design and methods of manufacturing and production.

4- Production and shopping: The stage of production and shopping is the stage through which the results of the design and production process are known, and it also recognizes the success of the product development cycle, in addition to being a means or source of information because it reveals the processes of development and possible improvement of the developed product or other products in the production of the product in the line.

1) S. Anderson and K. Sedatole, Designing Quality into Products: The Use of Accounting Data in New Product Development, Accounting Horizons, Vol.12, No.3 Sep (1998): 213-233

The study carried out on the Amco project (1) to prepare the north sea oil rigs showed how the project was developed by the use of the target costs and the continuous development system in reducing the cost, where this project spent 200,000 Pound Sterling is equivalent to \$300,000 for the installation of nearly four turbo fans that work as a water energy to extract oil from the depths of the sea instead of the one that was operating the diesel card, resulting in the saving of 85% of the cost of using the house and 75% of the cost of The use of hydrocarbon and achieving 5% reduction in the cost of using the aircraft that was

recommending the engineer son and the technicians specialized in the periodic check-up on the remaining engines, as well as the reduction of the diesel needed by those engines.

The Amco project manager (Mackenzie) confirmed this and stated that the project has been able to save a lot of expenses thanks to the turbo fans, and he also mentioned that it is possible to achieve increased savings when making some necessary radical changes. Using the targeted cost-effectiveness system, which is one of its objectives, for which it has been working since the stage of planning and designing the production process and for the project edited as a whole, and that the process of development may be costly or require a long time and a risky future if it is not properly planned and in the light of target cost.

1) D. Knott, North Sea Operators Target Cost Cutting in Field Development, Oil and Gas Journal, Vol.93, No.2, Jan (1995):14-19

6.2. Scientific directions to reach the best target cost

- Do not spend many years developing the product to achieve its target cost, instead of that, a specific time period for reaching the target cost should be set, but in the event that the specified period for achieving the target cost for the product has ended, it is better to get over this product and design other one with better specifications.
- Finding a better control and review mechanism within the design department, so that the engineer who designs the product does not review his design, rather another engineer is assigned to the reviewing process and improvements making. The rationale from this is that the other engineer will make better progress than the one who designed that product because the first engineer may have exhausted all his ideas, so the second engineer would come up with new ideas and innovation.
- Control over product costs interchangeably, so that the person responsible for purchasing raw materials, controls the purchase of externally manufactured parts, and vice versa, the responsible person for purchasing externally manufactured parts, controls the purchase of raw materials.
- Target cost is a comprehensive method that deals with managing all phases and elements of a project with profits target, therefore it must be applied to all stages of the project and its components so that target cost can be applied successfully.

J. Polakoff, Hitting the Bull's-Eye with Target Costing, Corporate Controller, US, VOL.5, No.1, Sep/Oct (1992):41-43.

S. Ansari, J. Bell, and CAM-I Target Cost Core Group, The Next Frontier in Strategic Cost Management, op.cit., 23-27

6.3. Difficulties in applying the target cost approach

The target cost approach is a modern approach to cost management and thus it is faced by set of difficulties represented in the following:

- The absence of a generalized framework defining the requirements and steps for implementation due to the focus of most researches which dealt with this approach on the analysis of the successful experiences of some Japanese companies, which led to specific and not general results.
- The lack of a clear conceptual framework and methodology for applying modern methods of cost reduction within the framework of maintaining the level of quality and job performance leading to the target cost.
- Difficulty in accurately determining the basic elements for applying this approach, which are sales prices, profits, and then the target cost due to the lack of adequate databases, especially in the developing countries.
- Lack of clarity on how to allocate the target reduction in the current or expected cost estimates of the entity's operations to equate to the target cost.
- Difficulty in sustaining the target cost plan in the context of rapid technological development and entry of new competitors to the market.

OVERVIEW:

In the light of the state-of-the-art and advanced industrial environment and technological developments, industrial companies are active in a way characterized by intense competition and rapid change in products, miles and preferences for workers looking for quality and low prices. There is no doubt that these developments in management thought, systems and technology of production have been accompanied by the development of the accounting mind, and from here the target cost portal has emerged as one of the important entrances in the management of the cost. Target cost is a method that depends on reducing the cost of producing the product at the stage of planning and designing it while maintaining its quality, after the price of the building is determined based on the study of the market and the desire of the workers and the profit margin that the institution wishes to achieve in contrast to the alternatives that work to determine the price of the building after the cost of the product. From this point of view and in the benefits of the target cost system, this study came to add usefulness to previous studies in the fact that Lebanese industrial companies are known as important and the extent to which the target cost input is perceived, and the impact of the application on the reduction of cost and profitability improvement.

7. Study methodology:

The researcher relied on the technique of the descriptive and analytical approaches through which the description, evidence of the study topic, access to accurate knowledge of the problem, the degradation of the evidence, the relationship between its components and the realization of the research objectives using the means of studies.

The reasons for the researcher's use of this technique are:

- The descriptive approach is characterized by its reality in dealing with the problem of research, due to the presence of the researcher in the heart of the field or the place related to the study.
- Limiting researchers' interventions; Therefore, the results are objectively presented, because they are very interesting, for example, the descriptive approaches do not stand on some questions that accept different levels, they are interested in what is present and clear to the eyes.

- Making correct decisions related to the study are contributed by providing explanations and explanations.
- Developing future plans and scenarios to address some problems.

7.1. Study hypotheses:

Based on the theoretical framework, previous studies and to answer the questions raised in the study problem, the assumptions can be summarized as follows:

First hypothesis :(HO1) Lebanese industrial companies are not aware of the concepts and principles of using target cost in managing their cost.

Second hypothesis: (HO2) There are no difficulties in adopting target cost in Lebanese industrial companies.

Third hypothesis: (HO3) Does not provide an accounting system suitable for the application of target costs in Lebanese industrial companies

7.2. Study Population:

The statistical community of the study consists of all industrial companies in the Beirut region. In order to verify the overall objective of this study, a convenient sample of 50 companies has been selected, of which 30 companies have responded to the survey in order to try to prove the validity or error of the research hypothesis.

7.3. Methods of Data Collection:

The researcher relied on the collection of evidence on the results reached through research and published studies related to the subject of it, and a special questionnaire of this study was developed based on the theoretical framework and the results of previous studies, as well as the reliance on The five-degree Likert (highly agreeable, ok, fair, un-agreeable, not very agreeable) has been distributed on the sample of the study.

Section 1: Information concerning the person who fills out the survey.

Section 2: Company-related information.

Section 3: Awareness and consciousness of target cost in industrial companies.

Section 4: Difficulties in applying target cost in industrial companies.

Section 5: The availability of an accounting system suitable for target costs in industrial companies.

Section 6: Direct questions related to the subject of research

8. Data Analysis:

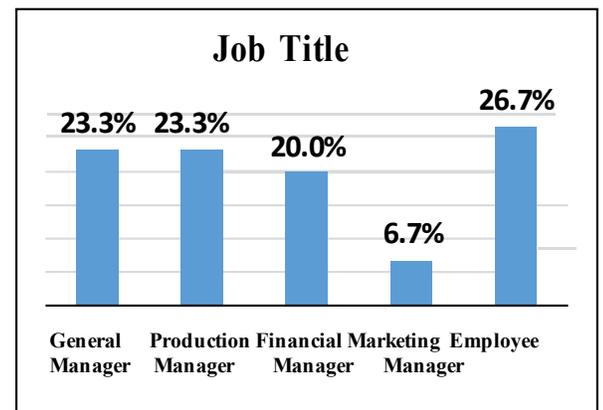
As part of the study of the role of cost guided in achieving competitive advantage among industrial companies, a survey was conducted on 30 companies from different fields, and the most prominent results were achieved.

Section One: Personal characteristics of the respondents

- **Job Title**

Table number (1): The sample members were distributed according to the job title

	Repetition	Percentage
General manager	7	23.3%
Production manager	7	23.3%
Financial manager	6	20.0%
Marketing manager	2	6.7%
Employee	8	26.7%
Total	30	100.0%



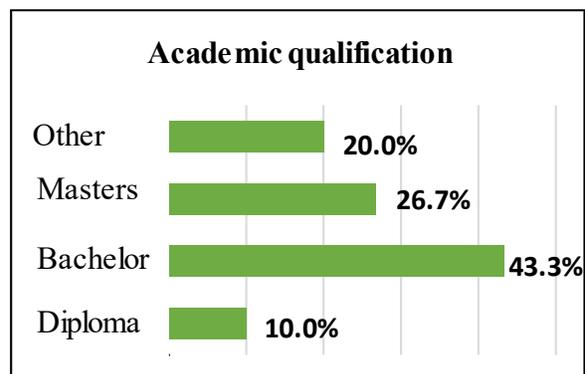
General Managers accounted for 23.3% of respondents, as well as production managers, and financial managers accounted for 20% and marketing managers 6.7% and the largest percentage were employees %26.7.

From here we see the diversity in the selection of the sample from the different job names.

- **Academic qualifications**

Table number (2): Distribution of sample members according to academic qualification

	Repetition	Percentage
Diploma	3	10.0%
Bachelor	13	43.3%
Masters	8	26.7%
Other	6	20.0%
Total	30	100.0%



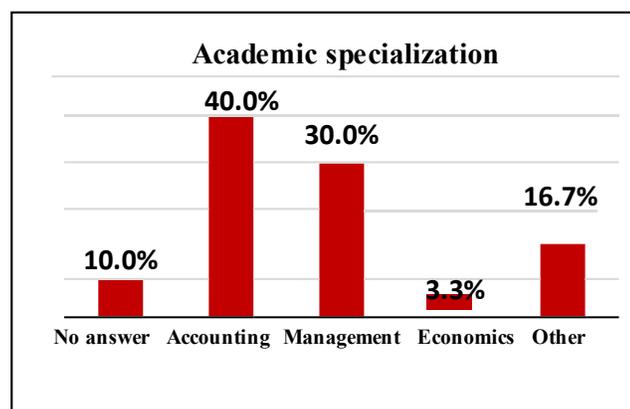
The majority of the sample hold a bachelor's degree, with a percentage of 43.3%, they are followed by master's degree holders 26.7% and 10% of holders of a diploma, and 20% of holders of other degrees.

This illustrates the high level of learning and possibly cultural knowledge of the members of the sample.

- **Academic specialization**

Table number 3: Distribution of sample members according to scientific specialization

	Repetition	Percentage
No answer	3	10.0%
Accounting	12	40.0%
Management	9	30.0%
Economics	1	3.3%
Other	5	16.7%
Total	30	%100.0

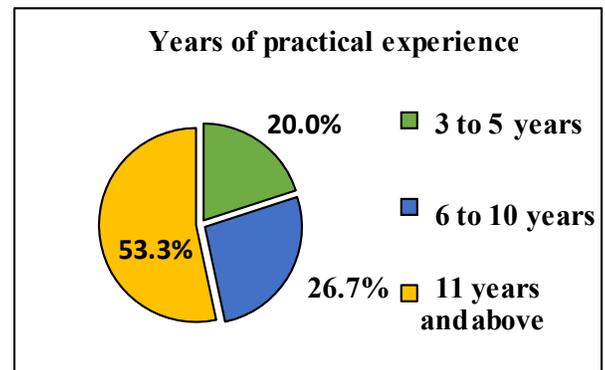


70% of the sample are holders of accounting and management certificates, 3.3% are holders of an economics certificate, and 16.7% are holders of other degrees, and 10% abstain from answering.

- **Years of practical experience**

Table number 4: Distribution of sample members according to years of experience

	Repetition	Percentage
3 to 5 years	6	20.0%
6 to 10 years	8	26.7%
11 years and above	16	53.3%
Total	30	100.0%



More than half of the sample has more than 11 years of work experience, 26.7% have 6 to 10 years of experience, and 20% have experienced 3 to 5 years. This shows the richness and diversity of the members of the sample between long-term experienced and middle-aged and low-level workers.

Section two: Information about the company

- **Number of products produced by the company**

Table number 5: Distribution of Sample answers according to the number of company's products

	Repetition	Percentage
1 to 5	2	6.7%
6 to 10	7	23.3%
11 to 20	9	30.0%
21 and more	12	40.0%
Total	30	100.0%

The majority of the targeted companies, at 70%, produce more than 11 products, 23.3% produce 6 to 10 products, and 6.7% produce one to 5 products.

- **The nature of the competition faced by the company**

Table number 6: Distribution of sample answers according to the nature of the competition

	Repetition	Percentage
High	26	86.7%
Moderate	4	13.3%
Weak	0	0.0%
Total	30	100.0%

About 87% of firms face high competition, the rest face moderate competition, and no firm faces weak competition.

- **The company's market share**

Table number 7: Distribution of sample answers according to the company's market share

	Repetition	Percentage
High market share	12	40.0%
Moderate market share	18	60.0%
Weak market share	0	0.0%
Total	30	100.0%

60% of companies have moderate market share and 40% strong market share.

- **The company is working to maintain its market share by focusing on**
(More than one answer can be chosen)

Table number 8: The answers of the sample are distributed according to the company's maintenance of its share

	Nb. of answers	Percentage
Quality	24	52.2%
Costs	12	26.1%
New product	6	13.0%
Cost reduction	4	8.7%
Total	46	100.0%

It is clear that the answers to the question of how the company maintains its market share came in a big way by focusing on quality in the first place by 52.2% followed by focusing on the price of 26.1% and then the production of a new product by 13% and 8.7% by focusing on the cost reduction.

- **The department responsible for planning costs**

Table number 9: Distribution of sample answers according to the department responsible for planning costs

	Repetition	Percentage
Production department	15	50.0%
Financial department	12	40.0%
Operational department	1	3.3%
No answer	2	6.7%
Total	30	100.0%

50% of the targeted companies stated that the production department is responsible for planning costs, 40% of them answered that the financial department is responsible for this, and only 3.3% said that the operational department is responsible.

- **The costs system in the company can be relied upon to a degree**

Table number 10: The answers to the sample are distributed according to the degree of dependency on the cost system

	Repetition	Percentage
High	21	70.0%
Moderate	8	26.7%
Weak	1	3.3%
Total	30	100.0%

70% said that the company's cost system can be relied upon to a high degree, 26.7% said that it can be relied on to a moderate degree, and only 3.3% said that it can be relied on to a weak degree.

Section Three: The perception and awareness of the target cost entry in industrial companies

Table number 11: The sample responses are distributed among the statements of perception and awareness of the target cost entry.

	Section		Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total	Index
1.	The company is seeking price advantages from suppliers to reduce costs.	Repetition	15	15	0	0	0	30	4.5
		Percentage	50.0%	50.0%	0.0%	0.0%	0.0%	100.0%	
2.	The company takes a massive interest in the characteristics and quality of its products.	Repetition	21	7	1	1	0	30	4.597
		Percentage	70%	23.3%	3.3%	3.3%	0.0%	100.0%	
3.	The company is deepening its relationship with customers by taking a look at their needs.	Repetition	14	13	3	0	0	30	4.367
		Percentage	46.7%	43.3%	10.0%	0.0%	0.0%	100.0%	
4.	The company is studying and analyzing competitive products.	Repetition	8	20	2	0	0	30	4.204
		Percentage	26.7%	66.7%	6.7%	0.0%	0.0%	100.0%	
5.	The company allocates part of its profits to the process of renewing and developing its products.	Repetition	10	12	6	2	0	30	3.999
		Percentage	33.3%	40.0%	20.0%	6.7%	0.0%	100.0%	
6.	The company's priority is to lower the selling price in proportion to the market instead of lowering the cost.	Repetition	3	13	7	5	2	30	3.332
		Percentage	10.0%	43.3%	23.3%	16.7%	6.7%	100.0%	
7.	There is an interest in product costs in the design and planning phase.	Repetition	8	17	4	1	0	30	4.068
		Percentage	26.7%	56.7%	13.3%	3.3%	0.0%	100.0%	
8.	The company sets the product profit margin before starting production.	Repetition	5	14	8	3	0	30	3.704
		Percentage	16.7%	46.7%	26.7%	10.0%	0.0%	100.0%	

9.	The company determines the sale price of the product after it has loaded all the costs and adds the profit margin without looking at the market price.	Repetition	3	11	4	8	4	30	3.034
		Percentage	10.0%	36.7%	13.3%	26.7%	13.3%	100.0%	
10.	The company is improving product quality.	Repetition	21	7	2	0	0	30	4.633
		Percentage	70.0%	23.3%	6.7%	0.0%	0.0%	100.0%	
11.	The pricing of products is affected by prices of competing products in the market.	Repetition	13	11	2	4	0	30	4.1
		Percentage	43.3%	36.7%	6.7%	13.3%	0.0%	100.0%	
12.	Reducing the cost of production increases the company's share of the market.	Repetition	5	14	8	3	0	30	3.704
		Percentage	16.7%	46.7%	26.7%	10.0%	0.0%	100.0%	
13.	The company seeks to exclude any activity that does not add value to the product and thus reduce costs.	Repetition	9	18	2	1	0	30	4.167
		Percentage	30.0%	60.0%	6.7%	3.3%	0.0%	100.0%	
14.	The steady rise in material prices makes it difficult to predict the cost of production.	Repetition	10	14	6	0	0	30	4.133
		Percentage	33.3%	46.7%	20.0%	0.0%	0.0%	100.0%	
Average Index									4.038714

- Approval rate for the company's quest for price advantage from suppliers to reduce the cost (100% agreed + strongly agree)
- 93.3% agree that the company attaches great importance to the characteristics and quality of its products.
- 90% of respondents agree that the company deepens its relationship with customers by looking at their needs and tastes.
- 93.3% reported that the company is studying and analyzing competing products.
- 73.3% reported that the company allocates a portion of its profits to the process of

renewing and developing its products.

– 53.3% said that the company's priority is to reduce the price of the purchase in proportion to the market rather than reduce the cost.

– 83.3% replied that there was an over-the-counter commitment by the company to the cost of the product in the process of designing and planning.

– 63.3% reported that the company determines the profit margin of the product before starting production.

– 46.7% stated that the company determines the price of the product after it has incurred all the cost and added the profit margin without looking at the market price.

– 93.3% reported that the company is working to improve the quality of the products.

– 80% agree that the process of expanding products is influenced by the prices of competing products in the market.

– 63.3% agree that reducing the cost of production leads the company to increase its market share.

– 90% reported that the company seeks to exclude any activity that does not add a valuable product and thus reduce the cost.

– 80% stated the rise in the price of materials continuously makes it difficult to predict the cost of production.

Analyze:

It is clear from the index average (4.03 out of 5) in table 11 that there is perception and awareness among the companies targeted by the introduction of the target cost, this appears by answering the questions that reflected the understanding of target cost either to obtain a price advantage from suppliers, to deepen the relationship with customers and consider their needs to the company's interest in the cost of the product in the stage of approval and planning.

Section Four: Difficulties facing the application of target cost approach in industrial companies in Beirut

Table number 12: The sample responses are distributed to the expressions of difficulties in applying the target cost approach

	Section		Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total	Index
1.	The company's management does not have enough knowledge about how to implement the target cost approach.	Repetition	5	9	6	5	5	30	2.87
		Percentage	16.7%	30.0%	20.0%	16.7%	16.7%	100.0%	
2.	Unavailability of research related to target cost entry.	Repetition	7	9	3	11	0	30	2.601
		Percentage	23.3%	30.0%	10.0%	36.7%	0.0%	100.0%	
3.	Unavailability of clear and detailed information about product costs.	Repetition	4	3	4	17	2	30	3.335
		Percentage	13.3%	10.0%	13.3%	56.7%	6.7%	100.0%	
4.	Applying the target cost input requires higher costs than expected.	Repetition	0	9	10	9	2	30	3.134
		Percentage	0.0%	30.0%	33.3%	30.0%	6.7%	100.0%	
5.	There is no environment for the target cost portal application.	Repetition	0	16	7	5	2	30	2.768
		Percentage	0.0%	53.3%	23.3%	16.7%	6.7%	100.0%	
6.	Fear of adopting a modern system different from the current one used.	Repetition	1	16	4	7	2	30	2.765
		Percentage	3.3%	53.3%	13.3%	23.3%	6.7%	100.0%	
7.	Lack of academic and practical qualification.	Repetition	2	6	8	7	7	30	3.365
		Percentage	6.7%	20.0%	26.7%	23.3%	23.3%	100.0%	
8.	There is no cooperation between the company and its suppliers.	Repetition	2	8	4	12	4	30	3.265
		Percentage	6.7%	26.7%	13.3%	40.0%	13.3%	100.0%	
9.	The absence of intense competition with the products of other companies in the market.	Repetition	1	3	6	14	6	30	3.701
		Percentage	3.3%	10.0%	20.0%	46.7%	20.0%	100.0%	

10.	Lack of cost management.	Repetition	3	6	8	11	2	30	3.104
		Percentage	10.0%	20.0%	26.7%	36.7%	6.7%	100.0%	
11.	There is a difficulty in identifying modern technologies in production that contribute to reducing costs.	Repetition	2	17	2	7	2	30	2.669
		Percentage	6.7%	56.7%	6.7%	23.3%	6.7%	100.0%	
Average Index									3.052455

- _46.7% stated that there was no sufficient management of the company to apply the target cost approach.
- 53.3% stated that there was no research on the target cost portal.
- 23.3% agree that clear and detailed information about product cost is not available.
- 30% reported that the application of target cost input requires higher cost than expected interest.
- 53.3% agree that there is no adequate environment for the application of target cost.
- 56.7% are afraid of adopting a different update system than the current method used.
- % 26.7% stated that there are no scientific and functional qualifications.
- 33.3% said that there is no cooperation between the company and its suppliers.
- 13.3% only reported that there is no strong competition with other companies' products in the market
- 30% has no department or expenditure cost.
- 63.3% reported difficulty in defining the latest techniques in production that contribute to reducing cost.

Analyze:

After looking at the index average (3.05 out of 5) in Table 12 shows that there is no administration on how to apply target cost, and this is due to the absence of research on the idea put forward and the importance of applying it to achieve the desired objectives. It should be noted that there is a lack of scientific capacity and qualifications capable of success and implementation, but the difficulty of adopting a new accounting system, and the lack of a clear aspect inherent in the need to determine the technicalities of the new in

the fields of production all this prevented the application of target cost in most companies with a remarkable paradox, which is that most companies have stated the existence of a special section of the agency and this is the case of help means to apply the introduction of the approach.

Section Five: The availability of a suitable accounting system to apply the target costs in industrial companies.

Table number 13: The sample responses are distributed on the statements of the availability of a convenient accounting system for the application of the target costs.

	Section		Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total	Index
1.	The company's accounting system is appropriate to its activity's nature and the size of its operations	Repetition	5	23	2	0	0	30	4.104
		Percentage	16.7%	76.7%	6.7%	0.0%	0.0%	100.0%	
2.	The accounting system provides a set of integrated documents that facilitate the implementation of target cost system	Repetition	6	19	4	1	0	30	3.997
		Percentage	20.0%	63.3%	13.3%	3.3%	0.0%	100.0%	
3.	The company has an effective control system over all of its administrative and financial processes	Repetition	13	13	4	0	0	30	4.296
		Percentage	43.3%	43.3%	13.3%	0.0%	0.0%	100.0%	
4.	Financial reports are prepared at the end of each financial year	Repetition	15	15	0	0	0	30	4.5
		Percentage	50.0%	50.0%	0.0%	0.0%	0.0%	100.0%	
5.	There are flexible financial and technical plans for performance monitoring	Repetition	9	11	8	2	0	30	3.903
		Percentage	30.0%	36.7%	26.7%	6.7%	0.0%	100.0%	
6.	A qualified accounting team	Repetition	11	17	2	0	0	30	4.304

	capable of managing the accounting system efficiently	Percentage	36.7%	56.7%	6.7%	0.0%	0.0%	100.0%	
7.	There is an administrative , structural and organizational system that reflects the lines of authority and responsibility in the company	Repetition	8	19	2	0	1	30	4.101
		Percentage	26.7%	63.3%	6.7%	0.0%	3.3%	100.0%	
8.	There are close interrelation between the main objectives and the sub-objectives of the company	Repetition	8	16	5	0	1	30	4.001
		Percentage	26.7%	53.3%	16.7%	0.0%	3.3%	100.0%	
9.	There is a sound basis for internal monitoring and control that leads to monitoring the performance of all employees and review their work	Repetition	8	19	3	0	0	30	4.167
		Percentage	26.7%	63.3%	10.0%	0.0%	0.0%	100.0%	
Average Index									4.152556

– 93.3% the company's accounting system is suitable for the standard of its activity and the size of its processes.

– 83.3% considered that the accounting system provides a set of integrated documents that make it easy to apply the aimed target cost system.

– 86.7% replied that the company has an effective control system for all its administrative and financial processes.

– 100% stated that they are counting the financial fairness at the completion of each financial year.

– 66.7% said that there are money and technical plans that are flexible in tracking performance.

– 93.3% reported that there is an accounting firm that is qualified and able to manage the accounting system efficiently.

- 90% agree that there is an administrative, structural system that reflects the lines of authority and responsibility in the company.
- 80% stated that there is a close interconnection between the main and branch objectives of the company.
- 90% agree that there is a solid basis for internal control that leads to the follow-up of the performance of all workers and the review of their work.

Analyze:

After looking at the index average which is 4.15 out of 5, and at the sample answers about the existing accounting system, which can be suitable for the application of target cost, we note that the large majority of companies operate under a strong accounting system and are able to apply and understand the idea of cost in the presence of specialized and able to manage this system, in addition to the effective role of control, internal oversight and the availability of full documents, makes it easy to apply target cost.

To identify the link of target cost to the difficulties faced by industrial companies in Beirut, we are going to do a test for the Multi-variable Regression:

Correlations

		Perception and awareness	Difficulties	availability of a suitable accounting system	New product	Academic qualifications	Academic specialization	Years of practical experience
Pearson Correlation	Perception and awareness	1.000	-.517	.745	.035	.300	.193	.263
	Difficulties	-.517	1.000	-.647	.319	-.160	.169	.172
	availability of a suitable accounting system	.745	-.647	1.000	.028	.301	.040	.016
	New product	.035	.319	.028	1.000	-.036	.236	-.106
	Academic qualifications	.300	-.160	.301	-.036	1.000	.120	.107
	Academic specialization	.193	.169	.040	.236	.120	1.000	.047
	Years of practical experience	.263	.172	.016	-.106	.107	.047	1.000
	The department to which he belongs	-.197	.193	-.234	.347	.024	-.181	-.409
	Number of products produced by the company	-.284	.147	-.218	-.193	-.251	.095	.030
	The nature of the competition faced by the company	-.007	-.164	.139	.294	-.028	-.087	-.663
	The company's market share	.226	.081	.030	-.102	-.163	.181	.345
	Price	-.344	.276	-.218	-.068	.015	-.011	.173
	Quality	.225	-.219	.433	-.167	.308	.042	-.211
	Cost reduction	-.109	.351	-.105	.294	-.242	.239	.207
	The department responsible for planning costs is	-.324	.168	-.258	-.050	.230	-.176	-.382
	The company's cost system is reliable	-.040	-.011	.248	-.154	.393	.176	.000
	Sig. (1-tailed)	Perception and awareness	.	.002	<.001	.428	.054	.154
Difficulties		.002	.	.000	.043	.199	.186	.182
availability of a suitable accounting system		.000	.000	.	.442	.053	.416	.467
New product		.428	.043	.442	.	.425	.105	.289
Academic qualifications		.054	.199	.053	.425	.	.265	.286
Academic specialization		.154	.186	.416	.105	.265	.	.403
Years of practical experience		.080	.182	.467	.289	.286	.403	.
The department to which he belongs		.148	.153	.107	.030	.451	.169	.012
Number of products produced by the company		.064	.219	.123	.153	.090	.310	.438
The nature of the competition faced by the company		.486	.193	.232	.057	.441	.324	.000
The company's market share		.115	.335	.437	.296	.195	.169	.031
Price		.031	.070	.124	.360	.469	.476	.181
Quality		.116	.122	.008	.189	.049	.414	.131
Cost reduction		.284	.028	.291	.057	.099	.101	.136
The department responsible for planning costs is		.041	.187	.084	.396	.111	.177	.019
The company's cost system is reliable		.418	.478	.093	.208	.016	.176	.500

The correlation relations with the Perception and awareness dependent variable:

We can see that the **difficulties** which has the negative correlation of -0.517 Pearson value and is indicative of a moderate indirect relationship with a high statistical significance of 0.002 which is smaller than the level of indication (0.01), and the **availability of a suitable accounting system** to apply target costs in industrial companies which has the largest positive correlation with our dependent variable at 0.745 with a very high statistical significance (<0.01), and next in line the **price** which has a low indirect relationship with a Pearson correlation of -0.344 and a statistically significance of 0.031 which is lower than (0.05). Lastly we have the **years of practical experience** with a low correlation of 0.263 Pearson value and a significance of 0.08.

The closer the Pearson value to 1, the stronger the relationship will be.

Variables Entered/Removed ^a			
Model	Variables Entered	Variables Removed	Method
1	availability of a suitable accounting system		Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
2	Difficulties		Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
3	Years of practical experience		Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
4	Price		Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).

a. Dependent Variable: Perception and awareness

The inclusion of these independent variables; the multiple regression based on this stepwise method decided to stop because it could no longer find statistically significant predictors of the independent variable in the unique sense of the dependent variable.

Model Summary^d

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.745 ^a	.555	.539	.19944	
2	.757 ^b	.603	.574	.19563	
3	.786 ^c	.618	.590	.18808	
4	.821 ^d	.674	.636	.17722	1.558

a. Predictors: (Constant), availability of a suitable accounting system

b. Predictors: (Constant), availability of a suitable accounting system Difficulties

c. Predictors: (Constant), availability of a suitable accounting system ,Difficulties, Years of practical experience

d. Predictors: (Constant), availability of a suitable accounting system ,Difficulties, Years of practical experience, Price

e. Dependent Variable: Perception and awareness

By indicating more independent variables R increases, it got up to an 0.81 which is enough high and we got R square of 67.4% of the variability, and the adjusted R square which is somewhat lower than the original R square because it takes into account sample size.

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.389	1	1.389	34.926	<.000 ^b
	Residual	1.114	28	.040		
	Total	2.503	29			
2	Regression	1.438	2	.964	27.540	<.000 ^c
	Residual	1.055	27	.037		
	Total	2.503	29			
3	Regression	1.548	3	.774	21.880	<.000 ^d
	Residual	.955	26	.035		
	Total	2.503	29			
4	Regression	1.686	4	.562	17.900	<.000 ^e
	Residual	.817	25	.031		
	Total	2.503	29			

a. Dependent Variable: Perception and awareness

b. Predictors: (Constant), availability of a suitable accounting system

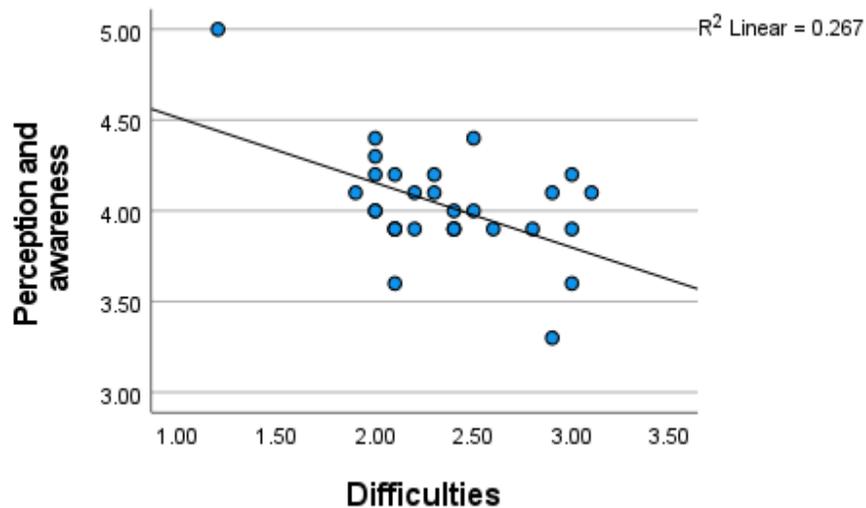
c. Predictors: (Constant), availability of a suitable accounting system , Difficulties

d. Predictors: (Constant), availability of a suitable accounting system, Difficulties, Years of practical experience

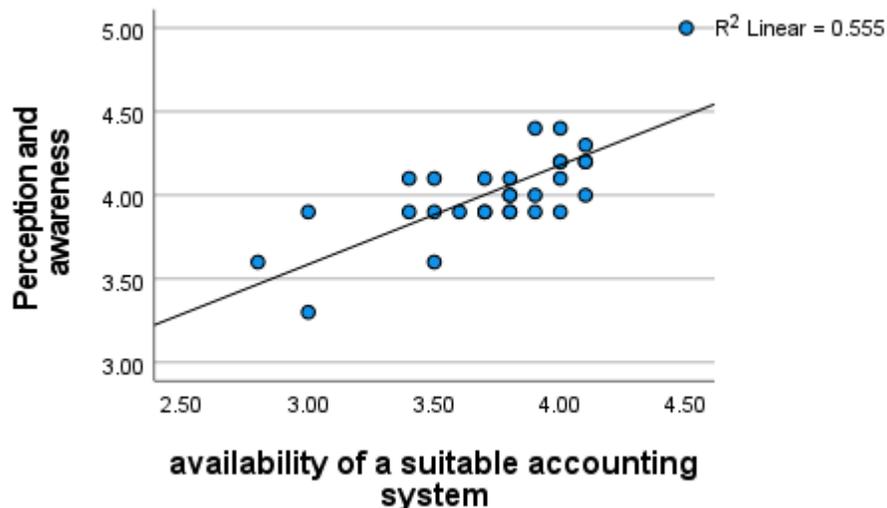
e. Predictors: (Constant), availability of a suitable accounting system, Difficulties, Years of practical experience, Price

The test of statistical significant of the model of each step shows the sequences and the most important one which includes Availability of a suitable account system, Difficulties, Years of practical experience and Price

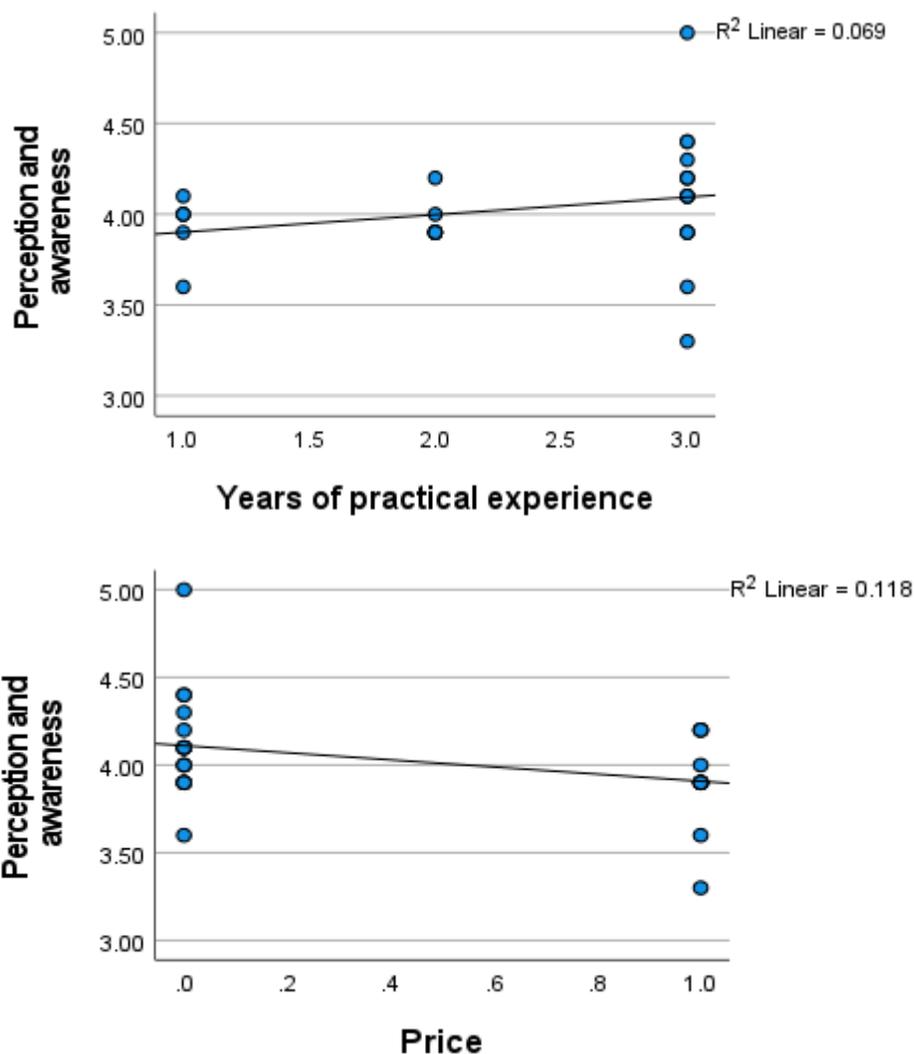
Scatter Plots:



Negative correlation between Perception and awareness of the target cost entry in industrial companies, and Difficulties facing the application of target cost approach in industrial companies in Beirut. 26.7% of the variability of perception and awareness is accounted for by difficulties.



Positive correlation between Perception and awareness, and the availability of accounting system. 55.5% of the variability of perception and awareness is accounted for by the availability of accounting system.



It does not seem to have a good significant slope between Perception and awareness with the Years of practical experience and Price, it seems to be quite shallow since the fit relation line between the variables and our dependent is quite flat which will be descriptive evidence to suggest that there is a lower association (correlation) between them.

Correlations

	Difficulties	Perception and awareness	availability of a suitable accounting system	New pduct	Academic qualifications	Academic specialization	Years of practical experience	The department to which he belongs	
Pearson Correlation	Difficulties	1.000	-.517	-.647	.319	-.160	.169	.172	.193
	Perception and awareness	-.517	1.000	.745	.035	.300	.193	.263	-.197
	availability of a suitable accounting system	-.647	.745	1.000	.028	.301	.040	.016	-.234
	New pduct	.319	.035	.028	1.000	-.036	.236	-.106	.347
	Academic qualifications	-.160	.300	.301	-.036	1.000	.120	.107	.024
	Academic specialization	.169	.193	.040	.236	.120	1.000	.047	-.181
	Years of practical experience	.172	.263	.016	-.106	.107	.047	1.000	-.409
	The department to which he belongs	.193	-.197	-.234	.347	.024	-.181	-.409	1.000
	Number of products produced by the company	.147	-.284	-.218	-.193	-.251	.095	.030	-.050
	The nature of the competition faced by the company	-.164	-.007	.139	.294	-.028	-.087	-.663	.437
	The company's market share	.081	.226	.030	-.102	-.163	.181	.345	-.438
	Price	.276	-.344	-.218	-.068	.015	-.011	.173	-.163
	Quality	-.219	.225	.433	-.167	.308	.042	-.211	-.084
	Cost reduction	.351	-.109	-.105	.294	-.242	.239	.207	-.058
	The department responsible for planning costs is	.168	-.324	-.258	-.050	.230	-.176	-.382	.197
	The company's cost system is reliable	-.011	-.040	.248	-.154	.393	.176	.000	-.161
	Sig. (1-tailed)	Difficulties	.	.002	<.001	.043	.199	.186	.182
Perception and awareness		.002	.	.000	.428	.054	.154	.080	.148
availability of a suitable accounting system		.000	.000	.	.442	.053	.416	.467	.107
New pduct		.043	.428	.442	.	.425	.105	.289	.030
Academic qualifications		.199	.054	.053	.425	.	.265	.286	.451
Academic specialization		.186	.154	.416	.105	.265	.	.403	.169
Years of practical experience		.182	.080	.467	.289	.286	.403	.	.012
The department to which he belongs		.153	.148	.107	.030	.451	.169	.012	.
Number of products produced by the company		.219	.064	.123	.153	.090	.310	.438	.397
The nature of the competition faced by the company		.193	.486	.232	.057	.441	.324	.000	.008
The company's market share		.335	.115	.437	.296	.195	.169	.031	.008
Price		.070	.031	.124	.360	.469	.476	.181	.195
Quality		.122	.116	.008	.189	.049	.414	.131	.329
Cost reduction		.028	.284	.291	.057	.099	.101	.136	.381
The department responsible for planning costs is		.187	.041	.084	.396	.111	.177	.019	.149
The company's cost system is reliable		.478	.418	.093	.208	.016	.176	.500	.198

The correlation relations with the Difficulties dependent variable:

We can see that the availability of a suitable account system that is appropriate to apply target cost in companies has the largest negative correlation with our dependent variable and its Pearson value reached (-0.646 and is indicative of a strong indirect relationship) where the value of statistical significance is less than 0.001 which means that the relation between them both is high statistical function. Moreover Perception and awareness with difficulties have the same correlation relation as mentioned before. In contrast the cost reduction Pearson value is 0.351 which has low effect on our dependent variable, with a statistical significant value equal to 0.028 (less than 0.05).

The closer the Pearson value to 1, the stronger the relationship will be.

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	availability of a suitable accounting system		Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
	Perception and awareness		Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
2	Cost reduction		Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).

a. Dependent Variable: Difficulties

The inclusion of these independent variables; the multiple regression based on this stepwise method decided to stop because it could no longer find statistically significant

predictors of the independent variable in the unique sense of the dependent variable.

Coefficients^a

Model		Unstandardized Coefficients		Standardized	t	Sig.
		B	Std. Error	Coefficients Beta		
1	(Constant)	5.354	.783		6.838	.000
	availability of a suitable accounting system	-.680	.232	-.589	-2.937	.007
	Perception and awareness	-.530	.201	-.412	-2.636	.009
	Cost reduction	.354	.140	.338	2.525	.018

a. Dependent Variable: Difficulties

The slope of regression line between difficulties and availability of a suitable accounting system is -0.68, and for perception and awareness is -0.53 while for cost reduction is +0.354.

The actual p-values of availability of a suitable accounting system is 0.007 which is a significant value (less than 0.05), as well as perception and awareness has 0.009 and cost reduction has also 0.018 which are evidence of a statistical significant values.

Model Summary^c

	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.647 ^a	.418	.397	.33049	
2	.694 ^b	.482	.438	.31847	
3	.729 ^c	.531	.497	.30203	1.826

a. Predictors: (Constant), availability of a suitable accounting system

b. Predictors: (Constant), availability of a suitable accounting system, Perception and awareness

c. Predictors: (Constant), availability of a suitable accounting system, Perception and awareness, cost reduction

d. Dependent Variable: Difficulties

By indicating more independent variables R increases, it got up to 0.729 and we got R square of 53.1% of the variability which is moderate, and the adjusted R square which is somewhat lower than the original R square because it takes into account sample size.

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.197	1	2.197	20.113	<.000 ^b
	Residual	3.058	28	.109		
	Total	5.255	29			
2	Regression	2.375	2	1.765	17.465	<.000 ^c
	Residual	2.967	27	.099		
	Total	5.255	29			
3	Regression	2.792	3	1.396	15.304	<.000 ^d
	Residual	2.463	26	.091		
	Total	5.255	29			

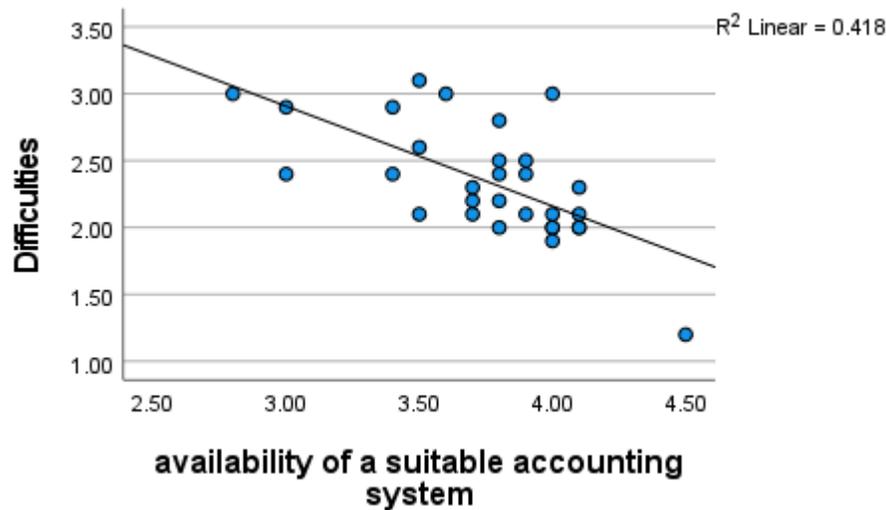
a. Dependent Variable: Difficulties

b. Predictors: (Constant), availability of a suitable accounting system

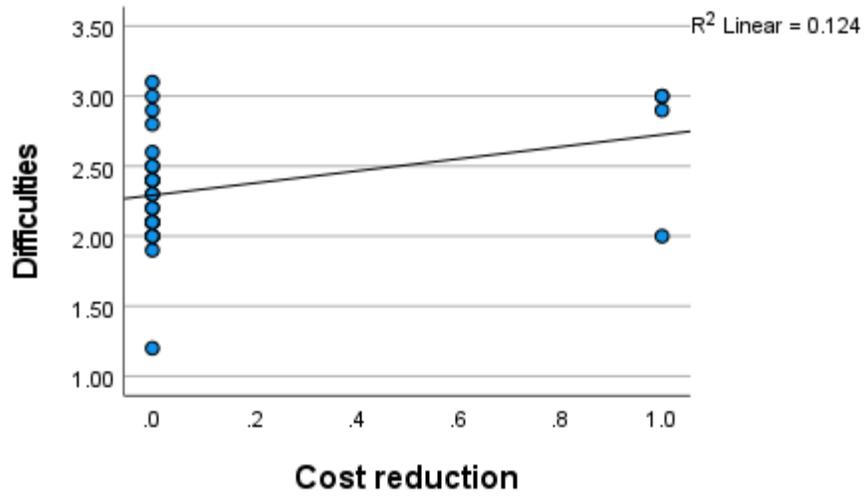
c. Predictors: (Constant), availability of a suitable accounting system , Perception and awareness

d. Predictors: (Constant), availability of a suitable accounting system , Perception and awareness, Cost reduction

The test of statistical significant of the model of each step shows the sequences and the most important one which includes Availability of a suitable account system, Perception and awareness, Cost reduction.



Negative correlation between Difficulties facing the application of target cost approach in industrial companies in Beirut and the Availability of a suitable accounting system to apply target costs in industrial companies. 41.8% of the variability of difficulties is accounted for by the availability of a suitable accounting system.



It seems that the significant slope is quite low between difficulties facing the application of target cost approach in industrial companies in Beirut and cost reduction that the company is working to maintain its market share by focusing on it. 12.4% of the variability of difficulties is accounted for by the cost reduction.

9. Results:

This study aimed at showing the extent to which target cost is applied in industrial companies operating in Beirut, in addition to identifying the obstacles that prevent the application of the introduction of the target cost portal in these companies through the statistical analysis of the sample of the study, a set of results for the study has been reached as follows:

First: Theoretical results

- The target costs system is concerned with the planning and regulation of all stages and sections of the project with the aim of offering advanced products and low cost and saturating the needs of the consumer, thus achieving sufficient profits in the long term.
- The target cost system has many characteristics that distinguish it from other conventional cost systems, the most important of which is its continuous interaction with the external environment to know the wishes of customers and achieve them in the form of advanced products and low cost.
- The system of target cost is mainly based on the principle of joint cooperation between all workers and employees along the job ladder in the development of the industrial plan, decision-making and completion of the tasks, but extends the principle of cooperation to it outside the project to the hope of external parties such as suppliers.
- There are some basic steps to follow when determining the target cost, reaching, and achieving it.
- The aimed target system begins its work in reducing cost and product development from the stage of planning for the production process and for the project as a whole.
- There are several factors that influence the process of determining the cost and the ability to achieve and reach them, namely market conditions, customer standard, product strategy and product characteristics.

Second: Field Results:

- It shows through the study that most of the principles based on the target cost entrance, especially in principle terms of focusing on customers and gaining their satisfaction, in addition to taking care of the characteristics and specifications of the product that meet the needs of customers, all these principles are applied, indicating the existence of awareness and realization of the target cost concept entrance.
- There is the possibility of applying the system of target cost, but it may take some time for this system to be properly understood and to be trained sufficiently.
- Projects that have the potential and which do not have the possibility to apply the system are interested in studying the market and achieving the wishes of customers in a big way, and this agrees with the requirements and principles of the system and also has a lot of possibility to apply in the future.
- The industrial companies operating in Beirut are important to compete in the markets by developing and studying competing products and comparing them with their products.
- There is a close cooperation between suppliers and industrial companies to determine the cost of the product in the stage of designing and planning in addition to determine the price of the building based on the market price study.
- Despite the application of target cost principles, industrial companies do not apply the scientific application of it, which is based on the popular target cost equation = target selling price - desired profit margin)
- The strong competition that is characterized by the Lebanese industries plays an important and prominent role in achieving the appropriate implementation of the target cost portal.
- The industrial environment in Beirut is characterized by the great change of the requirements of its customers and this is one of the factors influencing the target cost.

- Most of the constraints limiting the application of the target cost system are the lack of knowledge of this system and the fear of adopting a different update system from the current method used.

- The industrial environment in Beirut is heading towards what is known as automation, which calls for the application of target cost.

- The greater the perception and awareness of target cost, the higher the availability of a suitable accounting system to apply the target costs in industrial companies the decrease in difficulties faced the industrial companies in Beirut.

- The increase in years of experience leads to an increase in the perception and awareness in the target cost principles in industrial companies.

- The lower the working of the company to maintain its market share by focusing on the price the higher of perception and awareness of target cost entry in industrial companies.

- Whenever an appropriate accounting system is in available to apply the target costs, the difficulties faced by industrial companies in Beirut have decreased.

- The lower the working of the company to maintain its market share by focusing on the cost reduction the lower the difficulties facing the application of target cost approach in industrial companies in Beirut.

10. Recommendations:

Based on the previous findings, the researcher recommends:

1- The scientific and practical application of the target cost equivalent

(Target cost = Selling Price – Profit Margin)

The price of the product is primarily based on the value of market research and study and then determines the price that the operator is willing to pay for that product in addition to determining the amount of profit that is determined according to the company's management within the profit plans. Long-term (until the equation is achieved in a peaceful manner and achieve the desired advantages of applying the target cost intake of reducing cost and increasing profits and helping the company to continue to compete in the light of economic, industrial and technological changes Contemporary.

2- The industrial companies applying target cost and the valuable engineering to enable the skills and expertise of their financial managers and by sharing the experiences of companies in other countries applying these entrances, in order to achieve the maximum possible benefit of application.

3- Work to remove and overcome obstacles that prevent the application of target cost, whether external or internal.

4- Organize the industrial environment more than its current form in order to be appropriate and deliverable to the application of target cost.

5- Encourage the industrial sector in general in Lebanon to keep up and adopt the latest developments in the management of cost so that these companies can achieve more profits under the competitive environment we live, and that we are in the open market.

6- The preparation of a multi-feature and important team must work on achieving a target cost consisting of different disciplines within the company.

7- Work should be done to determine and reduce the cost in the stage of planning and design before starting any productive process through the use of cost scaling tools such as

value engineering.

8- Work on the use of all means and ways of accounting and administration that help and make it easy in the process of completing and applying the target cost portal.

9- It is important to know what is difficult to identify the requirements of future customers and to work to avoid them because of this requirement has a significant impact on the target cost.

10- Work to remove the reasons that hinder the spirit of innovation and innovation in industrial companies and work to instill this spirit in the products by providing the right environment for this and facilitate the acquisition of the necessary means to help achieve this requirement.

11- Work on the existence of a financial and administrative system in industrial companies that reflects the limits of authority and responsibility because of this requirement of importance, motivation and direct impact in achieving the entrance target cost.

12- Provide a scientific importance for the method of target cost, especially in the approaches of the university study, and this makes the graduates of the disciplines related to accounting more familiar with it, because it is one of the latest means of current cost and this is the basis of this formation in improving and improving the practical application of institutions.

13- The institutes and universities hold training courses and qualitative programs about target cost and its importance to institutions and other methods of modernity so that they can benefit from these courses in learning the method and trying to apply it.

14- The need to conduct more studies to enhance the application of modern concepts in cost management, such as a cost accounting system based on the theory of determinants and others, and to inform the industrial sector of the importance of using such approaches and methods.

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