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The Role of Target Costing and Quality Function in Improving Product Value

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Abstract: In light of the economic and competitive transformations currently taking place in the world, companies are constantly striving to improve the value of their products and increase profitability. Among the practical tools for achieving this goal are the target costing technique and the quality function, two means of balancing cost and quality. This study aims to provide theoretical frameworks for applying the target costing technique and deploying the quality function to improve product value and achieve competitive advantage. Data from plastic and woven bag factories was collected, along with field visits and observations, interviews with managers and employees, accounting records, and financial reports. The study concluded that applying these techniques contributes to improving product value and increasing sales, leading to increased profitability for the company in both the long and short term.

Keywords: Target Costing Technique, Quality Function, Improving Product Value, Production Costs.

Introduction: The interest in competition on products is increasing every day, not only because of the large number of products available in the market, but also because of the competition of prices, especially with the increasing capabilities of consumers to distinguish between products based on the quality and prices of differences in products. Gradually, the quality of the product is considered of greater importance. Companies begin to discover that the traditional management systems that have been put in place cannot compete in the development of the quality of the product. Therefore, a new management approach such as target costing was proposed to improve the quality of the product. In the process of increasing profit, budgets are the foundation by which other plans and operations are. This may be due to an increase in price of raw materials, direct labor, and production

costs unit, which will the inflation rises, or the product is facing lower than the real to cost price. And as a result, this leads to the possibility of low profitability of the company's product (Abdul Qader Hama-Amin et al., 2015). On the contrary, the products may not be available on the market if the current price is higher than the cost price in the future. Hence, for all these reasons, the target cost determines the limits of the possible cost of the product before starting the production phase to secure profit from the product.

Quality should be considered in the processes through which the product passes to be completed. This is due to the various marketing, production, and quality stages through which the product moves to finish the final stage, the factor who's a material is market marketing, and in other cases may be a factor production. The product may have a deficiency in the product (the product does not belong to the material provided by the customer), or it may be in the quality of the added materials. But in all cases the solution should be quality applied analysis. Since quality problems are related to a particular supplier, it is necessary to take the necessary action like the necessary warning second postponement, the most radical solution is the expulsion of the supplier completely, a terrorist with the necessary production requirements, and at the same time has a reputation in the market for providing high-quality materials at reasonable prices.

Problem of the Study

The research problem revolves around the following intellectual questions:

- Is it possible to apply the techniques of target costing and quality function deployment in a men's clothing factory in Najaf?
- Is it possible to integrate the techniques of target costing and quality function deployment in light of the strategic approach to cost management in a men's clothing factory in Najaf?

Significance of the Study

The research's importance lies in the techniques of target costing and quality function deployment and their role in improving product value and achieving a competitive advantage. Target costing is a strategic cost management technique that focuses on product design and the design of all processes associated with its production, aiming to manufacture it at costs that enable the desired level of profit. Based on market price guidance, this technique focuses on profit planning and cost management within the economic unit, whereby price drives costs by focusing on the customer and on both product design and the functions desired by the customer. Therefore, the target costing technique is merely an initiative to manage costs during the early stages of the product life cycle. The quality function deployment technique meets customer needs, understands their requirements, and redesigns the product to meet those needs. By listening to the customers' voices, this approach enables the economic unit to improve its products' quality.

Objectives of the Study

The research aims to study the target costing and quality function deployment techniques and link them by applying them to improve product value and achieve a competitive advantage. The sub-objectives of the research can be explained as follows:

- Study the cognitive foundations of the target costing technique and the quality function deployment technique and demonstrate the role of their integration in improving product value and achieving a competitive advantage.
- Integrate the target costing technique and quality function deployment in the research sample (a men's clothing factory in Najaf) in a manner that is consistent with the requirements of the contemporary business environment and the current conditions of the factory. • Improving product value and achieving competitive advantage in the research sample by integrating target costing and quality function deployment techniques.

Hypothesis of the Study

The research is based on two basic hypotheses:

- There is a possibility of implementing, first, the integration of target costing and quality function deployment techniques under the strategic approach to cost management.
- Target costing and quality function deployment techniques help economic units improve product value and achieve competitive advantage.

DATA COLLECTION METHODS

This research took a descriptive approach, reviewing the literature, including studies, research, theses, and university dissertations related to the research topic.

Understanding Target Costing

From the perspective of traditional target costing supported by a series of stage models of target costing, the essence of target costing supported by costing-knowledge creation activities, and empirical studies and field studies on this are examined. The knowledge creation activities are positioned as an essential element of target costing that takes care of cost management at the development and design stages of a new product. The generality of this model is examined

based on the results of a survey aimed at participants in the costing process of a manufacturing corporation, and possible variations in the model are considered. The conventional target costing is a systematic approach to cost planning that achieves the product's target profit by developing a production system that matches the target cost set by the market during the product planning stage, and by using this value as the cost constraint, transferring the required cost to supplier at the time of product design.

The supplier performs the processing or assembly task based on this design and at the same time, supplies the parts to the corporation. The corporation assembles watch sets or combines the processed parts, conducts finishing processes and inspections, and posts the finished products on the market. Target costing research, which focuses on these series of activities, studies the costing activities performed by a series of tasks (engineering, purchasing, sales, accounting) and scrutinizes knowledge creation activities that are intervene (Nobumasa, 2018). The creation of new knowledge that rationalizes cost estimates (generation of costing knowledge) is positioned as an essential element of the production activities of cost estimates at each development and design phase, and the model that controls future production activities is presented.

Definition and Overview

Target costing is a highly situational approach in various firms' operations. The intuitively sensible idea that the firm decides on an acceptable cost level for a product without considering the cost level of the separately developed product should not be dismissed out of hand. In general, target costing is regarded as a management accounting system. Similar to management accounting systems such as budgeting, variance analysis, and activity-based costing, its technical implementation is such that managers manipulate deals they already decided to implement (Nobumasa, 2018). From this point of view, the diffusion of target costing has been sluggish in the business world, compared to QFD, the technique with which it is generally practiced in conjunction. Target costing is initiated by a new product development project rather than by cost information from suppliers. Consequently, the target cost changes little even if cost information is made available. Target costing is a highly consultative activity, drawing on cooperative, open production values. On the other hand, the developer of a separately developed product typically works under conditions of secrecy and competition. Furthermore, developers are not required to invest the time and resources in target costing research. Thus, the target cost is informed either in writing or more often at a face-to-face meeting. The target costing process must usually be completed by the time the target cost is informed. To aid the target costing effort, developers are instructed to be sensitive to the market, i.e., customer needs, rival products, and the general market condition. Developers are effectively asked to analyze marginal costs, take commercial risks, and perform price-setting.

Historical Context

Cost and Quality Management have become key considerations given an increasingly competitive product market and market demand. To maintain company's existence, products must have value in the sight of the buyers, considering the quality of the products. Products must be manufactured or at last presented to the buyers as per estimated cost budget (Yuksel Pazarceviren & Celayir, 2014). In the marketing concept, the task of marketing management is to show customer needs more effectively than the competitors. This happens through effective product planning and product development programs. Where the costs of the products already exist because the goods are presented to the market, marketing buyers that require a product at a given price will be prepared planning by the product developer. In today's competitive conditions, for a new product, it is not enough to just have a design developed, cost budgets need to be realized before the product is manufactured. If it is impossible to manufacture a product according to the budget, there should be flexibility in the product design. The task that must be reconsidered in cost estimating of the product is not elimination of so-called excess costs but determination of avoidable costs on a product changing price capacity dependent upon product development. The Product Development Budget is required to calculate target costs. Activities in the budget are classified as necessary and unnecessary. From avoidable costs, Product Guarantees are demanded that the value of certain characteristics of a product is affected. Two problems arise, namely the prediction of the level of activity required to ensure this goal and the effective use of these activities with a focus on the cost budget. BASR analysis solves these problems to some extent by using statistical observations of the expected reactions of cost elements to changes in some activity specifications (Abdul Qader Hama-Amin et al., 2015). There are studies indicating that with basr analysis it is not too difficult to determine a usable product guarantee. Movements continue for a common goal, which is to increase the entire company's profits by developing and maintaining the highest quality. The company should take into account not only the wishes of the buyer but also of other parties such as employees, institutions or society.

Importance in Modern Business

Today's competitive business environment has begun to increase various modern management approaches in manufacturing companies and different organizations. It is important to focus the integration of total quality management (TQM) and target costing (TC) major objectives to improve product value costs. TQM is a production approach that is directed at erosion of costs in the production price in delivering the unmarred quality required by customers. It has broader start with company about customer satisfaction. TQM is the production approach of a customer oriented the focuses of the company to satisfy clients (Abdul Qader Hama-Amin et al., 2015). In TQM, customer satisfaction, company's strategy, financing, and cost objectives are included in the target cost, and the most important characteristic difference is examination of variance as well as the focus on constant enhancement, while also changes are production processes and in product design are absorbed and have oriented issued a broader scope. Target costing system is cost management which focuses on reducing development and production cost in which case the product needing to satisfy customers is produced. While the way they aim is different, TC which refers the cost of producing products is determined followed by determination of regional costs and the pricing can not be done or rearranged in the market environment, became necessary to make an equilibrium between possible prices in the market and cost objectives. It is obvious that as a result of the production including lower cost and set of objectives greater profits will be obtained. Meanwhile, cross functional - product improvement, production improvement, cost improvement, market improvement and target cost and life decision areas - model with additive-using method was proposed. It is seen that in the proposal the model performance under the participants, software developers and target costs of the applications are increase. In the future is proposed to suggest the application using the model or alternatives are instead of alternative performances.

Quality Function Deployment (QFD)

Quality Function Deployment (QFD) has proven to be an effective approach in product design and development by translating customer needs and preferences into design elements and process plans. Absence of a structured approach is one of the fundamental reasons why successful execution of QFD is still limited.

Upon the declaration of the war, Japan's industrial companies began producing military goods, leading to competition among the companies. Right after the war, farmlands and properties were in devastative conditions. At that time, the founder of Toyota Motors, Sakichi Toyoda, announced that the company had to produce cars for the farmers. He also determined to produce cars using front-engine with rear-wheel drive. This strategy took a huge hit in sales since the design was poorly accepted by the consumers. This incident forced Kiichiro Toyoda, his son, to adopt a different strategy in order to maintain the company profitable, otherwise it would have gone bankrupt. As a result, the first Toyota motor car was designed based on QFD. Later, Toyota became the portal of Japanese car makers (Verma et al., 1998). Unlike any conventional QFD tools, this well-known "house of tolerance" sets the design standard of a product by converting the voice of customers and the company strategy to the process standard, component quality, and mission. Toyota's QFD activities are carried out both through project management (QPM) and value management (QVM), which is an economic value engineering for the end user. Based on this concept, QPM and QVM have been combined to perform Customer Value Analysis (CVA), from which the concept and the design standard for the components and assembly tolerance can be derived. CVA can further be used in an integrated approach while QPM is mapping QVM to communicate the maximization of profit and customer's satisfaction to the corporate departments (Frank Liu, 2000).

Concept and Principles

Target costing has become recognized as an important determinant for conceptual design. There is also a flurry of worldwide activity about target costing after (Nobumasa, 2018) introduced it pouring oil on fire. Successful strategic 'resource-limited' competitors, and their suppliers, recognize that the discipline of target costing should be practised to help ensure effective cost, and ultimately profit, management. Quality function deployment has been promoted as a means to transfer customer requirements to subsequent design stages and thus to achieve the product that the customer wants. However research indicates that using QFD in this way does not ensure that the final design meets customer needs. (Nobumasa, 2018) introduces a new approach for target costing and QFD and identifies appropriate arguments for pre-cost planning for competitor-based products. It is shown how the analysis of QFD can inform both the choice of main points to profit from target costing and target costing decisions. Additionally it is shown how the analysis of the 5-why relationships can identify significant margins in cost terms, which can be linked directly to target cost planning. It is also stressed that cost planning in the design stage is crucial to ensure that the product design performance exceeds that of competitors as required and that the now cost and margin data can be linked to performance parameters. Ideas for an open market are

considered. Ultimately target costing is new the efficient aspect. In view of value engineering (VE) activities, understanding the product to be reviewed (hereafter Product A) is indispensable. The mechanism of VE is that VE participants share ideas with one another to improve objects. Indicating the target cost triggers the blurring of the signified, stimulating the creative ability of each individual.

QFD Process Overview

This chapter introduces the concept of target costing and quality function deployment (QFD) and illustrates how QFD is applied to achieve target costing in concurrent engineering. Thereafter, FIFO method, a vehicle routing problem and a target-based model are discussed.

The formal QFD process contains four phases: formulation, from function to part deployment, correlation, and evaluation. In the first phase, the house of quality (QFD matrix) is constructed with house configuration and planning control. The customer needs are categorized into different customer requirement (CR) items, including 20 CRs A-opinion and 8 CRs against competitors. The QDF matrix is used to link the CR items to the design requirements. The QFD formulation phase can develop product design according to market requirements.

The Tucose application for new product development in the notebook computer industry is introduced. Eight design teams developed independent designs and then used the QFD to analyze each design (Verma et al., 1998). This analysis resulted in a product design that could be achieved within target costs without affecting overall design quality. The comparison shows that the proposed QFD method is an effective way to implement target costing to meet target costing design directives. By using QFD, the design of the product can be improved and simplified. Target costing is a key industry practice in Japan. A general principle in fulfilling target costing is to create a product in conformance with design, manufacturing, marketing, and other user-specified criteria as economically as possible. Target costing sets price points that the market is willing to pay and cost of production. To achieve target cost, a thorough cost subsystem analysis of the manufacturing processes of the product is required early in the conceptual stage.

Benefits of QFD

Quality Function Deployment (QFD) uses a series of matrices to deploy customer input throughout design, manufacturing, and delivery of products across the world (Verma et al., 1998). The premise is that cooperation and communication among marketing, manufacturing, engineering, and R&D leads to greater new-product success. When employed, QFD also ensures the internal communication and cooperation among functions. QFD connects the voice of the customer into the design, development, and production process. The voice of the customer represents a hierarchical set of customer needs with assigned priorities. Data collection of the voice of the customer may be either through direct sources such as focus groups, customer surveys, or inventories of competitors' products, or indirect sources representing the cross-functional team's understanding of the voice of the customer (VOC) (Abonyi & Czvetkó, 2022). The first QFD matrix, called the house of quality, links the voice of the customer to the product design attributes. The second matrix links the design attributes to the product components or features. The operating matrix, also called the process decision matrix, links the product components to process decisions. The control matrix links the operating processes to production planning and control decisions. Quality function deployment is now extensively used in the development of new products and services across a wide range of industries, and applications of QFD span almost every business situation. The customer preferences aspect of quality function deployment, or quality function deployment voice of customer or quality function deployment voice of quality, has received a lot of attention in the literature. A number of published articles document the benefits of using the house of quality, and some publications show how to collect data for constructing it. A decision support system for quality function deployment using fuzzy multicriteria methodologies is proposed, allowing the product designer to consider tradeoffs among various customer attributes. System theory-related paradigms are used for developing quantitative and qualitative QFD models. The research emphasis is on tracking product/process interactions in the QFD planning stage between the project team and the engineering technical service (ETS), thus creating commonly developed database that spans the process of technology commercialization within the company. To successfully integrate the voice of the customer into the product design and development process, it is critical that house of quality information is translated downstream to the other QFD matrices. Both new and existing products are made of several components, and those components are manufactured by multiple processes. To document and track critical product/process/product interactions requires extensive coordination across multiple interfaces and functions. Two communication network-based models are developed: one for formalizing the concerns, opportunities, and constraints defined by the project team, marketing, and world class manufacturing during product design; the other for the ETS to interface with

world class manufacturing, regulatory, safety, health and environment, and corporate quality. Both quantitative and qualitative information sharing occurs along the nodes and links of the networks.

The Interrelationship between Target Costing and QFD

Target costing and QFD provide a straightforward method to assign available resources to effectively reach customer and stakeholder objectives. It seems that all necessary customer needs might be included for an engineering problem. At this time it should be enough for engineers to focus on the customer requirements that are affecting the decision of setting design attributes. These, somewhat simplified, five customer requirements better represent product design attributes. This interpretation agrees with the design team's understanding. For example, the color was usually discussed in the previous meetings, and its importance was indicated by the buying rate for the subcompact cars produced on the same platform (Verma et al., 1998). A simple customer requirement can be further decomposed into more generic customer requirements. It is referred to as multi-tiering, further layers intended to widen the gap between the customer and the means of production. Customer requirements as in the case have been already discounted, to trade-off between customer needs and design attributes. This shall improve the ability to set more precise design goals which are easier to handle in the framework of shapely negotiations (Abonyi & Czvetkó, 2022). This usually means that the development team must continuously refine the customer requirements, adding important details or new elements, in order to better understand the customer; this also sets the basics for a more effective response of the company to the market. But, numerous attempts to introduce additional customer requirements at previous meetings have shown that the design team lacks the capabilities to design features properly related to these unexplored customer requirements.

It further trades off customer requirements against lesser hierarchical notions, but one does still remain with the problem that the decomposition tree of a single customer requirement can be obtained only after the negotiation pertaining with the means of production is completed. These clarification-linked elements are by products of the whole development process, should not heavily be on the shoulders of the engineering team that at the onset of the development process has still to take the above-mentioned decisions.

Synergies in Product Development

The new product venturing strategy with a strong long-term perspective must take into consideration the competitive arena and the possible future evolution of the products and packages. The analysis should start from the definition of what the customers want or may want. The design should be based on what the customers need or may need, looking ahead 5 to 10 years considering the socio-economical and demographic changes. In the long run the technical advances will ensure that the product will operate efficiently without any consumer or distributor intervention. When this will be achieved the quality will definitively mean the intrinsic reliability and durability of the product. At the moment, the quality (indeed the total quality) has both intrinsic and perceived components ((Robotham & Guldbrandsen, 2000)). The design phase of a new product should be based on the capabilities of the selected packaging solution, adequately adapted. The package or the panier should be like a proclamation of the quality of what it contains and has to be reusable, visible, hygienic, sustainable, re-sealable, easily restorable, storable, even transportable, and potentially recyclable. These capabilities must be reached by the transformation of materials suitable to thermoforming by contact or by air, realized through a quite rapid, reliable, and flexible stamping technology. This last requirement is of crucial importance, as at the moment, the old stamping line is heavily used because of the higher demand of easy opening packages and the trend of the market goes for a continuous increase of this type of packaging. The essential requirements are cleanliness, transparency and both lineBoard and plastics resistance to deformation at the welding zones. In this way, the package will show the high respectability character of the product contained. However, there are still defects of shape or welding, and impurity due to the contact materials that adversely affect the consumer total quality perception. This does not happen for multiple products commercialized from the same line, but with standard not refurbished pans; in this last case, in fact, the perception of an unwanted quality is referred to the pan (e.g. an oil stain or a dent) and not to the product. Some of the bad-mouthing, earned by the difficulty to correctly handle and store the package, goes to the old delivery store solution of pans and package without any protection of the product contained. These solutions, however, uniquely combine the low cost of the equipment, the low value of the package breaking during delivery and the rotation of the air linked to the higher twelve than the volume measured at the body wall level. On the contrary, the new air high pan solution linked to a rotating shut, in a single piece and design to avoid over-cooking and to guarantee uniform cooking, would not guarantee the optimal cooking result and would cost too much.

Although the synergy in terms of time and energy saving following a common cooking schedule is recognized. The image deals with higher product quality perception.

Case Studies Demonstrating Integration

Many companies in the world are beginning to implement target costing and to improve quality control functions in product development. One company uses target costing as an active control tool through the product development project. The lack of interconnection between quality features and target costing can also be noted by the House of Quality. Several case studies, however, have reported implementing the integration of QFD with target costing so as to have better product real values. These are outlined in the following sections. Several success stories demonstrate the benefits of using target costing in the control of expenditure during the project life cycle. Each case study shows that the application of target costing will reduce the possibility of a budget overrun. Furthermore, all case studies indicate that with the better understanding of cost impacts, a wavier cost target can be set up in the early stage of development, when there are still many degrees of freedom present. Even though many publications stress the usefulness of the House of Quality as a consolidated documentation of the design to meet customer requirements; its design-versus-requirements format – which represents quality characteristics compared to technical notes – does not show a connection of quality features with target costing. Furthermore, none of the well-cited articles offer an example of the complete QFD process linking the four QFD matrices. To implement the translation of the House of Quality, it is important to realize the following: The 'this implies that' phrases in the House do not represent any formal relationship between customer requirements and the quality characteristics. These two matrices have been created by different development teams. Moreover, the Voice of the Customer team may not include team members attending the target costing meetings. The majority of the quality improvements result from the downstream matrices without any link to the House of Quality.

Improving Product Value through Target Costing

The organization produces product A using material, processing, and designing Product A. There are functions peculiar to product A. Products provide added value to customers with functions. Material, processing, and design parts are provided with functions that are combined and integrated to give Product A with functions. The substance of product A is analyzed from the perspective of its functions. Target costs for specific cost-down are set at this stage. Can determine that certain costs are required when giving specific functions to Product A. Such costs are unavoidable costs, and if such costs cannot be avoided, reduces the cost rate of unavoidable costs. In order to reduce unavoidable costs, design work reform is carried out from the present design. The target cost for specific cost-down is set at this stage. The target cost is an index indicating the direction of design reform. In the future, design will be directed to decrease the necessary labor hours. The role of target cost information at the stage of setting the target cost is important. Designers who throw Product A have to think about the basic design structure. Design is a fairly individual thing. The substance of product A is analyzed from the perspective of its functions and the target cost is set at this stage. Thus, consideration starts from the basic design. To achieve the target cost, Product A must be remodeled. In the design advising process, the model of Product A is left to the each individual. This triggers a psychological phenomenon referred to as the blurring of the signified. It stimulates the creative ability, not just the rationality, of the each individual. This is because target cost information becomes information that cannot be processed under the existing knowledge system. Defense mechanism appears. Target cost information becomes information that cannot be dealt with as rational information adjusted by a mechanistic management system. The target cost information becomes represented information in the form of numbers.

Cost Reduction Strategies

There are many studies in the literature included in traditional cost management systems applied in plastic firms. Within the practices of these systems, target costing and quality function deployment concepts created in a new approach in the competition age have an important role on the reducing costs and raising the product value (Yuksel Pazarceviren & Dede, 2015).

The target cost in the product development period formed with the plans are determined for the desired product quality; after the consumption of the decided resources, it is targeted to sell the product at the fixed profit margin. It is the difference gained from the expenses of the resources consumed while producing the product, selling it at the to the fixed amount. However, according to the concept appears in the literature, it includes some implicit definitions applied to these practices. The target cost begins with the purpose of producing products, at specified prices and costs that are required and useful for the market, threatening the eliminated competition. In conjunction with the Value Engineering, notified by the approach in USA, in Japan reducing costs through competition and

customers-based corrections made on the design after the market launch and forcing improvements on the innovative perspective have come into the forefront. On this stage the products have been of some advantages against their competitors by simultaneously gaining the desired quality and cost targets. In order to be able to hold its improvements on this stage, a number of standardized principles have formed in a organized manner with the target costing concept. Therefore, an approach useful to understand this philosophy is to see the applications of target costing within the frame of this strategies.

Aligning Costs with Customer Expectations

Joining the event, a user and the company meet customer expectations by producing innovative and high-value products with customer comments. Producing a new-generation shovel, this comment is taken into account and product planning is started accordingly. In the first stage of product planning, the customer segment interested in shovels is determined, and this product is divided into features that this customer segment desires. The sample shovel produced within the scope of planning is the top product perceived the highest value that will be produced. Analysis of the top product top is made. It is seen that the total cost of features integrated into the shovel is high. However, upon further analysis of the market, it is understood that its price will not be paid, even if its sale is produced at the highest possible sales volume. In this case, target cost will be set according to the value that will be paid by the customer. In this way, it is decided to design the top product cost based on the target cost. The market is analyzed again and the lowest product that the customer will perceive as a reasonable price is determined. The financial and design team meet to determine the cost targets for all the equipment. The equipment price and facilities are first investigated and the price level is found using the price band with other competitor products. After determining the value of the equipment that can be taken, it is decided to use aluminum in the equipment in order to provide a lightweight and stylish appearance for the user. Value analysis based studies are initiated with this direction. The top product top is reanalyzed according to target cost (Yuksel Pazarceviren & Dede, 2015). The total cost of the top product top is required to decrease by 41%, the top product 2 is 35% and the sample top product is 23% lower in order to provide the toll value of the service. Engineering, procurement, manufacturing, and design departments are considered, value analysis studies are intended to be made according to the functions of the departments. However, the activities in the production and assembly departments deemed impractical. Given this, the scope is narrowed and studies are carried out at the level of the mechanical and sheet metal design section in the design department. In this context, it is intended to make value analysis studies without compromising the quality and usability of the material, instead of aluminum material (Nobumasa, 2018). The impact of the quality function on product value will be analyzed. Instead of changing from traditional to the industrial approach and from sellers to buyers market approach, customer needs and expectations were considered rather than the product. Conversely, it is aimed to focus on products by increasing competition, especially through marketing units. Today, each product has more than one equivalent product and many markets are reached. While aiming to meet the expectations of customers in these conditions requires improving the product step by step. On the other hand, there is emotional consensus between design and consumer groups. Various benefits will be provided as a result of the development of products by engineers about the structure, function, and usage of the project and the transfer of many goods. However, it is stated that there are not many good ideas as a result of the present product feedback from the production sector. It is stated that there are no for falls of production and conceptualization in design engineers. The formation of a weak design is another reason for the product's problems in the series program. Such problems will be experienced less in a product where production engineers have a say in the concept phase. The design deviations of late changes have the opposite effect. From all these elements, it is also aimed to show the importance of carrying out target costing studies in concurrence with the sales efforts of the project for an industrial facility. To this end, the target cost determination phases of fuel tanks for tractors were revealed, and it is planned to follow the process until the target cost is achieved. So far, the importance and management approach of target costing have been described. It is time to plan and implement target cost activities that are necessary along with the emergence of a new product idea or marketing request for a systematic approach to target costing.

Impact on Profit Margins

The increased competition of the market environment and the changing needs and aspirations of the consumers have made firms aim to create quality products with cheaper costs. In line with that, firms are trying to find useful methods to improve the value of their products and portfolios. Consequently, the roles of Target Costing and Quality Function Deployment are seen in the foreground to improve the product value. The aim of this study is to investigate the mutual effect of linking Target Costing and Quality Function

Deployment in a well-known company in Turkey producing elevators.

In order to improve the product value, various improvements were observed in the company. Thereby, it is expected that proposed recommendations could be useful for them. Target Costing and QFD together are an effective approach for designing the ideal product. As a result of the applications in the company, it is beneficial to start the project with a cost reduction rate of 45%. This project should be to improve technology and a good multi-disciplinary team. At the same time, since the market is quite sensitive to cost, the fastest market introduction time has been established as a principle.

The aim is to ensure that the selling price of the lift and the elevator control system to be produced with the new project will be below the determined target price, to keep the life-time cost low, to improve technologically, to manufacture the customers desired lifts and elevator control systems, to prevent competitors to enter the sector and to capture a competitive superiority. Target cost computation is made. The minimum profits that can be obtained from the investment are calculated according to the continuously falling locked interest rates on the loans during a period. After determining the elements of the product, studies on reducing the costs are carried out. The target cost calculation is made by way of reducing the cost of the expensive parts, which constitute the greatest cost. In this way, the gap between the target cost and the final cost is reduced to a minimum. R&D studies are done on the manufacture of cheaper parts to replace expensive parts and alternatives. It is active in six sigma studies for the production and design departments. It is promised to finish the product design and release speed tower lift and elevator control system ready for production within an average of 12 months. The aim is to create a quality product with a faster and efficient design. Following the release of the product design, the start of production is the highest quality of the fields followed by the research and development unit used products.

Enhancing Quality through QFD

Software industry has experienced and will be more and more concerned with the quality of information what we provide. The term information refers to data and process data. Now most companies collect data using database system then analyze quantitative analysis using statistic technique, quality viewpoint is necessary to consider also. The quality of information is the probability that the information provide what the users need and its accuracy. It's spoken how target costing and QFD can be used to improve the information quality and how target costing help us to develop a cost-effective Product Information System (Verma et al., 1998). The process of product development focuses on a new economic entity with attributes such as high and low price. It could be based on a specification of corporate strategy, which presents target, after considering market segments and creating policy. Nevertheless, in practice, costumers are concentrated on simple product and ignore attributes due to costly and/or time consuming. The new product development process focuses on the visible attributes and some hidden features of the product are ignored is costly. In addition, customers consider the cost of the product and the affordable price is well below the afforded price of the product developed without concern to its price (Frank Liu, 2000). By applying target costing to the new product development process, customer needs, importance of hidden features and cost of the product are analyzed correctly from the viewpoint of resolution. A basic mechanism results for the process of new product development, whose focus is a new economic entity. Until recently, such process has been seen and used in terms of suppliers and customers. The business system presented several attributes peculiar to the entity such as order volume, payment conditions and complaints. The present approach means an intensive analysis of those entities attributes like the hidden features.

Identifying Customer Needs

(1) Today's world economy has opened the era of a free competitive market, and international economic relations are increasingly intertwined. Japanese enterprises, in particular, are facing a sharp rise in competitive intensity due to the high value of the yen and high labor costs. Under these circumstances, there is a growing global trend toward developing cost-down products, with cost and quality as the main elements, to meet the needs of consumers in labor-market global competition. This trend reinforces the product life cycle shortening, making refining designs essential. (2) Because products will not sell without consumer demand, market-needs analysis must be performed. As a basic step, the needs of the market attributed to the consumer will be analyzed. Given that satisfaction in consumer's evaluation of a product is evaluated on a utility basis, creating new things to satisfy the utility that is not currently available is equivalent to creating new demand. A product is the result of processing of raw materials, therefore the utility values of the processed products are allocated and the price is expressed. And the user's bid price is compared, the demand line is divided into the section where demand exists and does not, and the amount of raw materials used are decided for each part and the market demand for the supply

product is decided. (3) In the value engineering stage of the next step, performance is given to commercialized products and the development of processing technology to satisfy them. The operations that will be performed would be setting the target cost values obtained from the demand line and the cost planning of the function, and make review design the appointment right after.

Translating Needs into Technical Requirements

The success of an engineered product depends on how well it meets the needs of its customers. Therefore, determining these needs is a vital step in product development, and the process of need determination must be systematic, using tools and methods that can lead to quantifiable and measurable performance indices. This chapter explains in detail how to translate the customer competitive assessment needs into engineering terms (the 'voice of the customer' into the 'voice of the engineer'). It introduces theory and two alternative ways to perform the development of technical requirements based on customer needs for products and services: using a table and a diagram.

The Theory of Technical Requirements Generation explains what a good set of technical requirements should look like and how these will arise from need determinations. A number of different technical requirement types are suggested and strategies for creating them involving multifunctional teams and affinitizing them. Up to now, a major concern during product development has been the design of a product for which there is a perceived market need, but 20-25% of developed products never reach the market. Meanwhile, there is an increasing number of competitors, so launching a successful product may not result in the expected profit. ISC tools support capturing systematically the voice of the customers and new market trends (Ahmadipourroudposht, 2017).

Measuring Quality Improvements

Target costing is widely recognized as a competitive weapon to supply more acceptable quality values of both goods and services at decreasing costs. Enhanced profits result in this fashion from the mix of higher rates under stress from industrial development from regular sales. This positions a structured framework that combines target costing and quality function deployment, leading to product value improvement in the design phase. Comprehensive development of new items consistent with client specifications is the most influential aspect of the framework. The framework suggests rearrangement of the product features from target prices and these client specifications. Conformance quality is progressed by the utilization of quality characteristics of both elements. Measurement of quality enhancements is usually implemented through client contentment metrics. Display procedures for handling the framework attentive demand product development at a commercial vehicle producer in Turkey. Support for the successful application of the framework is found by the outcomes of the study (Neyestani, 2017).

Quality improvement initiatives such as quality costing practice, target costing, and quality function deployment are among the most salient tactics employed by numerous thriving organizations. Target costing is a method that identifies probable forthcoming expenditures and then for a potential product sets a target for its entire existence span. Quality costing can be used as a valuation metric to develop and evaluate the performance of production processes intended for usage to increase product quality. Quality function is a statistical strategy used to construct new consumer goods that are configured to minimize quality characteristics and utilize consumer's utility functions. As noted and as reflected, that a great deal of past work has been the research statement is when feedback on the superior performance of the process is made available. And, it is credited with fine-tuning and enhancing.

Challenges in Implementing Target Costing and QFD

4. Analysis of the Challenges in Implementing Target Costing and QFD 4.1 Introduction The implementation of target costing and a quality function deployment (QFD) system calls for understanding of customer needs and satisfaction in the earliest stages of designing a product. This is particularly important per the Framework Method presented here in such applications as contract bidding. 4.2 Analysis The analysis is exemplified by an investigation of a Japanese electronics company. The coherent structure of the Method, emphasizing the close interaction between engineering, production and sales domains, highlights the forces pushing towards both formal renewals of policy and technological improvement that are frequently met when target costing and QFD are first implemented. 4.3 Development Suggestions are made for the development and the growth of competitive advantage in new markets for companies first implementing a target costing and QFD system. These firms must structure production so that highest-quality products can be made at the lowest cost and sell profitably. Many Japanese and American firms have successfully applied target costing systems; similar results can be transferred to Russia. 4.4 The QFD Quality Function Deployment (QFD) was first developed in Japan in the 1966 by Dr Yoji Akao. It is known as "QFD house of quality" and is still widely used today. Based on the concept that a product should be designed focusing

on customers' requirements, QFD is widely accepted by both manufacturing and service-oriented markets around the world. The purpose of QFD is to focus all members of the company on customers, provide an environment where problems can be seen easily and facilitate the company overcoming them quickly and efficiently. The principles of competitive advantages, customer focused and best technical solutions can be facilitated by the QFD process (Verma et al., 1998). This technique uses a simple approach to guide a product planning team through the process in a logical and research-based method (Abonyi & Czvetkó, 2022).

Organizational Barriers

Fiat Auto carried out a benchmarking against the new Japanese competitors. The differences (especially timing differences) in the release date to market are reported as an "identification of the breath-behind axis".

Ahead of the product launch, the styling of some body components of a new vehicle must be changed. The stylist has always maintained that the new configuration is aesthetically more successful than the previous one even if it is also aware that these changes would pose significant problems to all the technical offices which have to define the specifications for the production. The styling process includes the creation of prototypes without mechanical constraint but also the determination of precise dimensions and specifications, that can only be cues for the pre-series and industrial production and, necessarily, involve a high modification effort.

This configuration is equivalent to a bus where the documents at the intervention are identical to the draft ones. A comparison of the different methods should reveal that the model analysis is able to suggest what are the areas where the competitors are more advanced, thus enhancing the efficiency of the reorganisation, and that the "inverse" use of this second methodology - waste the identification of each criticality - is a valuable contribution for a further benchmarking. The ex ante cost-benefit analysis made by the firms in the match spiral. The cost estimation of organizational changes includes both the time and money spent in transformation activities and the profit loss due to the time required to reach the top-level efficiency performance after the introduction of deviations (Calabrese, 1997). Any reorganisation should therefore decrease the percentage of problems in the intermediate phases of at least 20% to make profitable the effort spent in term of time and investments.

Resistance to Change

General resistance to changes and approaches to managing and reducing it are considered to be a function of the specific activities of an organization, taking into account the influence of both external and internal factors. In general, the success of realization of intends depends on what changes are planned, for whom, how they are implemented, and under the influence of which situation they occur. The relevance of selected aspect is evident in light of the fact that existing aims processes play an important role in the life of any organization, and the efficiency of functioning of the latter directly depends on the ability to timely adapt to changing external and internal conditions. Changes cover all spheres of human activities, starting from everyday life and ending with global processes. In the economic sphere, changes occur at a different pace and are stimulated by a set of external and internal factors, the major of which is market relations. Changing market conditions are the reason for the need to constantly refine the supply requests and better the quality of products. Resistance to changes is one of main barriers to successful change programmes. For these reasons, the question of reduction to the resistance to changes is of great importance and should be taken in attention both during planning and during implementation of any programmes regarding change (Chernova et al., 2018). High-quality and properly prepared product is the basis of a company's competitiveness. However, is it not a secret that time does not stand still, market conditions are changing quite quickly and the company must have the flexibility necessary to respond to these changes. Also in conditions of fierce competition with any given time to maintain the quality and timeliness of deliveries, the company must be satisfied and the cost of manufactured products. How then can the company maintain the level of product quality and scope, while simultaneously seeking to reduce costs?

Resource Allocation Issues

Target costing is an adaptable costing method which can be used at any stage of the product life cycle. In this model, target cost to be achieved for the product and customer satisfaction to be obtained through function and quality have been taken as the main objectives. In those objectives reached, it will lead the determination of the life cycle cost, the sales price that will be set, provide a guide on the time to enter the market and develop the product. Achievement of these main objectives will be followed by the determination of most suitable target cost, to signal the necessity for reducing unit costs to this level and it will establish that the effort spent on developing the product from design to production is well targeted. The proposed model aims for the consideration of cost concerns throughout the product life cycle resolving towards development, manufacturing and cessation stages. The models have

been tested in three case companies, one in the domestic appliance industry and two in the car-parts sector. As a result of using this model, it has been determined that the chosen design alternatives will reduce present cost by 6.0%, 13.5% and 5.2%, respectively. Furthermore, a decrease in most unit production costs was observed, leading to a rise in profitability in other projects.

The essential feature of target costing system is that the cost to be achieved is set at the design stage of the product. Quality Function Deployment, a method widely used for customer satisfaction, is the first information concept that accurately reflects customers' wants. As a result of the integration of these two techniques, the Quality and Cost Deployment method, which establishes a relationship between customer requirements and product components, has been developed. In this study, QCD matrix was prepared by using the QFD matrix prepared with the data of the company manufacturing the air conditioning unit and the automobile sector supplier. In this case, a concrete method has been established to determine the targets costs that should be achieved at the design stage within the framework of the target costing approach.

Best Practices for Successful Implementation

A theory accompanied by numerous practices for the successful implementation of target costing as well as quality function and improvement is provided. By comparing various theoretical considerations, this paper provides a pool of best practices in the form of success factors and critical conditions. Theoretical and empirical research conducted since 1990 on the implementation of target costing, QF/CI, and function deployment is examined. Comparing practical cases of the implementation of target costing and QF/CI identifies a core of best practices for both concepts, thus enhancing the prospects of effective implementation.

Target costing and quality function and improvement have become popular in recent years. They are powerful methodologies for designing new products or processes at an early stage of product development to achieve the target cost without sacrificing quality and market attractiveness. Because the success of target costing and QF/CI is generally agreed to depend on the success of their implementation, much research has been conducted on how to implement these concepts, mostly concentrating on the explanation of concepts, methods, and prerequisites for successful implementation. Unfortunately, there is no universally agreed upon understanding of these prerequisites. This apparent lack of consensus may be due to the multiple paths that can be pursued in implementing target costing and QF/CI, often referred to as customer-driven vs. cost-driven target costing and strategic vs. tool-based QF/CI. On the other hand, implementing target costing and QF/CI is expected to involve overcoming many barriers and applying a large number of best practices. Since there is a lack of such practices in the literature, this may deter efforts to implement them.

Cross-Functional Teams

There is a strong attempt, in the Italian automotive industry, to improve car value through the involvement of C&C activities on the development process. This study shows the difficulties arising in Fiat Auto and how a better integration among different functions should overcome some of these problems, taking into account the results of a case study. Since prices of new models are defined on the basis of their value to the customers, the reduction of the product tangible and intangible costs must be combined with an improvement of the customer perception of the difference between the product benchmark and the own product. In consideration of a product already defined technically, the cross-functional comparison must point out the absence of some technical characteristics that are normally present in products of a group of competitors that are recognised as benchmark. It is the function of the product designer to introduce in the product these characteristics, assuring they will be coherently present along the different sub-assemblies. This is the aim of development activity: to assign to the product proper components and 'over' them with the mandatory procedures, avoiding cost overruns in the productive phase. As from a certain phase of development, there are two ways to increase the product costs. The first consists of adding technical characteristics to the product in such a way that no relevant savings in other sub-assemblies can be done. The product designer receives and incorporates in the product characteristics of regionalisation from benchmark components. The target costs of these components rise excessively. If they are realised, it is impossible to get back to the regional cost without dropping the characteristic (Calabrese, 1997). So it is ended up carrying the costs of these characteristics.

Continuous Improvement Culture

The study aims to analyze the role of target costing and quality function deployment in Indonesian manufacturing companies to enhance product value. Causal design has been applied. The respondents are 139 companies listed on the Indonesian Central Statistics Institute in the years 2016 and 2017. Multilevel Partial Lease Square has been applied in the

analysis. The results of the study show that product value is affected by knowledge management, target costing, and quality function deployment. The culture of continuous improvement has an influential role in increasing the value of products through knowledge management, target costing, and quality function deployment. There are also knowledge management, target costing, quality function deployment, and the culture of continuous improvement that have the most influential role on the value of a product.

The main theme of this issue is concerned with the role of target costing and quality function deployment in the manufacturing sector in Indonesia, particularly in terms of producing competitiveness of industry after liberalized. The crisis in 1998 and the crisis in 2000 have shocked the economies, including Indonesia. There have been significant changes facing Indonesian manufacturers such as lower economic growth, inflation rate, increasing domestic market demand, slow industrial recovery, and increasingly high levels of corporate debt. Additionally, political instability has also created an uncertain investment climate. To the authors' perception pursuing a high level of competitiveness, particularly for the manufacturing industry, has never been more difficult. On the other hand, liberalization that started after the crisis in 1998 might have propelled Indonesian companies to actively search for superior methods in producing their products. Thus, to face the fierce competition after liberalization they have to be more creative and more efficient.

Training and Development

Employee training and development is an important part of every organization. It can be done in an efficient way if done systematically. The contents of training should be specified, the method of training should be specified, time and location of training should be specified, and who will provide the training should be specified. The training program should be implemented in an organized manner. An agency should be established to evaluate how well the training program is implemented. Professional trainers should be invited to give training directly. Currently, much work has been done by the , which falls under the heading of employee training. This research will investigate what training is conducted within the , especially the development of target costing related concepts, and why employee training is needed. The proposed hypothesis of measuring these items mentioned above in the by using a survey.

Employees are an essential part of any organization. The performance of the organization depends on the performance of its employees. Thus, Employee training is a must in every organization. Training is a learning process that involves the acquisition of knowledge, sharpening of skills, concepts, rules, or changing of attitude and behaviors to enhance the performance of employees. It involves planned programs undertaken to improve employee knowledge, skills, attitude, and social behavior. Employee training and development activities help in achieving pre-determined goals. Therefore, training plays a crucial role in improving the organizational performance and the quality of employees. Employee training is a part of the life-long learning to enhance their career progression. Employee training creates flexibility in career movements in an organization. Employee training and development are also tools to set specific criteria for performance improvement. Training and development help people grow and knowledge sharing about the skills and functional areas of a job. In additional terms, this training is for developing the minimum managerial skill to get promoted and for further management job targets.

Measuring Success: Key Performance Indicators (KPIs)

The problem addressed in this article was initiated as few parts with the Manufacture Engineering fluctuations in the part price compared to projected cost versus actual cost. It was found that there is no process in place to verify the actual cost of a part from the supplier (Abdullah et al., 2008). A new procedure for costing and quoting a part from a supplier was initiated and the supplier agrees to the actual cost and quote cost up front. A part model was created in Access that has all machine time and hourly wages on the model to verify the cost is being charged at the quoted cost. Once the part is created and quoting a supplier, the actual cost of the part is verified before the order was being placed. Also, the purchase order must have the quote cost and the terms and conditions identified on the actual quote. Furthermore, the supplier then agrees to the cost and the parts are delivered at the quoted cost. To catch wrong charges or prices, the actual cost compared to the projected cost is done.

As part of the continual improvement, a new procedure targeted the Manufacturing Engineering. The problem is related to fluctuations in the part price compared to projected cost versus actual cost. After realizing the problem, several steps were taken to improve both the actual process as well as the future process if this problem happens again. A new procedure for costing and quoting a part from a supplier was initiated. Once the part is available to be quoted, a part model was created within the database. This model has all the machine time, hourly wages, etc., on the model to verify cost is being charged at the quoted cost. Once the cost is verified with the shop, the estimating department

gets the cost verified over the phone with the supplier. If the supplier has never done business with the plant, the supplier is required to send a fax either on company letterhead or a formal quote showing the cost as being the quote cost. After the supplier agrees to cost and quotes the actual parts, the purchase order is then placed. Rich text format (RTF) "tool tips" were created to put the quote cost on the purchase order when the order is placed. Furthermore, the purchase order then matches the PO with the terms and conditions identified on the actual quote.

Financial Metrics

In the context of advancement in technology and the increasing of market competition, the companies should also put effort towards producing high quality and value-added products with the best costs to be more competitive in the market. The process of starting from considering the value demanded by the customers and striving to achieve it with the finest cost through methodical design and accomplishment of the product is cost-quality-time design or simply target costing. Target costing is a three-phase process which can boost and sustain cooperative venture among the design, production, and marketing department. It is also praised as a powerful and successful approach to cost reduction and increasing market share. If target costing is performed effectively, the companies can be more glorious and escape from the trouble companies. However, it is not an easy matter to hold target costing, cost structure, competitive prices, and profitability. In order to gain an understanding and install target costing method, it is important to manage the concept, development, introducing, application, and dismissing target costing. In addition to target costing, quality function deployment is a quality assurance system which is influenced in modern organisations. Quality function deployment is a methodical mode to represent quality setting up requirements, examine those requirements into the original plan elements, and feature typical care with methods for assurance the goals are reached. Hence, this methodology produces a network of traceability through the design, marketing, and production aspect of the corporation. Keeping every division conscious of the initial quality goals formed by the clients and promoted continuously might improve result.

Customer Satisfaction Metrics

Customer satisfaction metrics focus on the expected relationships between plan, quality assurance, and customer satisfaction. Although this concern with the outcome of process quality has a long history in operations management, efforts to define and measure it are relatively recent, dating to the resource and policy-making motivations for TQM. At the heart of total quality management (TQM) is a concern with metrics for monitoring product quality (Iwankiewicz-Rak, 2018). Depending on the industry, quality means the absence of defects, conformance to design standards, fitness to purpose, or value for money.

Improving the value/quality relationship requires useful customer satisfaction metrics. The operations management literature on the topic concerns servqual, the durables analogue to that, and a nested simultaneous-equations model with revealed preference data. The servqual approach rests on developing, field testing, and applying a survey questionnaire that disentangles the three distinct quality concepts of Parasuraman, Zeithaml, and Berry. Transferred to technical services, and reframed with an investment-customer perspective, these three concepts become outcome quality, process quality, and price performance. Outcome quality reflects customer evaluations of a service's impact on performance goals; process quality reflects customer evaluations of the investment process, such as responsiveness and reliability; and price performance reflects customer evaluations of the service's value in relation to costs paid.

Quality Metrics

In this part, the total quality cost model (TQCM) as a quality costing function based on the implementation of quality function deployment (QFD) is represented as a new mathematical programming model in the form of a linear model that maximizes added value for target customer requirements. Deriving the optimal cost ratio of internal failure to appraisal and prevention costs of quality characteristics results in achieving minimum quality costs with continuous improvement. Internal failure costs for quality characteristics of all parts are distributed among factor level costs with a connection of a significant relationship. Based on the distribution of the internal failure costs and the modified cost model, the total quality cost functions of the final and new linear programming models are transformed in the form of adaptive models. Finally, a sensitivity analysis with the cost parameters of TQCM-TCD (TQCM based TQCD deployment) is provided to assist decision-makers in improving the product value. This process begins with market research to find out what customers want (Neyestani, 2017). In the marketing process, there are so many methods. Here, focus is on some methods such as one-on-one meetings, focus groups, and sales records on the subject, which are collectively called subjective data. In contrast, surveys and workshops are used as tools for quantifying this information called objective data. This method supports the object data preparation (ODP) in the decision-making process

(DMP) with a detailed description of the procedures.

Practical Aspect

1. An Introductory Overview of the Men's Clothing Factory in Najaf

This section will cover the history of the Men's Clothing Factory in Najaf, its objectives, organizational structure, design and available capacities, planned and actual production, management methods, and focus on men's suit production. It will also cover the accounting system used, its current products, the costing system used in the factory, and the cost calculation of men's suits.

Trial production began in 1985, and the ready-made clothing factory in Najaf was established in 1987. Actual production started in 1988 at the General Company for Textile and Leather Industries. The factory occupies a distinguished position in the field of design and production, having achieved qualitative progress in the ready-made clothing industry using a major electronic system and obtaining an international quality certificate.

The factory's products experienced a significant decline in production levels, with many products either discontinued or becoming irregular. This decline in production resulted from the impact of the post-2003 events that the country experienced, the country's opening up to the world, and the entry of various competing products. This ultimately led to a decline in the factory's productivity.

In 2005, the ready-made garment factory in Najaf was attached to the General Company for Textile and Leather Industries. In 2010, the Chinese-owned project for advanced suits was launched, including civilian (daily suits) with a production capacity of 400 suits per day. This achievement marked a qualitative development in the suit industry and its adaptation to new market trends. A hall for the production of advanced suits, a hall for body armor and helmets, and a men's clothing project were also added, which has been ISO certified by a Danish company and certified by the Central Organization for Standardization and Quality Control. More than 1,700 workers work at the factory, and the factory has directly contributed to supplying civilian clothing to various segments of society.

2. Production capacities of the ready-made garment factory in Najaf

Despite the development witnessed by the ready-made garment factory in Najaf, its production levels have significantly declined in recent years. This is due to the shutdown of several production lines and the intense competition from imported products and their high prices. The factory's design, available, planned, and actual production capacities are illustrated in the following table:

Actual Production To Planned Production Ratio (%)	Actual Production (Unit)	Planned Production (Unit)	Available Energy (Unit)	Design Power (Unit)	Year
1.97%	7884	400000	820800	926000	2019
0.04%	168	400000	820800	926000	2020
13.18%	52730	400000	820800	926000	2021
17.11%	68422	400000	820800	926000	2022

The table above shows that the actual production of the ready-made garment factory in Najaf Al-Ashraf decreased significantly compared to the design, available, and planned capacity levels due to production shutdowns caused by the COVID-19 pandemic during 2019 and 2020, with production being virtually non-existent during most months. During 2021 and 2022, due to the somewhat stable health situation, actual production increased to 52,730 units in 2021. Production then increased further in 2022, reaching 68,422 units during that year. Despite the increase in production over the past two years, the factory still needs to develop its operations and products in order to increase production and benefit from economies of scale. 3. The nature of the accounting system in the men's clothing factory in Najaf al-Ashraf

The accounting system applied in the men's clothing factory in Najaf al-Ashraf is one of the pillars upon which the factory's management relies in making important decisions, such as pricing and production decisions, reviewing production lines,

and others, through the information provided by the accounting system to the management. After the researcher reviewed the system applied in the factory, it became clear that there is a cost system that relies in its application on the unified accounting system, as the cost elements are dissolved into seven accounts, starting with salaries and wages (31) and ending with the other expenses account (39), as follows:

ratio to total	Cost (dinar)	Account Name	Account number	N
53.07%	2768668000	Salaries and Wages	31	1
6.69%	349109000	Commodity Supplies	32	2
2.43%	126865000	Service Supplies	33	3
-	-	Interest and Land Rent	34	4
37.81%	1971974000	Warnings	35	5
-	-	Transfer Expenses	36	6
-	-	Other Expenses	37	7
100%	5216616000	Total Cost	-	-

The table above shows that the total cost of the Najaf Men's Textile Factory in 2022 was IQD 5,216,616,000. Salaries and wages amounted to IQD 2,768,668,000, representing 53.07% of the total cost. Commodity requirements amounted to IQD 349,109,000, representing 6.69% of the total cost. Service requirements amounted to IQD 126,865,000, representing 2.43% of the total cost. Finally, depreciation amounted to IQD 1,971,974,000, representing 37.81% of the total cost. Therefore, it can be said that salaries and wages are the main component of the total costs incurred by this factory. Therefore, management must make the necessary decisions to increase the number of employees by opening new production lines or expanding existing ones. 4. Applying target costing technology in a men's clothing factory in Najaf.

Unit selling price (dinar)	Origin: China	Competitor Product Name	N
60000	China	Apparel China Men's Suit	1
65000	China	Brother Wang Men's Suit	2
70000	Turkey	Privatthinker Men's Suit	3
80000	Turkey	Damat Tween Men's Suit	4
100000	Turkey	Hatemoglu Men's Suit	5
105000	Italy	Buratti Men's Suit	6
110000	Italy	Ermenegildo Zegna Men's Suit	7
120000	Origin: China	Luca Faloni Men's Suit	8

Total: 710,000

Number of competing suits: 8

Average selling prices of competitors' men's suits = 710,000 ÷ 8 = 88,750

Engineering characteristics to be improved and their cost for the men's suit product

Cost per suit	Total	Raw materials	Engineering properties to be

	production	needed for it	improved
23725	372008000	Fabric	Ease of manufacturing men's suits Durability and resistance to wear and tear Improvement of overall quality and performance of men's suits
246	3857280	Sheer threads	
240	3763200	Plain threads	
175	2744000	Fluffy threads	
48	752640	Silk threads	
32	501760	Button threads	
1100	17248000	Embroidery	Improvement of the production process
490	7683200	Padding for added proportion	
1400	21952000	Pocket lining	
195	3057600	Cotton thread	Ease of manufacturing men's suits Durability and resistance to wear and tear
450	7056000	Tree paper	
120	1881600	Fixing paper	
625	980000	Varied ribbon	
29695	465617280	Ready-made threads	Improvement of overall quality and performance of men's suits
11635	182562240	Direct T-s	
70184	1100484802		Improvement of the production process

Cost of improved engineering properties for the 2024 men's suit product

Cost to produce one suit	Total production	Raw materials needed for it	Engineering properties to be improved	N
243243840	15513	Fabric	Ease of manufacturing men's suits	1
2696960	172	Sheer Lines	Durability and resistance to abrasion and puncture Density Improving the overall quality and performance of men's suits	2
6326420	168	Normal Lines		
1928640	123	Over Lines		
533120	343	Thread and Silk		
344960	22	Smart Beige Lines (Alarm)		
1960000	1250	Textile Cotton Wadding	Engineering properties to be improved	3
784000	500	Pocket Lining		
1176000	750	Lining		
3136000	200	Fabric	Ease of manufacturing men's suits	4
745600	475	Gauze		
196000	125	Covering Paper		
948000	600	Strap		
349209280	22271	Buttons	Durability and resistance to abrasion and puncture	
155184960	9897	Directly Attach		

Total 52,150 817,712,000

It is noted from the table above that the cost of engineering properties after improvement has become (817,712,000) dinars for total production and (52,150) dinars per suit, after it was (1,100,484,802) dinars for total production and (70,184) dinars per suit. This means that the amount of cost reduction will be (282,772,802) dinars for total production and (18,034) dinars per suit during the research year.

CONCLUSIONS

1. Improving production costs: Applying target costing helps reduce costs by determining the optimal cost of production based on the target market price. This improves product profitability and avoids resource waste.
2. Meeting customer expectations: Using the quality function, companies can better understand customer needs and meet them through improved product design. This increases customer satisfaction and enhances the product's competitive advantage.
3. Increasing operational efficiency: Integrating target costing and the quality function improves production processes by reducing unnecessary costs and increasing efficiency across all stages of production.
4. Achieving sustainable competitive advantage: By improving product quality and reducing production costs, companies can achieve a sustainable competitive advantage, increasing their market share and strengthening their position among competitors.
5. Improving decision-making: Target costing and the quality function provide accurate data and information that helps management make informed decisions based on reliable information, leading to improved strategic planning.
6. Increasing customer satisfaction and productivity: Improving product quality and reducing costs helps increase customer satisfaction and improve productivity, ultimately leading to company growth and success.

Recommendations

1. Enhancing Technology Integration: To ensure maximum benefit, it is recommended that the integration of target costing technology and the deployment of the quality function across all stages of the production process, from design to final production, be enhanced.
2. Employee Training: Continuous training programs should be provided for employees on the use of modern technologies, such as target costing and the quality function, to ensure their complete understanding and practical application of these technologies.
3. Focus on Customer Needs: It is recommended that periodic studies be conducted to better understand customer needs and expectations and work to design products that efficiently meet these needs.
4. Improving Production Processes: Continuously analyzing and improving production processes to reduce costs and increase efficiency is recommended. Tools such as SWOT analysis and failure mode analysis (FMEA) can be used to achieve this goal.
5. Effective Interdepartmental Communication: To ensure the integrated implementation of cost and quality strategies, it is recommended that effective communication and collaboration between various company departments, such as marketing, design, and production, be enhanced.
6. Measuring and Improving Performance: Key Performance Indicators (KPIs) should be established to measure the impact of implementing modern technologies on improving product value and competitive advantage and work to improve these indicators continuously.

REFERENCES

Abdul Qader Hama-Amin, O., Abdulaziz Al-Bayati, G., & Ibrahim Rajab, K. (2015). Quality Analytical Entrance Cost Applied Study in the Garments Factory of Waladi in Mosul. [PDF]

Nobumasa, S. (2018). The Innovation Mechanism in Target Costing. [PDF]

Yuksel Pazarceviren, S. & Celayir, D. (2014). TARGET COSTING BASED ON THE ACTIVITY-BASED COSTING METHOD AND A MODEL PROPOSAL. [PDF]

Verma, R., Maher, T., & Pullman, M. (1998). Effective Product and Process Development Using Quality Function Deployment. [PDF]

Frank Liu, X. (2000). Software Quality Function Deployment. [PDF]

Abonyi, J. & Czvetkó, T. (2022). Hypergraph and network flow-based quality function deployment. ncbi.nlm.nih.gov

Robotham, A. J. & Guldbrandsen, M. (2000). What is the new paradigm in product quality?. [PDF]

Yuksel Pazarceviren, S. & Dede, B. (2015). LIFE CYCLE COSTING MODEL BASED ON TARGET COSTING AND ACTIVITY-BASED COSTING METHOD AND A MODEL PROPOSAL. [PDF]

Ahmadipourroudposht, M. (2017). A product design framework for one-of-a-kind production using integrated quality function deployment and operational research techniques. [PDF]

Neyestani, B. (2017). Quality Costing Technique: An Appropriate Financial Indicator for Reducing Costs and Improving Quality in the Organizations. [PDF]

Calabrese, G. (1997). Reorganising the Product and Process Development in Fiat Auto. [PDF]

Chernova, L., Mazurkevych, O., & Chernova, L. (2018). THE MODEL OF ASSESSING THE GENERAL INTENSITY OF RESISTANCE TO CHANGES IN AN ORGANIZATION. [PDF]

Abdullah, R., Mohamad, E., & Razali Muhamad, M. (2008). Managing Key Performance Indicators (KPIs): A Case Study at an Aerospace Manufacturing Facility. [PDF]

Jain, A. (2016). Design to Cost-Imperatives to Industry

Today. [PDF]
Eng Lim, J. (2003). Application Of Cost Of Quality System By Proton Vendors. [PDF]
Maher AL-Khasawneh, S., Souliman Jrairah, T., Anisah Endut, W., & Mohd Norfadzilah bin Nik Mohd Rashid, N. (2019). The relationship between target costing method and pricing - development of products in industrial companies. [PDF]