

Managerial implication of target costing

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In this paper we start from the multidimensional character of the company's objectives and the importance of achieving the targeted profit from the business success and the company development standpoints. We analyse the target costing and the way it is related to kaizen costing. We also present managerial implications of target costing in the conditions of a global economic crisis and recovery. The focus is on the managerial decision making related to costs reduction and achieving the targeted profit.

1. Introductory notes

From the point of view of management, the objectives of a company can be defined as the future conditions that the company aims to achieve and towards which its activities are directed in order that the company should fulfill its basic purpose of existence. The objectives should be clear and realistic, the measurable ones being paid special attention in management. In almost every organization there is a hierarchy of objectives, based on the range of impact as well as on the time dimension; however, the long-term and the short-term dimensions are not absolute categories, but depend on both the type of production and the environment.

It is of special importance that the objective should be attainable, having in mind the company's human, financial, physical and information resources, as well as the dynamics of economy and the complexity of the environment.

This context requires that the theory of the firm be analysed [1]. The theory of the firm was originally based on the assumption that the company's objective is to maximise the current or the short-term profit. The fact is, however, that the firm often sacrifices the current profit in favour of increasing the future, or long-term, profit. One good example are the expenditures for research and development, for new equipment, or for promotion. As regards the fact that both the short-term and the long-term profits are important, the theory of the firm has it that the company's primary goal is to maximise the firm value, which is expressed as the present value (PV) of all the anticipated future profits, where profit is the difference between the total income and the total expenses.

The behavioural theory of the firm starts with the objectives of individual groups. The firm is regarded as a coalition of a number of groups: managers, shareholders, employees and customers, all of which have different interests. The objectives are essentially the result of resolving the conflicts within this coalition.

The findings of the empiric research of the behavioural theory show that five goals are of special importance in making decisions as to the production and costs. These are: production goals, sales goals, market share, the goal related to stocks and the profit-related goal [2]. The production goal, which largely presents the requirements of the coalition members directly involved in the production, does not only relate to the level of production, but also to the changes in various periods in terms of achieving steady employment and successful planning.

The managerial theories rise in the conditions of an increasing importance of the corporations' market power, characterised by the separation of ownership and control over the capital. As regards the objectives of large corporations, *J. K. Galbraith* maintains that the actual decision-making power in corporations belongs to the technical, planning, and other specialized staff that introduce knowledge, talent and experience into the process of group decision-making [3]. According to this approach, the principal goals are the certain level of profit, i.e., the maximum growth rate, accompanied with earning the profit required for further investments.

The *W. Baumol* model includes the manager's goal to maximise the sales profit, treating profit as a limitation. In this sense, it is partly exogenously determined by the need to satisfy the shareholders, and partly by the company's internal requirements related to financing [2].

In the realistic conditions of the manager's autonomy in managing a corporation, a large number of corporate objectives can be identified. *P. Drucker* specifies eight areas within which he suggests that managers should plan their business goals: 1) market position (planning goals that indicate a desired position in comparison to competition); 2) innovation (of products, services, knowledge, production methods); 3) productivity; 4) resources (physical and financial); 5) profitability; 6) manager's activity and development; 7) the employees'

work and attitudes and 8) responsibility towards society, especially to customers [4].

The importance of objectives for an organization is primarily reflected in their impact upon the managers' decision-making, as well as upon exploiting the scarce resources available as efficiently as possible.

R. Marris argues that the primary goal of management is growth. It is important to note that the company can choose among a range of growth rates. Higher growth rates will mean more time and efforts in search of profitable investments, often more promotive activities towards the growth in demand, as well as a more intensive work in the fields of research and development. This means that a higher growth rate requires that a higher percentage of the current profit be allocated to financing these promotive-developmental activities and investments into new capacities, which is where the importance of the level of earned profit stems from [5].

It is important to point out that all the firm growth models assume that expansion requires a lot of financial means; the faster the growth rate, the more expensive the expansion.

In the market conditions of economy, the outcomes of entrepreneurial function are valued through the company's profit. The profit category allows for the company to be assessed objectively and valued in the market that differentiates the companies as successful or unsuccessful and is the arbitre of success in business. Note that the profit maximization as a company's objective enables the company to survive, grow and develop.

Generally, strategic objectives deal with the desires and conditions in which the company will operate over a longer period of time. Even so, they must not be arbitrary defined; they have to be clear enough to be taken into account when important managerial decisions are made.

Modern management insists that more recent methods of costing be used to achieve the planned objectives, primarily related to cost reduction and profitability. It is important here to have in mind the complexity of cost tracking, of measuring and of increasing the company profitability [6]. In this context, it is important to understand the relationship between the target costing and the kaizen costing in the process of implementing modern approaches to cost and profit management, which is especially demanding in the condition of global economic crisis and recovery.

2. Relevance of kaizen costing

A specific system of costing, *kaizen costing* is based on the kaizen concept. Kaizen (Ky'zen) is a Japanese term, a specific combination of two words and literally means "change (*kai*) in order to become good (*zen*)". The cost management adopted the kaizen concept as a concept of permanent improvement, ewhich means the continuity and a long-term approach to change. The kaizen strategy means slight, gradual improvements in a long-term perspective. The philosophy underlying the kaizen idea is that each employee can contribute to the method of manufacturing a product and improve the company's operations in some way, therefore, a succession of slight improvements may in time cumulate into a significant increase in efficiency such as a large new investment. This could be visualized by a rising line representing the work productivity in a coordinate system where the "x" axis presents the time period, and the "y" axis presents productivity, contrary to single substantial improvements, such as inventions or investments into equipment, that are made at a definite moment and would be represented by a gradually rising line.

The key elements of kaizen are as follows: quality, effort, will for change and communication. The manager who accepts the kaizen supports the continual process of incremental improvements within an organization. The fundamentals of kaizen model comprise five elements: team work, individual discipline, high level of ethics, quality circles and suggestions for improvements. These give three key aspects of keizen: elimination of waste products and inefficiency, the "5 S" framework for good maintenance and standardization. The areas of the effects are quality management, cost management and logistics management. Through its impact upon manifold functional parts of the organization, kaizen can eventually lead to a sustainable profit management.

The organization should first reduce or eliminate waste products and inefficiency resulting from excessive production, surplus stocks, returned products, waiting, installation, transport. The next building block, good maintenance is achieved through the "5 S" (in Japanese): (1) *seiri* – "cleaning up" in the sense of keeping only what is necessary for work to be done and what contributes to work simplification; (2) *seiton* – tidiness as increased efficiency by allocating material, equipment, etc; (3) *seiso* – cleanliness, so that everything looks appropriate and attractive; (4) *seiketsu* - "putting to order" in the sense of regularity and institutionalization of keeping things clean and organized as part of "visual management"; and (5) *shitsuke* – discipline referring to individual responsibility [7]. Standardization of practice is still very important, and management is in charge of

improving the standards. Moreover, the top management plays an important role in ensuring that kaizen, “5 S”, and work standardization are widely implemented and coordinated, alongside the strict self-discipline of all employees, and their mutual collaboration. This is essentially a process-oriented management style, which has its vital behaviouristic dimension. The implementation of the kaizen strategy brings the change in the employee behaviour in its wake.

As regards the cost management, it is important that kaizen costing has a mission of cost reduction. This is the system of costing that focuses upon reducing costs in the manufacture phase as part of the overall life cycle of the product. Since the term kaizen in Japanese means slight incremental improvement of the process, rather than improvements through large-scale innovations, this is a reasonable approach to the manufacture phase, where big changes would incur high costs. The cost reduction goals mean continual engagement, that is, comparing target costs with actual amounts of reduced costs. Here, it is especially important that the employees know how to improve the processes, as well as that they are responsible in achieving standards of cost reduction. In case the amounts of targeted cost reduction are not achieved, an investigation is needed. Problems may arise in cases of hard pressure upon the employees as well as due to managerial focusing upon details.

In *Toyota*, a successful Japanese company, kaizen used to be stressed as a starting point for new reasoning and as an inspiration for high quality products and services focused on customers, which ultimately lead to a global business success [8]. The essence of kaizen is expressed in the following slogans: “*All roads lead to continual improvements*” and “*Always better*” rather than “*the best*”.

3. Target costing and managerial decision making

Target Costing (TC) is a method of cost and profit planning focusing upon products with discrete processes of production towards reducing costs to targeted levels in one plan cycle. It takes into account the assumed customers ability to pay, that is, market prices. Since this way starts from target profit, the target costs may not be exceeded. The order of steps and the way of thinking in pricing the product in case of target costing differ from the traditional costing to a large extent. First and foremost, the marketing research does not stop in the starting phase prior to the product specification, but is run continually throughout the target costing process. Besides, more time is consumed in the specification phase and the product design phase in order to minimize

the demand for changing the product design in the course of the production process when this is considerably more expensive.

Generally, target costing uses a modified concept of the overall life cycle of a product or a service. This means that the costs of product maintenance and costs of “getting rid” of it are also included.

The target sales price of a product/service S_{tc} , as well as the target scope of realized products/delivered services are determined. The target profit margin P_{tc} results from a long-term profit analysis and is usually based on the returns on income from sales, since this ratio is most easily brought into relation with profitability for any product/service. The target cost C_{tc} is the difference between the target sales price of the product and the target profit margin. These relations are expressed by the following equation:

$$C_{tc} = S_{tc} - P_{tc}$$

Target costing is done for each product component too. This is the area of value engineering, which here represents the process of re-examining each of the product components in order to find out whether its costs could be reduced while retaining its functionality and its existing performances. In some cases the design may be changed, the materials used in manufacturing may be replaced or production processes may be redesigned. In practice, several iterations of value engineering are usually necessary in order that the final target costs are defined. The strategy orientation and the holistic approach are evident in building cross-functional teams whose members come from all business paths. There are also the external representatives of the value chain sections. The company establishes long-term business relations with them. Of special importance is the role of suppliers who may be requested to reduce the costs of certain components if necessary. This can result into the supply chain management which develops long-term cooperation between the business customers and the suppliers, the one that will be fruitful for both parties.

When implemented, target costing may cause certain difficulties, primarily in the communication among various parties involved in both the process and the employee motivation. It is successfully implemented not only in a large number of Japanese companies, but also in companies worldwide, as a broader approach to cost management and profit planning (e.g., in *Eastman*, *Kodak* and *Boeing* companies) [9, 10].

On the basis of research and comparison of more recent methods of costing, a conclusion can be drawn that target costing is a tool directly resulting from highly competitive markets in a variety of industries. It is

implemented to determine the desired costs of the product on the basis of the given competitive price, so that the product should yield a desired profit. In this way, the cost is determined by the price. The company using *target costing* must frequently apply strict measures of cost reduction or redesign the product or production process to remain profitable with the given market price.

Target costing encourages the firm to become more competitive, especially in industries where even smallest differences in prices attract the customers towards lower-price products. A good example of an industry implementing TC is the production of cameras. The camera producers such as *Minolta* know the market price of each production line of the cameras they produce, therefore they redesign the product (for example, add/take out certain properties, use less expensive parts and materials) and redesign the production process in order to reduce production costs to previously defined target costs [11]. The automobile industry also uses the TC [12].

The *Toyota* company introduced the method of target costing in 1960's to achieve high quality and desired properties of products, at competitive prices. It is well known that *Toyota* is one of the leading automobile producers in the world, which was evident in the conditions of the global economic crisis too. This company is very successful in placing high quality vehicles at competitive prices.

It is important to note that target costing is an approach in which cost management plays an important role. In implementing target costing the company plans, or designs the product to achieve the desired profit, fulfilling the expectations of customers as to the quality and the properties of the product. The balancing of costs, properties and quality is effected through designing, manufacturing, sales and servicing the product, but the stress is on the first phase, the design. When the alternatives in this area are analysed and the selection is accomplished, *Toyota* is shown to have a maximum flexibility in selecting the options that affect the production and all the other costs of the product, such as the costs related to the customer service and technical guarantee.

When the product design has been completed and the production starts, the cost consequences of the selection of properties and production methods are fixed until the next change in the model. As a result, the development of proper, cost effective design is of critical importance. In this way, the concept of target costing stresses the application of the designing process to improve the product and reduce costs, that is, with time and material

saving.

From the managerial point of view, target costing is a technique that assumes that the company defines the allowed, or permissible, i.e., target costs for a product or a service starting from the given market price, so that it should earn a desired profit, which is especially applied in the conditions of global competition and the customers' increased expectations.

The company has at disposal two options to reduce costs to the target cost level.

- 1) by introducing new production technology, by implementing advanced cost management techniques, such as activity based costing and by achieving higher productivity;
- 2) by redesigning a product or a service, since decisions related to designing affect the whole life cycle of costs and can contribute to a significant reduction in total costs.

A large number of companies implement both options. The target costing, having a clearly set objective, is shown to motivate both the managers and the employees.

In the designing process, a large number of automobile, software and other commodity producers have to determine a number and type of properties that will be included into periodical updating and modernizations using cost and market analyses. The target costing, based on the functionality and cost analysis is found to be an appropriate managerial tool for these companies. Target costing is implemented by an increasing number of companies worldwide: *Toyota, Honda Motor Company, Boeing, Intel* [13]. Thus they compete on the basis of price and functionality defining.

Target costing can also be viewed from the aspect of its individual phases. The analysis of the target costing implementation shows that it is conducted in five steps:

- 1) defining market cost;
- 2) determining desired profit;
- 3) computing target cost;
- 4) implementing value engineering to identify the ways of reducing production costs;
- 5) implementing kaizen costing and operational control for further cost reductions [14].

Often, we deal with two approaches to the profit determining itself. The desired profit is usually determined by the product unit, which means that, if the product price falls, and the target cost falls proportionally, the profit will remain unchanged after the change in the price, presuming that the quantity of

products sold does not change for the company. The other approach is determining the desired profit as a percentage of returns on sales.

Target costing implements the value engineering to reduce product costs by analysing the balance among different types of production functionality, or cost characteristics, and especially total production costs. An important first step in value engineering is the customer analysis in the new or modified product designing phase. The customer analysis identifies the customers' critical preferences that determine the desired functionality of the new product.

The type of value engineering to be implemented will depend on the product functionality. In case of one group of products, including automobiles, software, and varied products of electronics such as cameras, audio and video equipment, functionality can be added or withdrawn in a relatively easy manner. These products often appear in new models or are innovated, therefore the customers' preferences change. The manufacturer selects a group of properties that will be incorporated into each new model of the product.

For the other group of products, functionality is designed as part of the product, rather than added to it. This is true for specialized equipment, e.g., construction equipment, heavy trucks, specialized medical equipment. Contrary to the former group, here the preferences of customers, the professional customers, are relatively constant.

It is logical that target costing is more useful to the products of the former group, since the company is more independent in dealing with a larger number of characteristics/properties. A usual type of value analysis in such companies is the functional analysis as a process of examining the performances and costs of each of the product properties and functions. The aim of the analysis is to determine the desired balance of functionality and costs. The desired level of performances for each function is achieved by keeping the costs of all the functions below the target costs level. Benchmarking is often used in this phase to determine which properties ensure competitive advantage to the company [15]. The examples for this are the *Olympus* and the *Nissan* companies [16, 17]. It is characteristic that the *Nissan* company, one that has both internal and external suppliers of parts and components, implements target costing on both levels – the level of costs and the component level.

The design analysis is a usual form of value engineering for the products in the latter group, the industrial and specialized products. The designing team prepares several possible designs of a product, each of which has

similar properties, with different levels of performances and different costs. Benchmarking and the value chain analysis help in the selection of design which includes both low costs and competition. The designing team works together with the cost management experts to identify the design that best satisfies the customers preferences, but does not exceed target costs.

It is characteristic that the implementation of target costing means the collaboration of cost managers, product designers, supply managers, production managers and marketing managers, all towards an understanding of costs of different characteristics and options. This means an affirmation of cross-functionality, which may even lead to the change in organizational culture.

The fifth step in target costing is the implementation of kaizen, as well as operational control to further reduce the costs. Kaizen is conducted in the production phase after the effects achieved by value engineering and by an improved design, when new production methods, managerial approaches such as total quality control, but also new managerial techniques related to operational control are developed. Kaizen assumes continual improvement, which means continual attempts to find new ways of cost reductions in the production process with a given design and functionality. Figure 1 presents the relationship between the steady and the falling market prices in the business with intensive/high competition, target costing and kaizen [modified after 14].

Target costing is increasingly implemented as it enhances the customer satisfaction due to focusing upon value for the customers, reduces costs, has a more efficient and a more effective product design, helps the company achieve the desired profitability on new or redesigned products, facilitates the coordination among the cost management, designing, production, marketing along the cost life cycle and along the sales life cycle.

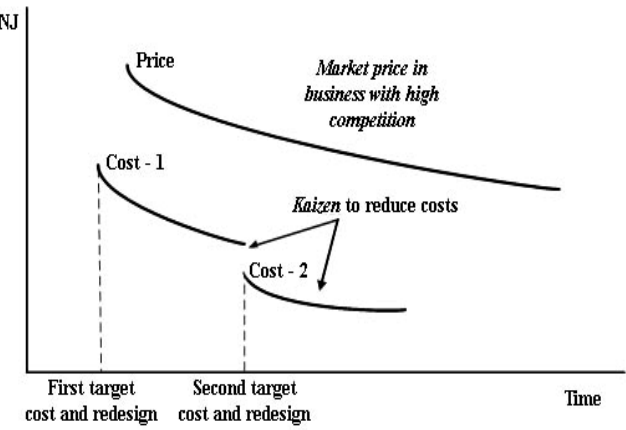


Figure 1. Relationship between market prices, target costing and kaizen

4. Conclusion

On the basis of the above mentioned we can conclude that, as regards the planned company objectives, the managerial implications of more recent costing methods are highly significant. Our focus is the connection between the target costing and kaizen costing as relevant recent costing methods whose implementation becomes increasingly important in modern companies. It should contribute to improving the company's long-term business success. We should also have in mind that this is the concern of managers in the conditions of an ever more intense competition and fast changes in the company's environment.

The importance of target costing as a particular managerial tool is especially evident in the conditions of the global economic crisis and recovery. From the point of view of management, cost reduction and achievement of target profit is, in this context, of vital importance.

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