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Target costing: A market driven approach of attaining low cost to ensure low price

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Abstract
The idea of target costing, originally promoted in Japan, is about going upstream to achieve cost reduction. Target costing is not really a method of costing, but it is a technique used in cost management. The objective of target costing is to engineer in targets for a product's selling price, profitability, schedule and life-cycle costs concurrently with the planning and design of the product's features and its build process. The target cost is maximum allowable cost a particular point of time and is specified by reference to the successive stages in a product's life cycle. The important feature of target costing is its market orientation i.e. it involves ascertaining of product cost beforehand by working back from an expected future market price. A target market price is determined by marketing department prior to designing and introducing a new product into the market. This target price is set a level that will permit the company to achieve a desired market share and sales volume. A desired profit margin is then deducted to determine the target maximum allowable product cost. Target costs usually incorporate learning effects over time.

Keywords: cost management, market driven approach, reverse engineering, target costing, value engineering

Introduction

Target costing is defined as a cost management tool for reducing the overall cost of a product over its entire life-cycle with the help of production, engineering, research and design. It has been widely used in Japan and USA since 1970. Earlier engineers have focussed on satisfying customer's requirement. A target cost in the maximum amount of cost that can be incurred on a product and with it the firm can still earn the required profit margin from that product. It emphasizes the reduction of costs during the planning and design stage of the product life-cycle since the majority of product cost is determined this stage. In comparison to traditional product costing methods, target costing allocates more of the total cost to the development stage, simultaneously reducing costs during the production stage.

The most common procedure of target costing is as follows:

- To plan and design high quality products that meet customer's needs.
- To set a target cost for the products through the use of value engineering.
- To attain the target cost at the components in the product target costing:

The following may be construed as the components in the product target costing:

- Type of product
- Technical specifications
- Technical requirements
- Customer
- Resource consumption (acquisition price)
- Resource consumption (cost)

Target costing forces an organization to analyze and reveal possibilities for:

- Reducing cycle times and costs for design, development, manufacturing and service.
- Reducing number of total parts
- Reducing the number of unique parts per model
- Reducing the rate of design, rework and repair.

Steps in Target Costing

The specific steps involved in target costing may be summarized as follows:

1. Reorient culture and attitudes of staff according to the market demand.
2. Determine the customer wants precisely.
3. Translate them into desired product performance features.
4. Determine target selling price as per customers, competitors and company's requirement.
5. Calculate the allowable product cost after fixing target price and profit.
6. Balance target cost with requirements of product and its design.
7. Estimate the proportion of value added by each feature and component.
8. Choose a product design assures a targeted profit and cost targets for each component in total.
9. Establish a target costing process and a team based organization.
10. Choose manufacturing process and design that assure target cost.
11. Choose suppliers that assume to sell components at targeted cost.
12. After each cost review, conduct value engineering to reduce target costs.
13. Monitor initial production to ensure that all product performance, cost, profit, target are met.

14. Measure results and maintain management focus to achieve targeted cost through cost reduction.

Methodology of Target costing

In determination of target cost for a product or service, the following methodology is adopted:

Customer Requirements: The first element of target costing is understanding customer requirements, including the performance and cost characteristics of competitors' products. Target costing can them be applied during the product design phase to create a product that meets the customer's requirements and beats the competition.

Gathering Market Information: It is an important step in the target costing and product development process. The characteristics of selected product available in the market should reflect customer values and expectations about price, quality, delivery, service, technology, and product performance.

Documenting Customer Requirements: A structured method for documenting customer requirements and competitor comparisons helps ensure that all relevant market factors and product characteristics are considered during product development. The frame work of documentation should be into consideration the following:

- Product characteristic
- Competitor performance comparisons
- Target performance values
- Customer rating comparisons

The above data is obtained from: customer surveys, experience with previous products, market research studies, engineering studies, calculations and modelling, and experimentation.

Comparing Competitor: When developing competitive comparisons, a manufacturer should select two sets of comparisons:

1. Competitors that represent a cross section of global market, and
2. Upcoming competitors not having significant market share.

The representative products of each competitor chosen should have price and performance parameters similar to those planned for the new product. The data used to make the decision are based on:

- Published performance data and specifications
- Customer input
- Comparative test data
- Information from annual reports, trade shows and other external sources of information that may provide insight into plans for new products.

Once selection process is completed, the manufacturer should obtain several samples of each chosen product for performance testing and reverse engineering.

Applying Reverse Engineering: Reverse engineering determines design characteristics and provides information about competitor's materials and processes. The purpose of this information is to help the manufacturer in ascertainment of target cost. Reverse engineering should involve a cross functional team of people from product and process engineering, manufacturing, industrial engineering, procurement and estimating. The reverse engineering consists of estimating the following:

- The type of manufacturing processes used for each component
- The time requirement to manufacture the component
- The manufacturing philosophy of each competitor

Reverse engineering can provide data about the materials and 'value adding' processes that are used in manufacturing components.

Cost Structure Analysis: The target costing makes the target cost development an aspect of ongoing design process. The manufacturer should develop estimates of competitors cost structures by analyzing the internal costs of existing products, categorizing them by cost driver and developing comparative ratios by cost driver to translate internal costs into estimated competitor costs.

Best Practices Model: The model of best practices considers the best design characteristics, best manufacturing processes and best economics as factors. The product costs determined through the modelling of best levels of performances are an indication of improvement over the competitors.

Competitor Information: Depending on the level of accuracy required for the target cost, competitor information if available from a variety of sources. The external data source include:

- Annual reports
- Marketing broachers
- Commercially available information databases
- Government reports
- Newspapers and other industry and commercial publications.

Internal Cost Models: Cost models for internal cost relate cost drivers to specific elements in the cost structure of a product. By comparing difference between current cost driver levels and projected levels, the cost models develop ratios to apply to current costs for purposes of estimating future costs. The projected cost driver levels can be based on specific action plans, annual goals, projections or best practices.

Product Design: The target costing is considering the impact of various cost drivers during product design. Consideration of impact of various cost drivers during product design can help a company create a different perspective. This information allows the engineers to factor in many cost saving design process.

Supplier Involvement: Target cost information provides suppliers with a better understanding of customer requirements and also gives them insight into the type of materials and processes that they should use in the design of their sub-systems and components.

Compressed Development Cycle: Accurate target cost information can help compress the product development cycle.

Value Engineering: Once a conceptual design is complete, internal cost models can help estimate the cost of the new product. The internal cost models give value engineering Teams detailed information about current production costs. The cost model to establish continuous cost improvement targets by setting milestones for cost improvement efforts after production beings and at various stages of product life cycle.

Continuous Improvements: Target costing is fostering continuous improvement of cost drivers during all stages of the product's life cycle. Production and distribution cost structure analysis and cost models that are developed for existing products can support continuous improvement by identifying and

prioritizing causes of non-value added costs and waste. Improvement team can use this information to attack root causes of cost, thus reducing or eliminating activities and problems that cause waste.

JIT Environment: Target costing provides a frame work for justifying changes in the production environment. It provides a means for identifying benefits that could result from the comprehensive application of JIT.

Cross Functional: A factor in the success of target costing is in bringing all the functions together to develop a solution. In some companies, adopting this concept is the biggest change involved in target costing.

Price Life: The target costing concept calls for costs to be maintained throughout the life of a product. In practice, this means during the 'price life' of the product. 'Price life' differs for different products: seasonal products tend to have a price life of a season, whereas new cars may have an annual price update but their price position tends to last throughout their life as a current model. The concept of 'price life' often governs the frequency of product upgrades, if the price life is one year, then companies will aim to upgrade (or re-promote) their products each year.

Coordination: The primary element in the concept of target costing is that of coordination. A target costing project works by bringing together all concerned (functions, units and supply-chain partners) to develop a product, with its related cost that can be achieved. The cost must be capable of being of kept at the target, and this may mean that the group will continue to work together in an operational sense.

Methods Used for Setting Target Costs

Three basic methods are used for setting target costs:

Subtraction Method

First, there is the subtraction method which is based on the price of competitor's product, where the target cost is worked backwards from the market price. The result may represent a very rigorous target, and it may be impossible to achieve. The key factor in establishing the target product cost by the subtraction method is the price charged by the competitors. Hence the type of target cost varies with the type of expected profit. If the expected profit is only contribution, the target cost is only for the variable costs of the product and if the expected profit is gross profit, the target cost is for the full product cost. In practice, the target cost reflecting the full product cost are by far the most common. The target cost for the full product cost can be calculated as follows:

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

$$\text{Required Profit} = \text{Selling Price x } \frac{Gross\ Profit}{Sales}$$

The price will be determined after considering the market situation and the expected competition. Thus, it requires a great deal of market information and also much expertise especially where the product is new, the price differentiation is expected to exist. While computing is should be noted that the future expected gross profit of that product is linked to the gross profit for that product and also to the corporate level of future expected gross profit. It should also be borne in mind that though the target is fixed based on market situation, it is important that the same should be subject to some modification by the internal cost estimating system. The full product target cost includes costs which planners and designers cannot control, such as idle capacity costs and many general factory management costs. Therefore, for cost management purpose only the controllable costs are included.

Addition Method

The second method of setting up the target cost is the addition method which is based on the existing technology and past cost data of the company. Normally it results in achievable targets because it is basically an extension of what has already been happening within the company. The greatest disadvantage of this method is that is very inward looking and grossly ignores the market situation. The addition method focuses on internal factors and capabilities. Hence, the target cost is defined as follows:

$$\text{Target Cost} = \text{Cost of Main functions}$$

This method involves statistical techniques such as regression analysis and factor analysis. The simplest approach is using of the past data on similar products.

Integrated Method

The third method is the integrated method, a mixture of the subtraction and addition methods. However, in practice this integrated method involves many difficult problems. Though the addition method does not take into consideration the market situation, it plays a vital role in the integrated method. The integrated method involves a process of negotiation once the results of the subtraction and addition methods are available. The basic idea is that the integrated target cost should provide a reconciliation of the two methods and give a final target. This method calls for an interactive approach whereby all the departments in an organization reach consensus, thereby fixing individual targets.

Conclusion

Target costing builds upon a design to cost approach with the focus on market driven target prices as a basis for establishing target costs.

It is a market driven approach where market research establishes the performance requirements and target selling price required to gain the desired market share for a proposed product. The required profit margin is subtracted from the target selling price to arrive at the target cost for the product. The target cost is the estimated cost of a product that enables a company to remain and compete in the market in the long-run. The basic emphasis of target costing is on market position and product leadership. Target costing enables companies to attain low cost to ensure low price that help to maintain market share.

Target costing represents a fundamentally different approach. It is based on three premises:

- Orienting products to customer affordability or market-driven pricing.
- Treating product cost as an independent variable during the definition of a product's requirements.
- Proactively working to achieve target cost during product and process development.

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