

CONCEPTUAL FRAMEWORK FOR LAUNCHING AND IMPLEMENTING TARGET COSTING IN AUTOMOTIVE INDUSTRY

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ABSTRACT

Target costing system is one approach which it's launching and implementing accurately in automotive industry will bring advantages for automakers .present paper explains features of the system of target costing as a strategic cost management tool to support the cost reduction process in developing and designing phase of new product in automotive industry through presenting a framework. Due to observations it is found that when automaker's performance is based on target costing system, automaker has achieved goals regarding to customer's demand and company's profitability.

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INTRODUCTION

Cost management method used by automakers must be useful for the production of new products which meets the customer's demand at lowest cost as well as an aid to cost reduction of existing product by eliminating wastes. To achieve this, automakers need the total cost management system which includes target costing. Environmental changes in automotive industry for example: the shortening of product life cycle, diversification of customer's demands and highly competition in automotive industry are inevitable. With such changes, cost management method used, must be useful for production of new products which meets customer's demands at lowest cost. On account of this, automakers have come to need total cost management which includes product development and design activities as well as product activities. This contrasts with traditional cost management which focused on cost control in the production stage. In fact the most of the costs in the production stage are determined in the stage of new product development and design indicated the need for total cost management. Target costing is an activity which is aimed at reducing the life-cycle costs of new products, while ensuring quality and customer requirements, and by examine all possible ideas for cost reduction at the product planning, research and development, and the prototyping phases of production. Target costing is an important tool because it promotes cost consciousness and focuses on profit margin, both of which strengthen an organization's competitive position.

ADVANTAGES OF TARGET COSTING FOR AUTOMOTIVE INDUSTRY

As seen in the target costing history, automotive sector is the one which has applied the elements of target costing extensively since 1970s, and it is not surprising that there are case studies that exhibit the benefits of target costing in automotive sector. For example, in the study of Cooper and Chew (1996); the authors conducted a case-study in Japanese Isuzu and highlighted that target costing was an efficient strategy versus the pressure of lean competitors that reacted in a very short time. Although the new product design stage offers significant reduction opportunities for target costing process, Shank and Fisher (1999) argues that target costing might be applied to existing products and also at the manufacturing stages of the product life cycle. To this end, target costing may provide significant benefits even for those automakers that did not have an effective cost management system. Basically the major characteristics or advantages of target costing as mentioned in are listed below:

1. Target costing will provide management methods and analytical techniques for developing new products and services whose costs support strategic objectives for market position and profit.
2. New product's costs will be defined from the customer's viewpoint; they will include functionality, cost of ownership and manner of delivery.
3. Target costing is a critical component of new product development teams and concurrent engineering.
4. Target costing will incorporate as wide a range of costs and life cycle phases for the new product or service as can be logically assigned and organizationally managed.
5. Target costing will provide analytical techniques to indicate where cost reduction efforts on parts and processes will have most impact, and where commonality and simplification can be increased.
6. The quality of cost data will be consistent with the responsiveness and level of detail required at various development phases: The system will use the logic and benefits of activity-based costing
7. The achievement of market-driven product attributes will be protected from cost reduction ambitions.
8. Targets for product cost will be set for various life cycle phases in development and production.
9. Target costing will aim for appropriate simplicity, relevance and ease of use by new product development teams; it avoids unnecessary complexity of language and time consumption in cost assessments.

IMPACT OF TARGET COSTING ON PROFITABILITY IN AUTOMOTIVE INDUSTRY

Target costing can have a startlingly large positive impact on profitability for automakers, depending on the commitment of management to its use, the constant involvement of cost accountants in all phases of a product's life cycle, and the type of strategy which automakers follow. Target costing improves profitability in two ways as follow:

First: It places such a detailed continuing emphasis on new product costs throughout the life cycle of every product that it is unlikely that an automaker will experience runaway costs; also, the management team is completely aware of costing issues since it receives regular reports from the cost accounting members of all design teams.

Second: It improves profitability through precise targeting of the correct prices at which the automaker feels it can field a profitable product in the marketplace that will sell in a robust manner. This is opposed to the more common cost-plus approach under which an automaker builds a product, determines its cost, tacks on a profit and then does not understand why its resoundingly high price does not attract buyers. Thus, target costing results not only in better cost control but also in better price control.

IS AUTOMAKER READY FOR TARGET COSTING?

The seven questions below are excerpted from the book "Target Costing," by Shahid L. Ansari and Jan E. Bell, (Irwin Professional Publishing, Chicago, 1997). They can help reveal how prepared automakers are to launch on a target costing program. If the automaker answers "no" to most of these questions, then it should take a harder look at more serious preparation before attempting to launch a target costing program.

1. Have the automaker made the reason for target costing clear? Is its connection to its business strategy clear?
2. Does top management support target costing?
3. Is this the right time to introduce target costing?
4. Are people ready for change?
5. Is there a readiness to accept the key principles of target costing?
6. Is the organization ready to commit the necessary resources?
7. Are all management levels ready to respond quickly to the changes target costing will bring?

PROCESS OF TARGET COSTING IN AUTOMOTIVE INDUSTRY

Process of target costing for new product design in automotive industry is described in the following steps:

1. Consider strategic and financial goals: Top management sets long-term goals for the complete corporation and new product should be designed to help the automaker to achieve these goals.

2. Determine the customer attributes or demands: This process involves conducting thorough automotive market analysis and customer surveys to determine what the customer's needs and demands are for a given product.

3. Consider costs and processes while designing: This step must result in the design specification of the new product. The major tools used to obtain the design specification of a new product are (a) Pugh Method and (b) QFD.

4. Determine the target price: Target price is the price which a customer is willing to pay for the new product. Thorough automotive market analysis must be conducted to determine the target price.

5. Determine the target cost: Target cost, also known as the allowable manufacturing cost, is calculated by subtracting the profit required (ROS can be used to determine the profit required from the new product) from the target price.

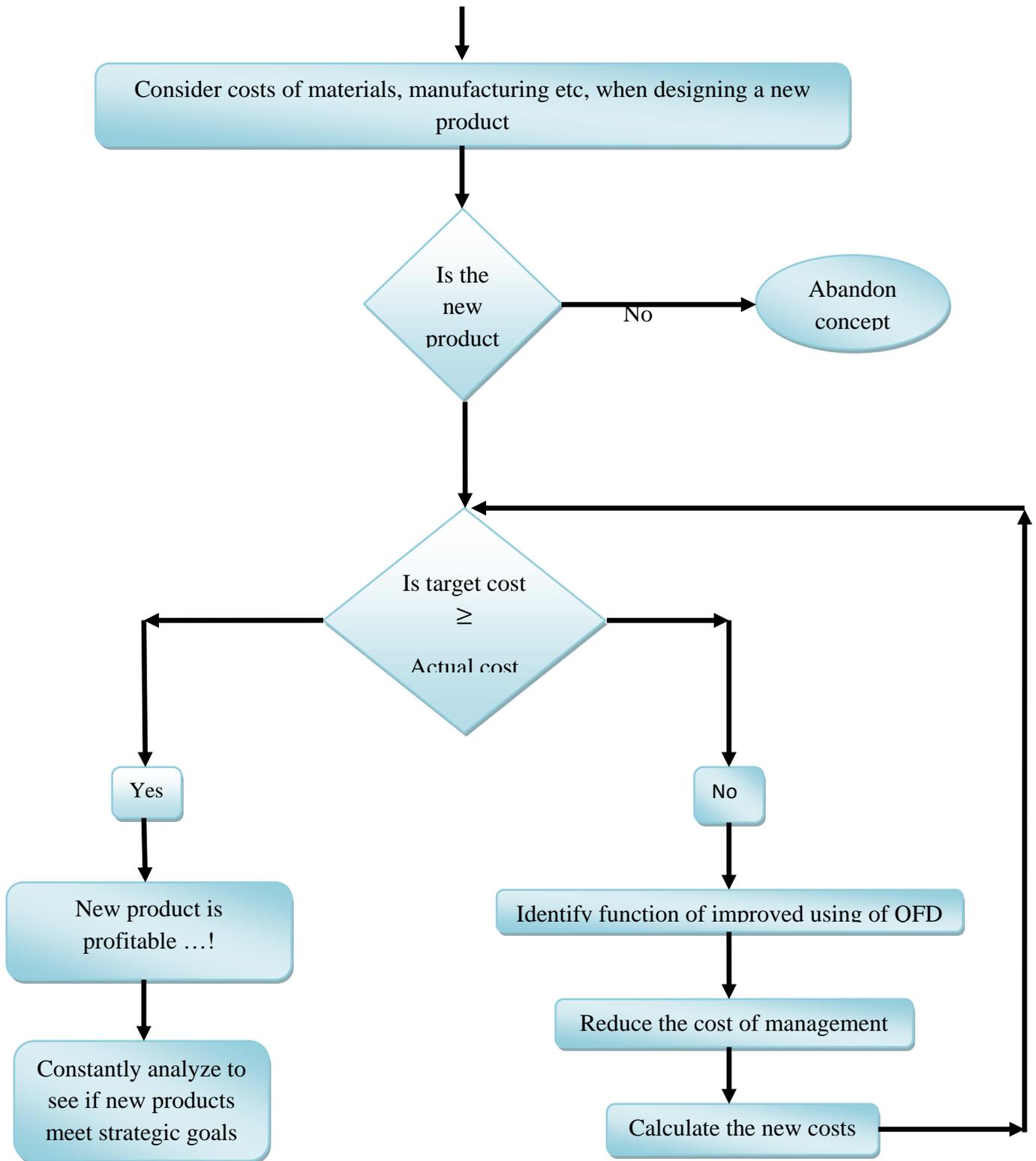
$$\text{Target Cost} = \text{Target Price} - \text{Desired Profit}$$

6. Determine the drifting cost and product feasibility: Drifting cost, also known as the actual cost of manufacturing is the present cost of manufacturing the new product and this is calculated with the help of the engineering department. It is also analyzed to see if all the desired functions can be provided in the new product. A good costing system like ABC (Activity Based Costing) will assist in determining accurate costs.

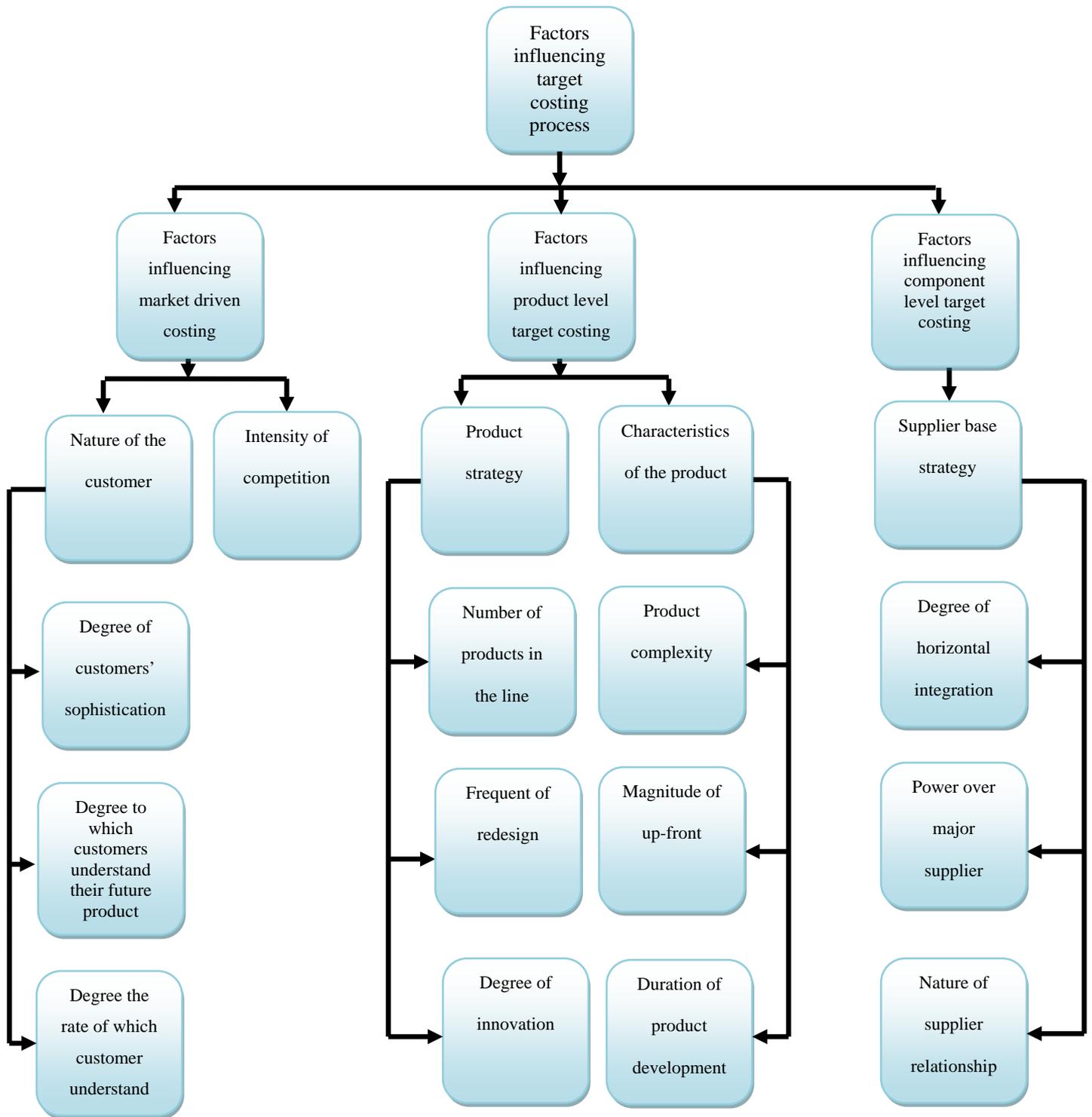
7. Process Improvements: If the designed product yields the required profit, the new product can be manufactured. If the new product does not yield the required profit, the new product needs to be re-designed or the process of manufacturing should be improved to yield the required profit. Some tools like value engineering can be used to associate costs to components or functions in order to determine their cost efficiency. The components or functions that are cost inefficient should be redesigned to reduce costs. If the products are found not to meet the financial profit requirements, they should be abandoned.

8. Implementing / evaluating long term effects: It is essential to make sure that the new product will yield the required profits through its complete life and the product mix must be regularly adjusted to meet the strategic goals of the automaker.

The process of target costing is illustrated in following figure and it is based on the cardinal rule, "If we cannot make the desired profit we should not launch for the new product."



FACTORS INFLUENCING TARGET COSTING PROCESS



SIX STEPS WHEN TARGET COSTING SYSTEM IS FIRST INSTALLED IN AUTOMOTIVE INDUSTRY SHOULD BE PAID SPECIAL ATTENTION:

Target costing initiatives requires the participation of several departments of automotive company. Because there are variety of functions and activities in automotive companies to do, also there are so many participants in the process from different departments, some of whom have different agendas in regard to what they want the program to produce. Design projects can be delayed by argue or by an inability to drive down design or production costs in a reasonably efficient manner. This delay may lead to serious cost overruns in the cost of the design team itself, which can lead to abrupt termination of the entire targets costing system by the management team. However, these problems can be mitigated or completely eliminated by ensuring that the steps listed here are completed when the target costing system is first installed in an automotive company:

- 1. Create a project charter:** The target costing effort should begin with a document, approved by senior management that describes automaker's goals and what it is authorized to do. This document, known as the project charter, is essentially a subset of the corporate mission statement and related goals as they relate to the target costing initiative. Written approval of this document by the senior management group provides the target costing effort with a strong basis of support and direction in all subsequent efforts.
- 2. Obtain a management sponsor:** The next step is to obtain the strongest possible support from a management sponsor. This should be an individual who is well positioned near the top of the corporate hierarchy, believes strongly in the goals of target costing, and will support the initiative in all respects-obtaining funding, lobbying other members of top management, working to eliminate road blocks, and ensuring that other problems are overcome in timely manner. This person is central to the success of target costing.
- 3. Obtain a budget:** The target costing program requires funds to ensure that one or better staffed design automaker's teams can complete target costing tasks. The funding should be based on a formal allocation of money through the corporate budget, rather than a parsimonious sub allocation grudgingly grated by one or more departments. In the first case the funds are unreservedly given to the target costing effort, whereas in the latter case, they can be suddenly withdrawn by a department manager who is not fully persuaded of the need for target costing or who suddenly finds out a need for the money elsewhere.

4. Assign a strong team manager: Because the typical target costing program involves so many people with different backgrounds and represents so many parts of automotive company, it can be difficult to weld the group together into a smoothly functioning team focused on key objectives. The best way to ensure that the team functions properly is to assign to the effort a strong team manager skilled in dealing with management, the use of project tools, and working with a diverse group of people. This manager should be a full-time employee, so that his complete attention can be directed toward the welfare of the project.

5. Enroll full-time participants: A target costing team member puts the greatest effort into the program when he is focused only on target costing. Thus, it is essential that as many members of the team as possible be devoted to it full-time rather than also trying to fulfill other commitment elsewhere in the company at the same time. This may call for the replacement of these individuals in the departments they are leaving so that there are no emergencies requiring their sudden withdrawal back to their “home” departments to deal with other work problems. It may even be necessary to permanently assign them to a target costing program, providing them with a single focus on ensuring the success of the target costing program because their livelihood are now tied to it.

6. Use project management tools: Target costing can be a highly complex effort especially for high-cost products with many features and components in automotive company. To ensure that the project stays on track, the team should use all available project management tools, such as Microsoft Project (for tracking the completion of specific tasks), automaker database containing various types of costing information, and a variety of new product design tools. All these items require assured access to many corporate databases, as well as a budget for whatever computing equipment is needed to access this data.

The main focus of the steps described in this section, is to ensure that , the fullest possible, support the target costing by all available (means- management, money and staff of automotive company).Only when all of these elements are in place and concentrated on the goals at hand, a target costing programme has the greatest chance of success.

CHALLENGES WHICH AUTOMAKERS FACED TO TARGET COSTING

Target costing has a number of implementation challenges include: lack of understanding, cultural barriers against cross-functional cooperation; organizational barriers to team oriented work (difficult to achieve in a functional structure); and a perceived irrelevance about the effects. Still other barriers may include the organizations information systems and its lack of

total system integration. To share cost reductions, supply chain partners must be able to share initial cost and production data.

I. Lack of Understanding or Relevance

Nicolini, Tomkins, Holti, Oldman, and Smalley (2000) agree the target costing concept as Japanese in origin. The Japanese name for the process Genka Kikaku expresses an overall strategic approach to cost reduction. Even the continuous improvement or "kaizen costing" is very much a Japanese approach that has found common usage in quality literature yet the approach to costing is not a mainstream business term. The shortening life cycles make the development, planning, and other phases of a product critical to understanding its costs (Choe, 2002). While target costing has a straight forward logic, the implications in practice are more difficult, particularly when the culture has previously embraced a cost-plus approach to pricing. The cost plus approach is often quicker and does not involve an iterative, inclusive approach to reducing the gap between current costs and target cost as in target costing. The cost-plus approach also does not have a strong market orientation that is a prerequisite for target costing. The term also is seen as limited to the accounting domain and traditionally accountants have not been used to implement production changes, even though they have access to the cost data.

In addition to costs, automakers must understand what consumers really want and are willing to pay for. In the traditional approach to new product development and cost-plus pricing, the result is an array of over engineered products that do not meet the customer's needs and are incorrectly priced. Burscher and Laker (2000) call this flawed process an "inside-out" approach and argue the cost of the product cannot be established until the final product is ready to be launched. In addition to greater understanding of target costing, the authors urge for implementation in the initial stages of new product development where modifications can be made cheaper and easier.

II. Team and Cross-Functional Barriers

The logic of target costing is easy to understand, yet a number of automakers continue to use the prevailing cost-plus approach. This may be due in part to lack of understanding of costs throughout the supply chain and not having tightly linked, communicating supply chain partners. Workers will learn faster and better understand costs and the organization as a whole will adopt target costing as information flows faster and with a greater frequency of reporting.

Zsidsin, Ellram, and Ogden (2003) agree the ability for all individuals to fully participate in cost management activities can lead to the development of valuable knowledge. They urge, however, the process takes an extensive degree of time and

commitment. Target costing, implemented correctly, will engage all the key functions in the organization. They further assert the cross-functional teams formed between purchasing and supplier organizations can help reduce supply chain costs. When using target costing within the supply chain, the importance of trust and cooperation is crucial. Transferring previous in-house functions to partners or outsourcing can be a risk due to the inability to monitor or control the output of the desired function. When functions are performed at the manufacturer's plant, expectations and standards are communicated and understood, but these communications are often lost when the function is transferred to one of the partners in the chain. One way to control this problem is by the placement of one of the manufacturer's employees within the supplier's plant to monitor and aid the activities of the supplier.

III. Irrelevance or Fear of the Effects

For many automakers, target costing sounds like another buzz word or accounting term with little relevance to manufacturing or marketing. Yet, the concept of target costing is identical to the lean concepts implemented in manufacturing to reduce non-value added, irrelevant activities that do not contribute to a new product's value. These terms, in practice, are attempting to reach a similar end. Quality, sole sourcing, and reducing wastes are part of a life cycle of continuous improvement of which target costing is an important component. On the fear side, cost setting negotiations must take place and often one or more groups feel that they are shouldering too much of the cost reduction pressure, particularly smaller partners with less power within the chain. Design changes and cost cutting measures may even cause employees to fear for their jobs and work against the target costing process. This is overcome through training and ongoing education about the process and its importance and working to ensure job security as possible.

TATA NANO AS A SUCCESSFUL EXPERIENCE OF IMPLEMENTING TARGET COSTING SYSTEM

The Tata Nano is a proposed city car, a small, affordable, rear-engine, four passenger car aimed primarily at the Indian market for middle and lower income group people both in rural and urban areas. first presented by India's Tata Motors at the 9th annual Auto Expo on January 10, 2008, at Pragati Maidan in New Delhi, India. Tata targets the vehicle as the least expensive production car in the world, aiming for a starting price of 100,000 rupees or approximately \$2300 US. The introduction of the Nano received media attention due to its targeted low price. The car is expected to boost the Indian Economy, create entrepreneurial opportunities across India, as well as expand the Indian car

market by 65%. The car was envisioned by, Ratan Tata, Chairman of the Tata Group and Tata Motors, who has described it as an eco-friendly "people's car". Nano has been greatly appreciated by many sources and the media for its low-cost and eco-friendly initiatives which include using compressed-air as fuel and an electric-version (E-Nano). Tata Group is expected to mass-manufacture the Nano in large quantities, particularly the electric-version, and, besides selling them in India, to also export them world-wide.

Idea generation of NANO: "I saw families riding around on scooters with kids standing up and the mother carrying a baby and sitting pillion and decided to do something about it. It started as a quest for an affordable transportation solution". RATAN TATA.

Pricing Strategy: Though the one 100,000 Rs price tag is not fixed by TATA group, it was the word of mouth of people which fixed that range. This expectation of people creates a big challenge for the company. To accept this challenge Tata NANO has gone beyond the traditional methods of cost accounting and has followed Target costing method to Penetrate Low pricing policy with minimum profit margin.

CONCLUSION

To implement new cost management systems like target costing in automotive industry is inevitable. Target costing programs require proper planning and a commitment from upper management. It is essentially to incorporate all department and segments in implementing and launching the system. The automaker should have a nimble designing department to make new product and move to continuous improvement rapidly. Target costing is more effective for automakers which are active in a competition in automotive market. Automakers always should seek for new customers and markets and their expectation and then adopt the production with them as soon as possible. This process has a close relationship by management strategy. In the other hand management need some tools to be success in competition environments such as suitable management and cost accounting system that provide all information necessary for making timely and accurate decision. Automakers should have continuous engineering and designing process to increase the quality and decrease the cost and pass over the non value added activities. Another thing that an automaker must do when it starts the implementing the target costing is arrange a perfect combined project team. This team should include experts from different areas of the automotive industry (including finance, technology, human resources and all supply chain segments) and perhaps also an outside consultant. The head of the project team of target

costing system should be brave enough; he should be the most interested person among all qualified individuals; he should be interested in consulting the matters with experienced counselors. All taken together, implementing and launching target costing system leads to less failures in automotive company; otherwise, while implementing and launching the system, different weak points of the system would be known; items which already have been predictable and controllable but not enough attention has been paid to them. When we are aware of the reasons of the failures, we can easily solve the problems and predict the probable problems and find solution for them. As results, we will experience more success and can enjoy benefits of target costing system more than ever and finally value of the automotive company would be added.

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