

## Chapter 2

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### LITERATURE REVIEW

Research covered many different aspects of target costing system, and review the research in this section, some of these studies are as follows:

#### 2.1. TRADITIONAL COST-BASED PRICING FOR A NEW PRODUCT

**Cooper, R. May (1996), "Look Out, Management Accountants" (Part One).  
Management Accounting (USA), 77.11, 20-26.**

Robin Cooper (1996) regards the failure to involve suppliers in the early stages of product design a problem with the cost-plus pricing model. Where component parts must be developed and manufactured by suppliers, the failure to involve suppliers until after the final product is designed causes significant delays and may result in cost saving and quality enhancing opportunities going unnoticed.

Some theorists believe that cost-driven pricing should be done away with. Cooper regards cost-driven pricing as a "deadly business sin." He says: ...most American and practically all European companies arrive at their prices by adding up costs and then putting a profit margin on top. And then, as soon as they have introduced the product, they have to start cutting the price, have to redesign the product at enormous expense, and have to take losses--and, often have to drop a perfectly good product because it is priced incorrectly.

The financial success of any business in the long term depends on whether its prices exceed its costs sufficiently to finance growth, provide for reinvestment and yields satisfactory returns to its shareholders. Market forces influence prices significantly more, as competition increases and supply exceeds demand. To achieve a sufficient margin over its costs, a company must manage costs relative to the prices

the market allows or the price the firm sets to achieve certain market penetration objectives. Many companies have little flexibility when setting a price due to intense competition. Reducing a firm's production costs may be the only source of increased earnings where selling price and profit margin are fixed by competitive pressures and management policies. Many companies have been forced to reduce their costs in order to survive the intense competition and pressure from customers to reduce prices. Approaches such as Activity- Based Costing (ABC), Activity-Based Management (ABM), Total Quality Management (TQM), Target Costing or Target Cost Management (TCM), lifecycle costing, balanced scorecard, and other new concepts have emerged to support the drive towards the need for strategic cost management. A well-designed target costing system incorporates all three elements of the strategic triangle: quality cost and time. Even though there are variations of target costing, it remains a tool, which has proven itself as an effective cost management technique.

## **2.2. COMPARISON TARGET COSTING AND COST-PLUS APPROACHES**

**ANSARI S. L., BELL J., (1997)," Target Costing, the Next Frontier in Strategic Cost Management," The Cam-I Target Cost Core Group, Irwin, Chicago (USA)**

### **The Cost-plus Approach:**

Market considerations not part of cost planning.

Cost determines price.

Waste and inefficiency is the focus of cost reduction.

Cost reduction is not customer driven.

Cost accountants are responsible for cost reduction.

Suppliers are involved after product is designed.

Minimizes initial price paid by customer.

Little or no involvement of value chain in cost planning.

**The Target Costing Approach:**

Competitive market considerations drive cost planning.

Prices determine costs.

Design is the key to cost reduction.

Customer input guides cost reduction.

Cross-functional teams manage costs.

Suppliers are involved early.

Minimises cost of ownership to customer.

Involves the value chain in cost planning.

**2.3. IMPLICATIONS FOR PRACTICE:**

**ANSARI S. L., BELL J.,( 1997), "Target Costing, the Next Frontier in Strategic Cost Management," The Cam-I Target Cost Core Group, Irwin, Chicago (USA)**

Ansari et al (1997) identifies the following implications for practice: • Target costing needs to be holistically applied i.e. it is insufficient to institute one element of target costing and conclude that a target costing system is in place.

• The effective use of target costing demands adherence to both the open systems theory and the fundamental principles of the target costing approach. All principles need to be adopted for the full benefits to be realised. The implementation of target costing requires long-term profit planning, commitment to minimizing costs, and recognition that strategic cost accounting can greatly impact the performance of the firm. Further target costing presumes interaction between cost accounting and the other activities of the firm; long-range profit planning that is well executed; and a commitment to on-going cost reduction.

Ansari propose that target costing would appear to benefit those companies which:

- Find themselves in assembly-orientated industries
- Concentrate on diversifying their products.
- Make use of factory automation technology, which includes computer aided design, manufacturing systems which are flexible, office automation, and computer-aided manufacturing.
- Have shorter life cycles where payback for factory automation must be accomplished within eight years.
- Develop systems for reducing costs during the planning, design and development stages of the life cycle of a product.
- Implement management methods such as just-in-time, value engineering, and total quality control.

#### **2.4. PRICE-LED COSTING:**

**ANSARI S. L., BELL J., (1997)", Target Costing, the Next Frontier in Strategic Cost Management", The Cam-I Target Cost Core Group, Irwin, Chicago (USA)**

Target costs are calculated by subtracting the required profit margin from the competitive market price, which is summarised in the following equation:

$$C = P - \pi$$

Where C = target cost

P = competitive market price

$\pi$  = target profit

Ansari et al (1997) point out that the situation in the marketplace controls price, while the financial requirements of a firm and its industry determine the target profit. For example, if the competitive market price for a product is R100, and a company

requires a 15 percent profit margin to remain financially viable in its industry, then the target cost for this product is R85 (R100 – R15).

Price led costing has the following sub principles:

- Product and profit plans are determined by market prices. These plans are analysed frequently to ensure that resources are only provided for products that generate consistent and reliable profit margins.

- Active competitive intelligence and analysis drives the target costing process. Meeting or pre-empting competitive threats relies on an understanding of market prices.

## **2.5. FOCUS ON CUSTOMERS:**

**ANSARI S. L., BELL J., (1997), "Target Costing, the Next Frontier in Strategic Cost Management", The Cam-I Target Cost Core Group, Irwin, Chicago (USA)**

Ansari et al (1997) state that since target costing is market driven, the views of customers are of utmost importance and should therefore be taken into account throughout the entire process. Understanding the needs of customers and what competitors are currently doing or might do to meet those needs is essential. Quality, cost and time requirements of customers are thus incorporated in product and process decisions and guide cost analysis. Engineering development activities are driven by a focus on customers and are shaped by the demands of the market.

Ansari (1997) point out that the attainment of a target cost is not achieved by sacrificing the features needed by customers, reducing the performance or reliability of a product, or by delaying the introduction of the product in the market. Further enhancements to the product's features and functions only occur in the following instances:

- Customer expectations are met.
- There is a willingness of customers to pay for them.
- Market share or sales volume is increased.

## **2.6. FOCUS ON DESIGN**

**COOPER, R. & SLAGMULDER, R. April (1999)," Supply chain management for leanEnterprises": Interorganization cost management (target costing). StrategicFinance, 80.10, 15-16.**

Ansari et al (1997 :12) indicate that since target costing systems spend more time at the design stage, it eliminates costly and time consuming changes needed later, resulting in time to market being effectively reduced. This is in contrast to traditional cost reduction methods which focus on economies of scale, learning curves, waste reduction, and yield improvement to manage costs. The implications of this design orientation are encompassed in thefollowing:

- Costs are managed by target costing systems before they are incurred rather than afterward. The target costing process focuses on design since that is when the majority of costs are committed. Slagmulderet la (1999 :15) state that some authorities estimate as much as 90% to 95% of a product's costs are fixed once a product is designed i.e. the costs cannot be avoided without redesigning the product. Ansari et al (1997 :13) further indicate that by looking at the impact of design on all costs, from R&D to disposition, allows for cost reduction over the entire life cycle of a product.
- Engineers are challenged to focus on the cost impact of product, technology, and process designs by the target costing process. Before being incorporated into the design all engineering decisions are filtered through a relative customer value impact assessment.

- All participating functions of the firm are encouraged by the target costing system to examine designs, in order to ensure that product or engineering changes are made prior to the product entering into production. Few engineering changes are required by world-class practitioners of target costing, after the commencement of production. However, companies not using target costing typically make a significant number of design changes after the start of production.

- Simultaneous engineering of products and processes are encouraged by target costing systems as opposed to sequential engineering. This enables problems to be solved earlier in the process thereby reducing development time and cost.

One aspect of product design – complexity – can result in the following downstream costs which impact negatively on profits:

- Labour and rework costs increase.
- Inventory levels increase as more parts are required.
- Quality is under pressure as complex parts are difficult to assemble.
- Additional time is required to train customers.
- Complex products break more frequently and are difficult to repair.

## **2.7. CROSS-FUNCTIONAL INVOLVEMENT:**

### **COOPER R., CHEW B., (1996), "Control Tomorrow's Cost through Today's Designs, Harvard Business**

Target costing uses cross-functional product and process teams representing design and manufacturing engineering, production, sales and marketing, purchasing, cost accounting, service and support. Outside participants, including suppliers, customers, dealers, distributors, service providers, and recyclers are included in these cross-functional teams. The teams are responsible for the entire product from initial concept through final production

Cooper (1996) noted that at Nissan the accounting department is only involved at the end of the target costing process, with their role being to ensure that the products entering production do meet their target costs. The remainder of the target costing process is the responsibility of marketing, production, product engineering, and other functional expert areas. Cooper mentions the multi-disciplinary involvement and roles played by the different functions in Toyota Australia's target costing system, which were identified in a study by the International Federation of Accountants' (IFAC), Financial and Management Accounting Committee as follows:

- Finance - a co-ordinating role, managing the assignment of cost target, reporting and monitoring performance, promoting target achievement and highlighting deviations.
- Sales planning and distribution – driving the formulation of the overall target cost.
- Purchasing – looking for cost savings through the analysis of parts and components and working with suppliers to improve costs and to redesign parts.
- Engineering – using techniques such as value engineering to identify cost savings whilst maintaining the functionality of the product.
- Manufacturing – looking for cost savings through improvements in the manufacturing processes.

## **2.8. VALUE-CHAIN INVOLVEMENT:**

**COOPER, R. & SLAGMULDER, R. April (1999), " Supply chain management for lean Enterprises" Interorganization cost management (target costing). Strategic Finance**

Cooper and Slagmulder (1999) refer to a chained target costing process where competitive pressure is transmitted by the firm at the top of the supply chain to other firms within the chain and each firm in the supply chain acts in a manner that benefits the others. For interactions to be interactive adversarial relationships needs to be

replaced by interdependent, cooperative relationships. This leads to supplier networks emerging in which all firms in the network operate in a mutually supportive manner even though the firms may be in direct competition with each other. In addition to internal operations, the best practice companies rely on cost saving opportunities from its supply chain to meet cost targets. Since approximately 75% of the value of the products manufactured at Daimler-Chrysler comprise of purchased raw materials and components, the participation of their suppliers are critical in ensuring that target-costing goals are achieved. Their supply chains are considered to be part of an “extended enterprise” where they share design information, cost information, and inter-company teams meet to establish cost reduction goals.

## **2.9. A LIFE-CYCLE ORIENTATION:**

**ANSARI, S.L., BELL, J.E. & the CAM-I Target Cost Core Group. (1997)"Target Costing "The Next Frontier in Strategic Cost Management. USA: Irwin Professional Publishing**

Management accounting has traditionally focussed on costs incurred after the product has been designed and developed, i.e. when the product is in production. The result is that substantial costs involved in the product design phase may not be taken into account in costing the product, rather these costs may have been capitalised or treated as an expense in prior years. In addition, the costs of discontinuance are rarely included as part of the product cost when the product is discontinued. Life-cycle costing overcomes the above shortcomings by including all costs over its entire life cycle, from inception to abandonment. This determines whether adequate profits are being generated to cover all life-cycle costs. Ansari et al (1997) confirm that life-cycle costs, which include the purchase price, operating costs, maintenance, and distribution

costs are brought into account under target costs. The goal is to minimise the life cycle costs for both the customer and the producer.

- The customer requires the minimisation of product ownership costs, resulting from the lowering of operating, using, repairing and disposing of the product costs.
- The producer requires the minimisation of development, production, marketing, distribution, support, service, and disposition costs.

## **2.10. SETTING PRICES IN TARGET COSTING:**

**. COOPER, R. & SLAGMULDER, R.( 1997),"Target Costing and Value Engineering".**

**USA: Productivity Press.**

### **How to establish the Target - Profit margin:**

Cooper and Slagmulder (1997: 100) state that target profit margins are established with the objective of ensuring that the company's long-term profit plan is achieved. Ansari et al (1997) further regard the setting of target profits as a function of bringing together (macro) business level plans with(micro) product level plans.

According to Cooper and Slagmulder (1997) there are two ways in which a company can set target profit margins. In the first method, the actual profit margin of the predecessor product is adjusted for changes in market conditions. In the second method, the company starts with the target profit margin of the entire profit line and depending on the realities of the market place; either raises or lowers the target profit margin for individual projects.

The financial rates of return required by a company normally determine the target profit rate. Reference is made to the Japanese industry in which it is common practice to use a weighting scheme that combines information about a company with industry information when setting a required return on sales (ROS). Another financial

indicator commonly used is the return on assets (ROA), which is a product of asset turnover and profit margin. Lee (1994) is of the view that the determination of the desired profit should be based on the company's desired return on sales (ROS), rather than return on investment (ROI). The reasoning is based on the following reasons:

- Manufacturers require a variety of products in low volumes to survive in today's fast changing market. It is virtually impossible to calculate the profitability of those products in ROI.
- Long-term strategies focus on the profitability of portfolios of related products and the role each product plays for the product group. In this instance, ROS provides a better measure.

#### **2.11. HOW TO COMPUTE - THE ALLOWABLE COST:**

**COOPER, R. & SLAGMULDER, R.( 1997),"Target Costing and Value Engineering".**

**USA: Productivity Press.**

Cooper and Slagmulder (1997) point out that the allowable cost can be calculated by subtracting the target profit margin from the target selling price i.e. Allowable cost = target selling price – target profit margin. The allowable cost reflects the relative competitive position of the company as it is based on its realistic, long-term profit objectives. As a result the allowable cost is not a benchmark against which the company compares itself with its competitors. In order to use allowable cost as a benchmark in this manner, target profit margins taking into account the most efficient competitor, would have to be set. Further, Cooper and Slagmulder (1997: 106) note that the cost-reduction capabilities of the company's product designers or suppliers are not taken into account in the allowable cost calculation. Consequently the allowable cost is often unachievable. In the event of a product's allowable cost being

unachievable, a higher target cost needs to be established by the company in the product-level target costing process.

## **2.12. DISCIPLINE THE PRODUCT-LEVEL TARGET COSTING PROCESS:**

**COOPER, R. & SLAGMULDER, R. (1997)"Target Costing and Value Engineering".USA: Productivity Press.**

It follows that the process of designing the product to its target cost can only commence once the company has established the target cost objective. The design engineers' progress toward achieving this objective must be continuously monitored by the chief engineer to enable the company to take corrective action as early as possible. "The target cost must never be exceeded" is the cardinal rule of target costing and is key to maintaining discipline throughout the design process (Cooper & Slagmulder 1997) Cooper and Slagmulder (1997) indicate that there are three ways in which the cardinal rule is enforced. Firstly, where increased costs are the result of design improvements, alternative offsetting savings must be found elsewhere in the design. Secondly, products whose costs exceed the target must not be launched. Lastly, to ensure that the target cost is achieved, the transition to manufacturing must be carefully managed.

Achieve the target cost - Once the target cost-reduction objective has been established, a company needs to find ways to achieve it.

### **2.13. COMPONENT-LEVEL TARGET COSTING:**

**COOPER, R. & SLAGMULDER, R.( 1997)," Target Costing and Value Engineering".USA: Productivity Press.**

Target costs for a product's components are developed once the target cost for the product has been established. Cooper and Slagmulder (1997) identify four steps in component level costing.

#### **Decompose target costs of major functions**

The identification of major functions enables the design process to be broken up into multiple tasks. Dedicated design teams comprising of representatives from product design, engineering, purchasing, production engineering, manufacturing, and logistics are responsible for the design of each major function. However, the chief engineer or product manager, who determines the distinctive theme and functionality of the new product has overall responsibility for coordinating the design of a new product, (Cooper & Slagmulder 1997). Cooper and Slagmulder (1997) point out that through an extended negotiation process with the design teams, the chief engineer is responsible for setting the target cost of each major function. Target costs are usually based on historical cost-reduction rates, for example a rate of 5 percent per year may be used to reduce the cost of a major function. Market-based approaches are especially beneficial in instances where new forms of functionality are being introduced. Customers are requested to indicate how much they are willing to pay for a particular function and together with other factors such as technical, safety and legal considerations, lead to adjustments being made to the prorated target costs (Cooper & Slagmulder 1997).

Cooper and Slagmulder (1997) point out that the chief engineer may modify the target costs derived from either historical or market analysis in certain instances. Firstly, the chief engineer will negotiate higher rates of cost reduction with the head

of the design teams of the major functions if the sum of all the historical rates does not result in the desired cost-reduction objective. Secondly, the chief engineer will modify the target costs where the relative importance of a major function changes from one generation to another. Thirdly, the historical cost-reduction rate ceases to be meaningful when the technology on which a major function is dependent, changes. After establishing the target costs of the major functions, the company needs to decompose them to the appropriate group component and parts level, in order to achieve the objective of setting a purchase price for every externally acquired component (Cooper & Slagmulder 1997).

### **Set target costs of components**

Cooper and Slagmulder (1997) point out that the component-level target costing process comprises of three main blocks. The component cost history is the starting point for estimating the new component-level target costs. Secondly, the firm's supplier-base objectives are applied to the selection of suppliers in general. Lastly, the selection of the supplier for a given component is dealt with.

Cooper and Slagmulder (1997) indicate that the target cost of the major function is decomposed to the component level by the major function design teams. For example, at Toyota the specifics of parts, materials and machining processes are left to the discretion of each design division, who is responsible for achieving its respective cost-reduction goals. In certain instances the chief engineer will specify cost-reduction targets for specific parts to the related divisions. Part-specific targets and divisional targets are set at the same time. (Cooper and Slagmulder 1997)

### **Setting the target costs of components**

Ansari et al (1997) point out that it is possible for a product to meet its overall target cost if the components below the allowable cost offset those above the allowable costs. Since target costs can be achieved the firm should proceed with the product. However, in order to ensure that internal performance evaluation and discipline is enforced, it is proposed the following approaches be followed:

- Transfer savings from other components and products to meet the shortfall. Whilst this approach encourages teamwork and ensures successful product, it may undermine cost discipline, as people will rely on these subsidies.
- Transfer savings but attach a stigma to the subsidies, which requires problem solving teams be assigned to understand and solve the problem for future products.
- Savings are not transferred between components. This may be perceived as too rigid and may lead to lower employee morale.

### **2.14. MANAGE SUPPLIERS FOR TARGET COSTING:**

**HELMS, M.M., ETTKIN, L.P., BAXTER, J.T. & GORDON, M.W. Winter-Spring 2005. Managerial implications of target costing. Competitiveness Review, 15.1, 49-56.**

The two primary aspects of supplier management in the component-level target costing process involve the selection of suppliers and rewarding supplier creativity.

#### **Select suppliers**

Helms et al (2005) point out that regardless of whether target costing is used, supply chain partners are selected before product development. Costs of the supplier

are rarely the deciding factor, rather factors such as reliability, cooperation, ability to produce quality parts, number of engineers and design experts employed, and reputation for service and dependability within the industry are considered to be the relevant factors. These factors need to be carefully examined, as the suppliers will form part of every decision in the development of the new product. A qualifying or certification program is often used to assist in selecting the right supplier. Suppliers who qualify are rewarded with a long-term contract with the manufacturer.

Helms et al (2005) state that trust and cooperation are critical when using target costing within the supply chain. The inability to monitor or control the expected outcome can be a risk when in-house functions are transferred or outsourced to partners. To manage this risk one of the manufacturer's employees are placed within the supplier's plant to monitor and assist with the activities of the supplier.

### **Reward supplier creativity**

In order to reward innovation and to signal where additional cost reduction should take place, many companies use incentive plans to motivate their suppliers. These incentive plans reward the supplier with all or part of the order for a given component. It is not always the lowest-cost or highest-value supplier that wins the bid. To ensure suppliers remain efficient and innovative, companies need to actively manage their suppliers. By way of example, Isuzu awards suppliers which have a good reputation with at least part of the order, even though their products do not have the highest value. Isuzu awards these partial contracts in order to maintain relationships with these suppliers.

## **2.15. BARRIERS TO THE ADOPTION OF TARGET COSTING**

**HELMS, M.M., ETTKIN, L.P., BAXTER, J.T. & GORDON, M.W. Winter-Spring 2005. Managerial implications of target costing. Competitiveness Review, 15.1, 49-56.**

There are three barriers to the adoption of target costing. Firstly, whilst there is an abundance of information in Japanese literature, there is little English-language instruction. Secondly there is a cultural barrier as “people tend to build fences around their responsibilities because that’s what they believe they are measured on.” Thirdly there is an organisational barrier as “employees are organised according to functions in most companies.” Both the cultural and organisational barriers do not lend themselves to the implementation of such a team-orientated strategy. Helms et al (2005), identifies the following barriers:

### **• Lack of understanding**

In a culture that has previously embraced a cost-plus approach to pricing, it is difficult to implement target costing. This is due to the cost-plus approach often being quicker and does not involve an alternative, inclusive approach to reducing the gap between current costs and target costs. Whilst the term is seen to be restricted to that of the accounting domain, accountants have not been involved in implementing production changes, despite having access to the cost data.

### **• Team and cross-functional barriers**

Although the logic of target costing is easy to understand, the prevailing cost-plus approach continues to be used by a number of industries. This is usually the

result of a lack of understanding of costs throughout the supply chain and the absence of tightly linked, communicating supply chain partners.

- **Irrelevance**

Many managers regard target costing as just another buzz word or accounting term with little relevance to manufacturing or marketing. They fail to recognise that the concept of target costing is identical to the lean concept implemented in manufacturing, since these terms are attempting to achieve a similar goal of reducing non-value added, irrelevant activities that fail to contribute to product's value. Often the smaller partners with less power within the chain will feel that they are being tasked with too much of the cost reduction pressure during the cost setting negotiations.

- **Production detail**

The design process must be broken down into its lowest level components. This requires the involvement of manufacturing, design engineering, product engineering and marketing. Therefore, whilst the concept of target costing is simple and straight-forward, the execution is extremely difficult. While Japanese companies have successfully applied target costing as a strategic tool for nearly two decades, it is relatively new and generally not well applied. The reasons for this are:

- Many companies mistake some elements of target costing systems, such as affordable design criteria, design to cost, or design for manufacturability, for target costing. They fail to appreciate the breadth of target costing as a process for integrating strategic planning with profit and cost planning.

- The basic ideas of target costing are so simple and so intuitive that there is a tendency to underestimate their power or scope. Many companies often view target costing as another cost estimation or reduction method like budgeting, regression analysis, or learning curve applications.
- Target costing requires cross-functional teams to take ownership and responsibility for costs. This key attribute typically is not part of today's engineering and marketing culture. Most engineers and salespeople regard cost management to be a finance function. Finance, for its part, must provide cost data that can support the type of analysis that target cost systems require.

## **2.16. BENEFITS OF TARGET COSTING:**

**CIMA.(2005),"Target costing in the NHS".**

**Available:[http://www.cimaglobal.com/cps/rde/xbcr/SID0AE7C4D165518BE4/live/tech\\_dispap\\_target\\_costing\\_in\\_the\\_NHS\\_2005.CIMA](http://www.cimaglobal.com/cps/rde/xbcr/SID0AE7C4D165518BE4/live/tech_dispap_target_costing_in_the_NHS_2005.CIMA) .**

This article is regarding the use of target costing to plan or project the costs of products before they are introduced, and to ensure that low-margin products which generate insufficient returns are not introduced, as the primary reason for the adoption of target costing. Other benefits identified include the following:

- Highlights other problems in areas such as purchasing.
- Improves the understanding of the costs of products and services, enabling issues to be identified early in the process where action can be taken before costs are locked in.
- Focuses on the final users of the service or product.
- Is multidisciplinary and involves staff from all areas in the cost analysis, in which responsibility for managing costs is encouraged.
- Provides a framework which focuses on the wider supply chain, in effect whole systems approach is encouraged.

- Analyses the impact that new services have on existing services in service organisations.

- Ensures satisfactory financial performance by developing specific and real targets.

Further, by focussing on the design stage, target costing eliminates costly and time-consuming changes required later, effectively reducing the time to market. Also by considering the full lifecycle cost of the product, target costing minimises total costs for both the producer and the customer.

## **2.17. DRAWBACKS OF TARGET COSTING:**

**ANSARI S. L., BELL J., (1997), "Target Costing, the Next Frontier in Strategic Cost Management" The Cam-I Target Cost Core Group, Irwin, Chicago (USA).**

According to Ansari et al (1997) the following potential problems have been identified as: Longer development times – an overemphasis on design results in a longer product development cycle and a longer time to market.

- Employee burnout – pressure to attain demanding targets can result in employee burnout and frustration.

- Market confusion – attending to customer requirements can cause additional features to be added on resulting in the rapid increase in product models, which may lead to market confusion.

- Organisational conflict – one department may feel that they are shouldering too much of responsibility, which leads to internal conflict.

## **2.18. VALUE ENGINEERING:**

### **LEE J. Y., JACOB R., ULINSKI M., (1994), "Activity-Based Costing and Japanese Cost Management"**

According to Lee (1994) value engineering (VE) is the fundamental mechanism that Japanese manufacturers use to achieve target cost. VE is a mechanism used to enhance the value of products and services, which is measured by the relationship between the functions performed by products and services and the costs incurred. The VE process entails describing the functions of each product, part, and service, and quantifying the components of those functions.

The starting point of VE is to examine the functions of materials and purchased parts in order to reduce the cost and/or improve the performance of the product. The VE team typically ask the following questions:

- “What is the function of the part or material?”
- “Can it be simplified?”
- “Is it necessary?”
- “Are all the features necessary?”
- “Can a standard part that will serve the function be found?”

Since changing a part’s design can be expensive due to new tooling requirements, value engineering/analysis is regarded to be an important initiative in ensuring that the benefits of the new design exceed the tooling cost.

## **2.19. QUALITY FUNCTION DEPLOYMENT (QFD):**

**BOOTH, R. January (1995), "Hitting the target. Management Accounting" (British)**

Booth (1995) points out that in practice, the target cost is rarely achieved on the first attempt; hence an iterative process is required. The quality function deployment (QFD), which is a mechanism to pass and sort information, plays a key role in this process. The ability to compress diverse information into a small space in a way that is easily understood is the major advantage of this method.

A statement of customer requirements together with the values the customer expects and actually receives appears on the vertical sides of the matrix. The internal characteristics of the product are listed at the top of the matrix, while at the bottom there is a measurement of the characteristics, comparing the product to competitor's products. This enables designers to compare their product with that of competitors, its performance with customer's expectations, and relate its internal operation to its functional performance (Booth 1999). Booth (1995) notes that trade-offs between cost and specification can be made once the relation between the internal and external characteristics is understood. For example, a specification may be altered to allow a cost reduction in a less critical aspect of the product, or in an area where customer's expectations are being exceeded. Alternatively, in order to increase price or volumes, the specification might be able to be improved at low cost.

## **2.20. ACTIVITY-BASED COSTING:**

**BOOTH, R. January (1995), "Hitting the target. Management Accounting" (British) Jan, Vol, 73, No 1**

Booth (1995) considers the latest developments in activity-based costing (ABC) to have an important role in the implementation of target costing. A product will not only incur direct costs, but will also incur costs from support functions. Activity-based costing allows for these costs to be built into the target-setting process. Usually the major cost-drivers of the support structure, e.g. number of part numbers and the number of suppliers are identified and costs are allocated to them. Booth (1995) quotes that in Japan, the costs play an important role in supporting business strategies by encouraging or discouraging certain behaviour. For example, if the corporate objective is to decrease the number of parts in the product designs, the 'cost per part' would be increased in order to discourage the inclusion of large quantities of parts; motivational and not accounting grounds, form the basis of setting the 'cost'.

## **2.21. DESIGN FOR MANUFACTURING ASSEMBLY (DFMA):**

**SWENSON, D., ANSARI, S., BELL, J. & KIM, I. Winter (2003), "Best practices in target costing". Management Accounting Quarterly, 4.2, 12-17.144**

Swenson et al (2003) point out that design for manufacturing assembly (DFMA) is utilised throughout the product design stage, essentially prior to the first pilot vehicle being built. DFMA evaluates the effectiveness of the design with regard to assembly operations. The aim is to minimise the number of components and to simplify the assembly processes. The result is that fewer errors are made and the reliability and serviceability of the product improves.

## **2.22.PAPER KAIZEN:**

**SWENSON, D., ANSARI, S., BELL, J. & KIM, I. Winter (2003), "Best practices in target costing". *Management Accounting Quarterly*, 4.2, 12-17.144**

Swenson et al (2003) point out that the term paper kaizen promotes the concept of continuous improvement. This involves workstation setups, assembly steps, and process flows being simulated and optimised on paper before expenses are incurred. In order to be most effective, this approach should take place immediately after a new part is designed but before the manufacturing process begins.

## **2.23. BENCHMARKING:**

**ALBRIGHT, T. & LAM, M. SUMMER ( 2006), "Managerial accounting and continuousimprovement initiatives": a retrospective and framework. *Journal of ManagerialIssues*, 18.2, 157-174.**

Albright and Lam (2006) refer to the technique of benchmarking as a means of improving performance. Benchmarking involves comparing the activities and work processes of key areas with those of outstanding organisations in order to identify ways to improve performance. Increased productivity, competitiveness, and quality, as well as reduced production costs are some of the benefits associated with this process. An example of benchmarking being used as part of the target costing process is that of Daimler-Benz during the 1990s when developing its new sports utility vehicle.

#### **2.24. COST TABLES:**

**BLOCHER, E. J., CHEN, K.H., COKINS, G. & LIN, T.W.( 2005), "Cost Management" A Strategic Emphasis (3rd ed.). USA: McGraw-Hill.**

Blocher, Chen, Cokins and Lin (2005) explain that cost tables comprise of computer-based databases, which include comprehensive information on the firm's cost drivers. The size of the product, the materials used in its manufacture, and the numbers of features are examples of cost drivers. Firms that manufacture different size parts from the same design make use of cost tables to show the difference in the cost of parts of different sizes and different types of materials.

#### **2.25. TARGETCOSTING AS A STRATEGIC MANAGEMENT TOOL:**

**BLOCHER, E. J., CHEN, K.H., COKINS, G. & LIN, T.W.( 2005),"Cost Management" A Strategic Emphasis (3rd ed.). USA: McGraw-Hill.**

Blocher et al (2005) indicate that, without strategic information, a firm is likely to deviate from its competitive path by making strategically wrong manufacturing and marketing decisions in choosing the wrong products or wrong customers. A firm's strategic vision is implemented through various tools, techniques, and corporate policies. One such tool that is being adopted by firms is the cost management system of Target Costing. Therefore target costing is intimately linked to an organisation's competitive strategy, since target costing provides the means for achieving the firm's goals of satisfying market demands at an acceptable level of profitability. A target costing system is effective in managing a company's future profits by integrating strategic variables to simultaneously plan how to satisfy customers, capture market share, generate profits, and control costs.

## **2.26. PORTER'S GENERIC COMPETITION STRATEGY:**

**PORTER M.,( 1980), "Competitive Strategy, The Free Press" New York (USA)**

Three generic strategies that a firm may use to gain competitive advantage are defined by Porter (Generic Competitive Strategies). The strategies are overall cost leadership, differentiation and focus on a particular market niche. These strategies are termed generic as they are applicable to various situations and contexts. These generic strategies assist in providing direction for firms in designing incentive systems, control procedures, and organisational arrangements.

### **Overall cost leadership**

In the overall cost leadership strategy, policies aimed at becoming and remaining the lowest-cost producer in the industry are developed by firms. Cost controlling strategies include efficient-scale facilities, tight control of costs and overheads, avoidance of marginal customer accounts, minimisation of operating expenses, reduction of input costs, tight control of labour costs, and lower distribution costs. Therefore by getting its costs of production or distribution lower than those of its competitors, the low-cost leader gains competitive advantage (Generic Competitive Strategies).

### **Differentiation strategy**

In the second generic strategy, that of differentiating the product or service, a firm needs to ensure that its product or service is perceived as unique in the industry. The product must be perceived by customers as having desirable features not commonly found in competitor's products. In order for this strategy to be successful, customers need to be relatively price-insensitive, as they must be willing to pay more for the marginal cost of the differentiating feature. Even

though customers are willing to pay more for the product with the differentiating feature, the differentiation strategy does not allow a firm to ignore costs (Generic Competitive Strategies). Customer brand loyalty and reduced price elasticity may result from following a differentiation strategy. This strategy may also lead to higher profit margins being generated and thus reduce the need to be a producer of low-cost products. The profit margin is increased as long as the firm is able to increase the selling price by more than the marginal cost of the additional features.

The incremental costs of the differentiating features need to be monitored in order to ensure that the difference is reflected in the price (Generic Competitive Strategies).

### **Focus strategy**

The final generic strategy developed by Porter, that of focusing, involves a firm concentrating on a particular customer, product line, geographical area or niche market. This strategy is based on the assumption that a firm is better equipped to serve a limited segment, than competitors who serve a wider range of customers. By following the focus strategy, a firm concentrates on meeting the specialised needs of its customers (Generic Competitive Strategies).

## **2.27. PORTER'S FIVE-FORCE MODEL:**

**PORTER M., (1980), "Competitive Strategy, The Free Press" New York (USA)**

A company needs to evaluate the competitive nature of the market or segment before entering the market or segment (Strategic Planning Tools). Porter's Five Forces Model suggests that the five forces described below, collectively determine the intensity of competition in an industry and further assist in determining the effect of each force on the success of the firm.

### **The intensity of rivalry among competing sellers**

The rivalry among existing firms is usually regarded as the most powerful of the five competitive forces. Since business organisations in most industries are mutually dependent, a competitive move by one firm is likely to have a marked impact on its competitors.

### **The threat of potential new entrants**

The threat of new entrants refers to the ease or difficulty with which new companies are able to enter an industry. The competitive environment changes when a new company enters an industry, since there is new capacity, more competition for market share, and additional new resources. Entry barriers and exit barriers affect the entrance of new companies into a marketplace. A company is less inclined to enter a market if the entry barriers (capital requirements, economies of scale, product differentiation, switching costs, product differentiation, switching costs, access to distribution channels, cost of marketing and advertising) are high. The same principle holds true for exit barriers (Strategic Planning Tools).

### **The threat of substitutes**

The threat of substitutes results in an artificial ceiling being placed on the prices companies can charge within an industry. Competitive pressures arising from substitute products usually increase as the relative price of substitute products reduces and the switching costs of consumers decrease (Strategic Planning Tools)

### **The power of key suppliers**

As powerful suppliers raise prices, reduce services, or reduce the quality of goods or services, the competition is likely to become more intense. This is especially relevant in industries where there are many suppliers, limited substitute raw materials, or increased switching costs (Strategic Planning Tools).

### **The power of key buyers**

The concentration and number of consumers, the differentiation of products, the potential switching costs, and the potential of buyers to integrate backwards influences the bargaining power of buyers. Powerful buyers are able to bargain for lower prices, better product distribution, higher-quality products, as well as other factors, which lead to increased competition among companies (Strategic Planning Tools).

## **2.28. CONFRONTATIONAL THEORY:**

**COOPER R., SLAGMULDER R.,( 1997), "Target Costing and Value Engineering", Productivity Press, Portland, Oregon (USA)**

Cooper and Slagmulder (1997 :30) point out that the majority of existing literature is based on the assumption that firms can develop sustainable, product-related competitive advantages and avoid competition by adopting the generic strategies of cost leadership and product differentiation. However, the generic strategy of confrontation is based on the contrary assumption that competition is unavoidable. A confrontational environment is characterised by being highly competitive where companies are unable to achieve sustainable competitive advantages of product differentiation through quality differences, functionality differences or cost

leadership. This occurs as a result of products with similar high quality, high functionality and low cost being produced by all competitors.

### **The Survival Triplet :**

Cooper and Slagmulder (1997 :31) point out that the three product characteristics, which are known as the survival triplet, play a critical role in the success of firms that adopt confrontational strategy. The survival triplet consists of an internal form, which reflects the producer's perspective, and an external form reflecting the customer's perspective. Internally, for a producer the three characteristics are the product's cost, quality, and functionality. Externally, for a customer the characteristics are selling price, perceived quality, and perceived functionality.

The components of the survival triplet are described as follows:

- Price is defined as the amount, which the product is sold for in the marketplace.
- Cost is the value of the resources consumed in order to get the product to the customer. This includes all investment costs, production costs, and marketing and selling costs.
- Quality is defined as the performance of the product to specifications. This definition allows that quality and functionality be seen as two different product characteristics.
- Functionality is defined by the product specifications.

### **The survival zone for a product :**

Cooper and Slagmulder (1997 :33) explain that the minimum allowable level for quality and functionality is the lowest value of each characteristic, which the

customer is willing to accept regardless of the values of the other two characteristics. For example, few customers are willing to buy a product below a certain level of functionality, no matter how low the price or how high the quality of the product. The maximum feasible levels for quality and functionality are the highest values that can be achieved by the firm without incurring significant penalties in the other characteristics. Few customers will be willing to purchase products with low quality and high prices. Therefore, the maximum feasible value represents the highest value the characteristic can have with respect to the other two characteristics. Since its maximum allowable level is determined by the customers and minimum feasible level is determined by the firm, the price characteristic is different from the other characteristics of the survival triplet. Therefore by connecting the maximum and minimum values of the characteristics the survival zone of a product can be identified.

### **Managing the survival characteristics**

Cooper and Slagmulder (1997 :36) point out that adopters of a confrontation strategy should be experts at developing low-cost, high quality products that have functionality demanded by the customers. Cost, quality and functionality expertise should be utilised to form a strategy in developing products with the right quality and functionality at the right price. The confrontational strategy approach requires the integration of cost, quality and functionality management systems. The integration of these systems has enabled many Japanese firms to respond rapidly to changes in economic conditions and match the innovative products of competitors.

Cooper and Slagmulder (1997 :37) explain the features of the cost, quality and functionality management systems in a confrontational environment as follows:

- **Managing the product functionality :**

In order to compete using product functionality, a firm can use the following methods:

- Accelerate the rate at which increased functionality is introduced.
- Change the way products are differentiated.
- Change the functionality nature of the product.

- **Managing product quality :**

Quality is managed via the total quality management (TQM) program. TQM programs have been very successful in many Japanese firms, resulting in the maximum achievable levels for the quality characteristic being increased to such an extent that any additional improvements are unlikely to be considered of any value to the customer. Consequently, in most products the survival zone of the quality characteristic is extremely small.

- **Managing the product cost**

Firms reduce costs in three primary ways:

- Manage the cost of future products.
- Manage the cost of existing products.
- Harness the entrepreneurial spirit of the workforce.

Factors, which determine the amount of energy a firm spends on each of the above cost reduction methods include:

- The competitive environment in which the firm competes.
- The maturity of the product's technology.
- The length of the product's life-cycle.

## **2.29. MARKET DRIVEN TARGET COSTING**

**COOPER R., SLAGMULDER R., (1997), "Target Costing and Value Engineering", Productivity Press, Portland, Oregon (USA)**

These factors assist in determining the nature and extent of the information collected about customers and competitors in the market analysis process. Further they also assist in determining the difficulty of ensuring that products are launched inside their survival zones and consequently the extent of the benefits that will be derived from target costing. Factors influencing product-level target costing (Cooper and Slagmulder 1997: 175)

### **Product strategy**

Cooper and Slagmulder (1997 :174) suggest that product strategy plays a primary role in determining the amount of effort required on product-level target costing and the manner in which the effort is to be expended. The number of products in the line, the frequency of redesign, and the degree of innovation in each generation of products is established by the product strategy.

### **Number of products in the line**

Cooper and Slagmulder (1997 :174) caution that firms need to carefully manage the number of products in the line. Customers have different requirements and can be satisfied by developing products that are differentiated either vertically or horizontally. Vertically differentiated products differ by the degree of functionality they provide to customers and their selling price. The higher the price of the product, the higher the functionality (and perhaps quality) of the product. Horizontally differentiated products deliver a different bundle of quality and functionality whilst selling at the same price.

Cooper and Slagmulder (1997 :175) state that the greater the number of different products the firm supports, the higher the overall level of customer satisfaction. Further, as the number of products in the line increases, so does the effort expended on target costing, since new product launches occur more frequently. Cooper and Slagmulder (1997 :175) are of the opinion that this observation is intuitively reasonable as target costing operates predominantly at the individual product level, hence the benefits must derive at that level.

### **Frequency of Redesign**

Cooper and Slagmulder (1997 :176) state that firms have been forced to become experts at developing and launching products at a rapid rate due to intense competition. However, this ability has its disadvantages. As the duration of the manufacturing phase is short, the time available to generate an adequate return on the up-front investment is limited and it thus leads to a lower sales volume of each product. In order to remain profitable, the firm needs to launch a high percentage of profitable products. Secondly, due to the short product life cycles, there is inadequate time to correct any errors. An unprofitable product will often remain unprofitable until it is withdrawn. Therefore, it is critical to design new products that are profitable.

Cooper and Slagmulder (1997 :172) are of the opinion that the higher the rate of new product introduction, the greater the benefits derived from target costing. Therefore, it is expected of such firms to have well developed target costing systems that subject the product design process of all new products to systematic cost reduction pressures. In contrast, it is possible that formal target costing systems will

not be required by firms that rarely introduce new products. Rather these firms will probably apply target costing principles on an ad hoc basis as required.

### **Degree of innovation**

Cooper and Slagmulder (1997 :172) state that the degree of innovation in each new product generation assists in determining how much historical cost information can be used to estimate future costs. As the degree of innovation increases, so does product development costs. Information on past products also becomes less valuable. This is especially evident in revolutionary products that rely upon completely new technologies, in which case historical cost information about earlier products will have little value. Similarly, significant innovations in product design can invalidate customer, competition, and supplier information. In contrast, the past is often highly predictive of the future and value engineering techniques such as functional analysis, which depends upon the use of the same technology, can be applied to products that are similar to the ones they are replacing.

Cooper and Slagmulder (1997) observe that it is difficult to apply target costing to revolutionary products. Firstly, it is difficult establishing the target selling prices as the value of the new product to the customer is difficult to estimate. Secondly, historical cost data is not available since the firm has never applied the technology in its products. Lastly, a greater number of new suppliers are typically involved.

Cooper and Slagmulder (1997) are of the view that the target costing system is less valuable when new models are introduced which do not rely upon existing designs, but rather more on intuition as opposed to hard facts. For example, Toyota

derived fewer benefits from target costing with the introduction of the Lexus, because of the high degree of innovation in the new vehicle.

### **Characteristics of product**

Cooper and Slagmulder (1997 :178) cite three characteristics of the product which influence the benefits derived from target costing and the way it is practiced, namely product complexity, the magnitude of up-front investments, and the duration of the product development process.

The complexity of the product determines the difficulty in managing the product design process. The magnitude of up-front investments is influenced by research and development costs, production start up costs, and product launching expenditure. The duration of the product development process refers to the time it takes for the product to progress from the conception stage to being released for production.

### **Product complexity**

According to Cooper and Slagmulder (1997 :178) product complexity is influenced by factors such as the number of components in the product, the number of production steps, the difficulty of manufacturing the components it contains, and the range of technologies required to produce the product. Two main reasons are cited for the benefits of target costing increasing as the complexity of the product grows. Firstly, the extent to which costs can be influenced in the product design stage versus the manufacturing stage increases. Secondly, ensuring that component-level target costs tally with the product-level target cost becomes more challenging since the product design process is more complex. Cooper and Slagmulder (1997 :179) point

out that, as product complexity increases, so does the cost of applying target costing at the component level increase. To reduce the impact of product complexity, the target costing process can be simplified by performing detailed target costing on selected representative variations, as opposed to all variations. Consequently, Cooper and Slagmulder (1997 :179) are of the opinion that target costing becomes more beneficial as product complexity increases.

### **Magnitude of up-front investments**

The number of products a firm is prepared to launch will reduce as the size of the up-front investment increases, since the firm will be more risk averse. Consequently, where products have high up-front investments, firms are more likely to develop a small range of products, aimed at satisfying a specific market segment (Cooper & Slagmulder :179,180).

Cooper and Slagmulder (1997) state that target costing will be more beneficial for firms that have products with high up-front investments because every product has to have the maximum probability of being successful. Where products have high up-front investments and short manufacturing lives, it is critical that any products launched have adequate profit levels and sales volumes. Careful product selection is critical, and target costing plays an important role in ensuring adequate product profitability. In contrast, the benefits of target are lower when up-front investments are small. Further, Cooper and Slagmulder (1997: 180) point out that life-cycle analysis for high up-front investment products are important. It follows that life-cycle target costing is more common in such firms as opposed to those firms producing products with low up-front costs.

### **Duration of product development**

The length of time to develop a new product also determines the benefits derived from a target costing system. As the duration of the design process increases, so does the probability that the market conditions that were used to validate the design of the new product, have changed. Therefore, the target costing system needs to contain several stages at which market conditions are reviewed for products with long development cycles such as automobiles. In contrast, fewer reviews are required for products with short development cycles.

Thus, the target costing system becomes more complex as the product design cycle increases in length (Cooper & Slagmulder 1997 :180).

The multiple review process ensures that, where possible, the target cost will be achieved and that the new model satisfies the customer. Cooper and Slagmulder (1997 :181) are of the opinion that target costing is more beneficial in longer product development cycles because the long time between design and launch increases the risk that unsuccessful products will be launched. Further Cooper and Slagmulder (1997) are of the view that more formal target costing systems, with multiple decision points reflecting a disciplined product development process, result from longer product development cycles. Lastly, Cooper and Slagmulder (1997: 181) observed that most, if not all, of the additional time required by the target costing process can be performed in parallel since the target costing process is integrated into the market analysis and product development processes.

### **Component level target costing**

According to Cooper and Slagmulder (1997 :181) the firm's supplier-base strategy influences the component-level target costing section of the process. This

strategy assists in determining the benefits from component level target costing as it shapes the amount of information the firm has about the costs and design capabilities of its suppliers.

### **2.30. FACTORS INFLUENCING COMPONENT-LEVEL TARGETCOSTING:**

**COOPER R., SLAGMULDER R., (1997)," Target Costing and Value Engineering", Productivity Press, Portland, Oregon (USA)**

#### **Supplier-base strategy**

Cooper and Slagmulder (1997: 181) list three characteristics which influence the benefits of component level target costing namely, the degree of horizontal integration, the power over suppliers and the nature of supplier relations.

#### **Degree of horizontal integration**

According to Cooper and Slagmulder (1997: 181) the degree of horizontal integration refers to the total cost of externally sourced products as percentage i.e. firms that purchase a large part of inputs from external sources are referred to as being horizontally integrated. As a result of the higher reliance that firms place on external suppliers, the importance of supplier management, and therefore component-level target costing increases.

Cooper and Slagmulder (1997: 182) point out that two factors increase the potential benefits of component-level target costing. Firstly, when a high percentage of the product's components are externally sourced the potential for greater savings exists, as target costing can be applied to all the externally acquired components and in so doing, pressure can be put on suppliers to reduce their costs. In contrast, it is often difficult to place effective pressure on the other divisions to reduce their costs in vertically integrated firms. Secondly, greater returns are possible from focussing on

supplier creativity, since suppliers are responsible for a larger part of the design in addition to providing a higher percentage of the firm's products.

### **Power over major suppliers**

According to Cooper and Slagmulder (1997 :183) the amount of energy a firm expends on determining the purchase price of components will depend on the relative power of the buyer-supplier relationship. In cases where buyer power is high, buyers will normally expend considerable energy in developing component- level target costs (i.e. purchase prices) for purchased components.

On the other hand, firms with low production volumes and little buyer power will use less energy to develop target costs for purchased components. In the latter instance, suppliers will not accept the target cost of components as their selling prices for their products unless adequate returns are provided.

Therefore, Cooper and Slagmulder (1997 :183) reach the conclusion that the more power the firm has over its suppliers, the greater the benefits target costing provides as it enables the firm to put cost pressure on the suppliers to reduce prices. Alternatively, the benefits of target costing are reduced when a firm has little power over its suppliers. Newman and McKellar (1995 :15) are of the view that only if the supplier is dependent on the customer will it be possible to implement the target costing technique. The likelihood of success is small if the supplier is in the position to choose its customers.

### **Nature of supplier relations**

Cooper and Slagmulder (1997: 183) suggest that the use of target costing at the component level becomes more beneficial as supplier relations become more

cooperative. This cooperation provides the firms with the ability to combine design creativity and other means to collectively reduce cost. Component-level target costing applies considerable cost pressure on suppliers in cooperative relationships. However, this pressure is eased somewhat by product designers assisting suppliers to achieve their cost reduction objectives.

### **2.31. DESIGN-TO-COST:**

**MICHAELS J. V., WOOD W. P., (1989)," Design to Cost, Wiley-Interscience", New York (USA)**

Setting objectives for the cost of a new product is not a brand new practice. Some authors refer to design-to-cost as the precursor of target costing. Indeed, design-to-cost is an old principle with its roots in the American Department of Defence. Restrictive budgets led the department of defence to define a maximum amount of costs over the entire life cycle of developed weapon system. Michaels and Wood (1989, :20) explain that in design-to-cost, cost is elevated to the same level of concern as performance and schedule (time-to-market). Realistic cost goals are established from early trades with performance and time-to-market goals, but not at the expense of the basic function the product is to provide, and never at the expense of the quality of the future product. Blanchard (1978, 12) states that in design-to-cost, the cost of the new product is assumed to be an *active* rather than a *resultant* factor during the design process, which is also one of the basic assumptions of target costing.

Furthermore, different design-to-cost systems are described. For instance, Blanchard (1978) and Michaels & Wood (1989) distinguish between “design-to-unit acquisition cost” (where the cost goal includes research and development costs as well as the manufacturing costs), “design-to-unit operation and support cost” (where the cost goal includes only the operation and supports costs) and “design-to life- cycle

cost” (where all cost elements are included in the maximum allowable cost ranging from research and development, manufacturing to operation and support costs).

### **2.32. TARGET COSTING IN RELATION TO NEW PRODUCT PLANNING AND THE COSTING SYSTEM**

**KOTLER P.,( 1997), "Marketing Management, Analysis, Planning, Implementing and Control", Prentice Hall, Upper Saddle River, New Jersey (USA)**

Kotler et al. defines target costing as a management accounting process to aim for downstream cost management of future products. It encompasses the process of determining the target cost as well as the process of supporting the attainment of that target cost during new product development (NPD). Target costing information is provided to motivate design engineers to implement cost reduction ideas (without injuring the quality of the future product or the projected time-to-market) in order to secure the profitability of the future product when it is launched at the market. The most important target costing information is the target cost, which is established based on market data and the company’s profit requirement

#### **Typical Characteristics of Target Costing**

The Target Sales Price is set during Product Planning-The Market-Oriented Way

Establishing the target sales price is the starting point in the target costing process. This implies that the target sales price is decided during product planning, when the characteristics of the future product are determined. Kotler found that the target sales price is set realistic in companies using target costing, and that the process of setting the target price is taken very thoroughly at most firms. The sales price of existing products or the price level of competitor’s offerings typically provides an

initial starting point for firms using target costing. A higher price point is only justified if the perceived value for the customer is much better than the existing product or competitor's offerings. An illustration of these four elements used to set the price of a new car, can be found in the Nissan case. We quote:

“The target price for a new car was determined by taking into account a number of internal and external factors. The internal factors included the position of the model in the matrix and the strategic and profitability objectives of top management for that model. The external factors considered included the corporation's image and level of customer loyalty in the model's niche, the expected quality level and functionality of the model compared to competitive offerings, the model's expected market share, and finally, the expected price of competitive models”.

In sum, pricing a future product under target costing runs counter the well-known belief that managers need to consider the cost of the future product in price setting. Kotler (1997) explains the price setting process from a traditional point of view: The *cost* of the future product sets a floor to the price, the competitor's prices and prices of substitutes provide an orienting point, while customer's assessment of product features establishes the ceiling price. Traditionally, companies resolve the pricing issue by selecting a pricing method that includes one or more of these three elements. Using Kotler's terminology, target costing assumes a perceived-value pricing method.

### **2.33.DETERMINATION OF THE TARGET PROFIT MARGIN DURING THE PRODUCT PLANNING PROCESS**

**KATO Y., BOER G., CHOW C. W.,( 1995), "Target Costing: An Integrative Management Process 'Journal of Cost Management, Spring, p. 39-51**

The second characteristic of a target costing system is the early establishment of the target profit margin during the product planning of the future product. Kato (1993) states that the target profit margin for a particular future product should be driven by corporate strategic profit planning. They explain that the total target profit for a future product should be derived from the medium-term profit plans, reflecting management and business strategies over a period of three to five years. These target profits should then be decomposed into target profits for each product over its expected life cycle. With the estimation of the future sales volumes, the target profit for a future product can be converted to a target profit margin. Kato (1993) admits that it is quite a difficult task to imagine a future product portfolio in today's environment, but adds that without doing this it is impossible to decompose the total target profit into targets for each product. Furthermore, Kato (1993) warns that the procedures to compute target profits should be scientific, rational and agreed, otherwise nobody will accept his/her responsibility for achieving the target profit. Kato, Böer& Chow (1995) found in companies using target costing, that the profit allocation to the various products is an arduous undertaking that consumes many hours of management discussion before top management announces the final allocations

Summarizing, target costing assumes that the target profit margin is set for each new product during the product planning, i.e. before NPD really starts, to ensure the achievement of the firm's long-term profit plan. That's why some authors refer to target costing as a technique for profit management.

## **2.34. THE TARGET COST IS SET BEFORE NPD REALLY STARTS:**

**KATO Y., BOER G., CHOW C. W., (1995), "Target Costing: An Integrative Management Process" *Journal of Cost Management*, Spring**

The third and most well-known characteristic of the target costing process is that the target cost is set early in the new product development process, before design and developing really starts. The decision on the appropriate level of the target cost for the new product to be developed involves a number of calculations. First, the on-going cost is calculated and then the as-if cost is estimated. Third, the allowable cost is determined and finally the target cost is set between the allowable cost and the as-if cost.

### Example of the Cost Concepts in the Target Cost Identification Process

First, the on-going cost, or the drifting cost as Sakurai (1989) calls it, is calculated for a future product. Kato, Boer & Chow (1995) define the on-going cost as the best estimate of the future product's cost. When NPD starts, this best estimate is based on the actual cost of the current product, considering cost-down and cost-up factors.

Second, the as-if cost is calculated, Kato (1993) explains that various ideas for cost reduction might have emerged during NPD or during the manufacturing of current products, but that could not yet be applied to the current products. Hence, the as-if cost represents the cost of making the future product if the company had implemented all available cost-reduction activities. The as-if cost represents in fact a real cost reduction, however, Kato (1993) found that it was unlikely for the Japanese companies he studied, to be sufficient to realize the medium-term profit target, given the market determined sales price

Estimated cost based on current data On-going Cost \$12.50

Current cost minus cost reduction ideas as-if Cost \$12.00

Target selling price minus target profit

Target Cost

Allowable Cost

\$10.50

\$10.20

Target Cost

Reduction Objective

Kaizen Cost

Reduction Objective

\$1.50

\$0.30

Third, the allowable cost is calculated as the difference between the target sales price and the target profit margin. As mentioned before, the target sales price is set based on market information and the target profit margin is strategically determined by top management. The allowable cost represents the cost at which the product must be manufactured in order to gain the target profit margin, when sold at the target sales price. However, Sakurai (1989) clarifies that this allowable cost might not be achievable on the short run and forms in fact the long-term most strictly cost objective.

Fourth, the target cost is set somewhere between the as-if cost and the allowable cost. Different methods are described in literature to set the final target cost. According to the deductive method, the target cost is set at the level of the *allowable cost*, i.e. at the difference between the target sales price and the target profit margin. This method is most commonly described in existing studies and is also called the

subtraction or top-down method, since the target costs are more or less imposed to the new product development team. The target cost can also be determined by what is called the adding-up or bottom-up method. Here, setting the target cost starts within the NPD department itself. Kato (1993) explains that for each subassembly or component the cost is estimated, based on the actual cost of current parts. A cost reduction on each part of the new product is taken into account to get the target for each component of the new product. The total target cost is then obtained by adding up all target costs of the individual parts or subassemblies.

For Kato (1993) it is clear that the deductive method is superior to the adding-up method. Kato (1993) argues that though the adding-up method is based on the feasibility test of the proposed value engineering improvements, it is difficult to provide a logical connection with the profit and business plans. Furthermore, in his opinion, innovative ideas for cost reduction seldom emerge with this method. Sakurai (1989) on the other hand, argues that a combination of the top-down and bottom-up methods leads to the best results. His reasoning is that top management should guard target profits, but at the same time the cooperation of employees is needed to make target costing work.

To conclude, determining the level of the final target cost is an important issue.

### **2.35. TARGET COST COMPUTATION, FOLLOWING THE TOP-DOWN METHOD:**

**SAKURAI M.,( 1989)," Target Costing and How to Use It", Journal of Cost Summer 1989,p. 39-50**

#### **Factors involved in setting the Target Cost**

When setting target costs for new products, the general management factors must be taken into consideration such as the *scope* of the target cost and the cost elements included, and the *calculation basis* for the target cost. In terms of the *scope* of the target cost, different parts of the product life cycle of a future product can be taken into account. As mentioned before the target cost can be set for the costs the producer incurs, i.e. including R&D costs, manufacturing costs, distribution costs and service costs. However, the target cost can also be set for the costs the consumer incurs, including installation, operating, maintenance and disposal costs. Most of the research done in Japan shows that firms concentrate on the revenue-producing and more specifically on the manufacturing part of it.

Second, few studies talk about the cost elements (e.g. direct costs, overhead costs) that are making part of the target cost. According to Sakurai (1995) target costing is an effective tool for reducing direct costssuch as materials and parts, as well as for reducing indirect costssuch as overhead costs. Cooper &Slagmulder (1997) found a general focus on the direct costs, while some firms also used so-called rules of thumb to manage the indirect costs, such as reduction of the number of different materials used in a product, reduction of the number of parts across the product line. The survey of Tani et al. (1994, 73) on the adoption of target costing in Japan shows that 99% of the respondents include direct material and labor costs in the target cost. Respectively 81% and 83% of the respondent companies using the target costing

process, includes manufacturing overhead costs and depreciation of new equipment in the target cost.

**Example:**

Sakurai (1989) describes an example, based on an actual business application that has been modified for the purpose of the article. This example illustrates several of the items discussed above. First, it illustrates that the customer determines the target sales price. Second, it shows that the target profit margin is determined by using a return on sales percentage. Third, it demonstrates how the allowable cost is calculated. Fourth, it shows how the drifting cost is calculated based on current cost information. Fifth, it illustrates how the final target cost is set using the bottom-up method. Sixth, it shows that target cost is set at a level somewhat higher than the allowable cost, but lower than the as-if cost. Seventh, it shows that the difference between the target cost and the allowable cost is considered as a strategic cost reduction objective. Though, in this situation the customer (an industrial firm too) was willing to accept a price increase, which reduced the strategic cost reduction objective (kaizen cost reduction objective) to zero. We quote: “XYZ Company received an order for an auto part, product A, from ABC Corporation. The order was for 100 units. According to the proposal from ABC, the *requested price* was Rs.143,000 per unit. XYZ’s *target return on sales* (ROS) was 20 percent - that is  $\text{Rs.143,000} \times 20\% = \text{Rs.28,600}$  per unit. Thus, the *allowable cost* is computed as follows:  $\text{Rs.143,000} - \text{Rs.28,600} = 114,400$  per unit. Since the number of orders is 100 units, total allowable cost is  $\text{Rs.114,400} \times 100 = \text{Rs.11,440,000}$ . Next the drifting cost was determined.(...) Engineers determined that the drifting cost was Rs.125,000 per unit. This means that the total drifting cost was  $\text{Rs.125,000} \times 100 = \text{Rs.12,500,000}$ . The next step was to

determine the *target cost* for the company. Foremen examined potential production problem areas, item by item, with the help of group leaders. The foremen made every effort to reduce the total drifting cost from Rs.12,500,000 down to the allowable cost, Rs.11,440,000. Thus, the target cost reduction was computed as, the difference between the two, which is Rs.1,060,000. The process of eliminating the difference between the allowable and target cost was accomplished by modifying the drifting cost by means of such engineering tools as value engineering. Steps in this process include: interested groups propose modification of the plans, old figures are replaced with new, lower figures, drifting cost figures are modified, and motivation devices for foremen are devised. By studying other problem areas, XYZ also found that it would be possible to reduce costs by an additional Rs.161,000. Thus the total cost reduction achieved at the design stage was as follows: defective units (Rs.325,000), tooling (Rs.322,000) and other (Rs.161,000) equals a total of Rs.808,000. Based on these calculations, the target cost was determined to be Rs.11,692,000 (Rs.12,500,000 – Rs.808,000). This figure was approved by top management. However, *this target cost still fell short of the reduction target* by Rs.252,000 (Rs.1,060,000 - Rs.808,000). Thus, a cost management accountant explained the results of these cost reduction activities to the sales manager in charge of ABC and asked him to discuss the possibility of a higher price for A. Given all this work and the prospect that A could be produced by XYZ at a reasonable cost, ABC accepted the request to rise the price of A by Rs.2,520 per unit.”

Summing up the third typical characteristic, the target cost is set early in the NPD process. Depending on the method (top-down or bottom-up) the target cost is set taking into account mainly the target sales price and the target profit margin, or

considering existing cost reduction ideas on subassemblies and parts of the future product as well.

**2.36. AIMING FOR THE GENERAL RULE THAT “THE TARGET COST CAN NEVER BE EXCEEDED:**

**COOPER R.C., Komatsu, Ltd .A(1994), "Target Costing System, Harvard Business School Case" Number 9-194-037, p.1-10 in Cooper, Cost Management in a Confrontation Strategy: Lessons from**

The last characteristic of target costing involves the policy not to exceed the target cost. Cooper (1995) stresses that the use of a target costing process in Japan is characterized by the intensity with which the rule “the target cost can never be exceeded” is applied. According to Cooper (1995), without the strict application of such a rule,- he calls it the cardinal rule *of* target costing typically lose its effectiveness. Cooper (1995) states that the cardinal rule is necessary to prevent design engineers saying:“If we just add this feature, the product will be so much better and only cost a little more”.

The general rule that the target cost can never be increased requires a strong commitment of managers and design engineers to attain the target cost.

To Cooper (1997), the general rule that the target cost can never be increased has three consequences. First, whenever costs increase somewhere in the product during NPD, some cost has to be reduced elsewhere by an equivalent amount. Second, launching a product with a cost above the target is not allowed; only profitable products are launched. For instance in the Sony case, Cooper (1994c) describes how Sony launches only by exception products that do not attain the target cost. We quote: ”The product planners did not have absolute freedom in relaxing a product’s target cost. As a matter of policy, Sony would not sell products at a loss and would not sell

them below the minimum profit margin established by the appropriate business group's manager.” (Cooper, 1994c)

Third, the transition to manufacturing is managed carefully to ensure that the target cost is indeed achieved. For instance, in the Nissan case Cooper (1994c, 4) reports:

“As the vehicle entered production, accounting would monitor all component and assembly costs and if these were not in line with the final target costs, accounting would notify cost design and engineering that the final target costs were not being met. When the target costs were exceeded, additional value engineering was performed to reduce costs back to the target levels.” (Cooper, 1994)

However, Cooper (1997) argues that the general rule can be violated, however only in exceptional cases, determined by strategic considerations. Examples are flagship products that create market awareness of the firm's name and lead to increased sales of other products, or products that use the next generation of technology, or products that play a strategic role in the product line. For instance in the Sony case: “The only exceptions to this rule were strategic products, which Sony top management viewed as investments necessary to create or expand markets and which would pay off in the long run.” (Cooper, 1994)

Thus, we developed seven typical characteristics of target costing. The first one involves that the target sales price for a future product is set during product planning, based on customer and competitor information. Second, the target profit margin of a future product is set beforehand, based on the strategic profit plan. Third, the target cost is set before the NPD process really starts. As discussed, the target cost is set at a level somewhere between the allowable cost and the as-if cost, where the allowable cost represents the long-term cost objective, since it is defined as the

difference between the target sales price and the target profit margin. Four, the target cost is divided into smaller target costs for functions or components in order to have clear cost objectives for suppliers and design engineers. Five, detailed cost information is provided to support cost reduction ideas. Six, the cost level of the future product is estimated and compared with the target cost at different points during NPD to monitor the progress towards achieving the target cost. And last but not least, the whole target costing process is sustained by the general rule that the target cost can never be exceeded.

### **2.37. TRADITIONAL WESTERN METHOD VERSUS THE TARGET COSTING APPROACH:**

**WORTHY F. S., (1991), " Japan's Smart Secret Weapon, Fortune", Volume 124, No. 4, August 12, 1991**

#### **Periodic cost reduction Continuous cost reduction**

Firstly if cost is too high, return to design phase products will cost. This proactive concentration on a future product's cost allows preventing costs rather than to reduce them after the fact., the main purpose of target costing is indeed to reduce the cost of future products while still in the NPD process. Second, the use of target costing ensures profitability on the short and long run. Worthy (1991 :49) explains that products that show up as low-margin or unprofitable are quickly dropped. Similarly, ideas for new products whose profitability projections fail to clear certain hurdle rates usually wither away on the accountant's spread sheet. As mentioned under the seventh characteristic of target costing, the cardinal rule ensures that: "if you cannot meet the target, you cannot launch the product" Third, target costing reasons backward from customers' needs and willingness to pay.

Fourth, target costing is used at the design stage, focusing on the cost implications of design decisions. By setting a target cost for a future product, all members of the design team consider the impact on the cost while deciding on design alternatives. As mentioned before, the use of a target costing system prevents design engineers saying: “If we just add this feature, the product will be so much better and only cost a little more”.

Fifth, target costing gives a clear, quantitative cost objective to design engineers. Cooper, Worthy (1995 :136) argues that target costing is totally different from what he calls the traditional western approach or the cost-plus approach. To him, under the traditional western approach the new products expected profit margin, not the cost level of the future product, becomes the dependent variable when launching a new product. Under this traditional western approach, the profit margin is determined by subtracting its Estimated cost from its anticipated sales price (sales price - cost = profit margin). Under the cost-plus approach, the product’s expected sales price becomes the dependent variable. This means that the sales price is determined by adding the desired profit margin to the expected cost of the. Product (cost + profit margin = sales price). Under both approaches product designers have no specified cost objective to achieve. Instead, they are expected to minimize the cost of the product as they design it.

Sixth, the use of a target costing system forces management to set the NPD goals early in the NPD process. Under target costing, management need to balance cost and features against the customer’s ability (or willingness) to pay for all this. Remember that we call both approaches, the traditional western approach and the cost-plus approach, a non-target costing approach

## **2.38. BENEFITS OF TARGET COSTING:**

**Ansari, S.L., Bell, J.E. & the CAM-I Target Cost Core Group.( 1997), "Target Costing".The Next Frontier in Strategic Cost Management. USA: Irwin Professional Publishing.**

### Target Costing Benefits:

- Is market driven
- Reduces a product's cost over its lifetime.
- Stops reporting what products should cost, but instead reports what products will cost.
- Outperforms the conventional western and the cost-plus approach because it provides a specified cost reduction target for everyone in the firm to work toward.
- Creates a tremendous pressure for cost reduction by providing numeral objectives and the commitment to attain them.
- Focuses the design team on the ultimate customer and on real opportunities in the market.
- Helps prevent senior managers from launching low-margin products that do not generate appropriate returns to the company.
- Brings the challenge of the marketplace back through the chain of production to product designers.
- Ensures that development teams will bring profitable products to market not only with the right level of quality and functionality, but also with appropriate prices for the targeted customer segments.
- Ensures that success with the customers will yield economic success for the company.

- Forces companies to delineate their product-development goals very precisely and in a single vernacular.
- Employees responsible for product design are given the target cost as one of the design specifications of the product.
- Provides rationalization of existing products.
- Is a cost-oriented planning of the production process?
- Improves the efficiency of indirect activities.
- Reduces costs at the first stages of product development, while also improving quality and reliability.
- Is future oriented?
- Focuses designs' attention on the cost implications of design decisions.
- Helps managers evaluate the profitability of a product before it is produced.
- Reduces the overall cost over its entire life cycle. Is an effective tool to reduce direct costs as well as overhead costs.
- Reduces the costs at the design stage.
- Gives information on the effect of design changes.
- Focuses on getting costs out of the product during planning and design. Ensures that low-margin or unprofitable products are quickly dropped.

### **2.39. A WHITE PAPER ON TARGET COSTING:**

**MARSHALL ANDREWS AND SERGE LE BERRE – SLB Consulting(2010)**

#### **Target Achievement LLC**

Marshall Andrews worked for over 30 years in the automotive industry for General Motors and Delphi Corporation. His last assignment was as Vice-President of Delphi Thermal Division responsible for the Thermal and Serge Le Berre worked for over 35 years in the manufacturing industry, mainly in electronics and automotive. Serge spent more than ten years with Valeo, where his last assignment was Group Technical Vice-President in charge of quality, logistics and manufacturing.

They both agree that many contemporary manufacturing organizations put a great deal of time and effort into cost reduction activities, but there are several significant questions that organizations need to ask themselves regarding their performance in cost reduction.

1. Are their costs lower than your competition?
2. Is their organization aligned in this effort across functions?
3. Are the cost reduction activities sufficient to meet the company's target margins over the product life cycle horizon?
4. Is there a structured management process to ensure cost reduction activities are identified and executed to plan?

In this white paper they also discuss 'Target Costing' as a tool that addresses these questions, and describe how implementing this tool can dramatically improve an organization's cost reduction results.

The following are their research findings:

1. Actual implementations have resulted in doubling to quadrupling the cost reduction Performance in business lines.

2. The tool is applicable for products in the development phase and in production.
3. Target costing aligns the organization and involves all levels – from the shop floor to senior executives.
4. Drives market based realities into the organization to reflect dynamic pricing over time.

The authors have given us an idea of the current environment stating that, many mid to large size manufacturing organizations have very active cost down efforts. In many cases, a great deal of time, cost and effort are dedicated to this activity. This usually involves employees in manufacturing, purchasing, and engineering. Sometimes this effort is led by one of these functions, sometimes by a central cost down group like Industrial Engineering, or sometimes by a product line organization. But usually there is misalignment; it is not a cohesive, holistic, effort focused on a specific product line. Andrews and Berre also insist that a formal standard management plan and review is paramount to the success of Target Costing. The keys to this are constant checking of plan versus actual, corrective actions being addressed with no delay, and multiple levels of management involvement in the process. The standard processes behind this standard work include:

1. Regular team/cross-functional workshops to develop and improve the project list. A quarterly workshop is required for all product lines.
2. Weekly project reviews with the Product Line leader of all projects to ensure they are on track to meet the implementation date and corrective actions to get back on track if an element has slipped.
3. Monthly updates to the Sufficiency Plan for actual costs as reported and achieved.

4. Monthly review with Senior Executives to review the Sufficiency charts for actual performance, and ensure that plans are sufficient, being executed, and resources allocated to achieve the plan.

In summary, Target Costing is a tool that includes standard work and standard management to significantly improve an organizations ability to drive cost reduction performance.

#### **2.40. EFFECTIVENESS IMPLEMENTING AND LUNCHING THE TARGET COS**

**Ali khozeinIslamic(2011) ,''Effectiveness Implementing and Lunching the target costing system'' International research Journal of finance and Economics .Issn 1450-2887 Issue 70**

##### **Ting system in Iran**

In the present study the authors have tried to point out criteria affecting launching and implementing target costing system among Iranian companies; Fuzzy AHP was employed as one of the important items regarding multi-criteria decision making. Finally, these criteria were ranked according to their importance. To this end, first of all, major criteria were classified and ranked into five main groups such as organizational, managerial, environmental, technical and project team criterion; and then minor criterion were examined and then ranked. Regarding results of the Fuzzy Analytical Hierarchy Process (FAHP) organizational criterion is the most important ones and then are managerial, environmental, technical and project team criterion. Among all minor criteria, participation all department and segments in the system, having good designing department, management strategy in competition and strong competition in market are of vital importance. These criteria primarily determine the magnitude of the

Benefits that the firm will generate from the application of target costing. Therefore, firms that gain significant benefits from target costing are likely to have more extensive target costing processes than those that gain only minor benefits.

Different methods for the fuzzyfication of AHP have been proposed in the literature. Experts may prefer intermediate judgments rather than certain judgments. Thus the fuzzy set theory makes the comparison process more flexible and capable to explain experts' preferences. (Kahraman, Cebeci&Ulukan, (2003)

The authors believe that i uncertainty (fuzziness) of human decision-making is not taken into account, the results can be misleading. A commonality among terms of expression, such as "very likely", "probably so", "not very clear", "rather dangerous" that are often heard in daily life, is that they all contain some degree of uncertainty. Fuzzy theory thus is used to solve such kind of problems, and it has been applied in a variety of fields in the last four decades.

In the present study, the effect of 20 minor criteria in 5 major groups on implementing and launching target costing System among listed companies in Tehran Stock Exchange were examined and the resultant calculations prove that ,companies should have continuous engineering and designing process to increase the quality and decrease the cost and omit the non value added activities. Another thing a business 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 company (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/she should be the most interested person among all qualified individuals; he/she should be interested in consulting the matters with experienced counsellors All taken together, implementing and launching

target costing system leads to less failures in companies; 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, The International Research Journal of Finance and Economics - Issue 70 (2011) 204 will experience more success and can enjoy benefits of target costing system more than ever and finally value of the organization would be added.

#### **2.41.JAPANESE TARGET COSTING: A HISTORICAL PERSPECTIVE**

##### **.PATRICK FEIL, KEUN-HYO YOON AND IL-WOON KIM (2004).JAPANESE TARGET COSTING: A HISTORICAL PERSPECTIVE**

HYO YOON and WOON KIM in this article provides an overview of the development of target costing in Japan and discusses the underlying philosophy of target costing through a literature survey (published mainly by academicians and practitioners in Germany, Japan, and the United States). A better understanding of target costing as it has developed in Japan will help companies outside Japan successfully adapt target costing for their own business environments' Target costing, like many other management practices and philosophies, is environment- specific, it is not surprising to see these variations in practice. Even though many published articles have greatly contributed to the wider use of target costing, most of the articles have dealt with only one specific aspect of target costing, and some have caused misconceptions about Japanese target costing. These misconceptions may result from the limited exposure of some of the authors to the holistic approach of target costing in Japan.

It is known that 'Target Costing' is a retrograde approach for determining product costs, which is one of the most important features of target costing, references to this can be found as early as the beginning of the last century at Ford in the United States and in the development of the Volkswagen Beetle in Germany in the 1930s. At Volkswagen, in order to meet the price goal of DM 990, alternative technical solutions were weighed on the basis of cost considerations (Rösler, 1996). The first use of value engineering in Japan known as "genkakikaku" occurred at Toyota in 1963, though it wasn't mentioned in Japanese literature until 1978 (Tani et al., 1996). Later "genkakikaku" was translated into "target costing," the term now used throughout the world. Rösler (1996) did etymological research to clarify the derivation of the term "target costing" from Japanese language, which is described in Figure. Even though Kato (1993) criticizes the use of "target costing" as a translation of "genkakikaku," the term has been generally accepted in the Western world. At the annual meeting of the Japan Cost Society in 1995, the official name was made "target cost management" on the grounds that "target costing" was too vague and did not convey the true meaning of "genkakikaku."

### **The Origin of Target Costing**

原價企劃

**Gen - ka Ki - kaku**

Origin Price Plan Cost

## **2.42. TARGET COSTING: A TOOL FOR STRATEGIC PERFORMANCE MANAGEMENT**

**JOHN CURRIE "TARGET COSTING: A TOOL FOR STRATEGIC PERFORMANCE MANAGEMENT", Examiner in Professional 2 Strategic Performance Management**

This article reviews the basic principle of target costing, that the cost of producing and distributing a product must not exceed: (competitively realistic selling price minus acceptable profit margin). For example, if the product can be sold for €20 and a profit margin of €7 is required then the manufacturer cannot afford to spend more than €13 producing and distributing it. The amount of this required profit is likely to depend on how much capital has been invested in production and distribution facilities for the product. The logic behind target costing is essentially the reverse of the logic in cost-plus pricing. The logical error in cost-plus pricing is the idea that cost can be taken as a “given” and that a required profit margin can be added to arrive at a “fair” selling price.

The “target cost gap” In the example above, it was determined that the cost of producing and selling the product must not exceed €13. The next step is to predict the product cost which is likely given the existing product design, supply chain, and distribution channels. If this predicted cost is (for example) €15 then there is a “target cost gap” of  $€15 - €13 = €2$ . Manufacture and distribution of the product cannot take place unless this target costing gap is “closed” by identifying sufficient cost savings. Ways of closing a target costing gap are explored later in this article, but at this stage two points should be made. First, the target costing gap must be closed in full, otherwise the product must not be produced. It might be tempting to say that cost savings of (say) €1.50 would be “good enough” but that would be a mistake because it

would mean that the minimum required rate of return on the investment would not be achieved. Second, opportunities for closing the target cost gap are typically greatest when the product is still at the design stage of its product lifecycle, is undergoing a fundamental redesign, or where major changes to the supply chain and/or distribution channels are being contemplated. The reason for this is that it is in these situations that there is maximum flexibility to make the changes necessary in order to achieve cost savings.

The authors also discuss the strategy for closing the target cost gap by reducing direct costs. As an example they suggest and I quote –“ One way to close a target cost gap is to reduce direct costs of the product (i.e., direct materials or direct labour). This can best be achieved by elimination of non-value-adding raw materials (such as packaging) or by improving labour productivity (e.g., by investing in training so as to accelerate learning effects). However, care must be exercised if the change involves substituting one type of value-adding raw materials with another: If the replacement raw material is of obviously inferior quality then the amount which customers would be willing to pay for the product is likely to be reduced, thus cancelling out the profit effects of any cost saving. However, it is sometimes possible to identify a replacement material which is both cheaper and better for the intended purpose. For example, while customers may prefer natural fabrics such as cotton and wool for major clothing items, synthetic microfibers offer many practical advantages (in terms of durability and cleaning) for smaller items such as socks”.

The author's advice caution while using the 'Target Costing 'method to reduce cost and state that, as with any strategic performance management technique, target costing should be used only where appropriate. For example, target costing is less widely used in service industries than in manufacturing, and there appear to be three

main reasons for this: Less intense selling price competition. For example, an airline operating on the Dublin-London route has far fewer competitors than (for example) a manufacturer of tablet computers. Therefore, service firms may feel less need to exercise the kind of rigorous cost control which target costing facilitates. Less frequent product innovations. For example, a hotel chain may open a new hotel or an airline may open a new route, but the existing business model is typically applied without modification to the new venture. The new venture is not a product innovation in any real sense. Therefore there are few opportunities for target costing, which is best carried out when a product (or service) is still in the process of being designed. No bought-in components, so there are more limited opportunities for supply chain simplification than in manufacturing firms. Of course, this is not to say that service firms don't actively manage their supply chains for strategic advantage, as the example of Wal-Mart above indicates.

**2.43. USING TARGET COSTING TO INVESTIGATE COMPETITIVE PRICE:  
R. A. SABIR, X. XINPING, S.A. SABR (2011) ," USING TARGET COSTING  
TO INVESTIGATES COMPETITIVE PRICEBY" , IN WORLD ACADEMY  
OF SCIENCE, ENGINEERING AND TECHNOLOGY**

This paper has presented research in progress concerning the contribution of target costing approach to achievement competitive price in the Iraqi firm. The title of the paper is one of the subjects that get large concerns in the finance and business world in the present time. That is because many competitive firms have appeared in the regional and global markets and the rapid changes that covered all fields of life. On the other hand, this paper concentrated on lack knowledge of the industrial firms, regarding the significant role of target cost for achieving the competitive prices. The

paper depends on the main supposition, using the competitive price to get the target cost in the industrial firms. In order to achieve competitive advantage in business world the firms should rely on modern methods to manage cost and profit. From strategic perspective the target cost achieves a so powerful competitive advantage represented in cost reduction. Nevertheless the target cost does not exclude the calculation and survey of costs during the production process. Products' estimated costs are calculated and compared with the target costs. The conceptual framework indicated that firms are forced to implement a wide variety of develops innovative managerial approaches and philosophies to react to external and internal pressures. Target costing, a long-term comprehensive approach, can be implemented in various stages of product development including; product concept, product planning, and product design. Through interdepartmental integration, target costing can accomplish the goals of developing a new product with its functionality, quality, and competitive price acceptable to consumers. The authors have researched the following method for determining competitive price by using 'Target Costing'

In order to make using target costing for competitive pricing clear, we suppose that the firm intend to offer two new products and will take costing target to for this decision. And the current market price for these products ranges between: First product (X): price between (320\$-380\$) per unit. Scanned product(Y): price between (750\$-850\$) per unit.

The market studies show that if the firm can price (X) product with \$300 and (Y) product with 725\$, it will obtain a big share in marketing product and the usual margin profit for the firms (%25) out of the gross cost for the unit. While the estimated costs associated for the producers as follows:

Indirect cost rate include:

Activity Material handling: 1.30 dollar per dollar from the raw materials and each part buyer.

Activity product: 3.50dollar per hour of work machine.

Activity delivery of the product: 24 dollar per unit of a product X

Product /Characteristics desired

Desired profit margin

Target cost = Competitive Price - Desired profit

Activity delivery of the product: 30 dollar per unit of a product Y

To determine the competitive price Accordance the target cost approach we calculated the cost per product as follows:

TC = Competitive Price - Desired profit margin

Rate Margin profit =25% to cover both administrative and marketing costing in firm

Product X

$$TC=300-(TC \times 0.25) = 240 \$$$

Product Y

$$TC=\$ 725-(TC \times 0.25) = 580 \$$$

#### **2.44. TARGET ANALYSIS: COST, QUALITY OR BOTH?**

**Booth, R. (1995). "Hitting The Target", Management Accounting. Jan, Vol. 73. No. 1, p. 42**

The authors argue that though, traditionally, improvement in quality meant increased costs and was associated with reduced productivity, more recent research treats them as complementary characteristics. In this article, K R Balachandran and Bin Srinidhi argue that the target analysis approach which combines cost and quality issues in a complementary manner can help achieve the strategic objectives of the firm. They discuss here the target analysis approach which brings together cost and

quality issues in a complementary manner. Target analysis consists of target cost and target quality components which are efficiently put together to achieve the overall strategic objectives of the firm. In contrast, traditional standard costing approach, while emphasizing cost control, fails to explicitly incorporate quality issues. Most of the manufacturing costs are committed during the design stage which occurs early in the life cycle of the product. This early commitment considerably constrains the ability to attain cost reductions during the manufacturing stage. On the other hand, if cost reduction objective is given sufficient emphasis during the conceptual development and design stages, significant cost efficiencies can be realized. The life cycle cost concept has been documented in Berliner and Brimson [1988] and some target costing ideas are given in Kaplan and Atkinson [1989]. An explicit cost minimization objective would seemingly sacrifice quality objectives. A quality maximization objective would apparently sacrifice cost containment. The traditional operations research response to this dilemma would be to approach it as a constrained optimization programme. One could minimize the cost subject to a pre-specified minimum quality level or alternatively, one could maximize quality subject to a maximum cost level. Target analysis views the problem very differently. The assumption of consistent trade-off between cost and quality is questioned.

#### **2.45. Use Of Value Analysis Technique For Cost Reduction In Production Industry Chougule**

**M.A. and Kallurkar S.P(2012)." Use of Value Analysis Technique for Cost Reduction in Production Industry – A Case Study", International Journal of Engineering Science and Technology (IJEST )India ISSN : 0975-5462 Vol. 4 No.05 May**

In this paper the authors present the basic fundamental of Value Analysis that can be implemented in any product to optimize it's value. A case study of a Universal Testing Machine (UTM) is discussed in which the material, design of components is changed according to the value engineering methodology. In the present case study, it is observed that the unnecessary increase in cost is due to the use of expensive material, increase in variety of hardware items and thereby increasing the inventory and so on. Therefore we have selected some components from UTM and we have applied Value Analysis technique for the cost reduction of the some components of UTM.

#### Definition of Value Analysis:

Value Analysis can be defined as a process of systematic review that is applied to existing product designs in order to compare the function of the product required by a customer to meet their requirements at the lowest cost consistent with the specified performance and reliability needed. This is a rather complicated definition and it is worth reducing the definition to key points and elements:

1. Value Analysis (and Value Engineering) is a systematic, formal and organized process of analysis and evaluation. It is not haphazard or informal and it is a management activity that requires planning, control and coordination.

#### Types of Values:

- a. Use value - which is based on those properties of the product, which enable it to perform work or service.
- b. Cost value - which is based on the minimum cost of achieving a useful function.
- c. Esteem value - which is based on those properties of the product, which contribute to pride of ownership.

d. Exchange value – which is based on those properties which make a product valuable for exchange

purposes. Examples of the different categories of value are Value Engineering Phases:

1. Orientation Phase: Refine the problem and prepare for the value study.
2. Information Phase: Finalize the scope of the issues to be addressed, targets for improvement, and evaluation factors while building cohesion among team members.
3. Function Analysis Phase: Identify the most beneficial areas for study.
4. Creative Phase: Develop a large number of ideas for alternative ways to perform each function selected for further study.
5. Evaluation Phase: Refine and select the best ideas for development into specific value-improvement recommendations.
6. Development Phase: Determine the “best” alternatives for presentation to the decision-maker.
7. Presentation Phase: Obtain a commitment to follow a course of action for initiating an alternative.
8. Implementation Phase: Obtain final approval of the proposal and facilitate its implementation.

The process is demonstrated by considering a case study. A case study of a Universal Testing Machine (UTM) is discussed in which the material, design of components is changed according to the value engineering methodology. In the present case study, it is observed that the unnecessary increase in cost is due to the use of expensive material, increase in variety of hardware items and thereby increasing the inventory and so on. Therefore we have selected some components from UTM and we have applied Value Analysis technique for the cost reduction of the some components of UTM. Value Engineering is executed in this case study by implementing design

modifications and change in materials of components. From the results of the execution of value engineering to the selected components of Universal Testing Machine, we conclude as follows:

- The design modification suggested for Dial Bracket and Top Bearing Bracket Assembly reduces the weight and material requirements which reduces the cost and is clear from Tab.
- Value Engineering results in use of alternative less expensive and light material. The Recorder Gears, Range Selector Knob and Hand Wheel of brass, cast iron are replaced by Nylon. This results in reduction in weight and cost of component .
- Value analysis also deals with minimizing variety of different hardware items. This reduces the inventory of hardware and also of the required tools for operation.
- The execution of Value Engineering technique to selected six components only results in net saving of 20.84 %.

Value Engineering is executed in this case study only for six selected component and substantial reduction in cost is achieved. In the similar manner secondary analysis for the remaining components can be made and further cost reduction can be achieved. Also Value Engineering results in the elimination of unnecessary cost by avoiding the unwanted machining of components. The development of additional testing attachments to the existing UTM increases its use value with the addition of some cost.

## **2.46.What Is Kaizen Costing?**

**Malasian Export Academy(2012) "Monthly digital news letter Exclusively for mearons" July 2012 Exportacademy.net**

KAIZEN costing is a cost-reduction system that is applied to a product in production. It comes from the combination of the Japanese characters 'kai' and 'zen' which mean 'change' and 'good,' respectively. The word 'Kaizen' translates to 'continuous improvement' or 'change for the better' and aims to improve productivity by making gradual changes to the entire manufacturing process. Some of the cost-reduction strategies employed involve producing cheaper re-designs, eliminating waste and reducing process costs. Ensuring quality control, using more efficient equipment, utilizing new technological advances and standardizing work are additional elements.

To understand Kaizen costing, one first needs to grasp standard costing methodology. The typical standard costing approach works by designing a product first, and computing costs by taking into account material, labor and overhead. The resulting figure is set as the product cost. The standard cost is set and revised on a yearly basis. Cost deviation analysis involves checking to see whether the projected cost estimates tally with the final figures. Manufacturing procedures are assumed to be static.

In contrast, Kaizen costing is based around improving the manufacturing process on a continual basis, with changes being implemented throughout the year. Cost-reduction targets are set on a monthly basis. The goal here is to reduce the difference between profit estimates and target profits. The cost deviation analysis done in Kaizen costing examines the difference between the target Kaizen costs and the actual cost reduction achieved. The basic idea

here is to make tiny incremental cost reductions on a continual basis in a product's life cycle.

#### **2.47. Cost Reduction Analysis - Tools And Strategies:**

**STEVEN M. BRAGG Cost Reduction Analysis (2009) Tools and Strategies: John Wiley & Sons, Inc ISBN 978-0-470-58726-3 cloth: October Centennial, Colorado**

The central idea of 'Target Costing' is reduction of cost. In this regard, Steven M. Bragg's book 'Cost Reduction Analysis – Tools and Strategies' explains this concept in comprehensive though simple manner viz.

The central concern of any company is how to reduce its costs, since any cost reduction flows straight into profits. However, cost reduction must be accomplished without impacting customer loyalty or reducing the ability of the organization to achieve its long - term goals. Thus, the real issue is how to carefully pare away unnecessary costs while maintaining a robust organization. Cost Reduction Analysis shows how to do this. It describes a variety of cost reduction tools and the issues associated with using them, and then goes on to describe various forms of cost reduction in key expense areas, such as sales and marketing, production, payroll, and benefits.

The book is divided into four sections. In **Part I**, we address the primary areas of cost reduction. This begins with a discussion of the need for cost reduction, a multitude of cost reduction tools, and process analysis. It continues with specific cost reduction opportunities in the areas of sales and marketing, product design, production, payroll, and benefits.

In **Part II**, we cover the major cost reduction area of procurement. Coverage begins with a number of methods for improving the procurement process to reduce

operational costs and then continues with discussions of spend management and the more specialized area of maintenance, repair, and operations spending.

**Part III**, addresses asset reduction, which indirectly impacts cost reduction. The first chapter describes a broad array of techniques for reducing a company's investment in inventory while the next chapter delves into the best forms of analysis to follow when deciding whether to invest in a fixed asset.

Finally, **Part IV**, describes two special topics that are extremely important in the realm of cost reduction. The first topic is throughput analysis, where a company centers its activities on its use of the bottleneck operation that drives its overall level of profitability. All cost reduction decisions should be based on how they impact the productivity of this bottleneck. The reason for having an active cost reduction program is quite simple. A company can work extremely hard to obtain one extra incremental dollar of revenue, which will yield a net profit of perhaps 5 percent. Gaining that extra revenue dollar will be uncertain, and it may be difficult to attain the targeted profit. Alternatively, and using the same profit percentage, a cost reduction of one dollar would have required 20 dollars of revenue to generate. Further, a cost reduction is entirely within the control of a company, whereas a revenue increase is not.

**The calculation for the equivalent amount of revenue needed rather than saving one dollar of cost is:**

1 profit margin = Equivalent amount of sales

The following calculation shows the equivalent sales that would be needed at various profit margins in order to equal one dollar of cost savings: Net Profit Equivalent Revenue

1% \$100

2% 50

5% 20

10% 10

15% 7

20% 5

25% 4

In conclusion even a spectacularly profitable company having 25 percent profitability would have the choice of either creating four dollars of revenue or reducing cost by one dollar. If the buyer treats an acquisition as a financial transaction where the acquiree is a stand - alone operation, there is a good chance that only the most minimal integration activities will be needed. However, if the buyer treats it as a strategic transaction, where it plans for full integration with the rest of the company in order to maximize cost reductions, then it must deal with a complex series of activities that will be difficult to coordinate and that will be at considerable risk of failure. The key factors in the integration of a strategic acquisition are to have a dedicated integration team and to act at once. When a decisive manager announces all major changes within a few days of a purchase transaction, it keeps the acquiree 's personnel from squandering time worrying about their circumstances. Conversely, a creeping integration that spans several years causes ongoing uncertainty and drains value from the combined companies.

## **2.48. Implementing Brand Management In The Japanese Companies - Related With Target Cost Management:**

**Hiroshi Okano And Ellie Okada And Nobuo Mori (1999). Hiroshi Okano, And Ellie Okada And Nobuo Mori (9-11 June 1999). "Implementing Brand Management Related With Target Cost Management", International Symposium. Osaka 558-8585. Japan.**

Prepared for Discussion at the OECD International Symposium, 9-11 June, 1999. Recently, many Japanese enterprises have started to introduce brand management system. For example, Kao (the cosmetic industry) introduced a position of brand manager who has a responsibility of increasing the brand value of the segment. It is reported that Kao maintains a higher level of the stock price in the market compared to its rival, Shiseido, that does not employ the brand manager system (Saito, K, 1999). Furthermore, the cooperation between R&D section and marketing section can be often observed in Japanese enterprises. Sony also introduced brand management system in which brand managers are expected to increase brand value of a brand or a certain group of brands in cooperation with marketing people and R&D people. There are three classes of brands: that is, 1) corporate brand, 2) umbrella brand, and 3) product brand. Corporate brands include a company's name and reputation. Product brand means brand that is attached to a certain product. Umbrella brand means a brand name that includes a group of brands. Traditionally Japanese enterprises unconsciously made efforts to maintain and increase the value of enterprises' names, though they are not interested in measuring the brand value. It is just recently that Japanese enterprises come to be conscious to the brand management including the umbrella brand.

## Brand Management and Target Cost Management

Target cost management (TCM) or target costing is a Japanese management accounting system for managing planned profit and life cycle costs for every product brand.

The authors seek to examine the importance of the relationship between strategy, organization, and TCM. Three directions of TCM are also presented, as well as the intertwines between Product Manager Allowance, ABC/ABM. Then future TCM research orientation is made. TCM consists of three systems, calculation system, management system, and social system.

### Three Dimensions of TCM

#### Calculation System

- Design Cost Type (Toyota): Full Cost Type (Nissan): Combination Type (Matsushita)

#### Management System

- Organizational Coordination, Balancing among Target Costing, Kaizen Costing, Facility Planning, Budgetary Control, VE, QFD, etc.

Centralize or Decentralize Responsibility (among Chief Engineer, Functional Manager, Process Engineer, Cost Engineer, Cost Accountant, etc. )

#### Social System

- Supplier Relationship (contract or without contract, target pricing or target costing)

Educational System (power balance between design engineer, process engineer, plant manager, technician, etc.)

#### Environmental Issue (Design for Engineering)

## **The Desired Brand Management Process**

A.T. Kearney has globally assisted many major corporations including Japanese companies. We would like to describe one of the most effective approaches to improve brand management process focused on introducing new indicators of the performance of the brands. In the face of declining market share, company A decided that it needed a more disciplined approach to managing its brands. AT Kearney helped Company A develops, test and roll out a brand-management system that has helped reshape both the marketing organization and market performance. The company believed that they couldn't build brand equity unless they can measure their progress along the way. Therefore, developing, implementing and proving effective internal measure for brand equity was the must for the organization. We started from building internal agreement on the drivers of brand value as reflected in the purchasing decision process of consumers. To determine which specific measures should be selected to accurately reflect the key steps involved in the purchase and ownership cycle, a set of principles were established. The principles for measuring brand equity include, (1) Full Consistency of indicators across geographies, methodological consistency across funnel elements, applicability to both umbrella and product line brand level indicators, (2) Geographic specific level indicators, appropriate and consistent frequency to data elements being available and, most importantly, (3) brand performance to be measured on a relative, not absolute, basis with the competition.

## **2.49. Managerial Implications Of Target Costing**

**Marilyn M. Helms, Lawrence P. Ettkin, Joe T. Baxter, And Matthew W. Gordon(2005)**

### **Managerial Implications Of Target Costing.competitiveness Review**

Mergers, acquisitions, and consolidations continue to change the scope and size of many firms. While larger companies benefit from economics of scale and larger research and development departments, leading to lower production prices, the consolidation and increased merger activity brings disadvantages as well. The key disadvantage is competition from both domestic and global players with differing production and delivery costs. The dilemma for manufacturers is to match the lower prices of the global competition and still offer the highest quality products customers demand. Target costing may serve as a solution when developing new products, minimizing costs through the optimal use of all resources along the entire supply chain (Ahmed, Berry, Cullen, and Dunlop, 1997; Zsidisin and Ellram, 2001; Lockamy and Smith, 2000; Welfle and Keityka, 2000; and Shank and Fisher, 1999). Lockamy and Smith (2000) agree target costing focuses less on cost and considers customer requirements to be the primary cost driver. Cost is seen as a result of the process whether focusing on a price-based approach, a value-based approach or an activity based cost management approach throughout the global supply chain.

Target costing reduces costs by involving suppliers and manufacturers as contributors to the design process, thereby focusing the entire chain toward the overarching goal of eliminating costly waste, excess, and unevenness. The supply chain partners can also consider costs of reclamation and disposal of products after their useful life in a total, closed-loop life cycle costing model.

Although target costing is more time intensive than the traditional methods of cost-based pricing; manufacturers can be assured prices will be in line with customer

expectations. As the examples in practice illustrate, time is also needed to bring all costs throughout the supply chain to acceptable levels. From a strategic perspective on new product development and implementation, costs must be developed quickly and products introduced before customer's tastes and needs change. Costing must also occur early in the developmental stages of a product while designs are easy and less costly to change. Internally, coordination and involvement of financial and accounting professionals is needed to implement target costing as is close monitoring of marketing and quality control throughout the entire process in order to be a success. Areas for future research include extensive reviews of companies implementing target costing. Organizing this literature into theory-building can help practitioners identify the process order and other implementation challenges as well as ways to overcome them. In the academic arena, the topic needs broader coverage in textbooks, particularly and simultaneously in cost accounting, production and operations management, design and project management, and supply chain management. Cases for discussion warrant inclusion in these textbooks and other ancillary educational material to better train the next generation of managers in target costing. Even a target costing game or role playing exercise among supply chain members could be developed to illustrate the process.

#### Implications for Management:

Today supply chain partners are selected before product development, regardless of whether target costing is used. When choosing a supply chain partner, the costs of the supplier are rarely the deciding factor. Relevant factors are reliability, cooperation, ability to produce quality parts, the number of engineers and design experts employed, and reputation within the industry for service and dependability. It is very important for these factors to be carefully examined by the manufacturer

because the suppliers will be included in every decision throughout the development of the new product and beyond. To aid in selecting the right supplier, manufacturers often institute a qualifying or certification program. Suppliers, who qualify, can be assured a long-term contract with the manufacturer. Carefully choosing the right supply chain partner makes the difference in whether the target cost is reached or not. A bad choice can be disastrous and conversely a good partner can be a tremendous asset.

## CONCLUSION

As a preamble to the actual primary research in this doctoral thesis on target costing, the available literature has been reviewed in order to study not only the history and theory of the subject but also its practice. This is an attempt to peruse as much theory as is available on the subject in order to facilitate through understanding and help conceptualise and execute my study so as to be able to provide a novel body of knowledge.

As can be understood from the topics stated in the reviews above, it is evident that there has not been any study in the area of target costing practices comparing Libya and India and that too from the unique perspective of the two countries being in completely different stages of economic, political and social development.

The secondary research through the literature on the Japanese method of cost reduction which is target costing has endeavoured to answer the question that ,if practised similarly in two countries in varying stages of economic, political and social development could there be differences in the understanding and practice of this technique, considering the resultant differences in organisational structures, business policies and practices. The target costing technique being the same either the applications are different or the developmental stage dictates the results.

There is also a possibility that neither the stage of economic development nor the political or social differences have any effect on the understanding, application and therefore results of the target costing technique in these two countries.

The literature reviewed definitely suggests that target costing as a cost reduction technique does not differ in its application or benefits or drawbacks from

one country to another. It therefore stands to reason that the theory of the technique being universal, also proven by almost no difference between the opinions of the renowned researchers and authors on the subject such as Cooper, Slagmulder, Ansari, Bell etc. This lends credence to the question that has prompted this research viz. Do countries in different stages of development make the technique perform differently?

The fact that Libya and India are familiar helped in securing the information needed to assist the research. The present research therefore is definitely an addition to the body of knowledge of target costing in the sense that there is virtually no literature available about the functioning of the target costing technique in India and Libya as a comparison or individually and not much literature available either on, if the developmental stages of an economy which directly relate to the level of industrialisation of a country affect the understanding, application and results of this cost reduction technique and so the profitability of the industry.