

Is Target Costing implemented in Automobile sector of Pakistan or not?

Ahmad Usman Shahid^{*}, Nauman Aslam[!], Sonia Kanwal[#]

Abstract

Target costing is a strategic tool the purpose of which is to reduce the cost of the products and ensure the profitable sale over a long run. In today's competitive era the cost reduction is the main objective of the companies especially the manufacturing ones to increase the profitability. This study aims to explore the adoption level of target costing techniques in automobile industry in Pakistan. Automobile industry in Pakistan is quite competitive and a dynamic environment is the prerequisite of the target costing. A questionnaire was developed and a survey was conducted. The reason of adoption is only 33 % in Pakistan. The reason of quite low adoption of this costing technique is that it is perceived as too complex and costly by the companies in Pakistan. The target costing is a long term strategy while in Pakistan the business environment is quite uncertain. The percentage of adoption can be increased by spreading the knowledge about the target cost in Pakistan.

Key words: Target costing, Customer Orientation, Supply Chain Management, Cost Based Pricing and Value Based Pricing.

Introduction

Cost management techniques of Japan particularly target costing, is increasing all over the world. This study deals with the matters relating to the implementation of target costing in Pakistani automobile companies. This study tries to examine target costing application in Pakistan. In the competitive economy of

* Hailey College of Commerce, University of Punjab, Lahore, Pakistan, cell no 923224288906,
Email Id: ahmadusman1990@outlook.com.

! Hailey College of Commerce, University of Punjab, Lahore, Pakistan, cell no 923224567683,
Email Id: naumanaslam91@yahoo.com.

#Hailey College of Commerce, University of Punjab, Lahore, Pakistan, cell no 923454104052,
Email Id: sonia_kanwal1990@yahoo.com.

automobile sector of Pakistan the use of target cost is research worthy. There are other management practices like activity based costing, quality and value chain costing which have been in practice before the implementation of the target costing practices (Maqbool-ur-Rehman, 2011). Target costing is a new concept as compared to other management accounting tools and techniques like life cycle costing, throughout costing approach, Kaizen costing and ABC techniques (Rayport & Sviokla, 1995). Target costing technique emphasizes on the profitability during the development of the product. At present amount of profit is determined first then allowable cost and target cost are determined keeping in view market aspects as well as the customer's preferences (Wall, 2011).

Availability of quality products at affordable prices is the main focus of many manufacturing concerns in Pakistan. For this many management accounting techniques like JIT approach, life cycle costing approach, target costing approach, ABC approach, operation costing and other are used (Ashraf & Ghani, 2005). But target costing is of prime focus because it is profit oriented as well, which is the basic aim of a business (Maqbool-ur-Rehman, 2011). First and foremost aim of this study is to examine the application of target costing techniques by the manufacturing firms of Pakistan. This study investigates the pattern of the implication of principles of target costing techniques and of how target costing is in usage of the Pakistani manufacturing firms.

Manufacturing companies are combating the challenges to develop and manufacture energy and cost efficient products. For the efficient production of products, target costing approach has been used by the Japanese companies. The efficiency means that the products which are demanded by the customer with such a combination of factor of production that have least cost (Feil, Yook, & Kim, 2004). Target costing is a technique of cost management which stresses on the continuous research in developing or identifying the opportunities of cost reduction during the development as well as designing product. Target costing is a long term approach that insists on simultaneous planning regarding satisfaction of customer. Ensuring quality products, capturing market, create profit plans and cost reduction (S. Ansari, Bell, & Okano, 2006).

Total cost management (TCM) means measuring cost for all phases of a product in its cycle of life, TCM consists of mainly target costing and Kaizen costing which determines the cost and profit margin during complete life of a product (Accountants, 1998). While applying the target costing approach, cost is determined by the profit margin and prevailing market price of the product. Then it further moves

in reverse direction to develop the product within the cost limits. The cost is led by the target cost and target price of the product. Manufacturer need some sort of value engineering for keeping the cost of production within the target (S. L. Ansari & Bell).

A survey regarding adoption of target costing techniques in Dutch firms which have been listed in the Amsterdam stock exchange was conducted by the Dekker and Smidt in 2003. The purpose of that survey was to check the percentage of firms which are using target costing techniques knowingly and unknowingly. That survey suggested that different firms do use the target costing techniques but they do not know about this cost management approach (Dekker & Smidt, 2003). Similar survey was conducted by Borgernas and Fridh in 2003. They suggested that companies working with the large working capital and in competitive environment applied target costing for cost management (Borgernäs & Fridh, 2003).

The main purpose of this study is to examine how widely target costing is being used as a cost management technique in the automobile industry of Pakistan. The secondary purpose if this study is to explore whether it is being used by the Pakistani industries or not and if used then to what extent it is adapted. It is an exploratory study trying to explore the implementation of target costing in Pakistan especially in the automobile industry. This study can be significant in such a way that very limited study has been conducted regarding target costing in automobile sector of Pakistan. Further in this study is also explored that if a company is not following the target costing technique itself then which principles or alternative techniques for costing is used by the companies in automobile sector of Pakistan.

This study aims to examine whether the automobile industry of Pakistan is implementing the target costing approach as its cost management tool or not. This study explored the adoption of target costing approach by the automobile industry of Pakistan and the degree or extent of that approach. To which extent target costing is used by the Pakistani automobile industry? What is the adoption level of such practices in Pakistani firms as compared to the manufacturing firms of other countries? Which principle of target costing I mostly followed by the automobile firms if they are not applying this costing technique as a whole? The reason for the non-adoption of such practices are tried to explore in this study.

Literature review

Target costing technique has a role in the comprehensive process of managing cost termed as Target cost management (TCM). This process takes into

consideration the attainment of a cost targeted at the same time while other processes of planning and development of comprehensive design of product (Tani et al., 1994). Target costing is a consolidated method to product development and design. It requires the active participation of individuals crosswise the whole organization. Target cost for a product is estimated from the comprehensive understanding of existing cost, balances among cost, quality, the varying desire of customers and functionality. Target costing is a technique which serves to synchronize design team efforts and also communicate needs to all parties. It openly describes the objectives and challenges which are being faced by the organization while product launch and maintenance (Cooper & Slagmulder, 1997).

Target costing is a new concept as compared to other management accounting tools and techniques like life cycle, ABC, throughput and Kaizen costing. Target costing technique emphasizes on the profitability during the development of the product. A present amount of profit is determined first then allowable cost and target cost are determined keeping in view market aspects as well as the customer's preference (Carlsson-Wall, 2011)

There are six principles of target costing which are being used to determine the target cost of the product (Helms, Ettkin, Baxter, & Gordon, 2005). When a product is designed by a manufacturing firm it makes a market research, product design, plans a selling price, target cost. After this product is manufactured and sold in market, this leads to the continuous cost reduction and ultimately continuous improvement (Neely et al., 2000).

“Target costing is a companywide profit management actions taken in the stages of the process of developing a new product. That different phases are product planning process that deals with the customer preferred quality, target costs determination phase which include targeted investment cost that has to be incurred on new product to get the target profit. That profit also include formulating means to create the product design which realize target cost at the same time also satisfy customer preferred quality and speedy delivery” (Everaert, Loosveld, Van Acker, Schollier, & Sarens, 2006). Target costing can also be defined as the financial goal of the product which has to be attained from the estimated sales price of the product and the anticipated sales price of the product and the anticipated profit from each product (Carlsson-Wall, 2011).

Goals of target costing

There are two goals of target costing technique

1. In such a way the cost of new product should be reduced, that the desired profit can be realized (Target profit = Target Price – Target Cost), on the fulfillment of the conditions of quality, development time and the reasonable price of the newly developed product.
2. Motivation of the managers and employees, in the process of product development, to attain the target cost as well as target profit (Yazdifar & Askarany, 2012).

The process of target costing

Target cost is a companywide profit generation cum management phenomenon. While developing a new product, following step has to be followed for executing the practices of target cost.

1. Plan a product with customer driven quality
2. Define the target cost which also have the investment costs which is required for the product to generate target profit over long run
3. Identify the means to develop the planned design of product (Everaert et al., 2006).

To determine the target cost manufacturing firm has to establish the market oriented price. A particular and realizable target profit margin is established and then this decided profit margin is deducted from the calculated price. Before setting the target cost level, current cost level of analogous products in the market or the competitive product is used to determine the level of cost saving from competitor cost level. Thus the target cost is calculated by deducting the required cost saving from the price of the product in the market. Then target cost is applied on the previous product development process. If required the process of reengineering is applied to maintain the cost within the predetermined target cost. The last step aims that the calculated cost may not greater than the follow-up cost of the life cycle of a product. Continuous efforts are directed to maintenance activities and continuous improvement process through entire product life cycle in hope that the target cost is followed (Ax, Greve, & Nilsson, 2008).

Market orientation is the most important aspect of target costing. The basic functionality of this retrograde process is that the customer's requirements are fulfilled while managing cost and sale price. The target cost is set prior then this cost is fragmented by taking into the consideration the functional requirement of the product (Hiromoto, 1989).

A target cost is the permissible amount of cost that can be experienced on a product and at the sometime ensuring the required or estimated profit from that product. It is a cost driven by market that is calculated before production of a product. A budget is an operational definition of an allowable cost which is fragmented by items and by periods (Ramos, 2004).

Target costing approach in accordance of which a planned product with identified functionality and quality has to be produced, to realize an anticipated level of profitability at its predicted selling price. An important facet of this definition is that it highlights that target costing is far more than a management accounting practice. Rather, it is a significant part of a widespread management process purpose of which is to help or organize to survive in a progressive competitive environment. So in this manner target costing is a contradiction because it is not costing system for the determination of cost of product. It is a management tool meant to reduce a product life-cycle cost (Hines, Francis, & Bailey, 2006).

Target costing have significantly great positive impact on profitability, and this effect totally depends on the guarantee of its use by the management, the constant involvement of cost accountants in all stages of a product's life cycle and strategic fit of a company. Target cost focus on the design, engineering and selling price of the product before manufacturing it. So it leads to the cost reduction (Worthy, 1991).

Target cost approach encompasses a process where a target cost is calculated by subtracting and anticipated profit from a competitive market price "price - profit margin = cost" (Lockamy III & Smith, 2000). This approach is aimed at minimizing the future product's life cycle cost as well as ensures the quality, consistency and customer's demands by investigating each probable idea of reduction in cost at very first step of product planning. A cost objective is determined for whole product's life cycle of a newly developed product (Cooper & Slagmulder, 1997).

Target costing improves profitability in two ways

1. It places such a detailed continuing emphasis on product costs throughout the life cycle of every product that it is unlikely a company will experience runaway costs; also, the management team is completely aware of costing issue since it receives regular reports from the cost accounting members of all design teams.
2. It improves profitability through precise targeting of the correct prices at which the company feels it can field a profitable product in the marketplace that will sell in a robust manner. This is opposed to the more common cost-plus approach under which a company builds a product, determines its cost, tacks on a profit and then does not understand why its resoundingly high price does not attract buyers. Thus, target costing results not only in better cos control but also in better price control (Barber, 2008).

Principle of target costing approach

There are six principles of target costing approach (Lockamy III & Smith, 2000)

1. Price-led costing: here market price is driving factor which is used to determine the allowable or target cost.
2. Focus on customer: the base of this principle is that the value given the customer must always be greater than cost of delivering that features to the customer.
3. Focus on design: according to this principle changes should be made on the design level, resulting in cost reduction and also reduce the time to get into the market.
4. Cross functional involvement: other products and processes are also responsible for the whole production from beginning to the end of manufacturing of a new product.
5. Value-chain involvement: all members (supplier, distributor and customers) are included in targeted cost.
6. A life cycle orientation (Lockamy III & Smith, 2000).

Currently different firms are using the target costing but there are less confirmations about the influences that affects the decision of a firm regarding the adoption or rejection of the target costing. Some factors that influences the decision

are industry grouping, competition level in the industry, uncertainty of the environment and strategy (S. L. Ansari & Bell) (Dekker & Smidt, 2003) (Hibbets, Albright, & Funk, 2003). There are various methods of management costing that are currently in use for the improvement of one or more than one functions and processes in an industry, these methods do not take into consideration the whole life cycle of a product. While target costing is a method that pay full attention to the manufacturing and consumes part throughout the design development phase of a product. This helps to increase the profit or value of the firm, as products are produces according to the customer as well as the cost perspectives of the firm. Target costing uses enormous techniques for the identification of the customer demands, ways to reduce the cost during the production phase and ultimately attain the strategic goals. So target cost is the integral part of whole product life cycle that is based on the strategic plans (Sani & Allahverdzadeh, 2012).

The process of target costing in most of the firms can be divided into three constituents, market driven costing, product level costing and component-level costing. A research has been conducted to determine the factor that influence the target cost of a manufacturing firm in japan. From the analysis five factors are identified, in the process of determination of market driven cost component of target cost intensity of competition and the nature of the customer are observed. The factors that affect the product level target cost includes the characteristics of product and firm's strategy of product development. Supplier management strategies of the firm affects the benefits associated with the component level target costing. The companies that have noteworthy benefit from the adoption of target costing probably have more widespread target costing process because target costing is a tactical profit determination tool and cost managing tool in which a product is manufactured according to the quality preferred by the consumer as well as estimated price. And an estimated profit is realized by the determination of the product cost (Cooper & Slagmulder, 1997).

In the procedure of target costing, it is significant to emphasize on the establishment of actual prospects. This means in the company's production range, each product included should subsidize to the procedure of attainment of desired profit. Target cost as a market oriented approach focuses on the attainment of low costs which is equal to have a competitive edge. This is only possible when the cost of new product is controlled in the early phase of development and design of that product. This is important because the early life cycle of the product provide the greater opportunities to control and reduce the cost significantly. Since the

competitive environment of mainly manufacturing firms changed so much and this change can be characterized by the new technologies, the diversified customer demands and shortened product life cycle. In these circumstances the product life cycle cost tends to increase during the production phase (Smith & Mason, 1997) (Kokatnur, 2004)

The product design phase determines 80% of total cost of the product hence there is greater potential for the reduction of cost in the ascending stage of product development. It is quite impossible to reduce the cost in this ascending stage of product development. It is quite impossible to reduce the cost when the production phase starts. So in order to reduce the cost during the process of product development and designing most of the companies prefer to have target costing approach ultimately get a competitive edge. Manufacturing concerns do not take target costing approach as a strategic management tool but also as a profit planning tool to plan and attain the desired profit (Smith & Mason, 1997).

Target costing is profit planning strategy

Target costing is profit planning strategy that ensures the long term profit for the firm. Its main goal is to make it sure that the firm will realize a sufficient profit on its products. In the recent years the target costing techniques have been considered as a powerful method to manage and control cost during the production phase of a product's life. It is a feed forward rather than a feedback cost management technique, as opposed to the traditional costing techniques it starts managing cost from the development phase of a product rather than a manufacturing stage. It is not a new technique, it is in use since mid-sixties (Tani et al., 1994).

Target costing is price led costing technique

Price is only factor that only generates revenue among the other factors of marketing mix (price, promotion, product and distribution) but also is the most flexible one among all because it can be changed rapidly. Though the most companies have competition over the selling price of the products, yet they cannot solve the problem. Even when the companies are providing the same quality is least flexible factor in the race of competition then price get more attention. This is the only factor that captures and retains the customer for the firm. Through the competitive prices the firm can only get the loyalty of customers. Pricing is the activity which has to be done on repetitive basis. Pricing is in simple words the

identification of the prices for the goods and service. Target costing is the management accounting technique that is totally based on the pricing activity of a firm (Anderson & Sedatole, 1998).

To ensure the profitable sale of products by implementing the target costing technique, a survey has been conducted in Japan. Seven manufacturing firms have been selected and studied to determine the factor that influence the target cost of the product in the early life-cycle. Though practices differ among the companies but the surveyor identified the generic approach for the implementation of target costing system. Following facts have been observed in the survey

Market driven costing: It consists of three main tasks; setting the company's line term profit and sales objectives, to get the maximum profitability organizing the product line and to establish the targeted sale price (Hiromoto, 1989).

Product level costing: It encompasses setting the attainable cost through the whole cycle of product without forgoing the quality and functionality. This is done through value engineering and other cost reduction techniques (Sani & Allahverdizadeh, 2012).

Figure-1: Cost plus Pricing and Price led costing

Cost plus pricing

Product → Cost → Price → Value → Customer

Price-Led costing

Customer → Value → price → cost → product

(Price Led Costing: the wave of the future, "2007")

Customer orientation in target costing approach

Customers play an important role in the determination of target cost (target cost = selling price – required profit margin). In order to ensure that the product will surely generate the required profit margin it is necessary for it to be sold and the product can only be bought by the customer if it satisfies the customer. Today competition is getting severe among the firms just because of the customer preferences. In this era of competition only that firm can survive which listens to its

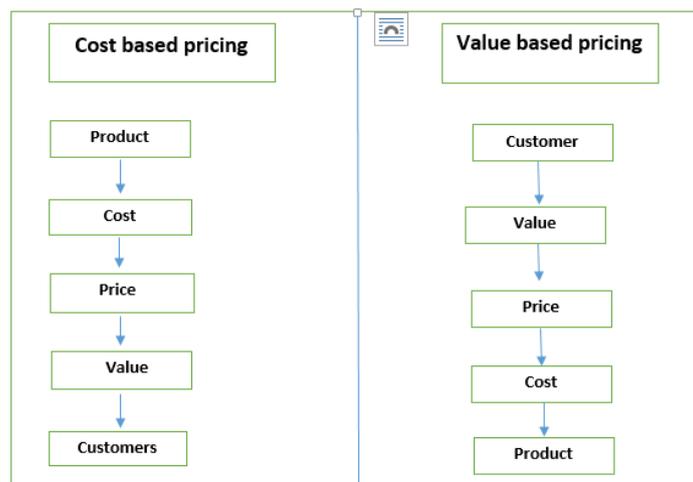
customers and satisfy them, there are certain characteristics of customers that influences the customer oriented target cost of a product. These characteristics includes customer sophistication, he rate of change in customer demand and the degree of customer's understanding of their future demand that is helpful in market survey.

Target costing is value based pricing technique

Value based pricing or more precisely stating optimizing he value is business strategy. In the value based pricing technique primarily the selling price is set but this selling price is not exclusive. The set selling price is based on the perceived value which is to be provided to the customer. Other factors like cost of product, market price of the product, the price offered by the competitors and the price of that product in past have secondary importance in the determination of selling price in the value based pricing system.

The main objective of the value based pricing technique is to streamline the value with the price of the product. This pricing system makes the firm more competitor and profitable as compared to the simple pricing techniques. Value based pricing is also used during the product development and management phases. Value based pricing technique gives more importance to the customer's preference. It gives more importance to the customer's perspective of value rather than cost of product. It totally based on the surveys of customers.

Figure-2: Comparison of Cost based pricing and Value based pricing



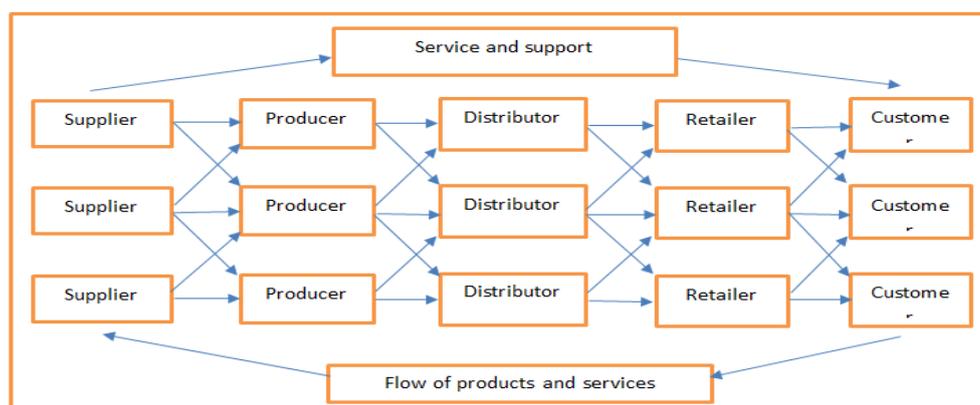
The relationship between target costing technique and value based pricing technique

Both target costing and value based pricing techniques are long term strategic approaches which are based on the competition among contemporary organizations, profitability for a long time period and primarily customer orientation. Product's quality and its price management are main features of both techniques. Both techniques pay prime importance to the customer's preferences and the quality or value demanded by the customers.

Supply chain management

In today's competitive and multifaceted economies, most of the companies use the supply chain strategies in order to respond the varying customer demands having minimum possible inventories. Because these companies do know the fact that their survival lies in the balance of supply and demand. And this balance between supply and demand of different inventories can be achieved through an effective supply chain management. Supply chain involves a network of firms working altogether to process, deliver and distribute raw material, finished goods and services. This concept brought revolution among the distribution and production processes. The main aim of supply chain management is to add maximum value around the supply chain from the product design to product distribution process (Castellano & Young, 2003).

Figure-3: Supply chain management in target costing approach (Gunasekaran & McGaughey, 2003)



This model was adopted from (Gunasekaran & McGaughey, 2003).

Supply chain management's concept involves the synchronization of suppliers, producers and customers in such a way to have minimum inventory, coordinating among the manufacturing and distribution activities to get higher level of efficiency and response from customers (Chan, Chan, Lam, Yeung, & Chan, 2011).

It is believed that the target cost is a better choice among the cost management techniques for supply chain management. Its top priority is to respond to customer's requirements and guarantee profit for the company. By the implementation of target costing techniques supply chain cost is minimized and only that cost is incurred which is necessary to satisfy a customer's demand. Target costing techniques takes cost as an input not the output. The main idea behind the technique is to design the product according to the demand of customer within the determined target cost. This process takes into account the decision regarding suppliers and supply chain, only then the target profit is attained.

Japanese firms introduced the target costing technique to remain in the competition. Obviously the cost reduction is the prime objective of any costing technique. But target costing technique's usage actual experience has increased its importance for the many organizations. Cost reduction is the primary objective while other objective has includes refining quality of the product, timely introduction of new product, market research and customer satisfaction. Furthermore it is combined with other processes or disciplines in a firm so helpful in the speedy development of a product. For some organizations due to its market research feature, it is helpful for attaining competitive advantages regarding quality and customer values. It leads to higher selling price at the initial phase of the product ultimately leads to the long term profitability (Sievänen, Suomala, & Paranko, 2004).

Howell (1996) stated that the aim of target costing is to ensure that the organization achieves, in a competitive surroundings, its product specified and firm wide goals. It is being realized by the major firms that they cannot stop the gap between cost price and profit margin of a product from squeezing with the help of rise in prices. So they need a setup to reduce the cost to increase the profit margin for a long term. Target cost is reversible approach that moves from the sale price to the cost price and of the product, so it needs a whole strategic change in the organization. To make the implementation of the target costing possible, an extensive and proactive role is required as well as full support from the strategic management is necessary (Howell, 1996).

In this age the competition is the feature of the market and firms get completed by the customers through market prices offered by the firms. The competitive prices of their product ensure the targeted market share and targeted profit. The firm which is going to implement the target costing approach similar to its needs the intensive market survey and market analysis. Target costing techniques needs the restructuring of the product designing and cost structure to make it fir in the frame of competitive market prices.

Research methodology

A survey was established that observed the adoption of cost management practices similar to target costing among the automobile industry of Pakistan. The study was formulated to identify the existence and usage of such practices (target costing) in Pakistani firms. There might be a possibility that similar techniques to target costing, are being used by firms without being knowing about the concept. Similar results had been found in Swedish study where the firms were using ABC costing methods without being aware of its name (Kachitvichyanukul, Luong, & Pitakaso). So in order to provide an insight about the target costing technique a broad definition of the target costing technique has been provided in the first section of the questionnaire. This definition mainly focuses on the reverse engineering aspect of target costing.

A questionnaire was adopted from the (Dekker & Smidt, 2003) in which the respondents had been asked about the industry competition and some has adopted from the (Tani et al., 1994). Production cost factor is highlighted in questions and have been asked to the respondents. Quantitative research methodology is used in this survey. The non-adopters have been asked the reason for not adopting these principles of target costing and finally the adopters who have claimed their firms are right now using this technique or similar to this are asked about the benefits which they perceive to receive from target costing approach.

Scaling

Where possible in questionnaire 5 points Likert scale has been used with 1 strongly agree and 5 strongly disagree. It is convenient to use Likert scale as it is easy to analyze the responses as they are in numerical form (S. L. Ansari & Bell). In addition to that same open ended questions have been sked for the convenience of respondents so that they can reply and address the future issues.

All the respondents have been approached by telephone to reach the production department head. And if further if this person is not contacted then the head of research and development had been approached. If this department did not exist then then the head of finance department was consulted and questionnaire was sent to that person via mail as well as email. The data is collected by the survey and the response rate of e-mails was 25%, then the survey was conducted again on telephone.

Statistics

It has to be an exploratory study as stated in the purpose of the study. Exploratory study is done when researchers have little or no knowledge about the facts and hypotheses. Since there is no comparison of variables and theories on target costing so it cannot be an inferential study. It is a descriptive study which is trying to describe the adoption percentage and pattern of target costing technique by the firms including automobile industry of Pakistan. The data collected by the survey can only be described by the descriptive statistics. The survey consists of 27 questions, mostly multiple choice questions with five point Likert scale. Few questions are yes or no type of questions. Other questions are descriptive to explain the reason for the non-adoption of target costing.

Population

In this research the whole manufacturing companies of Pakistan can be taken as population but due to limited time and resources, we limit population size up to the automobile industry of Pakistan. All the automobile companies listed in Karachi stock exchange are included in the population size of the study. So the population size consists of 14 automobile companies. There are numerous private automobile companies but they cannot be studied because the private companies try to keep their costing techniques and other affairs secret.

Sampling technique

Whole population has been selected for the survey so no sampling technique is required for this survey because the population size is small, response rate was 56% (9 out of 16 companies).

Method of analysis

After getting all the responses the software package SPSS for windows is used for the data analysis. This software is used because it generates the concise but

full of required information results. The descriptive statistics, frequency, standard deviation and mean calculation are done by the SPSS.

Data analysis

A total 9 responses were received from the 16 automobile companies listed in Karachi stock exchange and the response rate was 56%. Out of total response rate only 335 companies think that they are using target costing techniques while other firms are using traditional management accounting practices like cost plus, standard costing systems and other techniques. Only 33 % firms think target costing would be beneficial for them in future while 66% of firms deny this fact (on 5 point Likert scale mean 3.33 and standard deviation is 1) figure 1.0.

Table 1: Benefits from target costing

Responses	Percentage
Agree	33.33 %
Disagree	66.66%
Total	100%

The main reason of not adopting the target costing is that costing technique is that It is not consistent with the nature of business and 44% companies think this method is too complex and it costs too much (mean 3.56 and standard deviation is 1.667) figure 2 in appendix

Table 2: Reason for non-adoption

Responses	Percentage
Method is too complex	44.4%
Method costs too much	44.4%
Because of the nature of the company is not well	11.1%
Total	100%

Target costing technique is helpful in combating with the severe competition (Collier, 2006). Numerous competitive firms have now been emerged in local and international markets and this change in the industry has covered all fields of life (Ganye, 2008). Automobile companies in Pakistan facing competition and out of all respondents 55% think that there is severe competition in the industry figure 3.

Table 3: Intensity of competition

Responses	Percentages
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No one	11.1%
Few	33.3%
Many	55.6%
Total	100%

Further questions have been asked to the companies in order to assess whether these companies are following some principles of target costing approach or not. There are six principles of target costing approach, price led costing, supply chain management, customer orientation, value chain involvement, cross functional operations and product design (Håkansson & Lind, 2006).

Supply chain management also leads to management, monitoring and improvement in cost reduction strategies. Prominently, in target costing no function is more important than other function (Zengin & Ada, 2010) total 55.6% respondents agree with the fact that in their company the principle of supply chain management is followed while other companies do not know about this principle (mean 2.44 and standard deviation is 0.527).

Table 4: Supply chain management

Response	Percentage
Agree	55.6%
Neither agree nor disagree	44.4%
Total	100%

A cross functional team approach, also contains suppliers, is important for the long-term success of target costing exertions (Ellram, 2002). Total 77.8% of respondents said that the cross functional involvement in their firm is followed and from inner supplier to external supplier and customer everyone is involved in the product development stages (mean 2.22 and standard deviation is 0.441 on 5 point Likert scale).

Table 5: Cross functional involvement

Response	Percentage
Agree	77.8%
Neither agree nor disagree	22.2%
Total	100%

Customer orientation is the circulation of facts connected to the customers in the entire organization, planning strategies and tactics to satisfy the needs of

market essentially (Al-Omiri & Drury, 2007). With mean 2.22 and standard deviation 0.441, 77% companies follow the customer oriented principle of target costing approach.

Table 6: Market survey

Response	Percentage
Agree	77.8%
Neither agree nor disagree	22.2%
Total	100%

With mean 2.33 and standard deviation 0.707, 77 % follow the competitors pricing structure for products.

Table 7: Competitors prices and strategies

Response	Percentage
Agree	77.8%
Neither agree nor disagree	11.1%
Disagree	11.1%
Total	100%

Customer feedback is important for a firm to design and develop new products and for the modifications in the current production lot (Horngren & Datar Srikant). Customer orientation is a principle of target costing and total 66% automobile companies participated in this study follow this principle (mean 1.89 and standard deviation 0.601)

Table 8: Customer's feedback is followed

Responses	Percentage
Strongly agree	22.2 %
Agree	66.7%
Neither agree nor disagree	11.1%
Total	100%

Findings

A strategic weapon target costing is widely adopted by numerous firms all around the world. Manager got attracted to this tool due to its competitive advantageous feature which it has bestowed the Japanese firms and auto companies of Japan who are consistently using target costing for a long time period. The purpose

of this study is to investigate up to what extent the target costing is applied in Pakistan. Some similar studies have been conducted in Japan, New Zealand, Australia and India. Unexpected results have been observed under this survey.

The adoption rate of target costing technique is 32 % in the automobile industry of Pakistan. Approximately same results had been found by (Rattray, Lord, & Shanahan, 2007) who has found that 38.5% adoption rate in manufacturing companies in New Zealand. While (Dekker & Smidt, 2003) found 59.4 % in the manufacturing concerns listed in Dutch stock exchange. (Tani et al., 1994) studied the implications of principles of TCM in Japanese companies and the adoption rate of this technique in Japanese firms is more than 60%. Here adoption rate is high because TCM is an integral part of target costing technique. Total 38% and 35% is the adoption rate found by the (Chenhall & Langfield-Smith, 1998) in the Australian manufacturing companies.

The adoption ratio is quite low in Pakistan as compared to other countries manufacturing companies. The reason behind this fact is that the companies do not have proper knowledge about target costing. Furthermore the strategies of this costing method do not match the strategies of many concerns, same result was found by (Dekker & Smidt, 2003) in Dutch firms.

Further questions have been asked from the non-adopters regarding the principles of target costing which through light on the important and widely principles used by the Pakistan manufacturing companies in automobile industry. It has been found that each company is using some of the principles of target costing but they are not aware of this fact that these principles are integral parts of target costing method.

Approximately all firms pay attention while launching a new product. With mean 2.44 and standard deviation is 0.527, 56% firms out of total listed companies in Karachi Stock Exchange follow the principle of supply chain management. Customer's preference and cross functional involvement principle of target costing followed by 78% companies in their product development phases. While 66% automobile companies out of respondents follow their current customer's feedback in the new product launch.

Limitation of the study

The purpose of this study is to know about the target costing and its implications in Pakistani industry but this study has some limitations which are shortage of time, lack of participation of respondents and shortage of resources. This study has to be conducted in the whole manufacturing industry but due to limited resources it has kept limited to the automobile industry of Pakistan. Further this study has totally ignored the servicing industry; it is limited up to manufacturing industry.

Recommendations for future research

Target cost has been introduced by the Japanese firms in 1960s, since then many researches have been conducted on the awareness of target costing, its principles and the extent of adoption level. Target cost is a strategic tool but further research is required in this field. However target cost enables the firm to get long-term benefits. Another important benefit which needs to be researched is the whole process of implementation of target costing technique. For this qualitative research methodology must be used to address the different level of adoption of such practices and their comparison with the Japanese firms. Another important issue which can be studied is the implementation of target costing in the service industry of Pakistan because a service industry would be benefited from the target costing practices. Furthermore in Pakistan, the topic of target costing is least studied among all other management accounting practices. More research is required to explore the various benefits which can be achieved by the Pakistani manufacturing companies by implementing this approach.

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