

# CONSIDERATIONS CONCERNING THE IMPROVEMENT OF COSTS CALCULATION THROUGH TARGET COSTING METHOD

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*Target costing represents a cost accountancy concept, developed and used even from the 70's by Japanese enterprises, having on its basis another manner of regarding the relationship between costs and prices than the traditional one. As against the traditional methods, this method uses the information provided by cost and focuses on the determining of the best level of the sell price, involving specialists from different departments: production, accountancy etc. It appeared from the need of producing smaller series, in order to give a better respond to market's needs and due to the introduction of new methods of production organization and of new technologies based on automation. The method is regarded as a cost reducing management instrument during the product's entire life cycle duration. Managers look that through the market's level both the consumers' requires and the reaching of the expected profit to be satisfied.*

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## **1. The context of apparition of the new cost calculation method - Target costing**

The long term financial success of any business depends on the fact whether the prices are higher than the costs in order to allow the financing development, reinvestments and the acquiring of incomes satisfying for the stockholders. At one time with the competition growth, the offer surpasses the demand, and as consequence, the prices are more and more influenced by market's forces. The target costing method appeared in the context when the companies, willing to obtain a certain level of the profit, had to revise the rapport production costs/prices fixed on the market or, setting own sell prices, to occupy a certain clear established segment on the market. After the Second World War, numerous North-American companies developed significantly due to the high demand started by Europe reconstruction and population growth. The big demand as well as the lack of competition, allowed companies to remain profitable and to develop through covering the costs increase with prices increase. Nowadays, many of these companies, used to the favorable past market circumstances, experiment a different and hostile market.<sup>453</sup>

The powerful agglomerations and groupings, economies' globalization, both as offer and demand, the new economic and technologies restrictions and opportunities of global environment lead to a redefining of enterprises objectives. From the well-known "quantity and productivity", the enterprise faced a new system of objectives: quality increase, the diminishing of costs and terms; productivity; flexibility. Under these type of circumstances the need of "defining new methods", adapting the fundamental calculation methods, their improving – respective the apparition of modern calculation costs appeared.

Traditional methods of costs calculation start from costs to which, in order to obtain the sell price on market, the willing profit margin is added. Under present circumstances, when prices on market are already fixed, as a consequence of demand/offer rapport, the use of an inverse calculation is imposed: starting from the sell price, we determine the costs to which the respective products should be produced. These costs cannot be surpassed under the condition when the

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453 AICPA – "Implementing Target costing" on [www.aicpa.org](http://www.aicpa.org)

enterprise wishes to obtain the planned profit. The target costing method, a calculation cost method oriented towards market, answers the best to this requires.

Therefore, the target costing method is founded on another manner of looking into the relationship between the costs and prices than the traditional one. The fundamental equation “price – profit margin = cost” highlights the fact that prices are conducted and established either by market or by firms, that will reduce the prices from the desire of increasing the market penetration. The profit margin is established at a level that will assure firms the reaching of the established objective, and the costs will be determined, according to prices and profit margin. For those who are leaders in method’s use, this idea is more than a change in mechanics; this change includes the entire company and integrates the market with the projection and production. The idea according to which the prices determine the costs has a behavioral impact upon the business. This is the key to survive a long term, in order to increase and flourish in a competitive and always changing environment.<sup>454</sup>

## **2. The Target costing versus the Standard costing**

The total costs types were used, until now, by the most of firms. The standards and technique of standard costs were used in order to determine the production cost, formed of the expenses with the manual labor and with the necessary materials. To this a part of the costs with sale and administration for obtaining total or full-costing were added. In order to establish the sell price on the market, a margin of profit is added to the complete cost. This method of cost calculation functioned well under the conditions of a market economy less dynamic than the one existing today.

Target costing is seen as a cost reducing management instrument during the product’s entire life cycle duration. Managers try that by means of the price level to satisfy both consumers’ requires and the reaching of the desired profit. As against the traditional standard-cost method, which leaves from the estimation of cost production, of the sell and administration one, target costing method has as departure point the establishing of the sell price, from where the profit margin is deducted in order to establish the cost.

According to traditional method, the cost is firstly determined and implemented. In the case when its size and structure is not corresponding, the managerial team and the one that dealt with calculation will have to reanalyze the entire production cost calculation process, with the purpose of reduction, in most cases.

In exchange, *the target/costing method uses the information provided by cost* and focuses on the determining the best level of sell price, in order to prevent the subsequent discussions concerning the product’s re-analyzing. The whole process of decisions making involves a team formed of the specialists from different departments, production, marketing, accountancy etc., which have the responsibility of determining a sell price acceptable by the firm. In what the identification of cost reduction possibilities is concerned, the members of the involved team start by elimination of all costs that do not produce value, by improving the product’s design and modifying production methods.

The target costing operates even from the product’s conception phase and can be revised during the different phases of product’s life cycle. According to this method, the majority of a product’s costs are engaged even from its conception, the margins realized on product, during its life duration, being mainly connected to costs control even from the study phase, the one of project. After this phase, it is even harder to perform any influence on costs.

The main differences between the target costing method and costs classical calculation methods are presented briefly in Table nr. 1.

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**Table 1. The main differences between the Target costing method and the classical costs calculation methods**

| Characteristics  | Target costing   | Classical methods   |
|--|--|---|
| The market's requirements or restrictions              | <ul style="list-style-type: none"> <li>■ orientates the costs planning</li> </ul>  | <ul style="list-style-type: none"> <li>■ there are not taken into consideration</li> </ul>  |
| Costs reduction  | <ul style="list-style-type: none"> <li>■ it is made from the project phase (approximately 80% from costs are engaged from the projection phase, from which only 10-20% is consumed in this phase)</li> </ul> | <ul style="list-style-type: none"> <li>■ it is made during the production process by elimination of dissipation and inefficiency</li> </ul>               |
| The competitive sell price                             | <ul style="list-style-type: none"> <li>■ determines the product's cost</li> </ul>  | <ul style="list-style-type: none"> <li>■ is determined by cost (the cost determines the offer price of producer's)</li> </ul>                             |
| The informational-decisional flux "Clients →Producers" | <ul style="list-style-type: none"> <li>■ guides the prices reduction and then of costs</li> </ul>  | <ul style="list-style-type: none"> <li>■ does not influence but in small measure the costs reduction process</li> </ul>                                   |
| The involvement of the suppliers/distributors          | <ul style="list-style-type: none"> <li>■ it is made from the project phase</li> </ul>  | <ul style="list-style-type: none"> <li>■ it is made after the projection phase, respective in the supply for production one</li> </ul>                    |
| Costs administration                                   | <ul style="list-style-type: none"> <li>■ it is made by a pluri-disciplinary team (substantiation, pursuit and control-adjustment)</li> </ul>   | <ul style="list-style-type: none"> <li>■ it is made by costs accountants, emphasizing the digressions</li> </ul>  |
| Costs minimization                                     | <ul style="list-style-type: none"> <li>■ it is followed both for the enterprise and for the client</li> </ul>  | <ul style="list-style-type: none"> <li>■ minimizes the costs and offer price (accepted and paid by clients)</li> </ul>                                    |
| The integration of value creation chain                | <ul style="list-style-type: none"> <li>■ integrates the chain of value creation in costs planning</li> </ul>   | <ul style="list-style-type: none"> <li>■ integrates only phases of the value creation cycle in planning the costs (supply-production-delivery)</li> </ul> |

(Source: Processing after Ansari S., Bell J. and the CAM-I Target Cost Core Group – „Target Costing, The Next Frontier in Strategic Cost Management”, Irwin, Chicago, 1997)

### 3. Target costing method identification for Caterpillar Inc. enterprise <sup>455</sup>

**Caterpillar Inc.** is a United States-based corporation headquartered in Peoria, Illinois. Caterpillar (commonly referred to simply as CAT) is, according to their corporate website, "the world's largest manufacturer of construction and mining equipment, diesel and natural gas engines, and industrial gas turbines." Famous for their products featuring caterpillar tracks and a distinctive yellow paint scheme, Caterpillar produces a wide range of engineering vehicles, including the range of Caterpillar bulldozers. Caterpillar is one of the thirty companies whose stock is tracked in the Dow Jones Industrial Average. <sup>456</sup>

Owning the instruments and necessary system for method's implementation, **Caterpillar Inc.** applied the target costing method <sup>457</sup> for one of the new type of vehicles that wishes to produce,

455 Swenson D. Ph.D., CMA, CPA; Ansari S., Ph.D.; Bell J., Ph.D., CPA; Kim I.W., Ph.D. - „Best practices in Target Costing” in „Management Accounting Quarterly”, vol. 4, nr. 2, winter 2003, pp. 15-17.

456 [http://en.wikipedia.org/wiki/Caterpillar\\_Inc](http://en.wikipedia.org/wiki/Caterpillar_Inc).

457 The Consortium for Advanced Manufacturing – International (CAM-I), the American Institute of CPAs and the University of Akron sponsored an identification study of the best practices in Target costing. This study, presented by specialists Dan Swenson, Shahid Ansari, Jan Bell and Il-Woon Kim in „Best practices in Target costing” paper,

elaborating for this purpose target objectives. Therefore, management established for this type of vehicle a target cost of 94,6% as against the cost for a similar product. The cost of the similar product is determined on the basis of current production expenses. It results, therefore, that for reaching the target cost, the expenses must be reduced with 5,4%. For costs reduction a multifunctional team is named, formed of specialists from different departments, respective: designer engineers, production engineers, representatives from the sell, supply, marketing and accountancy departments. This starts by evaluating the costs of the product's components, with smaller costs, but that will assure the same qualities that the clients wish. Altogether, the team takes into consideration the possibilities of the product's quality improvement. In table 2 the reduction of 4, 6% identified by the team are presented.

**Table 2. Modification of Current Product: Known Adjustments**

|                    | <i>Current Costs</i> | <i>Projected Savings</i> | <i>Adjusted Costs</i> | <i>Explanation of Known Adjustments</i>   |
|--------------------|----------------------|--------------------------|-----------------------|---|
| <i>Assembly</i>    | 5,4%                 | 1,5%                     | 3,9%                  | Efficiency improvements due to redesigning sheet metal, as documented on current production models. |
| <i>Cab</i>         | 7,9                  | 0.8                      | 7,1                   | Replace current cab with the "Classy Cab." PF quote already received.                               |
| <i>Engine</i>      | 8,6                  | 0.7                      | 7,9                   | Cost estimate from Engineering for switching to different configuration.                            |
| <i>Hydraulics</i>  | 19,1                 | 1,6                      | 17,5                  | New pump design.  |
| <i>Power Train</i> | 12,0                 | 0                        | 12,0                  |   |
| <i>Structures</i>  | 20,0                 | 0                        | 20,0                  |   |
| <i>Linkage</i>     | 18,0                 | 0                        | 18,0                  |   |
| <i>Other</i>       | 9,0                  | 0                        | 9,0                   |   |
| <i>Total</i>       | 100,0%               | 4,6%                     | 95,4%                 |   |

In order to reach the target cost, the team will still have to reduce from costs 0,8%. In order to identify other potential opportunities of cost reduction, operational staff (production one) can be handed in questionnaires with questions to which they have to answer with "yes" or "no", the "yes" answer indicating a cost reduction opportunity. A pattern for this questionnaire is presented in Table 3.

More "yes" answers indicate a bigger potential for saving money, and by total calculation and determining the proportions will establish to which of the product's components may action with the meaning of costs reduction. In the example presented in Table 3, the hydraulic component will have to reduce the most from the initial costs – with 50%, meaning to assure a reduction of the total cost of 0,4% from the total of 0,8% for reaching the target costing.

\* Yes=1; No=0

|  | <i>Assembly</i> | <i>Cab</i> | <i>Engine</i> | <i>Hydraulics</i> | <i>Power Train</i> | <i>Structures</i> | <i>Linkage</i> | <i>Other</i> | <i>TOTAL</i> |
|--|-----------------|------------|---------------|-------------------|--------------------|-------------------|----------------|--------------|--------------|
| <i>1. Are there more than five suppliers from whom you can purchase materials?</i> | 0               | 0          | 0             | 1                 | 1                  | 1                 | 1              | 0            |              |
| <i>2. Are you more costly than best-in-class supplier (either</i>                  | 0               | 0          | 0             | 1                 | 0                  | 0                 | 0              | 0            |              |

consisted in the examination of method's application manners in certain enterprises from the United States, the level of success and the realized improvements, as well as the factors that influenced the target-costing's success.

|   |    |    |       |       |       |       |       |    |       |
|---|----|----|-------|-------|-------|-------|-------|----|-------|
| <i>Caterpillar or non-Caterpillar)?</i>   |    |    |       |       |       |       |       |    |       |
| 3. Do you plan to survey your supplier cost breakdown?  | 0  | 0  | 0     | 1     | 0     | 0     | 1     | 0  |       |
| 4. Is the current manufacturing process younger than two years?   | 0  | 0  | 0     | 1     | 0     | 0     | 0     | 0  |       |
| 5. Does labour represent more than 40% of your total cost?  | 0  | 0  | 1     | 1     | 0     | 0     | 1     | 0  |       |
| 6. Is your "unit setup cost/total unit cost" ratio greater than 5%?                                     | 0  | 0  | 1     | 1     | 0     | 0     | 0     | 0  |       |
| 7. Do you see potential for material specification changes?   | 0  | 0  | 0     | 1     | 0     | 0     | 0     | 0  |       |
| 8. Do you see potential for tolerance loosening?  | 0  | 0  | 0     | 1     | 0     | 0     | 1     | 0  |       |
| 9. Does the current family of parts contain nonapproved parts?  | 0  | 0  | 0     | 1     | 0     | 1     | 1     | 0  |       |
| 10. Can the current design or manufacturing processes be subjected to emerging innovative technologies? | 0  | 0  | 0     | 1     | 0     | 0     | 0     | 0  |       |
| <b>TOTAL</b>  | 0  | 0  | 2     | 10    | 1     | 2     | 5     | 0  | 20    |
| <i>Relative Proportions</i>   | 0% | 0% | 10%   | 50%   | 5%    | 10%   | 25%   | 0% | 100%  |
| <i>Distribution of 0,8% in Cost Reduction</i>   | 0% | 0% | 0,08% | 0,40% | 0,04% | 0,08% | 0,20% | 0% | 0,80% |

Table 4 illustrates the last phase from the costs reduction process. Starting from the "Adjusted costs" column from Table 2 and adding the supplementary deductions determined on the last row from Table 3 the target costing proposed for the new type of vehicle is obtained, the one that Caterpillar enterprise wants to produce.

**Table 4. Modification of Current Product: Final Cost Assignments**

|                    | <i>Adjusted Costs</i> | <i>Distribution of 0,8% in Cost Reduction</i> | <i>Target Cost for New Product</i> |
|--------------------|-----------------------|---|------------------------------------|
| <i>Assembly</i>    | 3,90%                 | 0,00%   | 3,90%                              |
| <i>Cab</i>         | 7,10                  | 0,00  | 7,10                               |
| <i>Engine</i>      | 7,90                  | 0,08  | 7,82                               |
| <i>Hydraulics</i>  | 17,50                 | 0,40  | 17,10                              |
| <i>Power Train</i> | 12,00                 | 0,04  | 11,96                              |
| <i>Structures</i>  | 20,00                 | 0,08  | 19,92                              |
| <i>Linkage</i>     | 18,00                 | 0,20  | 17,80                              |
| <i>Other</i>       | 9,00                  | 0,00  | 9,00                               |
| <i>Total</i>       | 95,40%                | 0,80%   | 94,60%                             |

Summarizing, the Caterpillar enterprise started from the current cost of a similar product (100%), identified the costs reducing possibilities (Tables 2 and 3), establishing in final the target costing for each component of the new type of vehicle that the enterprise wishes to produce (Table 4).

#### 4. Conclusions

The „Target costing” concept seems quite simple on a first view: an enterprise will only produce the products for which it can assure an effective cost at the level of the predicted one (target). The questions that is asked would be: “what would happen in the case of products for which there exist demand and that is already produced, but for which the effective costs cannot be reduced?”.

The answer for this question was also found by Japanese economists through Kaizen method. The difference between *Target costing* and *Kaizen costing* consists of the fact that the former is applied, in principal, in the product's projection and fabrication phase, while the latter is in the producing phase.

The target costing method is a part from a global intercession that regards the costs reduction along the technologies continuous improvement process and the fabrication process, aspect that supposes a new management style of human resources and increased competences.

The continuous costs reduction should regard the whole enterprise. Concretely, there are followed: product's life different phases control; costs analysis starting from the product's conception phase according to their characteristics and possible sell prices; the permanent insuring that the new products will be profitable during the life cycle duration, the predicted prices being compared with the realized ones, and, respectively, their reporting to the selling price; the reducing of product's conception terms; the diminishing of the development prices and the insurance of a fast amortization; a better organization of the relationships with the suppliers and distributors; the mobilization and motivation of all competences from inside the enterprise by a transversal approach in favor of a bigger competition<sup>458</sup>. From this perspective, in order to be integrated in an enterprise's management four dimensions are appointed: markets and concurrence (taking into consideration of the economic environment); the integration of competences to enterprise's different functions; products' conception (the prediction of the future decisions' effects); the creation of tighter connections between current activities planning and control<sup>459</sup>.

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