Target Costing Practices in the United States

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While many Japanese companies have been using target costing as a strategic weapon for more than 30 years, only a small number of U.S. companies have been using target costing for any length of time. Hence, target costing is a relatively new and largely undocumented technique in the U.S. During the last decade, however, U.S. companies are increasingly interested in learning more about this powerful tool for managing costs in highly competitive market environments. The following article shows the results of the first broad empirical study on target costing practices in the United States. It also highlight the findings of several in-depth case studies with successful target costing adopters.

1. Introduction

The concept of target costing has been spreading in the U.S. mainly through publications and Target Costing Interest Group of the Consortium of Advanced Manufacturing – International (CAM-I) and later through the Annual International Congress on Target Costing co-sponsored by the CMA-I and The University of Akron.

Due to its complex and multifaceted nature, there are many different definitions of target costing. The most widely accepted one in the U.S. is the following:

*The target costing process is a system of profit planning and cost management that is price led, customer focused, design centered, and cross-functional. Target costing initiates cost management at the earliest stages of product development and applies it throughout the product life cycle by actively involving the entire value chain.*

(Ansari/Bell, 1997, p. 11)

This definition, which was developed by CAM-I and accurately describes target costing practices in the U.S., contains six key fundamental principles that provide conceptual foundations for target costing:

- Price led costing
- Focus on customer
- Focus on design
- Cross-functional involvement
- Life cycle orientation
- Value-chain involvement

Since it is relatively new in the U.S., target costing practices and implementation issues have not been documented. Many U.S. companies do not know enough about target costing to understand its importance, and therefore adopting companies have run into difficulties in employing it successfully. Consequently, the purposes of this article are four-fold:

- Identify characteristics of companies implementing target costing in the U.S.
- Identify impediments to adoption or reasons for non-adoption.
• Identify performance results of U.S. target costing.
• Identify best practices of target costing in the U.S.

2. The Questionnaire and Sample Firms

A survey instrument containing two parts was developed. The first part, comprised of questions 1–18, was to be answered by all subjects and tested for significant differences between adopter and non-adopter organizations. The beginning question was about background information, while the remainder (questions 2–18) were designed to test hypotheses suggested by prior research. The second part, comprised of questions 19–34 and answered only by target costing adopters, profiled practices and benefits. The questionnaire also served as a guide to selecting best practice companies to visit to obtain a more in-depth understanding of practices.

Due to the newness of target costing and the length of the questionnaire, the sampling technique was not random, but rather directed toward audiences who were likely to be knowledgeable of target costing and/or who might have implemented target costing. The questionnaire were sent to the following three different groups in 1999:
• 1564 members of the Cost Management Section of the American Institute of Certified Public Accountants (AICPA);
• 342 who contacted the Consortium of Advanced Manufacturing – International (CAM-I) about target costing;
• 71 companies that the U.S. Department of Defense identified as suppliers who use Cost as an Independent Variable (CAIV) or some form of target costing.

In total, 120 responses were received by the study’s cutoff date. Twenty percent of the companies are from the aerospace & defense industry, 16% from electrical & electronics, 8% from transportation equipment, and 7% from service. Only 48 out of 120 (40%) companies said they have been using target costing to some extent (adopters) and responded to part two of the survey. The majority of the adopters were from aerospace & defense and electrical & electronics, and two responses from the service industry. The remaining 72 companies apparently did not use target costing (non-adopters) at this time. The industry profiles of the adopters and non-adopters are presented in Fig. 1.

3. Characteristics of Adopters and Non-adopters

The survey data suggest that adopters and non-adopters are different in several aspects. In general, adopters come from business environments that can be characterized as “high profile”. They report significantly higher scores for rate of growth of industry sales, higher barriers for competitors to enter their markets, and greater reliance on a highly skilled production work force. They also report significantly higher scores on customer loyalty, ability of customers to detect differences in product quality and functionality, and ability of customers to articulate future requirements. More discussions follow.

Company Size

Large companies tend to use target costing more than small companies. More than 50% of the adopters have 2,000 or more employees, and more than half of the non-adopters have 2,000 or less employees. This is probably due to the complex nature of target costing and unfamiliarity of target costing concepts by small companies.

Business Environment

There are similarities and differences in the business environment of adopters and non-adopters. All the companies are facing fairly high competitive pressure on profit margin and deal with a moderate number of competitors. The rate of growth of sales has been moderate in recent years, and the market share is slightly above the average of the companies in the industry. Both production technology and customer tastes have not been changing significantly.

On the other hand, adopters maintain higher profiles in several environmental factors. For example,

• Rate of growth of industry sales is stronger
• Customer loyalty is significantly higher.
• Barriers that competitors must overcome to enter the market are relatively higher.
• Ability of customers to detect differences in quality and functionality is higher.

Fig. 1: Industry profiles of the adopters and non-adopters
• Ability of customers to articulate their product requirements is higher.
• Reliance upon highly skilled manpower for production is much higher.

It is not clear whether these factors are prerequisites for implementing target costing effectively for adopters or simply results of successful implementation of target costing.

Product Characteristics

A significant difference exists between the production profiles of adopters and non-adopters. Adopters are more likely to be in fabrication and assembly than non-adopters (68% for adopters vs. 27% for non-adopters). It is not surprising that adopters are more heavily focused in assembly and fabrication since Japanese fabrication and assembly companies started the target costing movement. Additionally, adopters have significantly greater reliance on highly skilled and trained manpower for production. Assembly and fabrication industries often require much more skilled workmanship than process industry.

The next question related to the product is how long it takes from development of a new product concept to releasing the product design for production. Basically, product development times for both adopters and non-adopters are short and not significantly different: the average of 28 months for adopters and 24 months for non-adopters. More than 80% of the sample companies have development times under three years. The only significant difference is for aerospace and defense adopters. They have longer product development times than non-adopters (14 months on average vs. 21 months on average). The same is true for major redesign of the product: the average time of adopters is 43 months, while that of non-adopters is 51 months.

Cultural Values

Some cultural values were examined for adopters and non-adopters at both target costing business unit level and corporate level. It appears that at the corporate level, the only significant difference is the willingness to solicit and implement employee suggestions. Adopters solicit and implement employee suggestions more frequently than non-adopters. Other than that factor, corporate level culture appears to be equal regarding the other questions. At the business unit level, however, there are significant cultural differences. Non-adopters are significantly less likely to experiment with new ideas, more likely to believe in maintaining traditional ways of doing things, operate according to the rules, and select safe rather than risky options. Adopters value teamwork more and are more likely to use a whole list of innovative, strategic management processes, activities and tools than non-adopters.

In terms of product strategy, adopters place more importance on beating their competitors to market with new products, providing more and better features, providing more reliable, longer-lasting products, and providing the lowest priced products. The focus on these factors may reflect use of a stream of recent, popular strategic management initiatives, such as total quality, customer cost of ownership, and time to market. However, not all the differences are significant. There is no significant difference on other dimensions of product strategy. Specifically, there is no difference between adopters and non-adopters in providing superior service/support to customers, in guaranteeing speedy delivery of products, or in frequency of redesigning products.

4. Target Costing Practices of Adopters

This section is based on the responses of the 48 adopters. However, it would sometimes be difficult to determine the significance of their responses to certain questions, such as embracing key principles of target costing and using the tools effectively. Where appropriate, comparisons have been made between adopters and non-adopters to demonstrate the significance of adopters’ responses.

Maturity and Depth of Target Costing

The maturity of adopters’ target costing efforts is bimodal, with about 25% of the respondents having used target costing for over five years, while about 50% report having used it in the range of 1–3 years. The decision to implement target costing is made at various levels: 25% at corporate level, 40% at division level, and 35% at business unit level. The depth of implementation also varies, but only 19% of adopters use target costing throughout the organization. That means, most adopters have implemented only for business units, groups, or some products.

Cost Estimation

Most adopting companies develop systematic and serious cost estimates during the product concept and design stages, which target costing requires. Cost estimates include preproduction and production costs, but other costs are often not included. For example, disposable and recycling costs are included by only 24% of the companies; marketing costs by 53%; service and support costs by 64%; distribution and logistics costs by 79%. These numbers clearly demonstrate that the companies do not pay as much attention on downstream costs as they do on upstream and manufacturing costs. This is unfortunate, considering the fact that educated customers are looking to minimize the cost of the ownership of the product, not just the purchase price. Hence, one of the goals of target costing should be to minimize the life cycle costs for both customers and the producer. This will provide a more complete perspective of product costs.
Pricing Methods
Most companies (both adopters and non-adopters) use more than one approach in pricing the same product. Surprisingly, the most common approach is “cost plus a required profit margin.” This approach, which has been traditionally used by many American companies for decades, is not consistent with the target costing philosophy. In target costing, cost targets are set by subtracting the required profit margin from the competitive market price. The list below shows different approaches of pricing in the order of frequency:
- cost plus a profit margin,
- what the market will bear,
- to meet the competitor’s price,
- to beat competitor’s price,
- to obtain target market share, and
- adjusting last year’s price for inflation.

Basically, this is true for both adopting and non-adopting companies. Japanese companies, however, use a more holistic approach in setting the price of the product by using four key determinants: customer needs/wants/tastes, acceptable price, competitive analysis, and market share goal. Fig. 2 shows the role of these four determinants in setting target prices. It suggests a recursive relationship between these determinants, the product’s physical and aesthetic features, and the final market price. Several iterations may be needed before a final price is set.

Cross-functional Team
Given that cross-functional team work is vital to target costing, it would be interesting to find the composition of the teams. Accounting and finance do not dominate target costing teams in the U.S. The most participation is from design engineering, operations/manufacturing, and accounting/finance, respectively, followed by purchasing and product planning. The following table shows the degree of participation by each department based on a 1–5 scale, 1 being not involved and 5 being extremely involved (see Fig. 3).

Aerospace and defense companies had significantly more involvement from operations/manufacturing and less from sales/marketing. Overall, uneven participation in teams seems to be a problem.

Value Chain Involvement
Adopters have significantly closer working relationships with their both internal and external value chain members on many dimensions tested in our survey. In terms of internal value chain, adopters agree that various functions in the organization work together closely and effectively. As was shown in the previous section, however, more participation would be needed by Marketing, Service Engineering, and Quality Assurance.

In terms of the external value chain, adopters significantly and routinely seek input from dealers and resellers about customer requirements and product/process designs, and coordinate product and process designs with suppliers. Two third of adopting companies mandate targets for suppliers, though often only for critical or costly parts. Twenty seven percent let suppliers come up with their own targets. Twenty percent let suppliers come up with their own targets. Training suppliers by the adopters is not very strong. Only 50% of the adopters said they provide training in value engineering and 38% in cost driver analysis and significantly less percentage in other areas, such as preparation of cost tables, allocation of overhead, and long-range planning.

Even though adopters generally interact more with value chain members than non-adopters, there is no significant difference between adopters and non-adopters in their use of suppliers.
to make products more customer focused. Adopters are no better than non-adopters in training value chain members or in sharing cost savings with suppliers. Both groups also report the same degree of power over suppliers.

**Customer Focus**

Adopters are significantly more customer focused than non-adopters. Adopters seek more customer input during the product design phase, collecting data using formal methods (e.g., surveys, focus groups, clinics, etc.) more often than non-adopters. They routinely analyze customer needs and make the information available widely throughout the organization more than non-adopters. Yet, there is no difference between adopters and non-adopters on collecting and distributing customer feedback after they have used the products. An interesting point is that adopters are not collecting and disseminating information about customers’ perceptions about products after they have experienced them any better than non-adopters.

**Target Costing Tools**

Thirteen tools have been identified through a target costing literature survey. There is overwhelming evidence that adopters use these tools theoretically associated with target costing, with a significant trend toward the use of all 13 tools (Fig. 4). Cross-functional teaming is the single most frequently used tool by adopters, and the tool most often correlated with other tools. Adopters do not use ABC/ABM as much, and the use of ABC/ABM does not correlate with the use of any other tools. There is no significant correlation between tool usage and the maturity (time) of target costing efforts. This indicates that there are no tools that have to be ramped up over a long period or which tend to become obsolete. Cost tables are also used by some companies. As will be discussed later, however, best practice companies use cost analysis codes instead of cost tables. Cost analysis codes, which were originally developed in the late 1960s and used to organize cost tables in Japan, are basically organized databases that enable a company to retrieve information about parts, units, and products according to the name, function, shape, size, weight, assembly method, and types of raw materials. Even though non-adopters also use some of the tools, it is clear that adopters use the tools significantly more than the non-adopters.

**Monitoring of Targets and Reward**

Adopters report thorough monitoring of target costs, and when targets are missed, the most common responses are to increase the price of the product, reduce the product’s profit margin, or reduce its features or functionality ("quick fixes"). These responses are contrary to disciplined target costing practices. Adopters rarely drop the product altogether, though this is significantly more likely among aerospace defense adopters.

Adopters have done very little to explicitly link metrics of employee performance or employee rewards to the target costing system. Further, any performance metrics put into place have yet to gain wide acceptance. As will be discussed later, it is interesting to find that even best practice companies usually have not developed a performance evaluation system supporting target costing.

**5. Benefits of Target Costing**

Adopter report that they experience moderate gains in reducing product introduction time ("faster"), meeting or exceeding customer expectations ("better"), and increasing overall profitability ("cheaper"). Moreover, in a group of nine benefits as listed in Fig. 4, all but one of the benefits (decreasing the number of design changes after production begins) is significantly correlated with every other member of that group. This finding indicates that

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when a company properly implements target costing, all the related benefits come together in a “package deal”. Finally, all benefits except “a decrease in the number of design changes after production begins” are correlated with the maturity of the target costing implementation, meaning that benefits tend to increase over time.

We also related tool use to benefits. There is very little correlation between individual tools used and specific benefits. No specific suite of tools drives the benefits of target costing. It appears that target costing is a “holistic” undertaking, which necessitates more than just picking a single tool to address a single concern or produce a single result. Fig. 6 shows the perception of different groups concerning the success of target costing on a 5-point scale, where 1 being not successful and 5 being extremely successful.

Senior managers view their target costing system as being moderately successful and appear to be satisfied. People from Design Engineering, Operations/Manufacturing and Accounting/Finance also believe their target costing system is moderately successful. Note that these people are heavily involved in the cross-functional team, as was discussed before. On the other hand, people from Quality, Sales/Marketing and Distribution have a negative perception on their system. This is probably due to their lack of participation in cross-functional teams.

6. Barriers of Target Costing

Adopters report the biggest barrier to improving target costing has to do with resources and rewards. First, they report that there are often limited resources to implement. In addition, there are few rewards for achieving targets while missing targets is viewed negatively. Other moderately important barriers include: 1) other important initiatives; 2) poor accounting/information system; 3) lack of familiarity; 4) lack of cross-functional cooperation; 5) other pressing business problems. Fig. 6 shows these and some other barriers, in the order of importance, that adopting companies are facing in improving and/or expanding target costing in the organization. Note that lack of top management support is listed as a somewhat important factor. Data analysis shows that top management support is correlated with successful implementation of target costing.

The reasons that non-adopters gave for not implementing target costing are very different from the impediments to full implementation cited by adopters. Non-adopters report the most important reasons for not adopting target costing are:

- facing more pressing business problems
- lack of familiarity with it, and
- its perceived irrelevance.

They also gave high scores to lack of resources to implement and the importance of other initiatives. They are somewhat concerned that there may be no rewards for achieving targets while missing targets is penalized.

7. Site Visits Results

Phase two of the study consists of site visits to “best practice” firms in the U.S. The main purpose of the site visits was to supplement survey results with an in-depth look at best practices in the U.S. The best practice companies were selected based on the survey findings using five criteria: maturity of implementation, use of key target costing tenets, cross-functional participation, successful results, and willingness to participate in a site visit. Consequently, the following four companies were selected as the “best practice companies”: Boeing, Caterpillar,
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DaimlerChrysler (formerly Chrysler), and Continental Teves. The visits generally consisted of a presentation about the company’s target costing program, a plant tour, and interviews with a cross-functional group of managers to discuss how they apply target costing to their particular area. It has been found that there are thirteen important attributes shared by these best practice companies, which are highlighted in the following paragraph:

- Top management support is a critical success factor in implementing target costing.
- Target costing is part of a company’s culture. The exception to this was at Boeing where it was part of the project team’s culture, but not the overall company culture.
- Best practice companies tie target costing to strategy and profit planning. It provides the assumptions and plans for product planning and delivery and establishes a cohesive product realization process throughout the organization.
- Best practice companies have a high level of accountability and monitoring of target cost achievement. Targets are taken seriously, and reporting structures for monitoring progress against targets are well established.
- The process by which cost targets are set is relatively consistent among the best practice companies. The targets are heavily influenced by market conditions and some variation of the following formula: market price – profit margin = target cost.
- Initially, senior management establishes high-level cost targets for its products or programs. A systematic process is used for decomposing high level targets to various functions, processes, parts, and teams.
- When targets cannot be met, companies revisit material composition, customer requirements, current production processes, supply chain options, product design, or as a last option, product abandonment.
- When technology is a limiting factor in achieving targets, best practice sites use the capital budgeting process to invest in enabling technology that can close the gap between current and target cost.
- Best practice companies, in general, have close supplier relations. They are working on supplier integration and seem reticent about sharing cost data.
- Cross-functional teams are critical to the success of target costing. They must be independent and empowered to acquire resources from functions.
- Target costing is not directly tied to supportive performance measures, rewards, training, and information systems.
- A key enabler of target costing is the use of sophisticated cost estimation models. These models convert the old static cost tables into a dynamic cost planning tool by using sophisticated cost analysis codes.
- Another critical enabler is a solid understanding of cost concepts by all employees. Best practice sites make costs visible and understandable to product designers and engineers through internal training and education.

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<thead>
<tr>
<th></th>
<th>Adopters average</th>
<th>Non-adopters average</th>
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</thead>
<tbody>
<tr>
<td>No rewards for achieving targets</td>
<td>2.92</td>
<td>2.27</td>
</tr>
<tr>
<td>Do not have resources to implement</td>
<td>2.96</td>
<td>3.06</td>
</tr>
<tr>
<td>Missing targets is viewed negatively</td>
<td>2.83</td>
<td>2.02</td>
</tr>
<tr>
<td>Other initiatives are more important</td>
<td>2.83</td>
<td>3.24</td>
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<tr>
<td>Accounting/information system does not support target costing</td>
<td>2.79</td>
<td>2.69</td>
</tr>
<tr>
<td>Lack of familiarity with target costing</td>
<td>2.75</td>
<td>3.39</td>
</tr>
<tr>
<td>Cross-functional cooperation is difficult to get</td>
<td>2.71</td>
<td>2.31</td>
</tr>
<tr>
<td>Faced with more pressing business problems</td>
<td>2.71</td>
<td>3.45</td>
</tr>
<tr>
<td>Lack of education/training about target costing</td>
<td>2.58</td>
<td>3.00</td>
</tr>
<tr>
<td>People unwilling to change</td>
<td>2.54</td>
<td>2.54</td>
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<tr>
<td>We have a good understanding of our costs</td>
<td>2.46</td>
<td>2.89</td>
</tr>
<tr>
<td>Did not get top management support</td>
<td>2.38</td>
<td>2.55</td>
</tr>
<tr>
<td>Lack of systematic methods for incorporating customer input</td>
<td>2.38</td>
<td>2.50</td>
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<tr>
<td>Perception that target costing is a fad</td>
<td>1.96</td>
<td>1.66</td>
</tr>
<tr>
<td>No reason to change our pricing methods</td>
<td>1.92</td>
<td>2.29</td>
</tr>
<tr>
<td>Did not get any results or benefits from its use</td>
<td>1.79</td>
<td>1.61</td>
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<tr>
<td>Target costing is not relevant for our business</td>
<td>1.17</td>
<td>1.92</td>
</tr>
</tbody>
</table>

**Fig. 6:** Barriers of target costing (Scale: 1 = Not important; 2 = Somewhat important; 3 = Moderate; 4 = Fairly important; 5 = Very important)

8. Conclusion

Target costing is relatively new to many U.S. companies. Currently, only a small number of companies use target costing successfully. It has been found that these companies have adopted target costing in response to extreme pressure on profit margins. It has been also found that companies using target costing successfully have reaped significant benefits. Even com-

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Stichwörter
- Best Practice
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- Target Costing
- Verbreitung

Summary

Keywords
- Adopters/non-adopters
- Best practices
- Empirical Study
- Target costing

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Ein Controllingbuch, das eindrucksvoll zeigt, wie man Controlling in die Praxis umsetzt:
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- Welche Arbeitsschritte sind erforderlich, um ein einfaches und praktikables Controllingsystem aufzubauen?
- Wie bleibt das Controllingsystem leistungs- und entwicklungsfähig?

Die Fallbeispiele und die vorgeschlagenen Arbeitsschritte basieren auf langjähriger Praxiserfahrung bei der Entwicklung und Umsetzung von Controllingkonzepten.

Über die Autoren:

companies that have partial implementation of target costing report benefits, such as improved profits, more customer focus, better cost planning and control, and better teamwork in their value chain. Critical success factors are strong top management commitment, monitoring target cost achievement, close supplier relations, independent and empowered cross-functional team, and solid understanding of cost concepts.

However, most U.S. companies that report using target costing are not really following the major tenets of target costing or using many of its critical tools. Some suggestions for improvement include:
- use of market-oriented price;
- even participation of various functions; and
- reward system linked to target costing performance.

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Note
Comparing survey results between adopters and non-adopters were based on standard t-tests to test differences between means; Chi square tests to test differences between distributions, a sign test for trends among related parts of multi-part questions, and Spearman and Kendall tests for correlation. The study adopted a significance level of 0.05 as is the standard in business research.

Literature