

Purchasing and Supply Management's Participation in the Target Costing Process

AUTHOR

Lisa M. Ellram

is associate professor of supply chain management at Arizona State University. She earned her Ph.D. degree from The Ohio State University. Dr. Ellram's research interests include supply chain management, all areas of supply chain cost management, buyer-seller relationships, intuition and spirituality in business, and integral theory.

This article explores the participation of the purchasing and supply management function in the process of target costing. Target costing is an emerging process whereby organizations calculate the allowable cost (i.e., target cost) for buying/producing the product or service they offer for sale by first determining

SUMMARY

the acceptable selling price in the marketplace and the organization's required internal margin on the product. Based on case studies of organizations that use target costing, this research is both descriptive and prescriptive in nature. The four primary issues addressed in this article are:

1. Why do organizations undertake target costing?
2. Is there a common pattern of participation for the purchasing and supply management function in target costing?
3. What should the role of purchasing and supply management be in the target costing process?
4. How can purchasing and supply management be most effectively involved in the target costing process?

The purpose of the article is to describe and prescribe the role of purchasing and supply management (PSM) in the target costing process. The article is organized as follows. First, a brief review of the target costing literature is presented. Next, a summary of the research method used to gather the data for this study is provided. This is followed by a more detailed description of the target costing process and PSM's role in each step of the process. Gaps between observed and ideal participation are identified and a recommendation is provided for the suggested nature of PSM's involvement. The article concludes with some managerial recommendations for achieving purchasing's ideal role in target costing, followed by suggestions for future research.

PREVIOUS RESEARCH IN TARGET COSTING

Target costing is a process whereby an organization develops specific goals, or targets, for its costs to produce a good or service. The target costs are based upon desired profit margin and projected selling price for the good or service, and reasonable estimates of what the item or service should cost. In summary,

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

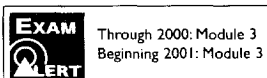
This is a very practical approach to establishing cost goals and a way to establish and communicate performance metrics within the organization.

Figure 1 was developed based on a review of the literature to establish an in-depth overview of the target costing process. There are numerous sources that explain the steps involved in target costing (Ansari and Bell 1997; Cooper and Slagmulder 1997; Fisher 1995; Worthy 1991). The approach shown in Figure 1 will be referred to as the "classic" approach to target costing.

Figure 1 illustrates that the "target costing activity" (Step 5) is part of a larger, integrated "target costing process." The classic approach illustrated here is aimed specifically at new product development (Worthy 1991). Target costing is an integral process in the larger process of new product or service development. In some cases,

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the target costing process can be used in improving existing products, services, and processes.

The first step in target costing for new products and services is to identify a need in the marketplace and identify the product and service characteristics that will fulfill that need. Data on market needs may be gathered based on competitive offerings, market research, specific or general customer requests, and creative ideas. Following data collection, the organization initiates the concept development of the new product or service

idea. For many organizations, data collection and concept development converge or iterate. These activities tend to be very marketing- or design-driven in most companies.

In step two, the targeted selling price to the customer is established. This may occur simultaneously with the determination of the product or service features. In the third step, the allowable target cost is determined. The required profit margin is generally dictated by the business unit's profit commitment in the strategic planning process. As part of step three, and before the product or service development can proceed any further, the new product or service strategy, including target price, planned profit, and target cost, must be presented to and approved by top management. This informational and approval meeting is necessary before proceeding to step four.

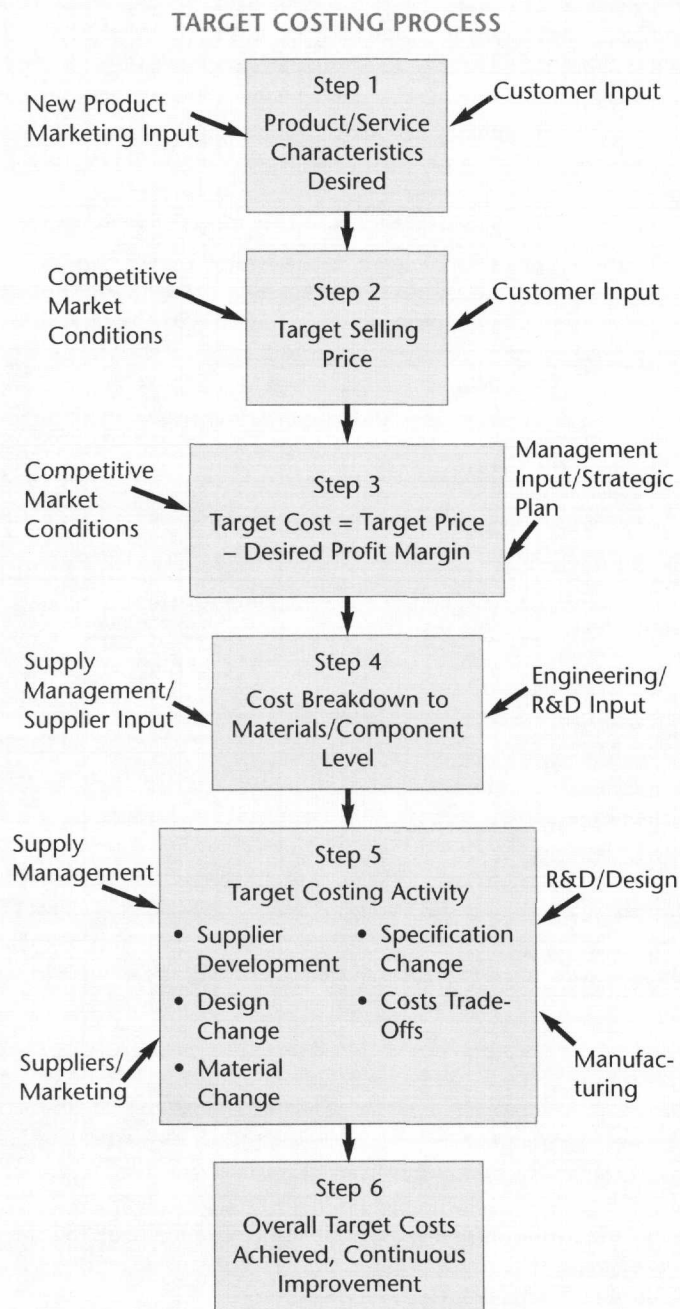
In step four, costs are broken down hierarchically. First, the target cost must be allocated among the internal operating cost centers, such as marketing, manufacturing, general and administrative, logistics and distribution, and external purchases. At this stage, the segment allocated to external purchases is still too aggregated to be useful. Next, the aggregated external purchase cost is further allocated to various features, services, or sub-assemblies. Once the costs are assigned at a high level, they are then further broken down by individual component, material, or service level. In general, organizations are only concerned with expensive items and items that are used in such high volume that, while not individually expensive, their total cost is significant.

Step five is the most resource-intensive and time-consuming step of target costing. During this step, the organization works with suppliers to achieve the target costs. Step six occurs once the organization has achieved the target costs and overriding target price, or at a predetermined deadline. Step six involves the new product/service rollout, target cost monitoring, and continuous improvement efforts.

Most of the previous research reports on target costing have appeared in the accounting literature. The focus has been on the implications of target costing for accounting or on the general application of target costing (Kato, Boer, and Chow 1995; Fischer 1995; Brausch 1995; Morgan 1993). These articles generally report on descriptive case studies in the electronics or automotive industry.

In the PSM arena, target costing is relatively uncharted territory. While mentioned in most leading purchasing texts (Leenders and Fearon 1997; Dobler and Burt 1996; Burt and Pinkerton 1996; Van Weele 1994), the presentations tend to be limited to less than one page. The research relating target costing to PSM is also limited and focused. Newman and McKeller (1995) present a methodology for applying target costing. Their detailed prescriptive approach provides a method for gathering external data and analyzing internal data to set reasonable cost targets. It provides a very practical, micro-level

Figure 1



Adapted from Ansari and Bell (1997); Worthy (1991).

framework. Newman's earlier research with Rhee (1990) focused on one organization's use of target costing.

Two recent books on target costing (Cooper and Slagmulder 1997; Ansari and Bell 1997) do not examine the role of PSM in target costing. While both present issues regarding the role of the supply base in target costing, they do so without making the explicit linkage to PSM. Thus, there is a gap in the literature regarding the role of PSM in target costing.

Strategic Cost Management

Previous research on target costing was not grounded in theory. The strategic cost management framework posited by Shank and Govindarajan (1993) was used as the underlying theoretical structure for this research. Target costing can be viewed as a process developed to support strategic cost management based on the three elements of strategic cost management proposed by Shank and Govindarajan (1993): competitive positioning analysis, cost driver analysis, and value chain analysis.

Understanding the *competitive positioning* of the organization and the product or service is a critical first step in target costing. For example, if a firm is positioned as a quality leader and it knows, based on customer feedback, that a broad range of color choices is perceived as very important and value-adding, it would not want to blindly reduce its choice of colors in order to achieve target costs. Thus, incorporating competitive positioning into the target costing process helps focus the organization so that the target costing process supports, rather than undermines, its overall competitiveness. (See Porter (1996) for a more in-depth presentation of competitive positioning.) This element is incorporated in the first step of target costing, as shown in Figure 1, when the desired product or service characteristics are determined.

The second major element of strategic cost management is cost driver analysis. Cost driver analysis is also an inherent part of target costing. The fourth step of target costing is the breakdown of cost elements into their individual components. This allows the identification of *cost drivers*. The cost drivers of a product/process generally provide the greatest opportunity for cost reduction or process improvement. These cost drivers become the focus of the cost/process improvement that occurs at step five. However, in order for the cost/process improvement process to be effective, and not reduce market value, the key product or service characteristics identified in step one must not be sacrificed.

The third element of the theory of strategic cost management, *value chain analysis*, is also incorporated into target costing in step five. Here, the organization chooses the tools it will use to achieve its target costs. These tools, in turn, influence the involvement of other members of the value chain. For example, supplier development will entail a great degree of intensive involvement with at least the first tier of the supply

chain, along with internal members of the value chain, such as PSM and engineering. Material changes may require involvement of numerous tiers of the supply chain. Thus, the target costing process influences and is influenced by the organization's existing and potential value chain.

RESEARCH METHOD

The case study method was chosen for this research for a number of reasons. First, there is limited precedent for researching the role of PSM in target costing. Thus, there were no existing models to test — the goal was to develop a model of PSM's participation. The case study method is also advised when the phenomenon of interest is not well understood and the goal of the research is exploratory (Yin 1994). Further, case studies are preferable when there is limited implementation of the phenomenon of interest, in order for relevant data to be gathered. For this research, a survey method might yield only a small percentage of respondents who actively participate in target costing.

This research used a four-step methodological approach. First, an extensive review of the target costing literature was performed in order for the researcher to develop a deep understanding of the topic and knowledge gaps. This helped create content validity.

Second, an advisory board of top-level purchasing executives interested in target costing was formed to participate in various stages of the research. These board members:

- Proposed research objectives and critiqued the objectives developed by the researcher
- Reviewed and commented on the case study protocol (The case study protocol is included in the Appendix.)
- Reviewed and commented on the entire report

These activities helped create content and face validity for the research framework.

Third, case studies were used to gather information about PSM's role in target costing. This approach was chosen because the nature of the research was concerned with exploration, explanation, and in-depth description of practices (Yin 1994). All of the completed case studies were returned to the organizations studied for review and approval. This approach reduced possible bias in the presentation by the researcher and increased the intra-observer reliability of the results. In addition, several of the individuals who participated in the case studies reviewed the complete study, contributing to content validity and internal consistency.

Fourth, the results of the study were also reviewed by a number of practitioners who had no involvement in the research. This also contributed to content validity.

The Sample and Research Execution

The sample chosen for this research was a focused sample. Case studies were identified and selected specifically to

Figure 2

INDUSTRIES REPRESENTED IN THE STUDY

- Computer
 - Equipment
 - Peripherals
 - Semiconductor
- Consumer Products
- Manufacturing Equipment
- Electronic Equipment
- Telecommunications Service Provider
 - Firm A
 - Firm B
- Aerospace OEM
- Automotive
- Transportation Service

Figure 3

REASONS FOR TARGET COSTING

Cost Reduction

- Way to work more closely with suppliers on cost reduction
- Greater cost/price pressure from the market/customers/competitors
- Suppliers did not want to voluntarily reduce price, they needed to be given a target

Cost Disclosure and Understanding

- Way to encourage suppliers to share cost data
- Allow better understanding of cost drivers
- Better understand supplier cost structure

Continuous Improvement/Competitiveness

- Facilitate the culture change from an engineering-driven company to a product-driven/customer-driven company
- Be more competitive in a changing regulatory environment
- Help identify specific areas for improvement
- As an integral part of the organization's continuous improvement philosophy

Improved Communications and Early Involvement

- Means of getting purchasing and suppliers involved earlier in new product development
- Need a target price for suppliers to shoot for as the firm shifts from an industrial to a consumer market
- Help facilitate supplier negotiations
- Have a common goal for the new product development team

Improved Design and Accountability

- Design the right products at the right price before they go to market, supporting value engineering efforts
- Create accountability for costs from design and procurement
- Provide a benchmark for measurement of the organization's and suppliers' performance

gain access and insight into PSM's participation in target costing (Yin 1994). These organizations were identified from the literature review and by members of the advisory board. While it is not a goal of case-study-based research to provide a representative sample of the entire population, there was a desire to study a range of organizations. Industries represented in this research are shown in Figure 2. The decision was made to study a broad cross-section of industries to avoid the possibility of industry bias. It was extremely difficult to find companies in the service sector, as most of the literature and practice in target costing has been in the manufacturing sector. In total, 11 companies from eight industries were included in the research.

Each case study involved on-site visits. Nine of the 11 cases had multiple informants. After firms verbally agreed to participate in the research, they were sent a letter of introduction and a copy of the interview protocol. The interview protocol served as a guide for the research. The actual interviews were semi-structured.

Relevant documents and examples pertaining to the organization's approach to target costing were also collected. This served as an important means for corroborating the interview data (Yin 1994; Ellram 1996). The case study data were analyzed using techniques presented by Strauss and Corbin (1998) in their work on grounded theory. Analysis involved open coding to establish patterns and selective coding to integrate the data into a synergistic whole.

RESULTS

This section of the article presents the key results that answer the following questions:

1. Why do organizations undertake target costing?
2. Is there a common pattern of participation for the PSM function in target costing?
3. What should the role of PSM be in the target costing process?
4. How can PSM be most effectively involved in the target costing process?

Research Question 1: Why do organizations undertake target costing?

Figure 3 identifies the impetus for target costing in the organizations studied. Interviews responses were coded and classified into five categories: cost reduction; cost disclosure/understanding; continuous improvement/competitiveness; early purchasing and supplier involvement; and improved design and accountability. As indicated in Figure 3, target costing has far-reaching benefits that are tangible and easy to measure, such as cost reduction, and benefits that are less tangible and less measurable, such as improved communications and early involvement.

Research Question 2: Is there a common pattern of participation for the PSM function in target costing?

Two aspects of target costing are considered. One is the manner in which PSM participates in target costing

Figure 4

PURCHASING'S INVOLVEMENT IN TARGET COSTING IN THE CASE STUDIES

No Active Involvement	Slight Involvement/Consulted	Team Member	Primary Driver
Manufacturing Equipment		Computer Equipment Computer Peripherals Semiconductor Consumer Products Telecommunications Service A Electronic Equipment Aerospace OEM Automotive Manufacturer	Telecommunications Service B Transportation Service

(as a leader, team member, etc.). The second is the nature of the activities performed.

Nature of PSM Participation

The nature of PSM's participation in target costing varies significantly among firms, as shown in Figure 4. The organizations with no active PSM involvement and those where PSM is the primary driver have one thing in common: target costing is an emerging process rather than an institutionalized approach. All of the other organizations have target costing institutionalized and use cross-functional teams, with PSM as a key member of the team.

There is a common pattern of PSM involvement in the "classic" approach to target costing as identified in this article. Figure 5 provides a detailed description of the role of PSM at each step, as well as the data needed at each step to effectively perform target costing.

A Classic Approach to Target Costing

In reviewing Figure 5, a key point to note is that, as indicated in the literature review, target costing is not a stand-alone tool for any of the organizations studied. Based on the case studies, PSM may be involved in step one to initiate early supplier involvement. This is particularly true if the new product or service concept is so unique or the timing is so critical that those leading the new product or service conceptualization want to involve suppliers for feasibility issues or for prequalification. The more a supplier is relied upon for new technology, features, or processes, the more likely it is that PSM will get involved during this step.

The way PSM is organized is clearly important to successful participation in new product/service target costing. At the Semiconductor, Automotive, and Electronic Equipment firms, a separate group has been established in PSM that is assigned to the new product development/target costing process. This group does not have responsibility for day-to-day buying and supplier management, so it can dedicate its attention fully to a successful product development/target costing process.

At the Computer Peripheral, Consumer Products, and Aerospace OEM firms, PSM has reorganized so that the new product interface in PSM is well-defined and accessible, thereby improving the communication and information flows.

In step two, the target selling price is established. At the Computer Equipment, Manufacturing Equipment, and Semiconductor Manufacturer firms, which have some very large industrial customers, the price may be negotiated with the customer at the same time that the customer is specifying the desired features. In other cases, these same firms and the Aerospace OEM, the Automotive Manufacturer, one of the Telecommunications firms, and the Electronic Equipment Manufacturer will rely on customer input, market research, and research on competitive pricing to determine the target selling price. PSM generally has no direct involvement at this step of target costing.

Step three involves setting the target profit and backing into the target cost. Among the organizations studied, PSM generally does not get involved in this aspect of the target costing process. However, PSM generally continues to work with suppliers on qualification and capability issues during steps two and three of target costing.

PSM becomes heavily involved with cost targets during the fourth step of the target costing process. It may be involved in allocating the costs among various purchased parts and components to develop the item-level cost targets. A good illustration of this process is the Automotive Manufacturer example in Figure 6.

This step of the cost allocation process is handled differently by different organizations. At the Automotive Manufacturer, new product team members use their expertise based on historic patterns and market intelligence to apportion the costs among five major categories: engine, interior, chassis, electrical, and body. At the Aerospace OEM, the costs are assigned to modules by the team leader based on historical cost patterns. The Semiconductor Manufacturer uses a combination of history and data already gathered through earlier

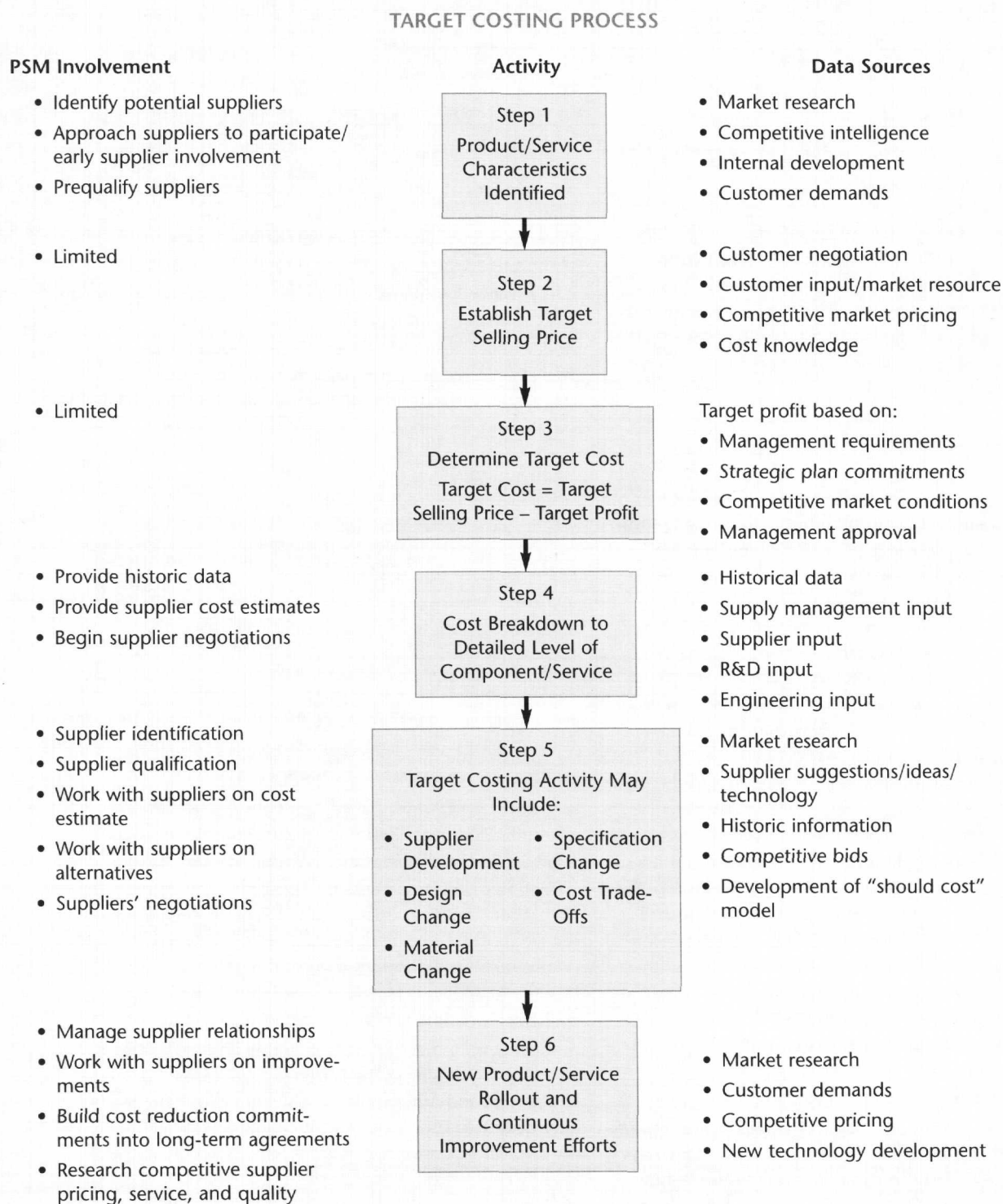
supplier involvement and cost discussions at the new product discovery phase.

At both the Automotive and the Peripheral Manufacturer, PSM and design engineers work together to develop component-level target costs. While the Equipment Manufacturer is still in the development stages of its target costing process, it currently uses a team to develop component-level costing. Other organizations

use a larger cross-functional team. While the nature of the involvement varies, from providing input into setting targets to negotiating with suppliers, PSM has made an important contribution at this step at all of the organizations studied.

Step five is the heart of the target costing process. In most of the larger organizations studied, sub-teams of the overall team work closely with the suppliers. These

Figure 5



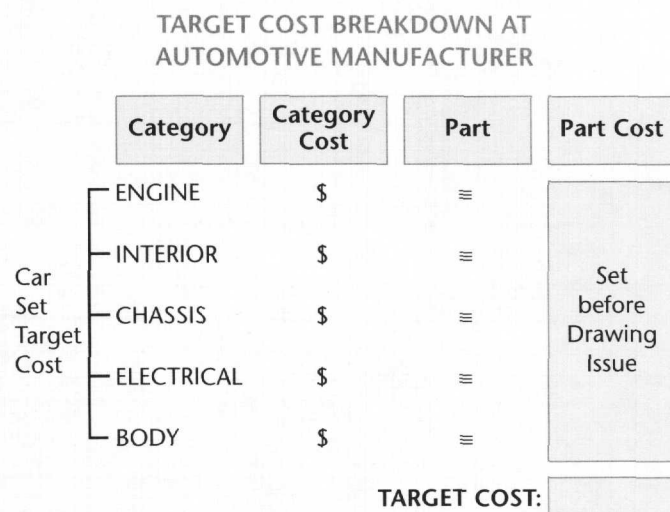
sub-teams report to and coordinate with the overall project team. An example of this process can be seen at the Aerospace OEM, where a project team handles the overall engine and a number of managers are responsible for specific "modules" or functionalities within the engine. The module manager has a number of teams working with him or her on target costing and design of individual parts and components within that module. Weekly module meetings are held to ensure that all of the individual part changes and issues are being addressed and coordinated. Biweekly meetings are held to deal with the overall project and the functionality and compatibility between modules. This is an exciting, dynamic process that involves continuous change and updating. The progress of the project versus target costs is a visible agenda item at all major meetings.

The other organizations studied that use a classic approach to target costing follow similar approaches to coordination. At the Automotive Manufacturer, the PSM associate who is part of the main platform team is responsible for coordinating the overall efforts of the PSM associates working on the individual parts and components. The PSM associates work closely with the designers and the suppliers to find a suitable solution that will meet both the target cost and the functionality requirements.

For those situations where the organization has not achieved the target price by a product/service rollout, it is even more critical to have excellent ongoing monitoring systems in place. PSM plays an active role in monitoring the ongoing cost and performance of suppliers at step six of the process. At the Automotive, Semiconductor, and Electronic Equipment Manufacturers, once the new product is rolled out, the management of the supplier relationship within PSM changes hands from the new product people to those involved with day-to-day buying activities. The Automotive Manufacturer uses an automated cost-tracking system that allows it to assess key products' performance versus target cost at any time. Thus, target costing continues in some fashion throughout the life of the product or service. The other organizations studied also track actual performance versus target cost. PSM plays a key role in following up on any problems, ensuring that suppliers meet their cost reduction commitments, and staying in touch with market trends. PSM has the primary responsibility for supplier performance management once a product or service is launched. This responsibility makes it critical that PSM is involved throughout the new product development and target costing processes, so that it understands the key issues and concerns.

It is clear that PSM plays a key role in and is a key contributor to the target costing process of the organizations studied. One unsolicited idea that was shared by all of the organizations is that in order to successfully

Figure 6



contribute to the target costing process, PSM must have a high level of expertise in the items purchased. While it is not necessary that the buyers be engineers, they need to be comfortable with the technical language and understand the basic properties of the items. This builds credibility with other team members and with suppliers.

Research Question 3: What should the role of PSM be in the target costing process?

Based on self-assessment of success and problems encountered by the case studies in the target costing process, the case studies confirm that the ideal target costing process follows an approach like the classic approach found in the literature. There are specific roles and relationships for PSM throughout the target costing process. One sentiment echoed by the organizations studied is that in order for PSM to make a substantive contribution to the target costing process, it needs to be involved early, during the idea conception stage. This is necessary to identify and qualify good suppliers on time and to have the ability to influence specifications — the major cost drivers for new products and services. The roles that PSM plays in the organizations using a classic approach to target costing are shown in Figure 7. Ideally, PSM should become actively involved in target costing during the first step of the process, when the product or service concept is being developed. PSM and supplier involvement at the concept phase allows the maximum benefit of supplier expertise.

As previously mentioned, the role of PSM in new product development and target costing is so important and time-consuming at the Peripheral, Electronic Equipment, and Automotive Manufacturers that they have dedicated PSM personnel to this activity. This is the ideal situation for new product/service target costing in large companies.

Another key role and relationship in successful target costing is a close working relationship between PSM and design engineers and research and development. Because design drives supplier requirements, which, in turn, drive the cost and have a direct impact on the ability of a product or service to meet the target cost, this relationship is critical. An exception to this scenario is illustrated by the Telecommunications Service Provider, which is more concerned with applying target costing to the outsourcing of services and providing new services to its customers. In this service-oriented situation, it is more critical for PSM to have an excellent, close-working relationship with marketing than with design or research and development.

The specific roles for PSM in the classic approach to target costing (Figure 7) include identifying capable suppliers, facilitating early supplier involvement, as well as qualifying suppliers and verifying their capabilities and performance history. At the Peripheral Manufacturer, PSM plays a key role in identifying new suppliers and new technologies for the research and development

department to investigate. PSM has taken on this expanded role because it interfaces so closely with suppliers that it often hears about new developments first.

Another desirable primary role for PSM is to lead the negotiation and the development of long-term agreements with suppliers. The negotiation and long-term agreement development should ideally begin in the first step of the target costing process, giving the firm the maximum flexibility to design around a supplier's capabilities if warranted. Another important role for PSM throughout the process, particularly during step four, is to work closely with the supplier to develop cost breakdowns, to gather market data to assess the reasonableness of supplier cost estimates, and to determine what the costs "should" reasonably be. The product or service and design are often in great flux at this stage as all parties work toward trying to achieve the quality and functionality goals while meeting the target cost. The desirable roles for PSM are summarized in Figure 7.

Figure 7

ROLE OF SUPPLY MANAGEMENT DURING MAJOR TARGET COSTING ACTIVITY¹

	Peripheral Manufacturer	Semiconductor Manufacturer	Telecommunications Equipment	Telecommunications	Aerospace OEM	Automotive Manufacturer
Dedicated "new product/service" buyers without daily purchasing responsibility		X	X			X
Maintain close working relationship between buyer and design/R&D	X	X	X		X	X
Identify capable suppliers	X	X	X		X	X
Facilitate early supplier involvement	X	X	X		X	X
Qualify suppliers or ensure only qualified suppliers are selected	X	X	X	X	X	X
Negotiate with suppliers	X	X	X	X	X	X
Develop long-term contracts/agreements with suppliers	X	X	X		X	X
Get supplier cost breakdowns where possible	X	X	X		X	X
Work with suppliers on cost reduction ideas	X	X	X	X	X	X
Suggest changes to target cost	X	X	X			X

¹ Includes *only* firms that use the "classic" approach to target costing. The Manufacturing Equipment provider is not included because purchasing is not currently involved in its target costing efforts.

Research Question 4: How can PSM be most effectively involved in the target costing process?

The previous two research questions focused on the actual and desired nature of PSM's participation in target costing. This question explores how PSM can most effectively become involved in target costing. The answer to this question is contingent upon the level of resources available and whether the organization is currently involved in performing target costing activities without PSM's direct involvement. A continuum of types of involvement is shown in Figure 8.

The ideal situation for target costing is a supply-chain-wide effort that includes value engineering, value analysis, and early supplier involvement. However, not all organizations have the resources and the companywide support required to make integrated, institutionalized target costing a success.

In this case, the best role for PSM is as a member of a cross-functional team, involved throughout the entire product or service life cycle, from ideal conception to end-of-life. However, as shown on the far left of Figure 8, target costing can be used by a single department to benchmark performance, work with suppliers on improvements, and communicate cost targets to suppliers and to others within the organization. This can be a starting point to spread target costing efforts and benefits throughout the organization. Several of the case studies included in this research are currently using target costing in this way, with the goal of spreading the use of target costing to other disciplines and gaining cross-functional cooperation. This type of scenario is present at the Transportation Service provider and Telecommunications Firm A, both of which are in the early stages of implementing target costing.

However, target costing is a very resource-intensive process. To be truly effective, it requires a team effort, generally involving varying degrees of participation by PSM, marketing, accounting, research, design, and manufacturing. It also requires relationship building with suppliers in order to reap the benefits of early supplier involvement and design participation. Top management must make time available and create an internal reward structure that supports target costing across all disciplines

within the organization. All of the organizations studied that have implemented well-integrated, institutionalized target costing efforts have regular top-management reviews of the target costing progress throughout new product or service development. Target costing is an integral part of the new product or service development process, as well as an ongoing approach for monitoring and improving the costs of existing products or services. Thus, while target costing may begin as a PSM effort, it is critical to convince other functional areas of the benefits of target costing and to get their participation and commitment.

CONCLUSIONS

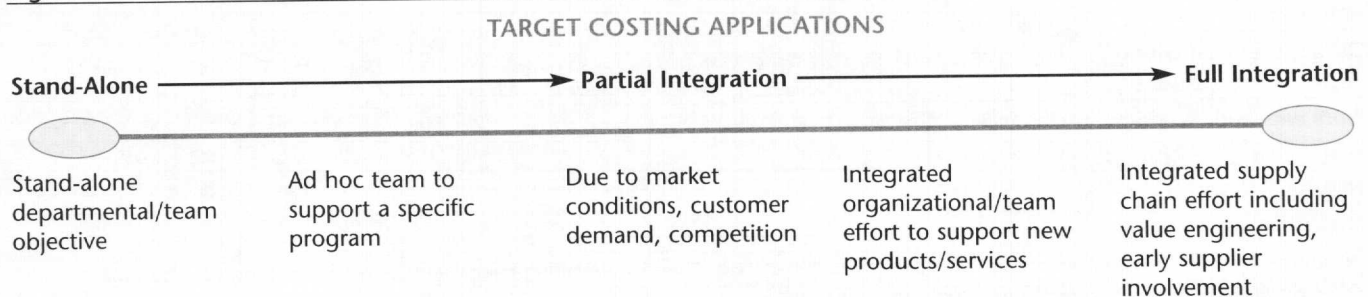
Target costing is a valuable tool and philosophy to support an organization's overall efforts to remain cost-competitive while meeting the customer's demands. Yet target costing is not a stand-alone effort. It is a process most effectively undertaken by cross-functional teams, in conjunction with other value-adding processes such as early supplier involvement, value analysis, and value engineering.

Organizations begin using target costing for a variety of reasons. The reasons may be broadly classified as the need to increase competitiveness and the desire to increase communication and early supplier involvement in the new product or service development process. In addition, there are cost management reasons for implementing target costing, such as reducing costs, improving understanding of the supplier's cost structures, improving internal cost management, improving cost monitoring, and increasing cost accountability. All of the organizations studied had multiple objectives for target costing.

A common approach to target costing is used by most of the manufacturing organizations studied, as shown in Figure 1. While this step-by-step process proceeds in a similar fashion among most of the manufacturing organizations studied, the specifics of who is involved, timing, and supplier participation vary.

PSM is involved at a variety of levels in target costing, from very limited involvement to being the driver of the process. Based on the case studies, it appears that it

Figure 8



is most effective for PSM to participate as a member of a cross-disciplinary team. This provides the knowledge, cooperation, and commitment across functions needed to increase the likelihood that target costing will be a success. If target costing is a PSM-driven initiative, it is much more difficult to gain the cross-disciplinary visibility and support required for success.

Accountability for results is key to the long-term success of target costing. A primary way that organizations create accountability is by monitoring progress throughout the new product or service development cycle. It appears that involvement in target costing represents a very positive way for PSM to contribute to organizational success and to be involved early in product or service development.

An area that would benefit from further research is gaining the supplier's perspective on target costing. Interesting research questions include:

- What do suppliers see as valid and invalid applications of target costing?
- Does it benefit them? If so, how?
- Is it a disadvantage to their performance and/or cost structure?
- What can persuade suppliers to cooperate with and fully participate in target costing?

Answers to these questions could be particularly useful for PSM in developing and improving its own organization's approach to target costing.

Another gap in the research is PSM's participation in target costing at service organizations. It would be beneficial to study a broader sample of service organizations for which PSM plays an active role in target costing. The limited sample of service organizations in this research demonstrated some patterns in PSM's participation in target costing in the service sector. Further research could validate the patterns found here and could investigate how to make PSM's participation in target costing successful in service organizations.

It would also be useful to explore the applicability of target costing and the role of PSM in the nonprofit and governmental sectors. Interesting research questions would include:

- Is target costing being used?
- Does PSM play a role?
- Are there any lessons in these sectors that could be applied to the for-profit sectors?

These suggestions for further research only begin to scratch the surface of the research potential for target costing as it relates to supply management. As more organizations come to understand target costing and see the high level of benefits possible, target costing applications will continue to grow. This, in turn, will increase the interest in target costing research and provide more cases for analysis.

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Appendix A

TARGET COSTING QUESTIONNAIRE

BACKGROUND

Name _____ Company _____
 Division _____ Industry _____
 Job Title _____ Yrs in position _____
 Years with Co. _____ Yrs in purchasing _____

NOTE: Your answers to the questions should include people, dollars, and activities that report to the organization headquartered in this country.

Size of the firm:

1. Approximate total annual sales, 1997 (or latest fiscal year), in U.S. dollars.

_____ under \$500 million _____ \$5.1 billion to \$10 billion
 _____ \$500 million to \$1 billion _____ over \$10 billion
 _____ \$1.1 billion to \$5 billion

Approximately what is the ratio of purchases of outside goods and/or services to revenue?

What is the approximate percentage of your sales to industrial customers? _____ directly to consumers? _____ other? _____
 (specify source)

Would you classify your firm as primarily:

_____ manufacturing
 _____ service-oriented
 _____ distribution
 _____ government
 _____ other (specify)

2. What is the major business of your company?
3. What are the key issues/competitive challenges facing your firm?
4. Are you currently undergoing, or have you undergone, any major changes in your purchasing organization or practice in the past year? Please discuss.
5. How is the purchasing function organized? Do you have an organizational chart I could have a copy of? (Names may be deleted if necessary.) Where does the purchasing function report within the firm? (reporting chain)
6. Do you have specific, quantifiable written cost savings/cost management objectives for purchasing? Give an example. What is the highest level that reviews those plans?
7. How is the achievement of purchasing's objectives evaluated?

TARGET COSTING PHILOSOPHY

8. How do you define target costing?
9. Does your company have a total philosophy/approach for target costing in general that you are aware of? Please explain.
10. Does your company have a total philosophy/approach for supply management's participation in target costing that you are aware of? Please explain.
11. Do you expect this philosophy of target costing to change in the next two to three years? Please explain why or why not, and the direction of change.

TARGET COSTING HISTORY

12. To the best of your knowledge, what year did your firm begin using target costing approach?
13. What created the interest in target costing approach?
14. Whose idea was it/how did the TC movement get started?
15. Was there any top management involvement in the early levels of TC development? What levels/functions were involved?
16. What functional areas worked on starting TC? Who led the effort? Was it a committee or individual effort?
17. What do you believe was the single most important factor that ensured TC implementation in your firm?
18. Is top management aware of/supportive of TC?
19. Are other functional areas aware of/supportive of TC?
20. How is marketing tied to TC?
21. How is product development tied to TC?

Appendix A (continued)

22. Has TC usage affected the purchasing function's relationship with other internal functions? Explain.
23. Has TC increased purchasing's involvement in decisionmaking? Explain any changes, and why you believe those changes have occurred.
24. What do you see as the primary benefits of using TC? Do you measure these benefits? How?
25. How are you/team/others held accountable for TC results?
26. Do you track savings from using a TC approach? What savings are tracked, and how? Who receives the reports? How much does your firm save annually by using a TC approach? May I see/have a copy of the summary report you issue on TC savings?
27. Do you track non-monetary benefits from using a TC approach? If so, what are they and how are they tracked and reported? May I see/have a copy of the summary report you issue on non-monetary benefits?
28. Do you believe that the linkage of TC to other initiatives has helped the acceptance of these programs, or vice versa? How/why; address both internally and externally (with supplier).
29. If your firm is involved in "partnering," what impact has TC had on your partnering efforts, or vice versa?
30. Do you recall what the issues/difficulties/barriers were with early development and implementation of a TC approach?
31. How were those difficulties overcome/what did you learn?
32. Tell me about how the TC model(s) used by your firm have changed over time. What did the early model look like, versus a model that is in use today?
33. What factors do you believe influenced those changes?
34. What changes/enhancements would you still make to your TC approach?
35. Are there misapplications of TC that you have seen?
36. Are there issues unique to your firm/industry that affect your application of TC? Please explain.

TARGET COSTING APPLICATIONS

37. What impact has TC had on decisionmaking? Please give specific examples. Has TC had an impact on any major/strategic decisions that you are aware of? Please give strategic example.
38. What impact has TC had on cost of material?
39. Is TC viewed as a tool or a philosophy? Give me an example to support this.
40. To what extent do you share the TC information with current and/or potential suppliers? Under what circumstances?
41. Has TC affected purchasing's relationship with suppliers? Explain.
At what point do suppliers get involved in TC?
What type of involvement do suppliers have?
How many levels in the supply chain get involved?
Would you be willing to allow me to conduct/interview various levels of your supply chain to get their perceptions?
42. If TC is used in supplier selection, how is TC used when the selection process includes one or more new suppliers?
43. Give specific examples of how you use/have used TC data with suppliers to:
 - negotiate prices
 - reduce prices
 - improve quality
 - terms
 - delivery
 - cycle time
 - services
 - manage supplier performance
 - other
44. Have you ever changed your requirements of the supplier (specs, delivery, etc.) as a result of TC analysis? Please share an example or two with me.
45. What do you see as the drawbacks/difficulties/disadvantages of using the TC approach?
46. Are there any problems which you see as so serious that they may distort/undermine the results of TC?

Appendix A (continued)**BREADTH AND DEPTH OF TARGET COSTING MODEL**

47. For what types of buys does your firm use a TC model?
- | | |
|---------------------|--------------------------------|
| ___ services | ___ capital for production |
| ___ MRO | ___ capital for office/support |
| ___ components | ___ raw materials |
| ___ other (specify) | |
48. Tell me about the way your firm uses TC. Is there a basic framework or approach that your firm uses for each type of buy, or do you have different approaches? If there is a framework, what is it?
49. Are there a set of common factors which are usually considered across TC models?
If so, what are they?
Which factors do you consider most important?
Which factors do you find easiest to manage and why?
Which factors do you find the most difficult to manage and why?
50. Would you be willing to share with me an example of the TC models which your firm uses for different types of purchases? (Ask to see/have explained, take a copy with me.)
51. Where does the TC approach reside/exist (paper, mainframe, PC, etc.)? Ask for source of model.
52. Do you use some type of TC approach for everything your firm buys? Or does it depend on the importance/dollar magnitude, etc.?
53. If you don't use TC for all buys within a type of buy, what determines whether or not you use TC for a given purchase?
54. Who or what function "owns" the TC process?
55. What are the sources of information for the model?
What costs are associated with maintaining data for the model?
56. Who is responsible for gathering/maintaining model information (rates, etc.) — individual, group, ad hoc?
57. Is there any post-audit done on the target costing analysis?
How do you measure the effectiveness of TC model?
58. Are any employees trained on the use of the TC model/approach? If so, how does that training occur?
Do you train suppliers in TC? Explain.

COST ACCOUNTABILITY

59. What is the purchasing function's responsibility for cost/price of purchased goods/services?
60. Are you individually responsible for cost/price variances on items purchased? In what way? Is there a tie-in to performance appraisals/merit increases?
61. If purchasing is directly responsible for costs, what are costs compared to? Do you consider market prices?
62. Do you feel your firm's emphasis on managing costs of purchased goods and services has increased, decreased, or stayed the same? Why?

DEVELOPMENT

63. Have you ever benchmarked TC practices with other firms? Please discuss.
64. To the best of your knowledge, do your suppliers use a TC approach? Do you encourage your suppliers to use a TC approach?
65. Is there anything else significant about your use of a TC approach, or your implementation of a TCO approach, that you think I should know about?

ROLE OF PURCHASING IN THE FIRM

66. Do you think that purchasing is viewed as a strategic function in your organization? (A function that is respected/whose input is valued, who participates in high-level decisions?)
Please give some examples to support your position.
67. Do you believe that the way purchasing is viewed in the organization has an impact on its participation in the TC process?
Please explain.
68. Do you see your firm doing more or less TC in the future? What areas will be affected and why?
69. Do you see purchasing's role in the TC decision changing in the future? In what way, and why?
70. Is there anything else you would like to say about TC in general, in your company, or purchasing's role in outsourcing?

Thank you very much for your participation!