

Solutions **Chapter 5:** Supply Chain Cost Management

Review question 5.1:

Cost accounting is focusing on collecting cost and assigning cost to various cost objects (cost centers, products and services). It focuses on short-term optimization of cost. Cost management seeks to actively influence cost. It is early initiated and long-term oriented. Cost accounting is a necessary prerequisite for cost management.

Review question 5.2:

Cost management focuses on three interrelated and complementary aspects:

- Managing cost level: How high are costs and how can overall costs be reduced?
- Managing cost behavior: How do costs change if the activity level changes and how can costs be made adaptive to these activity changes?
- Managing cost structure: What is the mix between direct and indirect cost elements and what can be done to reduce indirect (i.e. overhead) costs?

Review question 5.3:

Cost management across SC partners involves all coordinated efforts by supply chain partners to actively influence and reduce costs. It is a structured approach to coordinating the activities of firms in the network so that total costs in the network are reduced. IOCM can be used in many different scenarios, among them:

- Supplier evaluation and selection (selecting the supplier whose business processes and suggested solutions allow a cost-efficient joint offering)
- Joint product design (Identifying opportunities for cost optimization and looking for cost reductions that span across several partners' tasks)
- Pricing and offer calculation (joint pricing and offer preparation using input and cooperative efforts from partner firms further upstream in the supply chain)
- Product mix selection (Determining the profitability of individual product variants and deciding on which variants to offer or to suspend)

Review question 5.4:

Successful IOCM depends on the availability of cost accounting systems which each partner that can produce relevant, accurate, and usefully presented information, the overall willingness of SC partners to share at least part of their cost information with those suppliers and customers that are directly involved in IOCM efforts, and the willingness to provide at least some transparency to other partner who are not directly involved.

Review question 5.5:

Target costing focuses on customers' requirements. Cost is viewed as a result only, whereas customer requirements are viewed as binding competitive constraints, which companies need to take into account. The selling price of a product must match customers' willingness to pay for that particular product. Target costing reverses the logic of traditional cost accounting, which starts out with determining and allocating cost items to products and charging prices to customers that match cost – irrespective of product benefits provided.

Review question 5.6:

1. Determine the target price for the market offer in question (exploration of customers' willingness to pay)
2. Set an expected profit margin
3. Determine target cost (product's target price minus the expected profit margin)
4. Determine estimated current cost for the market offer ("drifting cost")
5. Determine the cost gap (difference between target costs and drifting costs)
6. Split target costs between product components ("target cost matrix" that combines benefit contributions of product functions or product characteristics as perceived by customers with a company-internal assessment of product components' contributions to these functions)
7. Determine the cost-functionality optimum (each product characteristic accounts for a cost share that roughly matches its relative contribution to overall product attractiveness)

Review question 5.7:

Target costing is applied across multiple supply chain levels by "chaining" the target costing systems of supply chain partners. The target cost of a specific component of the manufacturer constitutes the target price for the partner supplying that component – who repeats the target costing exercise for this component, breaks it further up and passes target cost information on to its own suppliers. The logic of chained target costing can be applied to several scenarios in a supply chain, such as supply chain configuration (choosing SC partners, allocating tasks among SC partners), setting of prices and acceptable profit margins between partners, or collaborative cost reduction initiatives.

Review question 5.8:

Kaizen costing supports cost reduction in the manufacturing phase of already existing products. The two central elements of Kaizen are continuous improvement and the participation of all employees who are the source of such improvements. Kaizen costing takes actual cost of the latest period as the benchmark (the so-called "Kaizen cost budget"), which has to be improved further in the successive periods in order to meet target profits. Kaizen cost targets account for future productivity increases, learning effects, and economies of scale, for instance, to determine the cost level for the next period.

At the supply chain level, Kaizen costing can be implemented in three different variants: Item-specific Kaizen costing focuses on reducing the direct costs of a specific component or a specific product, period-specific Kaizen costing focuses on the profitability of the company's entire product portfolio, and overhead-specific Kaizen costing turns to support processes that generate indirect (i.e. overhead) costs. In all three scenarios, Kaizen costing is a concerted effort that also involves the firm's suppliers and distribution partners, respectively.

Review question 5.9:

The basic tenet of life cycle costing is that products cause costs as well as income in all phases of their life cycle and their financial performance and profitability can be assessed only by considering financial effects in all phases of their life cycle. Life cycle costing compares the cost-effectiveness of alternative business decisions or objects from the perspective of an economic decision maker (e.g. a producer or a consumer of a specific product). Life cycle assessment, in contrast, evaluates the relative environmental performance of a product or system. This will also affect the cost and revenue structure, but profit effects are not the focal point of interest in life cycle assessment. Life cycle-oriented approaches have conceptual overlaps with supply chain management. Supply chain management shifts the focus to the operational activities needed along the supply chain to satisfy customer expectations. These will have impact on the financial and environmental performance of a market offer along its life cycle.

Review question 5.10:

Activities and tasks that cause costs and revenues in the different life cycle stages often do not rest with a single firm only. Overall financial attractiveness of a market offer depends on the contributions of many different supply chain partners. This is true both for the cost/benefit consideration of the end-customer as well as for the product's attractiveness to individual supply chain partners. A supply chain perspective, therefore, can help supply chain partners identify new opportunities for joint product optimization and consequently improved competitiveness of the joint market offering through lower life cycle cost.

Review question 5.11:

ABC groups all activities in a four-level scheme:

1. Unit-level activities are performed for every single unit of output.
2. Batch-level activities are performed for individual product batches or production runs.
3. Product-level activities are performed once for individual product lines or product variants.
4. Facility-level activities comprise all those activities that are not performed for individual products but focus on the business organization in its entirety.

Review question 5.12:

Implementation of ABC in a supply chain requires a solid data basis, organizational readiness, and commitment from senior management. Supply chain partners should share cost information via open book accounting or similar practices and should have implemented appropriate institutional arrangements and economic incentive systems to mitigate principal-agent problems. In order to retain supply chain partners' willingness to engage in cross-organizational ABC, costs, and benefits should be distributed among the involved supply chain members appropriately.

Exercise 5.1:

Easyrider is still in the conceptual design phase. Therefore, only those IOCM tools will be applicable that do not require extensive and detailed operational data. An immediate case in point is certainly target costing. Based on initial market research, Easyrider could approach its future key suppliers with specific requests on the target cost levels of key components. Integrating suppliers' feedback will help Easyrider further optimize the cost-benefit ratio of these components. Engaging in a joint target costing exercise can avoid costly mistakes in product design that are difficult or even impossible to correct in the manufacturing phase.

Easyrider could also look into life cycle costing and approach both its key suppliers as well as its distribution partners to share information on the main cost items they see for future end customers as well as the main cost drivers for the activities performed by suppliers (e.g. design and manufacture of spare parts) and distributors (e.g. maintenance and repair), respectively. Again, collaborative efforts can help identify possible future cost drivers early on and adjust product design accordingly.

In any case, Easyrider will have to convince its SC partners that collaborative efforts are beneficial to all and will have to invest time and effort to build or solidify the necessary trust base between partners.

Exercise 5.2:

The key to applying ABC or other process-based costing methods in a supply chain is the appropriate definition of tasks and cross-company processes. Bohrer & Schaufler will have to involve its key customers in defining key processes (i.e. those with the highest cost impact) at different conceptual levels. While tasks and activities at lower levels might be performed within Bohrer & Schaufler's own organization only, their cost structure might still be influenced by expectations and demands set by its customers. Project and product documentation, for instance, will be done in accordance to customers' requests. The effort going into these activities, therefore,

can be reduced, if customers agree on less detailed and “leaner” reporting and documentation.

More complex activities such as project management will be done jointly by Bohrer & Schaufler and customer staff. Cost can be reduced by agreeing on a clear distribution of responsibilities, avoiding escalation procedures, and agreeing on common standards and interfaces (e.g. between project management tools).