

# The Supply Chain Costing Journey: Why You Need to Take It

Understanding the supply chain's role in the profitability of your company, and the ability to use that knowledge to your company's advantage, can be your best weapon in the economic battles ahead.<sup>1</sup>

**C**OST VISIBILITY ACROSS A supply chain can open new opportunities for driving cost reductions and improving performance. Many internal costs are driven by external trading partners' behavior and business practices. Improved cost visibility enables managers and executives to better understand how supply chain relationships drive costs within their firm and with each trading partner. Visibility would also facilitate more effective cost trade-offs and optimized networks within the firm and across a firm's network of trading partners. Despite the importance of externally driven supply chain costs, managers and executives currently have very limited visibility of their trading partners' costs and little insight into what actually drives their costs. Tremendous potential exists to achieve significant cost reductions and higher levels of performance within the supply chain. The visibility and management of costs across trading partners can take supply chain management to a higher plateau of value creation.

Many companies may find it near impossible to track supply chain costs, but it is a requirement for properly tracking, reporting, and measuring item performance. And it is a true prerequisite for advance supply chain and retail optimization.<sup>2</sup>

To complicate matters, many managers and executives do not trust the profit and cost information reported by their CFO and accountants. We are not referring to the *external financial statutory and compliance accounting and reporting* for government regulatory agencies and for investors. We are referring to *internal management accounting* providing insights and cost information to help managers make better decisions. An example of the lack of trust involves cost allocations of indirect expenses, commonly called “overhead.” Managers recognize that simplistic cost allocations with basis, such as the number of direct labor hours or number of units produced, do not have a cause-and-effect relationship in most situations. They are like spreading peanut butter across bread. Hence, the reported costs are inaccurate, flawed, and misleading.

To further complicate matters, managers observe that the internal managerial accounting information is incomplete. It does not provide a full picture of their firm’s costs. The accountants stop at simply calculating and reporting the costs of product and standard service lines. They do not calculate costs *below* the gross profit margin line in an income statement. Managers need to also have visibility regarding how much their customers consume of distribution channel, selling, marketing, customer service, and administrative expenses. Managers desire seeing a profit-and-loss report for *each* customer.

Some executives may believe that they know their own internal supply chain costs and are not suspicious of the accuracy of those costs. Leaving that problem aside, research reveals a different problem, that most firms have limited knowledge of their trading partners’ costs and the influence of the partners’ actions on the firm’s cost. Think about how you would respond to the following questions about your firm’s knowledge of its supply chain costs.

- How good are your firm’s measures of supply chain costs?
- Do you know, with confidence, which products and service lines are truly making or losing money—and by how much?
- How good is your understanding of your trading partners’ supply chain costs?
- Do you know what costs to your firm are caused by your suppliers, aside from the purchase price to them?
- Does your firm calculate and report customer profitability?

- Do you know which types of customers are more attractive to retain, to grow, and to acquire as new ones—and which types are not?
- Does your analysis enable accurate predictions of how changes in customer behavior will drive costs within your firm and the supply chain?
- Does your firm exchange cost information with key trading partners to help effectively manage these external costs?
- Is available cost information adequate to support supply chain decisions and understand how these decisions drive costs within the firm, its trading partners, and the entire supply chain?
- Are you measuring the correct key performance indicators (KPIs) to align the priorities and actions of managers with the executive team's formulated strategy?
- Do managers even understand what the executive team's strategy is?

*The answer of most firms is "Probably not!"*

Volatility in the global economy and fluctuations in transportation costs have increased the importance of having cost knowledge within and across the supply chain. Supply chain cost professionals are operating in a dynamic business environment: increased globalization, expanding product and service variety, growing end-user demands, rapidly changing technology, volatile transportation costs including fuel prices, periodic pandemics, and sustainability requirements. This environment has altered end-user demand and is changing how organizations function and interact with their trading partners. Measuring and managing existing and prospective supply chain costs is essential for sustaining profitability and remaining competitive in this increasingly complex environment.

Supply chain costing in this dynamic environment poses a significant management dilemma. Executives require targeted, precise cost information by product, service line, distribution channel, and customer and supply chain. However, the general ledger cost accounting systems firms use does not provide this information. Traditional cost systems provide detailed information about the *input* expenses incurred with labor, material, freight, or other natural expense accounts, but they fail to provide the *output* cost information most needed by management. For example, managers seeking to improve their supply chain processes, such as order fulfillment, need information on the total cost of the end-to-end business processes, the cost of the individual activities performed within those processes (internally and the cost of the activities performed by external trading partners), and estimates of how these costs will change in response to any process changes.



## COMMONLY ACCEPTED OBSERVATIONS

Executives and their managers will agree that the visibility and management of costs across trading partners offers tremendous potential for value creation within the supply chain. However, few firms today have cost visibility beyond their own four walls and far fewer have visibility of their immediate upstream supplier and downstream customer trading partners' costs. The external visibility of cost information is very limited and does not produce the transparency required to achieve the full potential from an effective supply chain

### EXHIBIT 1.1 Common Observations

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- Common definition of supply chain management missing
  - Costing considered an essential supply chain competency
  - Level of trust and dependency affect the exchange of cost information
  - Limited focus on the suppliers' indirect costs
  - Management perceptions of cost influenced by the information provided
  - Standard cost systems being adapted to reflect supply chain complexity
  - Cost estimation models used to overcome trading partners' reluctance to exchange cost information
  - Cost information requirements vary by position within the supply chain
  - Very limited two-way sharing of cost information
  - Supply chain costing increases the complexity of cost systems
  - Supply chain costing includes a wide range of costing tools employed to support supply chain management
  - Firms at multiple steps along the journey toward supply chain costing
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management system. Exhibit 1.1 displays what most supply managers observe about supply chain management.

The adoption of supply chain management and a process view requires a much different perspective regarding cost management than exists in most firms. A supply chain perspective shifts the focus from determining and analyzing only the costs incurred within a single firm to the total costs incurred by all trading partners in delivering the final product or service line to the end customer. Based on the need for a broader costing perspective, supply chain costing can be defined as:

Supply chain costing is the collection, expense assignment, and analysis of cost information across all of the work activities comprising a supply chain for the purpose of identifying opportunities to

obtain a competitive advantage through a combination of reduced costs, increased revenues, and improved performance.

This definition recognizes that supply chain executives require an extended view of costs. Companies do not operate in isolation and many costs incurred by the firm are driven by the business practices of external trading partners. The cost incurred by the end-user customers represents the sum of the activity costs performed by all the trading partners plus their profit margins. Supply chain managers need a better understanding of these costs and their root causes to manage and control the final cost experienced by the end user. Without additional cost visibility, managers cannot take advantage of potential opportunities to further reduce costs or optimize costs at a more strategic level through interfirm cost trade-offs. Supply chain costing and its supporting framework are described in Chapter 3.

Few, if any, organizations can be described as having fully implemented supply chain costing as described in this book. The varying levels of cost visibility span a spectrum, ranging from firms actively working with trading partners to obtain costs across several supply chain tiers to those firms still struggling to obtain a better understanding of their own internal costs. Despite the differences in their progress, management teams recognize that there is a need to obtain better cost information internally and regarding their trading partners. Most firms are actively working to gain control over supply chain costs and performance.

Several common themes keep resurfacing with senior executives. These themes include the need for greater cost knowledge within the supply chain, that many costs are driven by the behavior of trading partners, and that by managing supply chain costs a competitive advantage can be obtained. Different costing techniques will need to be used because the problems being addressed or a firm's position in the supply chain can differ between types of firms.



## THE JOURNEY TO IMPLEMENTING SUPPLY CHAIN COSTING

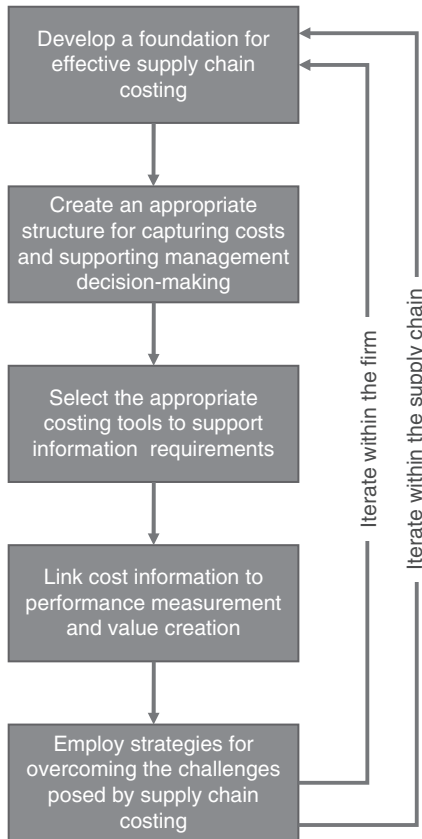
The need for a different supply chain perspective has led supply chain managers in many firms to embark on a journey toward improved supply chain costing. While the journey remains somewhat unrefined and as yet untraveled by many firms, it is inevitable that managers who begin to implement progressive supply chain costing methods will obtain greater insight and understanding of how

their own internal costs and the activities and processes performed by each trading partner contribute to overall supply chain costs.

The firms that begin the supply chain costing journey—and some have begun the journey—will initiate efforts that capture expense information and calculate costs from the end user across and through the ultimate source of supply. The resulting cost knowledge allows supply chain professionals to report the magnitude and types of supply chain costs, get senior management’s attention, and focus on key cost drivers across the supply chain. The process, or journey, for implementing supply chain costing consists of five steps displayed in Exhibit 1.2.

**EXHIBIT 1.2** The Process, or Journey, for Implementing Supply Chain Costing

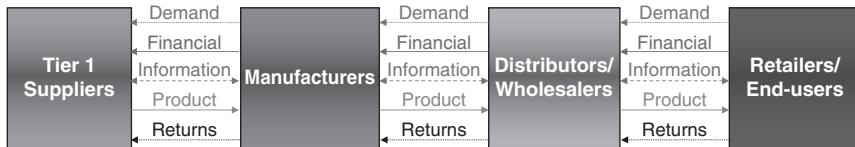
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## Develop a Foundation for Effective Supply Chain Costing

First executives need to develop a foundation for effective supply chain costing. Essential elements of this foundation include a shared vision of supply chain management and determining what cost information is needed to gain insights and support management decision making based on the firm's strategy, its production methods, and its operating environment. Without this foundation, the pursuit of supply chain costing may produce insightful information but not the type of information that managers need to appropriately act.

### EXHIBIT 1.3 A Typical Supply Chain



Source: Adapted from Douglas M. Lambert and Mark L. Bennion, "New Channel Strategies for the 1980s," in *Marketing Channels: Domestic and International Perspectives*, ed. Michael G. Harvey and Robert L. Lusch (Norman: Center for Economic Management Research, School of Business Administration, University of Oklahoma, 1982), p. 127.

Identifying when and how to capture, measure, calculate, and use supply chain cost information presents major challenges and tremendous opportunities for supply chain professionals. To effectively manage supply chain costs, decision makers must agree on what constitutes a supply chain and supply chain process. A supply chain perspective requires a firm to capture and analyze costs across multiple trading partners (Exhibit 1.3). The importance of measuring supply chain costs must be recognized, and decision makers must be cognizant of the factors that are fundamental to managing these costs. Decision makers must refine their understanding of what drives supply chain costs and of the measurement methodologies and tools that are available to help manage these costs. Without this type of information, supply chain professionals cannot effectively implement the changes needed to improve supply chain decisions. For these change initiatives to be successful, it is necessary to change behavior, modify culture, and realign performance measurements within the organization and throughout the supply chain. The issues and actions required to develop a foundation for effective supply chain costing are presented in Chapters 3 and 4.

## **Create an Appropriate Structure for Capturing Costs and Supporting Management Decision Making**

The second journey step is where management creates an appropriate structure for capturing costs and supporting management decision making. A tremendous amount of complexity exists in most supply chains, and supply chain costing needs to capture costs in a manner that enables managers to view and portray costs in many different ways. This step means giving careful consideration to the classification and assignment of costs. Most firms continue to rely on traditional general ledger cost accounting systems. Chapter 5 compares traditional cost systems with supply chain costing and explains why general ledger accounting systems need to be adapted to support supply chain decision making. Chapter 6 then describes the different views of cost information and alternative ways costs can be classified.

Effective supply chain management requires multiple views of cost and the use of cost classifications that permit the isolation of costs by product, customer, or supply chain. This information supports the application of supply chain costing tools such as customer profitability analysis and target costing as well as linking supply chain costs to performance and value creation by using economic value-added or balanced score card models. Chapter 7 addresses the key issues associated with indirect costs and cost assignments. Indirect costs represent a significant portion of overall supply chain costs, and these costs must be appropriately assigned to activities and cost objects (products, service lines, distribution channels, and customers, or supply chains). Inaccurate or inappropriate expenses-to-costs assignments will send misleading signals to management. Accurate expenses-to-costs assignments provide greater clarity regarding exactly what is driving supply chain costs and where management focus should be concentrated. Many supply chain executives stress the importance of the cost assignment process. Cost assignments drive behavior, and managers need to ensure that the techniques and cost drivers used in their costing drive the right behaviors and send the right signals to management and the firm's trading partners. Chapter 10 will describe activity-based costing (ABC) as an accepted way to trace and assign resource expenses into calculated costs.

## **Select the Appropriate Tools to Support Information Requirements**

Firms use many costing methods and tools to increase the visibility and management of internal and external costs. As a result, supply chain costing

encompasses a wide variety of tools and software technologies (Exhibit 1.4). The most appropriate method often depends on the management question being asked or the position of the firm in the supply chain. Some costing techniques work better than others for different circumstances. Certain cost tools are particularly useful for improving the supply chain cost structure while

#### **EXHIBIT 1.4** Frequently Employed Supply Chain Costing Tools

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- Activity-based costing (ABC)
  - Balanced scorecard (BSC)
  - Cost estimation
  - Cost-to-serve
  - Customer profitability analysis (CPA)
  - Economic Value Added (EVA)
  - Kaizen costing
  - Landed costing
  - Life-cycle costing
  - Open books costing
  - Standard costing
  - Target costing
  - Value chain analysis
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others are more valuable for cost planning or as part of a strategic analysis of supply chain costs. Some tools work well in mass production environments while others better support lean production methods.

Chapters 8 through 11 provide information regarding the costing techniques shown in Exhibit 1.4 and should assist managers in selecting the most appropriate method(s). Chapter 8 covers a uniquely important costing tool, value chain analysis. After working on the first two implementation steps, firms can use a value chain analysis to increase their understanding of the different components of their supply chains and to obtain a high-level view of where costs are being generated. Chapter 9 addresses customer profitability analysis and the information requirements needed to assign costs by customer or channel. Customer profitability often follows value chain analysis as the next tool used in supply chain costing. Organizations are increasingly developing customer profitability analysis or cost-to-serve models. Upstream suppliers recognize that not all customers are equal or equally profitable, and they need to understand how their customers' behavior drive costs and profit within their firms.

Chapter 10 describes four tools that can help managers in their cost reduction efforts. Standard costing, activity-based costing (ABC), landed costs, and kaizen costing can expand management's cost visibility outside the firm and over broader segments of the supply chain. Chapter 11 turns to the *predictive* view of supply chain costing. This chapter examines cost estimation, budgeting, rolling financial forecasts, capital budgeting, and target costing. These tools provide powerful "what-if" capabilities, and, in the case of target costing for new products, can transmit cost reduction pressure within the firm and to its upstream trading partners.

### **Link Cost Information to Performance Measurement and Value Creation**

Performance measurement poses several unique challenges for supply chain management due to the breadth and complexity of most supply chains. Despite the challenge, executives need to understand how the supply chain affects performance within their firm. Supply chain costing offers the capability to translate supply chain performance into financial performance. Although cost reduction is often the focus of supply chain costing efforts, effective supply chain management can create value by increasing sales, gaining additional market share, reducing inventory, accelerating throughput cycle time, or improving asset productivity for multiple trading partners. The ability to persuade trading partners to change their business practices will largely depend on the ability to demonstrate how the change creates value in the trading partner's organization.

Executives often strongly emphasize that supply chain costing must be linked to the performance measurement system. Supply chain costing should not be implemented in isolation but should be part of the firm's performance measurement system. Performance should be evaluated based on the ability to achieve corporate strategic objectives and the effect on intra- and interfirm cost. By linking cost to performance measures, managers across the supply chain will take a much greater interest in understanding their costs and what drives cost in their firms. *A key observation is that the integration of cost and performance represents a major step forward in cultivating a cost-conscious culture within the firm.*

Chapter 12 describes the linkage between supply chain costing, strategy, value creation, and performance measures. The linkage is accomplished by using several additional costing techniques, including activity-based

management, economic value-added (EVA), and the balanced scorecard. The combination of these tools permits the translation of nonfinancial, operational measures into financial (cost) measures. EVA provides the capability to demonstrate how changes in supply chain performance drive value, not only in the firm but across trading partners. In this chapter, costs and performance are evaluated across a supplier–customer link in the supply chain. Most firms pursue supply chain costing and process improvements by identifying a key link in their supply chain and then working with that customer or supplier to obtain a desired outcome.

### **Strategies for Overcoming the Challenges Posed by Supply Chain Costing**

The book concludes by identifying and describing the key challenges supply chain professionals will need to overcome during the journey to supply chain costing. Chapter 13 begins by describing the challenges and their significance to supply chain costing (Exhibit 1.5). The remainder of the chapter presents the strategies for overcoming challenges the firms face (Exhibit 1.6). The challenges encountered during supply chain costing implementation range from a lack of trust between trading partners to accounting systems failing to capture needed information. Although these challenges pose significant obstacles, supply chain managers can apply strategies employed by other firms that have successfully overcome these challenges and made major strides forward along their journey.

#### **EXHIBIT 1.5** Challenges to Implementing Supply Chain Costing

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- Behavioral
    - Lack of trust
    - One-way flow or exchange of cost information
  - Perceptions of an inequitable sharing of benefits and burdens
  - Technical
    - Limited cost knowledge
    - Prevalence of traditional, general ledger cost systems
    - Limited cost estimation capability
    - Multiple definitions of cost
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### **EXHIBIT 1.6** Strategies for Overcoming the Challenges Confronting Firms Implementing Supply Chain Costing

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- Adopting a supply chain process perspective for costing
  - Developing a cost estimation capability
  - Leveraging information sharing requirements
  - Pilot projects as a catalyst for fostering collaboration and trust
  - Focusing on trading partners for exchange of cost information
  - Implementing a value-based strategy
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### **NOTES**

1. Rick Blasgen, "Supply Chain Managers and CFOs: Unlikely—But Important Allies," *Logistics Quarterly* 14, no. 2 (2008): 56.
2. Robert Bruce, VCC Associates Inc., retired vice-president, Supply Chain Strategies, Walmart.