Chapter 1

Introduction

1.1 Chapter Outline

- What is supply market intelligence?
- Moving supply management from the tactical to strategic approach
- The profit-leverage effect of supply management
- How mature is your supply management function?
- Translating corporate objectives into supply management goals
- Bringing goals and objectives together — the strategic sourcing process
- A word on business and market intelligence (MI)
- Summary and book outline

In the Tom Cruise film *Minority Report*, the Department of Crime Prevention collected data in various fashions about crimes and murders that were going to happen. They pieced this together and then sent a special squad of experts to capture the villain before the crime had been committed. I think supply management is going to be a bit like that. We'll put together pieces of the jigsaw puzzle to determine what sort of people are needed in a special squad — suppliers or vendors — to plan a solution before it is needed or as a challenge actually arises.

— A senior supply management executive

1.2 What Is Supply Market Intelligence?

The senior executive's comment in this opening chapter provides insights into a critical need that is lacking in many organizations' competitive tool set today: the need for better decision making and strategy execution in the supply management function. During the 1980s and 1990s (and even today), many companies focused their attention on strategic sourcing, which in many cases involves simply reducing one's supply base, squeezing cost reductions out of suppliers through intense negotiations (or even worse, through reverse auctions), signing a contract, and leaving an internal customer to manage an already strained relationship with the selected supplier.

Although cost reduction may be achieved, this approach to strategic sourcing has several limitations. First, this method is a one-time "hit" rather than a planned endeavor to leverage spending opportunities from diverse business units (especially prevalent after a merger). Second, the savings may not continue and, in fact, may discourage a supplier from offering additional improvements in quality, technology, or cost savings in the future. As one executive noted, "The greatest savings take place after the ink has dried, but it requires a collaborative approach to savings, and a whole different set of processes." Third, the strategic sourcing process described in the preceding text often takes place in a vacuum, without a thorough assessment of internal customer requirements, changes in the business environment, and events or changes in the supply market.

The notion of business and supply intelligence is not new. Indeed, no one knows better the importance of intelligence than the Central Intelligence Agency. White House experts have posited that the events of 9/11 could have been avoided if there had been more field agents on the ground identifying trends, discussions, and triggers that might have clued in authorities to the possibility of the disastrous events that took place that day.

In other cases, business intelligence and MI are available with key people, but are not well disseminated to the users. There is tremendous value in sharing across a whole company proprietary insights into competitors, customers, products, supply market conditions, mergers, research, etc. As Lowell Bryan, an expert in this area, notes, "An individual's knowledge is self-contained, always available. But in companies, including small ones, it can be hard to exploit the valuable knowledge in the heads of even a few hundred employees, particularly if they are scattered in different directions."* It is even more difficult to collect information across a supply-chain network when the individuals are not located within the confines of the organization. Bryan notes that the typical approaches used to disseminate knowledge involve (a) big investments in document management services, (b) pushing knowledge to workers using large Web

* Bryan, L.L., Making a market in knowledge, *The McKinsey Quarterly*, No 3, 2004.

sites, or (c) letting organizational units solve their knowledge problems in a decentralized manner by allowing clusters of workers to share information using whatever technology solutions they prefer. Unfortunately, all three of these approaches have major downsides that make them ineffective.

Even organizations that succeed in developing supply market intelligence systems face a strategic sourcing problem: getting decision makers to apply the knowledge and use it in an effective manner. For example, in a recent book, *Secrets — the Pentagon Papers* by Daniel Elkins, the author noted that knowledge accrued through field agents in Vietnam was not applied in a suitable manner. Field agents were aware of the unrest in Vietnam through discussions with villagers in hamlets, ARVN (Army of Republic of Vietnam) units, and bureaucrats and knew early on that increasing the forces in Vietnam was not the solution, and that the war was in effect unwinnable. The author also demonstrates evidence that senior White House officials, including Lyndon B. Johnson, were made aware of this information through detailed reports and meetings but failed to apply the knowledge to revert to other strategies, including negotiations with Hanoi. The same rationale applies to businesses; even though the information is available, there is no guarantee that executives and managers will put it to good use.

These challenges form the basis of our effort to write a book that can assist managers in developing a supply market intelligence network and teach them to apply the collected information to successful strategic sourcing processes. This book is intended to help supply managers and company executives in any industrial section (whether it be in services, manufacturing, logistics and distribution, or others) transition from a processing approach to company spending decisions to a strategic approach. This strategic approach is largely grounded in MI and encompasses spending decisions that are both traditional and novel to the purchasing function.

The book provides a step-by-step model for a strategic, MI-based sourcing project. Although some sourcing strategy projects are initiated as a triage mechanism to reactively treat an identified spending problem, the model outlined in this book is predicated upon a sourcing strategy project that is implemented proactively as a quality control measure.

1.3 Moving Supply Management from the Tactical to Strategic Approach

Supply management organizations are consistently being challenged to build superior supply chains to increase competitive advantage. As supply-chain management (SCM) has matured into a recognized competency for

competitive advantage, the need for supply management to contribute to competitiveness has quickly become recognized. Why? As users require greater customization of product and service offerings, the ability to do so will be a key element in the value proposition offered by the procurement function in building a stronger supply chain. How will supply management add to this competency?

In the future, there will be a greater need for integrating data systems, standardizing parts, and creating joint ventures in the procurement area. Strategic relationships will be essential to achieving these goals. Developing long-term partnerships with suppliers and maintaining those relationships will be a key value add, as teaming between buyers and suppliers will provide the opportunity to reap the fruits of a larger pie.

1.3.1 The Importance of Strategic Relationships

Developing and managing relationships is not second nature to all. In fact, MBA programs, including those of North Carolina State University, Florida State University, and others, have begun offering relationship management classes. During the courses, students go through a simulation requiring them to assess potential supplier or customer groups (made up of other students), select the partner, negotiate an agreement, and write a contract. Then, the relationship is "tested" through a one-year simulated supply and demand scenario, in which different events cause supply-chain disruptions. Students must then find creative ways of managing the tension of the relationship and thus deal with the potential conflicts that inevitably arise.

As we move further into the 21st century, supply managers will be asked to seek out new technologies and new suppliers more often and to think outside the box while continuing to ensure quality products and services. Supply managers will be required to work more strategically when evaluating suppliers and making the selection decision and will be forced to concentrate more on suppliers' strengths and capabilities and long-term quality output rather than pure yield results for upcoming quarters. Establishing solid, productive working relationships between extended business units of a corporation and their suppliers will be the driving force for accomplishing all strategic relationship goals.

The following comments from a series of roundtables in 2003* reflect the fact that managers feel a need to embrace strategic supply management in part by understanding the key strengths that suppliers can offer and by integrating efforts across functions within their organizations:

* Handfield, R.B. and Giunipero, L., Purchasing Education and Training II, Center for Advanced Purchasing Studies, February 2004.

- One of the differentiating factors for us and a key to our future success is the way that we are working with those suppliers that we consider to be key suppliers — to bring them closer into the overall operation of the company, bring them much closer into the design process to leverage their resources for our design and execution of our solutions. Everyone understands what's been done to get to that target cost. If it comes down to beating up the suppliers — but still working with them to reduce cost so that we can hit target cost, they are much more amenable, because it's not just coming at them with the idea that "You need to reduce costs because we need to have it lower." They understand that we have done everything that we can and they need to look, ideally, within their supply chain. It's not a matter of taking costs out of them, but really helping them to reduce our cost so that it is a win–win for both.
- We have to learn how to manage risk — and the only way to do that is by learning to write better contracts. We have contracts out there that are putting our organization in a very difficult situation in terms of risk — we need to think strategically, and manage that risk by writing better contracts.
- Right now supply management is just a purchasing function. There is a separate organization for logistics and a separate organization for planning. So weíre not really linked together. Thatís another issue that prevents us from getting our product to market quickly. Weíre trying to get more finance people into our organization. Currently we do not have expertise to do accurate cost modeling, so weíre guesstimating costs without a true understanding of the repercussions.
- We have gone through an enormous centralization within supply chain, into one central supply-chain organization, bringing together resources that were separate within engineering and, perhaps even more significantly, all the manufacturing resources within the company.

1.3.2 Strategic Cost Reduction

In addition to strategic relationships, corporations will continue to view cost reduction as a means to maintain the bottom line and reach ever-changing company goals. A recent study of senior executives showed that not only is cost reduction important today but, looking forward, it will continue to be a major trend through the year 2010.* Finding ways in

* Giunipero and Handfield, CAPS Study, 2004.

both the domestic and international arenas to secure key materials at a cost that provides the company advantages in pricing, time, and delivery will become the standard by which purchasing will operate.

In today's economy, the driving force behind global competition can be summarized in a single equation:

$$\text{Value} = (\text{quality} + \text{technology} + \text{service} + \text{cycle time})/\text{price}$$

Although supply management has a major impact on all of the variables in the numerator of this equation, many supply management executives are focused on the denominator, price, and its primary driver, cost. A major responsibility of purchasing is to ensure that the price paid for an item is fair and reasonable. The price paid for products and services will have a direct impact on the end customer's perception of value provided by the organization, a potential competitive advantage in the marketplace. By delivering value through continued progress in reducing costs and thereby improving profit margins and return on assets (ROA) for enterprises, purchasing is truly becoming a force of its own within the executive boardroom.

Evaluation of a supplier's cost to provide a product or service versus the actual purchase price paid is an ongoing challenge within all industries. In many situations, the need to control costs requires a focus on the costs associated with producing an item or service versus simply analyzing the price paid. Cost identification can lead to more innovative agreements on final pricing. In some cases, however, purchasing officers may not need to spend much effort understanding costs and should focus instead on whether the price is fair, given competitive market conditions.

Companies are looking more and more to their purchasing departments (sometimes called *procurement departments*) to help them achieve their competitive-advantage objectives, specifically in terms of their sourcing function — that is, the function of locating and buying products and services on behalf of the manufacturing (production) departments and production-support departments. Historically, this process has assumed somewhat of an administrative processing stance. Lately, though, people are recognizing that sourcing, well grounded in MI, is the real basis for strategic competitive advantage.

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As noted earlier, MI refers to the knowledge that is possessed by the most talented employees, as well as the subject matter experts within an industry who have direct access to events that may impact supply strategy. These experts are unlikely to exchange their knowledge without a fair return for their time and energy expended putting it into a form in which it can be exchanged.* The knowledge must also be filtered, codified, and

expressed in a form that allows decision makers to understand the experts' thinking, without the parties necessarily having to talk to one another. Once the knowledge is exchanged, it must be integrated into the strategic sourcing process effectively, carried through to manage the ongoing relationship that exists with key suppliers into the future, and updated as appropriate.

This book is designed to walk you through a best practice, strategic sourcing, and relationship management process that is founded on an effective business intelligence and MI knowledge network.

1.3.3 Life-Cycle Stages

In the future, another focus of outsourcing manufacturing and acquiring companies will be to build greater competencies as a method of alleviating high financial risk.

Understanding what it means to manage a supply-chain relationship will be about more than just bringing parts in. It will be about codevelopment, resource sharing, and leveraging relationships.

Achieving the level of cost reductions required to maintain a competitive position will require more cooperation between firms to establish joint cost reduction strategies. Strategic cost management approaches will vary according to the stage of the product life cycle. Various approaches are appropriate at different product life-cycle stages. In the initial concept and development stage, purchasing will often be proactive in establishing cost targets. Target costing or target pricing is a technique developed originally in Japanese organizations in the 1980s to combat inflation of the yen against other currencies. Target pricing, quality function deployment, and technology sharing are all effective approaches to cost reduction at this stage.

As a product or service enters the design and launch stages, supplier integration, standardization, value engineering, and design for manufacturing can improve the opportunity to use standard parts and techniques, leverage volumes, and create opportunities for cost savings. During the product or service launch, purchasing will adopt more traditional cost reduction approaches, including competitive bidding, negotiation, value analysis, volume leveraging, service contracts focusing on savings, and linking longer-term pricing to extended contracts. As a product reaches its end of life, purchasing cannot ignore the potential value of environmental initiatives to remanufacture, recycle, or refurbish products that are

* Bryan, 2004.

becoming obsolete. For example, print cartridge manufacturers such as Xerox and Hewlett-Packard have developed innovative technologies that allow customers to recycle laser toner cartridges, which are subsequently refurbished and used again, eliminating landfill costs.

The major benefits of cost reduction efforts occur when purchasing is involved early in the new product development (NPD) cycle or service development cycle. When sourcing decisions are made early in the product life cycle, the full effects of a sourcing decision over the product's life can be considered. When purchasing becomes involved only later in the product development cycle, efforts to reduce costs have a minimal impact because the major decisions regarding types of materials, labor rates, and choice of suppliers have already been made. As noted by several executives:

> In the past, we allowed engineering to determine the specifications, the materials, and the supplier. In fact, the supplier already produced the first prototype! That's when they decided to call in purchasing to develop the contract. How much leverage do you have in convincing the supplier to reduce costs when the supplier already knows they are guaranteed the business, and they have already sunk money into a fixed design and tooling for the product?
>
> We can no longer support all the resources necessary to design and implement solutions, and so we need the expertise of this key group of suppliers. Bringing them into the design process early enough so they can see the parameters of a particular piece of equipment, understand what the cost issues are, understand what our target pricing is and what we have to do to get that target cost can free up a great deal of creative energy from the suppliers in terms of contributing to solutions that can reduce costs.

Depending on a product's position in the portfolio matrix, a strategic focus in terms of price versus cost may be required. In general, low-value generics in a competitive market with many potential suppliers should emphasize total delivered price. There is no need to spend time conducting a detailed cost analysis for low-value items that do not produce significant returns. Greater returns can be obtained by having users order these products or services directly through supplier catalogs, procurement cards, or other E-procurement technologies. Commodities are high value products or services that also have a competitive market situation, for example, computers. These types of products and services can be sourced through traditional bidding approaches that require price analysis using market forces to "do the work" and identify a competitive price. With greater

standardization being introduced in many industries, products once considered "critical" are being moved into the "commodities" quadrant, allowing further leveraging opportunities to accrue. The executives further note:

> There's going to be even more consortiums put together of different organizations to determine what their needs are at specific parts, for widgets or digits in an effort to get the suppliers to bid on that particular product for all of them. Even as an internal situation, we've got so many different business processes and process flow maps built for material delivery — same material, different site, different process.
>
> A product simplification task force pushes divisions to use standardized parts, even if that means a redesign. For example, a new low-end server was redesigned to accommodate the rear panel where cords connect, used in PCs instead of the specialized part used in its predecessor. Eliminating the customized part saves $50 per unit on these servers — and we sell 22,500 of these machines in a year. We made a hundred such moves across the company. In the process, we have reduced inventories by a third, slashed suppliers by half, and pinched pennies at every turn. The big prize now — and the really hard work — comes from transforming the entire end-to-end operation. You cannot hope to thrive in the IT industry if you are a high-cost, slow-moving company. Supply chain is one of the new competitive battlegrounds. We are committed to being the most efficient and productive player in our industry.

Reducing costs is always an area of intense interest. Faced with global competition, companies are constantly searching for ways to reduce costs and pass the savings on to customers while preserving their profit margins and maintaining a return to shareholders. Companies often begin addressing costs by reducing their workforce. This option was utilized extensively during the 1980s and 1990s when many larger organizations eliminated millions of jobs in the course of corporate downsizing. To some extent, downsizing has reached its limits. Managers and workers today are required to perform more tasks and have greater responsibility with fewer resources and less time. The probability of obtaining significant cost savings through further downsizing is questionable.

Another way to reduce costs is through process reengineering. Any process contains a certain amount of non-value-added activity estimated to be as high as 80 to 90 percent of total process-cycle time. Companies such as Hewlett-Packard, Toyota, Ford, Nortel Networks, Motorola, and

many others have mapped their processes, identified significant non-value-added activities, and developed ways of reducing the time required to complete these processes.

Driving supply-chain innovation in organizations is no simple task, but in today's harsh economic environment, it may mean a company's very survival. As Charles Darwin noted, those who survive are not the smartest nor the strongest but those who are best able to adapt to change. Can your company be among the fittest and adapt? Engaging in a well-formed strategic sourcing process is a necessary step.

1.4 The Profit-Leverage Effect of Supply Management

One of the biggest opportunities for improving financial performance is by reducing the cost of goods in the supply chain. How much would you guess the average company spends on such goods and services? In manufacturing, the figure is astonishingly high: the average manufacturer spends approximately 56 cents out of every dollar of revenue on managing purchased goods and services, often in the form of inventory located in warehouses, in transit, or even on location at customer sites. In retailing, wholesaling, and high-tech industries the figure often is even higher. "Our inventory is worth its weight in gold," says one IBM manager. "Its value depletes at an average rate of three to five percent per month."

Consider the following financial information of a major retailer in the home improvement sector: pretax profit margin is 5.8 percent ($168,253/$2,915,664). This means that every dollar of sales generates a little less than 6 cents in pretax profit. Furthermore, the ROA is 2.7 percent ($168,253/$6,344,651). What strategic initiatives can help improve these figures?

Now consider another fact: every dollar saved in purchased materials increases pretax profit by a dollar. Therefore, this organization would have to generate $17 in sales to realize the same improvement to the bottom line as cutting $1 from its purchased merchandise costs. This profit-leverage effect is particularly important for low-margin businesses, such as retailing. Also note that in addition to affecting profits, cutting merchandise costs also reduces the amount of money tied up in inventory and therefore, produces a higher ROA. To illustrate these points, let us see what would happen if managers were able to cut merchandise costs by just 3 percent.

Pretax profits would increase 37 percent, and the new pretax profit margin for the company would be 7.9 percent ($231,143/$2,915,664). In comparison, marketing would have to increase sales by $1.1 billion ($62,890/5.8 percent) to have the same impact as a 3 percent reduction

in merchandise costs. In addition, the new ROA would be 3.7 percent ($231,143/$6,281,761) — a full percentage higher than the previous figure.

1.4.1 Share the Wealth — and the Cost

What will make this happen? SCM.

How difficult would it be to reduce cost of goods by three percent? Using the strategies described in this book, it would be a lot easier than you think. Many opportunities exist to achieve dramatic cost savings far greater than the three percent figure used in the example cited — but such initiatives require vision and hard work. The greatest challenge, by far, involves getting associates in different parts of the supply chain to work together, led by the supply management function. That is because many organizations still operate in a functional-cost-center manner in which managers are rewarded for improving performance only within their own internal group.

To mitigate this risk and help drive change, some organizations have begun to develop internal supply management "consulting" groups. At Glaxo Wellcome (now GlaxoSmithKline), the supply management team included the CIO, chief procurement officer, and senior executives from the legal, manufacturing, and R&D functional groups. Although the procurement function operated as a cost center, the CEO specifically directed the group to work in a cross-functional manner to promote joint cost savings projects. The purchasing budget was allocated to drive strategic initiatives such as leveraging the company's overall purchasing volume, reducing its base of suppliers, and issuing procurement cards to capture spending data. But the savings generated by the team remained within each functional group.

Shell Oil takes a different tack; it views SCM as a cost center that operates in a consulting mode for the entire organization. The group is supported by a percentage of the savings it generates across the company, with the remainder of the savings being shared by the various functions or business units that buy into the plan. These cost savings may go toward the strategic business unit (SBU) or functional cost reduction goals set by the corporate executive team. The success of such programs has led senior management to establish an ongoing set of goals for cost savings in the supply chain on an annual basis.

An effective supply management strategy can make a big difference in organizational performance. In effect, supply management leads to:

- Improved quality, productivity, and profitability
- Reduced price/cost and improved total value from best-in-class suppliers

- Accelerated supplier technology and new product contributions ahead of competitors
- Reduced time to market and ability to meet introduction dates
- Exploiting of global sourcing opportunities, recognizing geopolitical risks
- Ensuring alignment with supply markets and emerging environmental concerns

Before engaging in a major cost reduction effort, however, there is one more step required: beginning to identify your current supply management resources and capabilities. It is a good idea to understand the current "as-is" picture of your supply management processes before undertaking any major changes. Painting a picture of this relative level of maturity is a critical step in gauging how far you have to go in terms of new resources, requirements, and whether you can commit to the goals established with your CFO.

1.5 How Mature Is Your Supply Management Function?

The biggest and best enterprises already know the value of SCM. Amazon.com lives and dies by its effective supply chain; if flaws in the system slowed ordering and delivery, customers would click and shop somewhere else. The new model of SCM includes three major pillars: managing relationships, managing supply-chain material flows, and managing information. Despite all the hoopla about E-commerce, research from the Supply Chain Resource Consortium at North Carolina State University indicates that sourcing and physical distribution form the real building blocks of the next generation of supply chains. Business-technology leaders can significantly contribute to the strategic goals of their organizations by taking a hard look at the business processes that underlie the supply chain, targeting cost-saving opportunities, identifying IT solutions, and proposing investment returns that can be realistically achieved.

1.5.1 Supply-Chain Maturity

Think of the process of mapping your supply chain and business processes as a medical checkup for your bottom line. Just as a doctor studies critical measures (pulse, temperature, and blood pressure), interviews the patient to review symptoms, and identifies the location of aches and pains, managers must begin with a complete assessment of the company's physical and information flows. Before determining the system's requirements to "fix"

things, you will need to determine the status of such critical supply-chain metrics as inventory levels, cycle times, customer complaints, and quality rejects. Many executives have done this successfully by figuratively stapling themselves to a customer order and interviewing all the participants they pass along the way through the system.

In almost every project that we have worked on, this type of analysis has identified significant opportunities for improved communication among downstream customers, internal business functions, and upstream suppliers. In most cases, the lack of communication stems from a single root cause: a lack of alignment among business requirements, supplier and customer contacts, and information systems. Before embarking on an expensive supply-chain system implementation, technology executives need to clearly delineate how the system will help close these gaps.

A clear business case for improving supply-chain performance begins by assigning costs to the impact of poor communication. The diagnosis must be justified using hard metrics as well as qualitative symptoms and must include a treatment plan. Specifically, it must be established how new information systems can result in reduced inventory, improved product development cycle times, reduced material costs, reduced transaction costs, and improved customer satisfaction. At a recent supply-chain meeting at a major automotive company, one manager reported, "A senior executive stood up to share his solution to a problem we were experiencing. When he was unable to provide data to back up his solution, he was asked to come back when he had some data to share with the group!" Without translating supply-chain solutions for reducing inventory and improving cycle times into financial terms, such as economic value added, managers stand little chance of convincing senior management to invest.

Many companies today are deploying a myriad of procurement strategies, including:

- Applying reverse auctions to all commodities
- Applying strategic alliances with all commodities
- Outsourcing key business processes
- Leveraging and supply base reduction

Not all of these strategies have been successful. In fact, there is perhaps some confusion regarding how to proceed and which strategies are appropriate at what times. Clearly, there is a need to understand what makes sense, given the relative maturity of an organization's supply management processes. The reality is that many organizations are very inexperienced at SCM and, as with any technological innovation, they need to learn how to apply the new technologies and strategies.

Performance Measure	Companies with Mature Processes	Companies with Immature Processes
Profitability	13.7%	5.7%
COGS as a % of total revenue	60.7%	65.2%
Year-to-date change in COGS	-4.8%	3.0%

Figure 1.1 Performance for mature and immature companies.

Recent research* conducted by The Performance Measurement Group, LLC, concluded that discrete manufacturers whose supply-chain processes have a high level of maturity show 40 percent more profitability than other manufacturers in the same industry segment. Product innovation, channel management, and other factors certainly contribute to this profitability, but SCM seems to be a key factor for this improvement.

The research evaluated companies' maturity level in operations and technology and how this maturity impacted supply-chain performance. The study also explored the correlation between an organization's supply-chain maturity and its financial results. From an original pool of over 125, supply-chain data from 70 companies was used for this study. These companies represented a range of geographic, size, and industry segments. Completeness of submission was also important in company selection. Most of the companies had a global reach and had revenue levels from $250 million to more than $1 billion.

The study results show that companies with mature processes performed better than their counterparts with less mature processes in all key areas of SCM: flexibility, responsiveness, delivery, and cost. Specifically, key metrics like forecast accuracy and delivery performance were approximately 10 percent better in respondents with more mature processes. Further, they enjoyed a 10 to 25 percent savings in inventory-carrying costs, materials acquisition costs, and order management costs (see Figure 1.1). For example, a consumer goods company with mature processes delivered products close to one week faster, met customer requirements nearly 100 percent, and had 20 percent lower supply-chain costs. In summary, average supply-chain costs represented 9 percent of revenue for companies with mature practices, as compared to 10.7 percent for companies without mature practices.

* http://www.prtm.com/pressreleases/2003/06.04.asp.

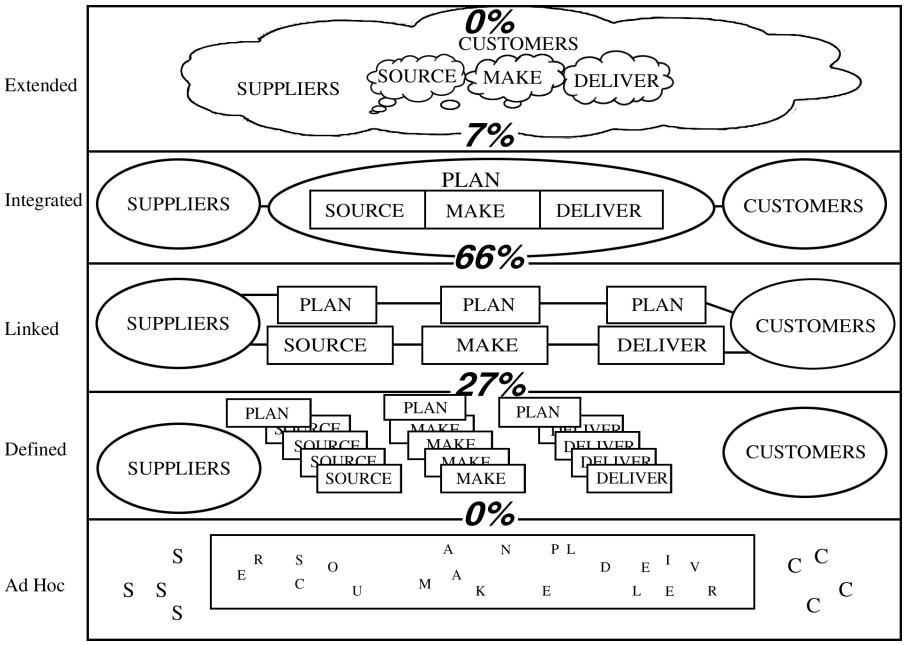

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Figure 1.2 **<<<Need Caption>>>**

DRK Consulting has obtained similar results.* Figure 1.2 provides a summary of the maturity levels of almost 500 medium-to-large companies, and Figure 1.3 contains a summary of some financial results for these companies. Both these large studies demonstrate that organizations that have a mature supply process perform better than others.

The Supply-Chain Maturity Model is a theoretical and practical model based on accumulated knowledge, documented research, in-depth interviews, and observation of best practices across global organizations. It is an assessment tool that was developed to assist an organization to determine its level of maturity in various business process areas. The tool covers more than 120 distinct business processes. An organization uses this assessment tool to derive quantitative scores from qualitative information on business processes. This tool also helps to identify areas of opportunities on which companies can spend their time and efforts to improve overall business performance. An overview appears on the chart in Figure 1.4.

It is important to note that "Rome was not built in a day." Organizations typically proceed through an evolution of basic processes in supply management (see Figure 1.4), beginning with quality and cost teams and

* DRK Research and Consulting, LLC, Birmingham, AL, 2002.

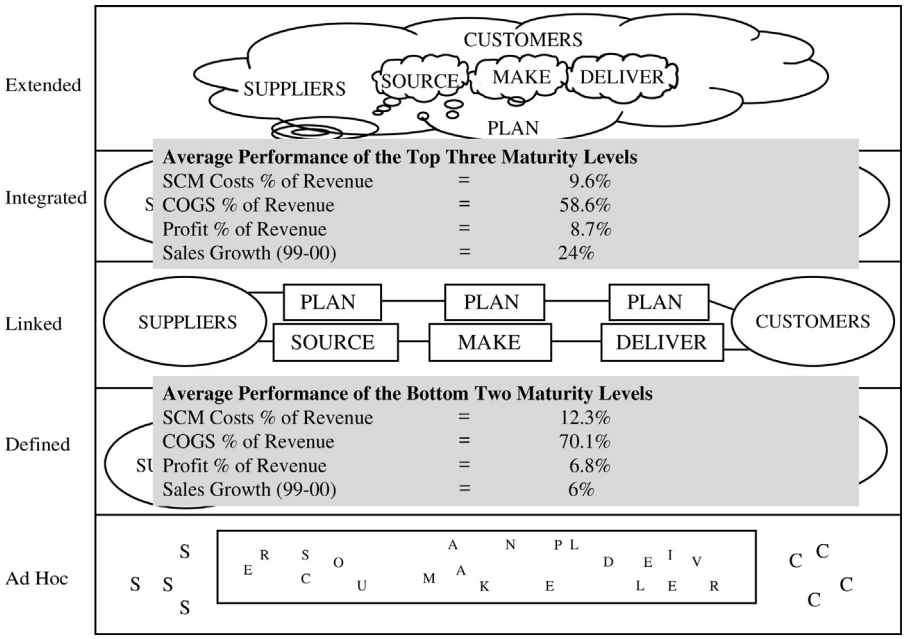

Figure 1.3 <<<Need Caption>>>

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I - Basic Beginnings	II - Moderate Development	III - Limited Integration	IV- Integrated Supply Chains
■ Quality/cost teams ■ Longer-term contracts ■ Volume leveraging ■ Inventory and transport measurement	■ Adhoc supplier/ customer alliances ■ Cross-functional teams ■ Supplier/ Customer base optimization ■ Cross-location international teams	■ Global sourcing/ distribution ■ Define dalliances ■ Supplier development ■ Total cost of ownership ■ Parts/service standardization ■ Pull/demand flow inventory systems	■ Global supply chains with external customer focus ■ Comprehensive information visibility ■ Full service suppliers ■ Supplier Integration ■ Insourcing/ outsourcing to maximize core competencies

Figure 1.4 **Stages of supply-chain strategy evolution.**

then moving toward cross-locational international teams and supplier reductions (as well as focusing business on key customer accounts). In later stages, global sourcing and distribution systems provide full visibility to materials throughout the supply chain, cost is managed on a systemwide basis, supplier capabilities are improved through joint efforts, and customers and suppliers are integrated into NPD efforts. Organizations may also consider which activities are not "core" to their business and decide to outsource those activities for which they are not world class.

The question of how far your organization has progressed in this maturity grid is not as important as understanding the relative baseline of where you need to go. Moreover, companies need to measure the maturity of their supply management function to set strategic priorities for training, education, and organizational development. Unless you have a baseline set of metrics, it is difficult to know where to go. One way to do this is through the assessment of the relative maturity of your company's procurement chain processes. These can vary substantially across a wide variety of business processes that are fundamentally defined for "design, plan, source, make, deliver, and sell." Through painstaking research and interviews with executives, a research team has developed a very detailed approach to measuring and defining the relative maturity of these processes, ranging from Ad Hoc, to Defined, Linked, Integrated, and Extended. Each of these elements is measured at the business process level as a strategic process, a team-based process, or an operational (day-to-day) process. This model can be accessed at the following Web site: http://supplychainredesign.com.

We do not intend to go through all of the different elements of SCM shown in the full Capability Maturity Model. However, we will focus on some of the core processes associated with strategic sourcing and supply management in this book. One of our modules addresses the question of whether or not there is a process in place to manage supplier scorecards and activities such as identifying potential new suppliers, adding suppliers to preferred status, rationalizing the supply base, and developing effective sourcing strategies (shown in Figure 1.5). It is one thing to say, "Yes, we are doing that," and quite another to measure one's processes against the maturity grid shown in Figure 1.5 and Figure 1.6.

This is but a single example; there are many more. This book will provide the framework for increasing the maturity of your supply management function through the development of effective sourcing strategies.

Most companies are probably skewed toward the mid- to lower-levels of maturity, simply because it is so difficult to make significant progress. Based on our research, we have found that it normally takes organizations eight to ten years to move from left to right across all elements of the SCM maturity grid. This hypothesis can certainly be challenged. However,

	Design	Source	Make/Mfg	Market/Sell	Deliver	Service
Strategic	Customer/Supplier design collaboration	Supply base rationalization and allocations	Rationalize manufacturing/ distribution network	Promotion strategy rationalization	Negotiate contracts or outsourcing partnerships	Establish Service Level Expectations and Agreements (SLAs)
	Product line/mix rationalization	Supplier Management	Capacity rationalization	Select/Rationalize sales channels	Logistics Partners planning	Select inventory stocking points
	New product requirements analysis	In/Outsourcing rationalization	Long-term expansion	Market Analysis	Rationalize Delivery Suppliers Selection	Service facilities rationalization
	DFx	Indirect materials strategy	MRO strategy	Marketing spend	Reverse Supply Chain planning	Rationalizes spares network
	Phase In/Phase Out	Supplier Selection and Contract Negotiation	Order management	Partner Products		
	Technology Roadmap			Branding		

Supplier Management – Managing supplier scorecards and activities such as identifying potential new suppliers, adding supplier stop referred vendor lists, deleting suppliers from preferred vendor list, barring suppliers, collaborating with suppliers during design process, etc. to improve the procurement processes.

1	**Adhoc**	• No organized process. Maverick buying is rampant. Suppliers are chosen on an As-Needed basis with possibly individual experiences or management directive weighing heavily on supplier selection.
2	**Defined**	• Tracks and documents supplier scorecards. • Has a policy for determining strategic sourcing, including when to add/delete suppliers from preferred supplier lists. • Uses measures such as total number of suppliers, supplier spend, % of suppliers involved in collaboration, % of supplier involved in design, etc.
3	**Managed**	• Measures are in place for determining optimal supplier spend, number of suppliers, etc. • Cross-functional teams are in place to create measures. • Externally, the organization is tracking suppliers to develop their score cards, understand supplier direction and its relationship to the organization's direction, improved parts, suppliers, and business processes.
4	**Leveraged**	• Cross-functional teams review optimal rationalization measures for alignment with organization strategy and strategic sourcing plans. • Sourcing processes incorporate rationalization. • Measures are documented, accessible, created by cross-functional teams and focused on supporting company strategy. • Externally, suppliers are evaluated based on measured performance. • Externally, the organization provides feedback and takes necessary actions.
5	**Optimized**	• Suppliers and customers join cross-functional teams to determine optimal rationalization. • Suppliers are empowered to work with each other to resolve potential problems including disaster recovery, capacity or delivery problems. • Information sharing about relevant criteria, such as capacity and demand forecasting, facilitates cross-enterprise decision-making. • All members of the supply chain scan for new technologies and processes to help with supplier assessment, communication or potential supplier identification.

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Figure 1.5 <<<Need **Caption>>>**

1	Adhoc	**• No organized process. Maverick buying is rampant. Suppliers are chosen on an As-Needed basis with possibly individual experiences or management directive weighing heavily on supplier selection.**
2	Defined	**• Tracks and documents supplier scorecards. • Has a policy for determining strategic sourcing, including when to add/delete suppliers from preferred supplier lists. • Uses measures such as total number of suppliers, supplier spend, % of suppliers involved in collaboration, % of supplier involved in design, etc.**
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Figure 1.6 Supplier management.

if you really take a hard look at your organization's processes, benchmarking internally as well as externally with other organizations, you will have the beginnings of a baseline set of metrics for understanding how to set a vision for the future.

Why does it take so long to move the needle? Change. People do not change easily, but the faster you can drive change into your organization, the quicker you can move your organization through supply management levels of maturity, and the quicker you can achieve higher returns than your competitors. Let us begin by discussing the starting point for creating sourcing strategies: the alignment of goals with corporate objectives.

1.6 Translating Corporate Objectives into Supply Management Goals

The need for supply management to develop processes that enhance an organization's competitive position through strategic sourcing is greater

than ever. From this perspective, an effective sourcing process means more than simply promising maximum efficiency or lowest cost. Given the diversity of available strategies, an effective supply management process is one that fits the needs of the business and strives for consistency between the internal capabilities and the competitive advantage being sought, as defined in the overall business strategy. The term *strategic alignment* means that supply management activities are consistent with the nature of the business strategy and make a proactive contribution to marketing effectiveness.

The concept of supply management alignment with corporate strategy makes sense — but how does it happen? Before purchasing can align with corporate strategy, supply managers must be able to translate corporate objectives into supply management goals. Goals and objectives differ across four major dimensions:

1. Time frame: Objectives are independent of time or open-ended, whereas goals are temporal or time phased and intended to be superseded by subsequent goals. For example, when John F. Kennedy stated that the United States was going to send a man to the moon, this was clearly an objective. When he added that it would be done "by the end of the decade," the objective became a goal.
2. Measurement: Quantified objectives are often stated in relative terms (i.e., with respect to another entity or organization). Goals are much more specific, stated in terms of a particular result that will be accomplished by a specified date. The objective that "we will be the top automotive company in quality" is relative to other automotive companies. The goal that "we will reduce defects to 1000 ppm" is an absolute metric, which is a goal.
3. Specificity: Objectives are stated in broad, general terms, whereas goals are stated in terms of a particular result that will be accomplished by a specified date. For instance, the statement, "We will be the best in customer satisfaction" is a very broad statement that is an objective. The statement, "We will reduce warranty costs by three percent on part number 333 by the third quarter" is more specific.
4. Focus: Objectives are often stated in some relevant external environment. Goals are internally focused and imply how resources shall be utilized in the future. For instance, the statement, "We will be regarded by the public as an environmentally conscious company" is externally focused; the statement, "We will invest ten percent of our revenues in new environment-friendly technology" is internally focused and states how resources will be used.

Notice that each of these examples couples an objective with a goal. This is an important part of the strategy development process. Executives often develop very broad, sweeping statements regarding where a company is headed, what the overall mission is, and where it will be in the future. However, it is up to managers to translate these broad objectives into actionable, realizable goals.

1.6.1 Integrative Strategy Development

The process of aligning purchasing goals with corporate objectives is especially important for purchasing and supply-chain managers. These managers often face some very broad directives from corporate management, for example, to reduce costs or to improve quality. The strategy development process takes place on four levels:

1. *Corporate strategies:* These strategies are concerned with (a) the definition of businesses in which the corporation wishes to participate and (b) the acquisition and allocation of resources to these business units.
2. *Business unit strategies:* These strategies are concerned with (a) the scope or boundaries of each business and the links with corporate strategy and (b) the basis on which the business unit will achieve and maintain a competitive advantage within an industry.
3. *Supply management strategies:* These strategies, which are part of a level of strategy development called *functional strategies*, specify how purchasing will (a) support the desired competitive business-level strategy and (b) complement other functional strategies (such as marketing and operations).
4. *Commodity strategies:* These strategies specify how a group tasked with developing the strategy for the specific commodity being purchased will achieve goals that in turn will support the purchasing-, business unit-, and finally the corporate-level strategies.

Companies that are successful in deploying supply management strategies do so because the strategy development process is integrative. This means that the strategy is drafted by (or has significant input from) those people responsible for implementation. Integrative supply-chain strategies occur when corporate strategic plans are effectively "cascaded" into specific purchasing and commodity goals through a series of iterative stages in a sales and operations plan. Corporate strategy evolves from corporate objectives, which effectively evolve from a corporate mission statement drafted by the chief executive officer (CEO), functional executives, and

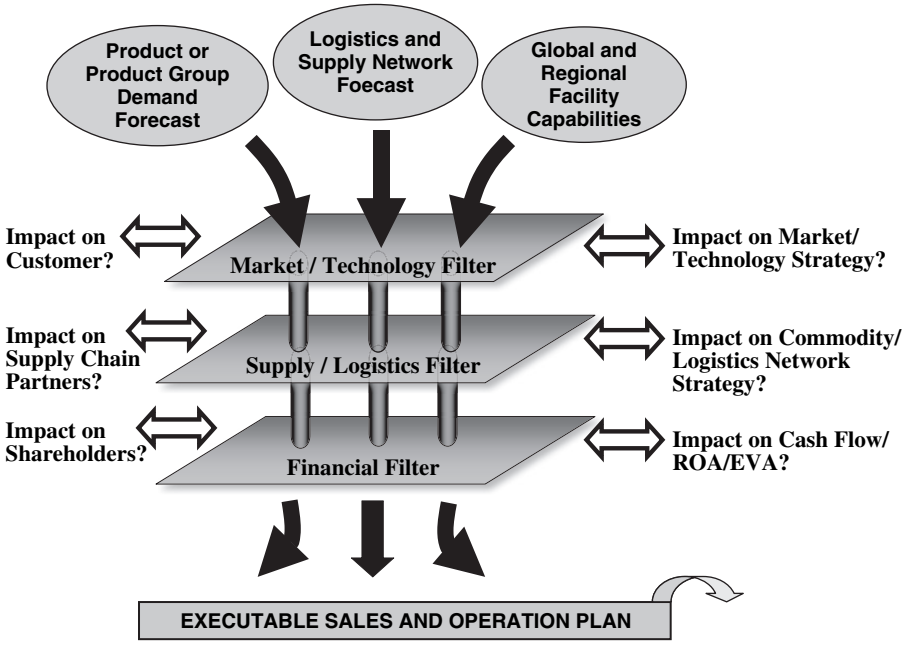

Figure 1.7 Annual sales and operations planning process.

the board of directors. The CEO, taking into consideration the organization's competitive strengths, business unit and functional capabilities, market objectives, competitive pressures, customer requirements, and macro economic trends, crafts corporate strategies. What distinguishes an integrative strategy development process is that business unit executives, as well as corporate purchasing executives, provide direct input during the development of corporate strategy.

A key feature of the strategy development process shown in Figure 1.7 and Figure 1.8 is the linkage, either directly or indirectly, between functional supply-chain strategy development and other functional specialties such as technology or R&D, finance, and marketing. Business unit objectives span multiple functions and provide clear directions so that all functional strategies (purchasing, marketing, operations, finance, and human resources) are aligned. This linkage recognizes the need to remove the barriers of cross-functional integration. A system that promotes integrative strategy development between functional specialties supports focusing limited corporate resources toward specific companywide objectives and performance goals.

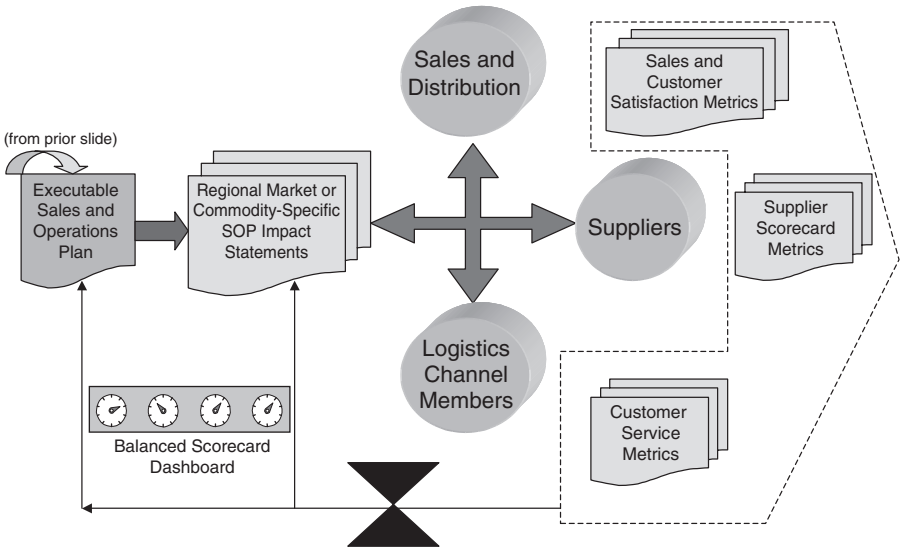

Figure 1.8 Ongoing quarterly reviews.

1.7 Bringing Goals and Objectives Together — the Strategic Sourcing Process

A major output of the strategy development process is a set of functional strategic objectives, including purchasing strategy objectives. As purchasing managers interact with other members within their business, as well as with corporate executives, a major set of strategic directives should begin to emerge. These strategic objectives may or may not provide details concerning how they are to be achieved. However, the process is not yet complete. Unless purchasing executives can effectively translate broad-level objectives into specific purchasing goals, these strategies will never be realized. Purchasing must couple each objective with a specific goal that it can measure and act upon. These specific goals become the initial step for a detailed commodity strategy formulation process. Remember: Objectives drive goals, whether at the highest levels of an organization or at the functional or department level. Examples of corporatewide purchasing goals associated with various purchasing objectives are shown in the following text:

Cost reduction objective

- Be the low-cost producer within our industry. (Goal: Reduce material costs by 15 percent in one year.)

- Reduce the levels of inventory required to supply internal customers. (Goal: Reduce raw material inventory to 20 days' supply or less.)

Technology or NPD objective

- Outsource non-core-competency activities. (Goal: Qualify two new suppliers for all major services by end of the fiscal year.)
- Reduce product development time. (Goal: Develop a formal supplier integration process manual by the end of the fiscal year.)

Supply base reduction objective

- Reduce the number of suppliers used. (Goal: Reduce the total supply base by 30 percent over the next six months.)
- Joint-problem-solve with remaining suppliers. (Goal: Identify $300,000 in potential cost savings opportunities with two suppliers by year end.)

Supply assurance objective

- Assure uninterrupted supply from those suppliers best suited to filling specific needs. (Goal: Reduce cycle time on key parts to one week or less within six months.)

Quality objective

- Increase quality of services and products. (Goal: Reduce average defects by 200 ppm on all material receipts within one year.)

The next level of detail requires translating companywide purchasing goals into specific commodity-level goals.

Although not always the case, companies often use commodity teams to develop purchasing strategies. Purchasing strategies often apply to commodities (general categories or families of purchased items). Examples of major commodity classifications across different industries include body side moldings (automotive), microprocessors (computer), steel (metalworking), cotton (apparel), wood (pulp and paper), petroleum products (chemicals), and office supplies (all industries). A commodity team is often composed of personnel from manufacturing, product design, process engineering, marketing, finance, and purchasing. The personnel involved should be familiar with the commodity being evaluated. For instance, if the team is tasked with purchasing computers, then users from information systems should be included. If the team purchases vehicles and vehicle parts, then it would be a good idea to include maintenance managers who are familiar with the characteristics of these commodities. In general, the more important the commodity, the more likely cross-functional members and user groups will be involved. Together, the commodity team will

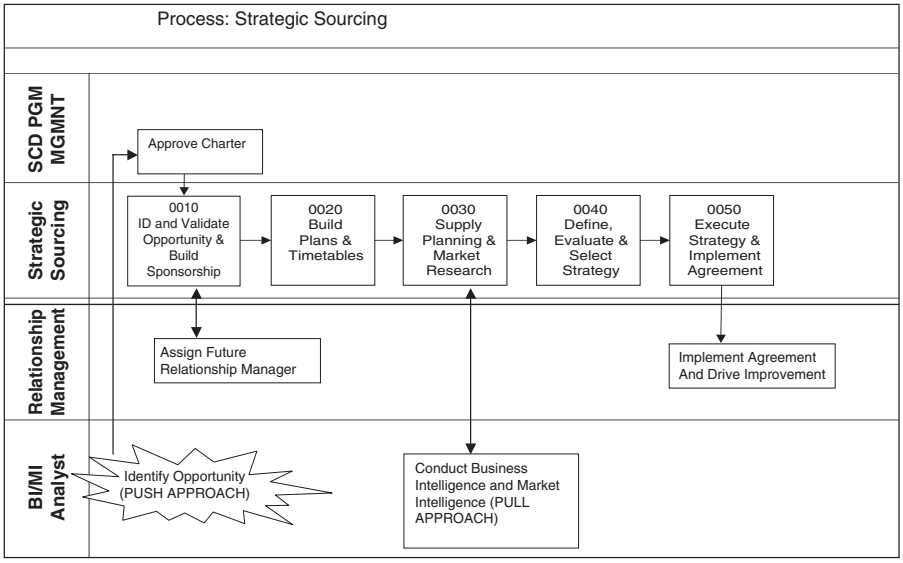

Figure 1.9 Strategic sourcing and supply market intelligence processes.

develop a commodity strategy that provides the specific details and outlines the actions to be followed in managing the commodity.

This book explains the major phases of developing an integrated supply management strategy that involves integrating the key elements of relationship management and supply market intelligence. As shown in Figure 1.9, this involves the steps of developing a MI network, developing a sourcing strategy, and establishing key individuals to manage the ongoing relationship with critical suppliers.

1.8 A Word on Business and Market Intelligence

Before engaging in any type of sourcing strategy, teams need to educate themselves about what is happening in the marketplace, as well as what their internal customer requirements are.

1.8.1 Step 1: Teaming, Plan Development, and Market Research

Companies are increasingly using a team approach to sourcing decision making by bringing together personnel from multiple functions who are familiar with the product to be purchased. Part of the first phase of the

integrated supply management process is to identify the people who should be involved, as well as the key subject matter experts who may be part of the "extended team." It is also important to publish a project charter, define the scope of the project, and develop a work plan and communication plan. These steps help to define the purpose, boundaries, and goals of the process, identify the tasks involved, and provide a plan for communicating the results to the primary stakeholders.

Chapter 2 will address issues involved in teaming and plan development, suggest questions to be asked in determining user requirements, and introduce the steps in developing a market research plan. It will also introduce topics that should be addressed in a thorough market analysis.

1.8.2 Step 2: Strategic Analysis and Resource Commitment

The second step when developing a purchasing strategy is to fully understand the purchase requirement relative to the business unit objectives. This is typically achieved through a strategy segmentation tool known as *portfolio analysis*, the premise of which is to categorize every purchase or family of purchases into one of four categories. The results of this analysis can then be compared to the current purchasing strategy for the commodity group. Also involved in this step is a thorough supplier spend analysis to determine past expenditures for each commodity and supplier, as well as the total expenditures for the commodity as a percentage of the total.

Other tasks in this phase are to identify current and potential suppliers, determine any information technology requirements, and identify opportunities to leverage the commodity expenditures with similar commodities. A thorough discussion of the tasks involved in this step can be found in Chapter 4.

1.8.3 Step 3: Strategy Approval and Supplier Selection

The ultimate result of this step is to make supplier recommendations. Before this occurs, the commodity team should perform a supplier analysis, examining selected financial ratios, relative market power of suppliers, and strategies of the market leaders in the supplier industry. There should also be a determination of current and future volumes using forecasting techniques. Next, the team develops a profile of the sourcing strategy to be employed for the particular commodity group and reaches consensus on the strategy. The team then develops a supplier short list and views presentations from these suppliers. Finally, the suppliers are chosen that

best fit the commodity strategy to be employed, based on their performance in the supplier analysis. Chapter 7, Chapter 8, and Chapter 9 cover issues related to strategy approval and supplier selection.

1.8.4 Step 4: Strategy Implementation and Contract Negotiation

After the sourcing strategy has been determined and suppliers have been recommended, it is time to implement the strategy and negotiate the contract. Effective implementation of the strategy includes establishing tasks and timelines, assigning accountabilities and process ownership, and ensuring adequate resources are made available to the process owners. The strategy should also be communicated to all stakeholders, including suppliers and internal customers, to obtain buy-in and participation.

Before entering into contract negotiations, the commodity team should perform an analysis of market and pricing issues so that a fair price for both parties can be agreed upon. This analysis attempts to define the marketplace, including best price, average price, and the business unit's price, and determines expected trends in pricing. In preparation for negotiations, the buyer should develop a negotiation plan and an "ideal contract." There should also be a contingency plan in case negotiations with the recommended suppliers do not go as expected. Finally, the negotiation is conducted, and a contract is signed. Chapter 9 discusses these topics.

1.8.5 Step 5: Supplier Performance Measurement and Continuous Improvement

The strategic sourcing process does not end when a contract is signed with a supplier. The buyer must continuously monitor the performance of the sourcing strategy, as well as the supplier. The buying firm should revisit the sourcing strategy at a predetermined interval to ensure that it is achieving its stated objectives and may need to make modifications to the strategy if it is not working as planned or if there are changes in the market. The buying firm should also continuously monitor the performance of suppliers based on predetermined and agreed-upon criteria such as quality, delivery performance, and continuous cost improvement. And there should be a plan in place to manage any conflicts that occur with suppliers.

As supply chains become more integrated, there has been an increasing focus on supplier development. It is usually in the best interest of buyer

and supplier to engage in supplier development to foster mutual trust, achieve process efficiencies to bring about cost improvements, and strengthen both firms' positions in the marketplace. Chapter 9 and Chapter 10 offer comprehensive insights.

1.9 Summary

In case you have not discovered it yet, developing an integrated supply strategy is a whole lot of work! The requirements to deploy a strategy that is effective and can capture competitive advantage rest on a critical element: people. As we noted in the opening of this chapter, supply management decisions will only succeed if they are (1) based on multiple insights from key people in the field, as well as critical secondary sources and (2) communicated to decision makers in a form that is useful, resulting in actions that are directly tied to the insights gleaned from the information. To assist readers through achieving these objectives we have laid out the remainder of the book in the following fashion.

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Function	*Objective*	*Tactical Step*	*Chapter/ Appendix*
Supply market intelligence	Supply market research	Opportunity identification and validation	2
		Project approval	2
		Establishing the team	3
		Project plan	3
		As-is assessment	4
		Supply market research	5
		Market forecasts	5
		External and market analyses	6
	Strategy and resource commitment	Detailed supplier evaluation and research	7
		Evaluate current and alternative strategies	8
		Understand contract formation	8

Strategic sourcing	Negotiate and select supplier	Develop relationship strategy	8
		Strategy position paper	8
		Develop requests for information (RFIs) and build negotiation strategy	9
		Negotiate	9
		Final supplier selection	9
		Form contracts	9
	Implement and promote compliance	Implement contracts	9
		Transition to relationship manager	10
Relationship management		Communicate expectations	10
	Improve supplier performance	Measure performance	10
		Resolve issues and develop supplier performance	10
Benchmarking processes and driving continuous improvement		Build an organization for supply-chain excellence	11
		Benchmark performance and drive continuous improvement	12, App. B

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Chapter 11 discusses the creation of an organizational structure for SCM. A benchmarking framework is provided in Chapter 12 that will allow you identify where your organization is in terms of supply management and supply intelligence maturity. Appendix A discusses the specific impact of managing global suppliers in China, an ever-increasing trend in today's global environment. Best practices and a set of case studies in Appendix B through Appendix D provide additional examples of strategic sourcing and supply market intelligence in action. Finally, a list of references and Web sites for additional research in supply markets is included in Appendix E.