Achieving Supply Chain Advantage

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Achieving Supply Chain Advantage

In economic boom times, growth, innovation, and acquisitions are at the top of company agendas. But during downturns and their aftermath, companies tend to gaze inward, seeking to optimize their internal processes and supply-chain performance. And rightly so: the supply chain is often underestimated as a source of competitive advantage. It can be a powerful lever for cutting costs, minimizing risk, shortening response times, and improving customer service.

Processes that are efficient, robust, and closely aligned with company strategy don’t just reduce costs. They also set a company apart and give it an edge in the fight for customers and market share. For these reasons, effective supply-chain management (SCM) has become increasingly critical to business performance, in good times and in bad.

In the spring and summer of 2009, The Boston Consulting Group and the Kühne Center for Logistics Management at WHU–Otto Beisheim School of Management studied SCM practices in German-speaking countries. We did a detailed qualitative survey of 28 industrial-goods companies, conducting in-depth interviews and workshops with supply chain managers. In addition, we captured quantitative data on the most important supply-chain-specific performance indicators: logistics costs, service level, inbound and outbound inventory ranges, and working capital. Our findings provide valuable insights into the best practices that leading companies use to design and manage their networks of supply chains.

This report covers the nine key dimensions of supply chain management addressed in our survey: strategy integration, customer interface management, inventory management, inbound logistics, outbound logistics, supply chain organization, performance measurement and control, risk management, and IT systems. (See Exhibit 1.) It also breaks down the minimum and maximum range of SCM maturity overall—as well as the

Exhibit 1. The Survey Covered Nine Key Dimensions of Supply Chain Management

Source: BCG/WHU analysis.
1Production was not analyzed in the SCM benchmarking study.
average degree of maturity—of the different industries within the industrial goods sector. Some companies have implemented minimum SCM standards in nearly all aspects of the nine dimensions, and some have addressed just a few areas. But we found no significant correlation between industry and degree of SCM implementation, although automobile suppliers tend to have the best performance rankings—most likely owing to intensified demands by auto manufacturers. Many companies have major potential for improvement. (See Exhibit 2.)

We divided our respondents into four groups on the basis of their SCM maturity levels: top performers, enthusiasts, realists, and stragglers. Here, we outline the characteristics of each group and offer a three-stage model for SCM development. In addition, we explore the four areas of supply chain management that will be the most critical in the future, according to the companies we surveyed.

The Growing Importance of Supply Chain Management

German industrial-goods companies—especially those in the automotive, mechanical, and engineering industries—are strongly export driven and have solid international networks. Cross-border markets, production sites, and supplier relationships have given rise to international supply chains. The inherent interdependencies and risks of these networks necessitate ever more professional management of the interfaces within and among supply, production, and distribution processes. Furthermore, as a consequence of the economic downturn, pressures related to cost and competition have increased significantly in almost all industries. Particularly in the industrial goods sector, the ability to design and manage supply chains effectively has become a major tool for company success.

Yet a comparison of company performance across the nine SCM dimensions shows that only a few of our survey participants are fully optimizing their supply chains to secure cost and competitive advantages. At most companies, supply chain management is not clearly linked to and aligned with the business strategy. Without this alignment, management is unable to weigh the necessary tradeoffs of supply chain processes both within the company (for instance, whether improving cross-plant inventory management would deliver enough value to offset the added cost and complexity) and outside the company with external partners (such as whether the benefits of offering higher service levels to certain customers would outweigh the costs).

Most managers are aware of the advantages that effective supply-chain management can bring—indepedent of industry, competitive position, and current capabilities. Accordingly, those surveyed confirmed...
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across the board that their companies recognize the value of all nine SCM dimensions. But four of those
dimensions—customer interface management, strategy integration, performance measurement and
control, and outbound logistics—were deemed most important and are likely to remain so. (See Exhibit 3.)
Interestingly, managers expect outbound logistics to gain only minimally in importance, but because of
their experiences in the recent downturn, they expect risk management (currently ranked second-to-last in
importance) to become far more critical in the future.

Where Urgent SCM Action Is Needed

By analyzing the future relevance of each SCM dimension and current competency gaps between average
performance and best practice in each SCM dimension, we identified four areas where the need for action
is especially urgent in all the industries we surveyed: strategy integration, performance measurement and
control, outbound logistics, and risk management. (See Exhibit 4.)

Strategy Integration

The supply chain strategy provides an overarching framework for each SCM dimension and is defined on
the basis of customer needs (such as delivery speed and price sensitivity), product characteristics, and
inventory availability. This strategy must be closely integrated with the business strategy to effectively
manage the challenge of tradeoffs such as cost versus service.

At most of the companies we surveyed, supply chain strategy is neither documented nor regularly re-
viewed and revised—except reactively, in response to changes in products, market conditions, or customer
needs. At 20 percent of the companies, supply chain strategy is completely separate from the business
strategy and focuses primarily on business requirements rather than on companywide performance
metrics or customer needs. In fact, although most of the companies we surveyed had specific criteria for
designing their supply chains, 40 percent of those criteria focused solely on internal business requirements
related to products, production, and logistics rather than on customer needs.

Performance Measurement and Control

To improve supply chain management, it is important to have appropriate metrics and a feedback loop
that monitors and reports performance shortfalls so that corrections and adjustments can be made.
Metrics must support the supply chain strategy, measuring the key aspects of performance, such as on-
time deliveries or error rates. They must reflect a company’s specific context, goals, and challenges. For

Exhibit 3. Some SCM Areas Will Become More Important in the Future

<table>
<thead>
<tr>
<th>Customer interface management</th>
<th>Strategy integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance measurement and control</td>
<td>Outbound logistics</td>
</tr>
<tr>
<td>Inventory management</td>
<td>Supply chain organization</td>
</tr>
<tr>
<td>IT systems</td>
<td>Risk management</td>
</tr>
<tr>
<td>Inbound logistics</td>
<td></td>
</tr>
</tbody>
</table>

Importance

Today  Future

Source: BCG/WHU analysis.
example, at companies with many just-in-time deliveries, metrics for delivery reliability should measure compliance with specified volumes and schedules. By contrast, at a mechanical engineering company, it would make more sense to define delivery reliability in terms of the number of damage-free shipments.

Although many of the companies we surveyed monitor a range of KPIs, their metrics were seldom derived from supply chain strategy: only 25 percent reported that their metrics fully and consistently reflect supply chain strategy. Some study participants were not even able to estimate their logistics costs (internal and external costs of transport, handling, and warehousing). In addition, only very few have defined concrete action plans in the event that significant gaps occur between targets and actual performance. The result: ad hoc measures are used to deal with problems that arise, but because they have not been sufficiently thought through, any improvements that result are isolated and don’t improve supply chain performance overall. An effective performance-measurement system can sharply reduce wasted time and resources in addition to improving supply chain effectiveness.

**Outbound Logistics**

This dimension involves network design; contracts with logistics suppliers; and the costs of handling, transporting, and warehousing goods throughout the entire value network of suppliers, customers, and providers of logistics or other services. Despite the importance of this aspect of supply chain management, only ten of the surveyed companies have overarching initiatives for optimizing inbound and outbound logistics through closer integration with external partners and customers using such forums as roundtable discussions and workshops.

Long-term collaborative agreements developed jointly with suppliers and logistics providers are more the exception than the rule. When they do exist, they are poorly defined. Yet closer integration and collaboration are prerequisites for sustainably high levels of delivery performance and flexibility at the lowest possible cost. The chances of success are best when each party benefits from greater cooperation. Toyota, for instance, enjoys preferential treatment from its suppliers—even though its requirements are very exacting—because the company has built long-standing, collaborative, win-win relationships with them.1

Outbound logistics are also a major driver of customer satisfaction. The service levels offered should match customers’ service requirements, but here, too, company performance falls short. Among the companies we surveyed, 25 percent have no defined service requirements based on customer needs and differentiated by customer segment. At most of the other companies, customer service requirements are only vaguely defined.

**Risk Management**

The recent economic downturn and the resulting financial difficulties of suppliers and customers alike brought this SCM dimension to the fore for the companies we surveyed. Most are convinced that risk management across the entire supply chain will continue to grow in importance, but only 25 percent systematically capture, assess, and manage risks companywide.

The economic crisis brought into sharp focus the downside of reactive contingency plans in the supply chain. Faced with declining orders, overcapacity, surplus inventory, and price deterioration, companies had to slash costs while continuing to meet their customers’ needs and maintain service levels. Even companies that were not directly affected risked losing suppliers—especially strategic ones. When risks are identified and actively managed along the entire supply chain, companies are able to respond more quickly and effectively in times of crisis. Although not all risks can be foreseen, with the right preparation their impact can be lessened. Yet only 14 percent of the companies we surveyed treat their primary suppliers as partners that are capable of—and responsible for—monitoring and managing their own risks.

**The Three Stages of SCM Development**

Studies consistently show that companies become more successful as they develop their SCM capabilities. Financial performance strengthens, responsiveness and service levels improve, and overall competitiveness increases. The structured implementation of best-practice solutions and effective change management can lead to better supply-chain management.

Based on the survey results and input from participating companies, BCG and WHU developed a three-stage model that companies move through as they develop their SCM capabilities. Each stage is characterized by increasing complexity.

- **Stage 1: Laying the Foundation.** The objective of the first stage is to establish a foundation for effective supply-chain management. Defining a supply chain strategy that aligns with the business strategy is a critical first step, providing a framework for the many changes to core processes and the organization as a whole that underlie SCM optimization. At this stage, companies also build basic competencies in the areas of inbound and outbound logistics, inventory management, supply chain organization, and the other SCM dimensions. For instance, they typically set up standardized KPIs and performance targets, create and regularly update inventory forecasts, solicit feedback from customers, and tie supply chain performance to top management’s variable compensation. Once this foundation is in place, companies are ready to tackle the challenges that the later stages of SCM development present.

- **Stage 2: Managing Internal Tradeoffs.** In the second stage of development, companies learn to actively manage internal tradeoffs across functions and units with an eye toward making decisions that are best for the enterprise as a whole, not for a narrow silo or division. For instance, companies might weigh the benefits of cross-plant inventory management against the cost of the greater management effort needed or against the added value of greater alignment among functions such as purchasing, production, and sales. The overriding focus is cross-function and cross-unit change management, which may be supported by IT. This foundation lays the groundwork and builds the competencies needed for the next stage.

- **Stage 3: Managing External Tradeoffs.** The third stage of SCM development addresses the external tradeoffs related to supply chain processes that involve external partners. In addition to conducting a cost-benefit analysis of customer service levels, companies might consider integrating IT systems with key suppliers and customers to improve transparency and reduce costs and waste in supply chains. Roundtables with suppliers and customers can also lead to valuable ideas for improving efficiency and reducing costs, and gain-sharing arrangements can provide a strong incentive. Finally, companies should evaluate such ques-
tions as whether cost reduction clauses should be a part of all contracts with suppliers and service providers or be based purely on fixed-unit or transport prices.

Of the industrial goods companies we surveyed, 87 percent already had the basic competencies of the first stage, with the one exception noted earlier: the absence of a supply chain strategy that was aligned with the business strategy. All are gradually moving toward greater SCM maturity, but other shortfalls remain in the areas of customer interface management, performance measurement and control, outbound logistics, and risk management.

Levels of SCM Maturity

Based on their relative level of SCM maturity, the companies we surveyed can be broken into four groups: top performers, enthusiasts, realists, and stragglers. (See Exhibit 5.) For each category, there are specific actions that can be taken—gradually increasing in complexity—to improve supply chain performance in keeping with the three-stage model outlined above. At the more advanced stages of SCM development, all actions and metrics must have a strategic focus, whether aimed at internal or external targets. Let’s explore each of the four categories more closely.

Top Performers

Only 14 percent of the companies we analyzed are top performers, surpassing the others in all areas of supply chain management. Although small in number, they are the primary source of the best practices we identified. (See the sidebar “SCM Best Practices.”) Top performers do better than average on all SCM fundamentals. For instance, their inventory status is transparent and their demand forecasts reliable. The companies in this group of SCM leaders have defined their metrics and weighted them by importance, and they monitor them regularly. Their supply-chain strategy is adequately reflected in the supply chain organization; they even offer supply chain training and career paths. The top performers have addressed their internal tradeoffs and frequently review the relevant costs and benefits of such decisions as whether

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**Exhibit 5.** The Surveyed Companies Showed Four Levels of SCM Maturity

<table>
<thead>
<tr>
<th>Category</th>
<th>Average</th>
<th>SCM Maturity (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top Performers</td>
<td>67</td>
<td>61, 67, 72</td>
</tr>
<tr>
<td>Enthusiasts</td>
<td>44</td>
<td>37, 41, 46, 51</td>
</tr>
<tr>
<td>Realists</td>
<td>50</td>
<td>41, 44, 48, 51</td>
</tr>
<tr>
<td>Stragglers</td>
<td>34</td>
<td>21, 28, 34, 34</td>
</tr>
</tbody>
</table>

Source: BCG/WHU analysis.
Note: SCM maturity was evaluated on the basis of 28 interviews; each company received a percentage of the maximum possible maturity score.
to centralize or decentralize IT systems. Moreover, they’ve launched initiatives to optimize external tradeoffs by seeking, for instance, ways to differentiate service levels by customer segment as cost-effectively as possible.

Enthusiasts
Accounting for about 18 percent of the companies we surveyed, SCM enthusiasts have a tendency to put the cart before the horse. There are two types. The first are those that have introduced performance measurement throughout the organization but lack the necessary clarity on strategy and direction. As a result, metrics are not prioritized, and there are no clear targets. This approach is often seen at companies that put too much stock in IT solutions and have not yet critically tested their beliefs.

The second type are the companies that have done their homework on SCM fundamentals but tend to focus too much on external tradeoffs while neglecting the internal ones. These enthusiasts include companies that have launched initiatives with external suppliers to reduce inventory, for example, but still maintain internal planning processes in every business unit and fail to coordinate demand forecasts. Or they’ve outsourced logistics services such as warehouse management to external partners but have not clearly specified the relevant processes and KPI targets in their SCM strategies. In still other cases, they may demand that their suppliers contractually obligate themselves to actively manage the risks that could affect their supply chains, even though they themselves have not yet established internal companywide risk control or management processes.

Our detailed survey and interviews with 28 industrial-goods companies in German-speaking countries revealed these leading SCM practices in each of the nine dimensions:

**Strategy Integration**
- Key aspects of supply chain strategy and design—such as customer service levels, production sites, warehouses, logistics management, and outsourcing decisions—are reviewed on a quarterly basis to ensure that they are still aligned with the overarching business strategy.
- Cost/benefit tradeoffs are weighed across the end-to-end supply chain.
- Service levels are tailored to customer needs and actively managed.
- The supply chain strategy is shared with relevant external partners.

**Customer Interface Management**
- The service level and supply chain are segmented and differentiated by customer type and product: key customers receive logistics services tailored to their specific needs; catalog customers receive standardized delivery service with different pricing options depending on speed (24-, 48-, and 72-hour delivery options, for instance). An expert logistics provider helps develop company- and industry-specific solutions and competencies.
- Order handling is done electronically; where possible, customer needs are determined and filled automatically.
- Regional customer roundtables are set up every six months to discuss how to optimize costs and services across the supply chain.

**Inventory Management**
- Order and demand forecasting is done with real-time data from sales, scheduling, and production.
- Strategic inventory management and working capital optimization are in place.

**Inbound Logistics**
- Inbound logistics are managed by suppliers and coordinated on at least the plant level; receiving makes random quality checks; supplier contracts include incentives for cost reduction; and contracts with manufacturers and suppliers are so flexible that responses to changes in demand are quick and seamless.
- Logistics service providers are centrally selected, awarded contracts, and coordinated to minimize inventory and transport costs; tradeoffs between inventory levels and transport costs are globally optimized; and small discrepancies in base load are reflected in contracts with suppliers.
- There are initiatives with suppliers and service providers to optimize the supply chain. Long-term collaboration with suppliers is a goal to reduce costs and improve performance.
SCM enthusiasts have strayed from the ideal SCM development path, and depending on their type, they should focus either on improving SCM fundamentals (such as deriving metrics from supply chain strategy and getting greater visibility into results) or on managing their internal tradeoffs and cross-functional collaboration.

Realists
The companies in this group, which made up 36 percent of the total, have consistently improved their SCM capabilities but are now at a standstill, failing to progress beyond a certain stage. Unlike the enthusiasts, the realists are on the right track when it comes to supply chain management—that is, they have developed the fundamentals and are performing above average in these areas overall. But they are not doing as well in the more complex aspects of supply chain management that require making internal and external tradeoffs.

For instance, they don’t demand transparency on logistics costs from their suppliers. As a result, they miss opportunities to reduce costs by bundling purchases or increasing outsourcing. Also, the design of their logistics-service contracts often leaves much to be desired, focusing almost exclusively on price and giving external providers few or no incentives to continue to improve performance.

The challenge for SCM realists is to take their expertise to the next level by improving their management...
of internal and external tradeoffs. It is especially important for this group to define their supply-chain strategies based on an exact understanding of their customers’ requirements and of the market, and to find ways to optimize their global networks and differentiate customer service levels. Comprehensive change management with a clearly structured implementation timetable should be a priority.

**Stragglers**

About 32 percent of the companies we surveyed clearly lag behind the top performers in all or most areas of supply chain management and have not adopted most of the best practices. These companies need to improve their SCM fundamentals as well as their internal and external tradeoffs. For instance, their logistics are not centrally coordinated, so that potential cost savings from bundled purchases, consolidated shipments, and other optimization strategies are untapped. Many of these companies have improved their supply chains and regularly revise their strategies, but they fail to systematically communicate and anchor these changes companywide. As a result, their supply-chain strategy exists primarily in the heads of managers. Given the benefits that effective supply-chain management confers, nearly one-third of the companies that participated in the study are throwing away significant potential.

The stragglers’ first step should be to get a firm hold of SCM fundamentals in the near term, before turning to the conceptually more difficult work of managing internal and external tradeoffs. These fundamentals include gaining transparency on supply chain performance by using appropriate metrics for logistics costs, service levels, and inventory levels.

**Room for Improvement**

Our results showed that the best companies are performing at 67 percent of their total maturity potential on average, far better than the 46 percent average for all the companies we analyzed. But among these top performers, individual performance varies within the different dimensions, leaving substantial room for improvement. Moreover, all companies must regularly review their competitive positioning, stay on top of emerging best practices, share what their experiences have taught them across the enterprise, and review their network designs in light of changing market conditions. For example, it may make sense to set up new plants in emerging markets, or to bring previously outsourced products back in-house to increase capacity utilization when demand slows. Yet very few companies regularly review and revise their SCM decisions.

Our study revealed that only a few of Germany’s large industrial companies are capitalizing on the full potential for cost savings, risk management, and competitive differentiation that effective supply-chain management offers. But a focused strategy, ongoing development of the nine SCM dimensions, and rigorous change management will drive increasing levels of maturity. How well and how quickly each company succeeds in closing the gap between its current SCM capabilities and optimal performance will determine its competitive strength in the future.
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