FEATURES

10 The Wisdom of Becoming a Preferred Customer
By Robert J. Trent and Zach G. Zacharia

20 Supply Chain Visibility: More Trust than Technology
By Mike Giguere and Brad Householder

26 Why Working Capital Should Matter to You
By Heimo Losbichler and Farzad Mahmoodi

34 How Steelcase Took Control of Supply Risk
By Thomas V. Scannell, Sime Curkovic, Robert Lundquist, and Michael Isaac

42 Open Innovation: Putting External Knowledge to Work
By Delphine Manceau, Pierre-François Kaltenbach, Line Bagger-Hansen, Valérie Mouiti, and Julie Fabbri

60 Forward Thinking: Review of Logistics Clusters

COMMENTARY

Insights 4
Global Links 6
Talent Strategies 8

SUPPLY MANAGEMENT 50
BENCHMARKS 52

SPECIAL REPORTS

S56 Spotlight on the Software Leaders
S61 Creating Competitive Advantage
S68 2012 Warehouse/DC Operations Survey
Achieving supply chain visibility has been an elusive quest for many companies. Simply throwing more data or technology at the problem has not seemed to work. What’s needed instead is a structured approach that identifies the goals of enhanced supply chain visibility, narrows the scope of data required, and—most important of all—rests on a foundation of trust.
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f there’s one recurring bad dream that keeps supply chain executives awake at night, it might well be the seemingly impossible quest for better visibility. It’s one of those classic nightmares where you keep grasping for something just out of reach. Even at companies with higher levels of collaboration in their supply chain, it seems that visibility is always “two years off.”

The popular misconception that information technology is the underlying issue limiting data availability—and the resultant visibility—has prompted executives to seek solutions in IT. Given the sizable investments companies have made in IT to harvest supply chain data, the question of why visibility isn’t better is a perplexing one. The “complete” view of inbound supply and outbound fulfillment sustained by seamless upstream and downstream connectivity that managers had been led to expect is proving to be a frustrating, ongoing work in progress. There’s no shortage of technology solutions that purport to enable visibility. Yet getting timely, accurate information with which to run global operations—even after costly IT solutions are in place—remains a daunting challenge.

So if technology is not the bottleneck, then what is? The answer is that the nature of relationships is the primary constraint on what and how much information ultimately gets shared. The more trusting and collaborative the relationship, the more that data is shared and visibility improves; the less trusting and collaborative, the opposite holds true.

Visibility's Link to Decision Making

The important thing to understand about visibility is that it is a means, not an end. The goal itself is collaboration—defined here as aligned decision making throughout the supply chain. Visibility is an enabler of this goal. Correspondingly, finding the right balance between the demand for visibility to make better decisions and the supply of data realistically available from your supply chain partners requires a reframing of the objectives of collaborative decision making, rather than simply a retooling of the technology. Just as not every supply chain relationship can fit the same model of collaboration, not every supply chain relationship can have the same level of visibility. There is a practical upper limit to what data supply chain partners can and will
Alignment

Different categories of collaboration and collaborators generate different visibility requirements—and create different data constraints.

share, and that limit is a characteristic of the nature of their collaborative relationship.

Companies put a great deal of emphasis on characterizing their supply base for their purchased materials and services; likewise, they need to understand the characteristics of their supply base when it comes to supply chain data. They need to understand that different kinds of collaborative relationships impose different “upper limits” on data that will be freely shared. By taking into account these natural, practical limits to the kind of data that can be expected, companies at the same time position themselves to better manage the demand side of visibility. In particular, they are better able to ask the need-to-know questions consistent with the different priorities of respective partners and supply chains.

To repeat a main point made earlier, data abounds. That’s not what’s lacking. What is under-developed is the appropriate business focus to identify the most imperative results a company needs to ferret out from data. In parallel, the quickest route to improved returns on investment in visibility is to prioritize and narrow the scope of what you need to know. Don’t get lost in data. Simply put, it takes asking the right questions to get the right answers.

In this context, visibility should be viewed as a specific tool to be used in moving up the “information pyramid” and converting data into useful information and knowledge. inundated by data, supply chain leaders might well share the lament of poet T.S. Eliot in asking “where is the knowledge we have lost in information?”

Companies that successfully achieve an effective level of visibility do so by maximizing the knowledge creation out of the available data. In our terms, they have been able to strike the right balance between visibility demand and data supply. They have identified the critical decisions their supply chains need to make and then derived the necessary data input from their collaborative relationships to support that decision-making.

The big idea here is that different businesses have different supply chain imperatives that require visibility. For some, it is how to use data to properly forecast; for others, it is how to avoid leaking profitability by making the right choices in allocating capacity and materials; still others seek to establish options to respond to disruption. Just as no one size supply chain fits all, there’s no one approach to visibility.

A New Perspective on Visibility

In determining the right approach for your organization, we advocate a new perspective on visibility. The first step is to recognize that visibility breakdown is typically an indicator of a more deep-seated problem of collaboration. Instead of being a technological failure, it is most often a failure of business strategy or alignment. Companies have been working on collaboration now for nearly two decades and, within that timeframe, have adequately addressed such things as standardization, governance, and even IT integration. Visibility, however, continues to remain a weak link largely because of collaboration issues.

The nature of supply chain relationships—be they characterized by terms like strategic partner, commodity supplier, one-to-many, or many-to-many—influences the levels of trust required to share data. A simple way to informally test the richness of probable information flow is to ask this question: When you and your collaborator share information with each other, are you expanding the total pool of mutual value or is it a zero-sum game? The answer is a strong predictor of the level of visibility with that collaborator. In cases where it is in the interest of all parties to exchange information, visibility abounds; but in instances where the mindset is “the more I share with you, the more value you capture from me,” visibility suffers.

In short, different categories of collaboration and collaborators generate different visibility requirements—and create different data constraints. By their very nature, some collaborative relationships are predicated on such high levels of strategic inter-dependence that they mandate extensive information sharing. In relationships that are more transactional, on the other hand, the parties are much more guarded in what they will share. They are justifiably reluctant to expose too much about their operation lest they weaken their competitive position with other
vendors and customers. Bluntly put, it is the element of trust more than technology that determines the level of disclosure.

Working with external collaborators to share data beyond the enterprise walls is a challenging task. Partners want to keep certain key metrics—cost structure, capacity, timing, and volume transactions with competitors, for example—private. The universal question that even the largest companies struggle with can be put as follows: How much does my cooperation with you cost me in terms of my competitive position? As a general rule of thumb, the more partners in a supply chain, the less likely the unfettered flow of relevant visibility data.

Visibility initiatives that ignore how the trust factor affects information quality proceed at their own peril. When incomplete or defective data gets passed along, margins of error are compounded at successive stages and end up producing results that fall short of expectations. The conclusion from this is inescapable: if even under the most favorable scenarios visibility is inevitably lost, the goal should be to zero in on the most important issues being addressed by the supply chain as it aligns with corporate business strategy.

That they must be clear about what they need to see. Too often, however, such clarity of purpose is missing.

**Techniques for Gaining Clarity**

Being clear about the nature of the collaborative relationship helps clarify the kinds of visibility questions to ask. All suppliers, as we mentioned earlier, are not created equal. We recommend that companies apply a kind of taxonomy that organizes collaborators into one of three categories: strategic, tactical, and transactional. (For more on these segments, see sidebar “Taxonomy of Supply Chain Collaborators.”) The distinctions are somewhat arbitrary and subject to change, but they do help define the kinds of visibility that is required from each category.

As organizing principles, these categories capture the

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**Taxonomy of Supply Chain Collaborators**

Strategic collaborators are those partners in a supply chain which are closely aligned in their long-term business strategy and decision making. Together, both parties are making complimentary investments in technology, intellectual property, and new products. With each of the partners in this supply chain so directly relying on the performance of the other, maximum information sharing is desired and appropriate, and is so stipulated in governance agreements.

Partners working at this level have to be willing to take the relationship beyond one that simply comes back to price. To be sure, this is easier said than done. Even with the product co-development and investment sharing taking place, the lower-leverage partner in the relationship (say, the supplier) often ends up being treated like “the little brother” at annual contract negotiations and is asked to cut a hefty percentage off their prices. In such cases, it is easy to understand their reluctance to share product road maps and other competitively sensitive data since they are ultimately unable to capture adequate value.

Tactical or core collaborators are partners whose contributions are required to run the operations on a daily basis. Tactical suppliers can be replaced and are typically redundant; however, their failure to perform at expectation would still put stress on the buyer’s operations. Visibility within this supplier segment is usually necessary to have an optimized and efficient supply chain. With tactical collaborators, factors such as cost, timely execution and delivery, and product quality need to be visible.

One caution: this is the segment in which the sharing of information often devolves into a zero-sum game in which one side wins and the other loses. Trust is required to avoid this outcome, but the situation can be problematic. The sharing of information is this segment can be facilitated, and its potential impact to cost mitigated, through operating agreements that link cost to external market factors as a means of minimizing one party’s ability to capitalize on the information gain from the other.

Transactional collaborators constitute the vast majority of supply chain partners offering commodity or fungible goods. For transactional collaborators, the primary risk to be monitored is whether goods ordered at the price stipulated are delivered with reliable timing and quality. Visibility and the underlying information sharing are generally limited to basic supply and demand information necessary to support the reliable flow of current orders. Forward-looking information beyond the horizon of firm orders is often limited data related to quotation activity.

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Supply Chain Management Review • November 2012 23
essential aspects of differentiated states of collaboration and allow for appropriately differentiated governance agreements, proactive measures of performance, and risk management efforts that “focus on the right things” from a visibility standpoint. Further, if you overlay your approach to supply chain or supplier risk using this approach, you can quickly zero in on those particular suppliers within those categories where visibility is critical and a high degree of information sharing is desirable.

Instead of being a technological failure, a breakdown in visibility is most often a failure of business strategy or alignment.

In addition to segmenting supply chain partners, another way to clarify visibility requirements is to identify the primary goals and vulnerabilities of specific supply chains and establish appropriate information-sharing processes. Differentiated strategies help to focus and prioritize the decisions to be made and, hence, the data required to make the best decisions. A low-cost supply chain, for example, will naturally seek to make different decisions across the supply chain from a high-service supply chain. A clear strategy applied to the extended supply chain is essential to prioritize decisions and information.

In some situations, the major supply chain concern is resilience and flexibility. Companies want to be able to see real-time options existing in their supply chain that will enable them to reply to disruption and to position themselves to be first in line to secure replacement stock. This requires visibility upstream into their suppliers’ capacity and redundancies. High tech companies, dependent as they are on globally outsourced supply chains, have been leaders in achieving such effective multi-tier visibility. By exercising leverage over suppliers to negotiate favorable governance agreements that mandate extensive information sharing, these companies are able to continuously monitor the resiliency of their extended supply chain.

Benefits of Narrowing the Focus

Most companies don’t have the bargaining power to oblige partners to provide information. Those that are not “800-pound gorillas” able to command compliance through the sheer size of their spend typically need to narrow and focus the scope of the targets for which they require high visibility levels.

The best way to tailor visibility in these cases is to narrow the focus of supply chain data to that required for the most critical decisions to be made. As an example, one manufacturer of commercial building materials was trying to improve its demand forecasting performance. The company’s products could take on millions of possible permutations of color, form factor, length and base material. And yet their distributors and sales reps rarely had reliable information on demand at such detailed levels. This led to situations where they were consistently stocking out of certain grades of base materials, while swimming in excess inventories of other grades.

In an attempt to resolve this situation, the manufacturer embarked on a complex implementation of demand planning software that would take end-product sales—from the millions of permutations—and generate statistical baseline forecasts, then collect input from distributors and field sales to incorporate in the demand plan.

In this case, the data was certainly available, but the collection and crunching challenge was formidable. As the company got bogged down in the mire of the data challenges, it decided it needed to focus. In the end, the manufacturer made the key decision—which turned out to be the key profit driver for the business—to concentrate on buying the right grades of base stock (a long lead-time item) at the right times. There were less than 10 grades of base stock used, and the forecasts at this level were much more predictable and much simpler to calculate. Form factors, lengths, and colors were all short lead-time decisions that could be managed largely through flexibility of the supply chain. By focusing on the critical decision, and collaborating with its base material suppliers to synchronize purchases with the production campaigns for particular grades, the company was able to optimize its purchase quantities and timing while reducing expediting costs from their supplier.

Another example of narrowing the focus involved a specialty chemical company that processed non-petroleum based oils and resins into a wide variety of products for multiple end markets such as adhesives, coatings, food ingredients, and tires. A relatively small number of raw material inputs could be used to make a wide variety of end products. In addition, some of the raw material inputs had wide variations in their availability and costs.

Making the right decisions on diverting constrained or expensive raw and intermediate materials into the right end products, or even stockpiling them for bulk sale, was the critical factor in overall profitability. By focusing on the critical decision nodes in the purchasing and processing flow, the chemical company was able to
prioritize the data it needed from customers and suppliers, and, as importantly, the level of detail and the time horizons for the data. This focus greatly simplified the visibility challenge and streamlined the sales and operations planning process—from a cumbersome status review into a high-impact, profit-driven decision making engine.

In the End, It Comes Down to Trust

Ongoing conversations we have had with various executives suggest that many companies feel they are not getting the anticipated returns from their investments in supply chain visibility. The typical response to this perceived shortfall has been to seek more data-gathering capability. Yet this often fails to produce desired results. How does one balance the appetite for more visibility with the reality of inherent constraints?

We believe that the solution to this dilemma lies in reframing the quest. Rather than seeking 100 percent visibility, the goal should be to zero in on the most important issues being addressed by the supply chain as it aligns with corporate business strategy. Through this “less is more” approach, supply chain managers can get optimal visibility where it counts.

The key to achieving the right level of visibility is clarity around the supply chain objectives and the role different categories of collaborators play in achieving those objectives. The primary aim of a supply chain might be, for example, to maximize service and responsiveness, or to minimize cost, or to ensure resiliency and reliability of supply. Depending on the particular goal, different levels of collaboration and related metrics assume different levels of importance.

Most importantly, visibility needs to be addressed within the context of collaboration and governance. What presents itself as inadequate visibility is often caused by the reluctance of supply chain partners to fully trust each other with confidential information. This reluctance often is based on the suppliers’ fear that they will incur unacceptable costs or weaken their competitive position. In order to provide high levels of visibility in the appropriate category, strong relationships must be established with suppliers responsible for providing mission-critical information.

Governance agreements with supply chain partners thus assume great importance.

Such information-sharing agreements should be tailored to the type of supplier—strategic, tactical, or transactional. Many companies make the error of assuming that their formal purchase agreements represent the extent of the governance agreement between the partners. While this may be the case for purely transactional, “many-to-many” type suppliers, it is not sufficient for higher levels of supply chain collaboration where a more comprehensive agreement is needed. Such a collaboration agreement goes well beyond the legal terms of purchase to form a joint service agreement governing the broader supply chain interactions of the partners. It would include specifics around key metrics and targets, bilateral data to be shared, exception management and escalation practices, and joint performance review provisions. Such agreements are a two-way street outlining the expectations for both of the partners.

In the fullest sense, visibility means more than simply knowing where materials reside in the supply chain. It encompasses a moment-in-time snapshot in which a wide range of business conditions are being measured. These include, for example, the effectiveness of forecasting processes, patterns of production and demand, risk factors, and the adequacy of inventory levels at acceptable cost. The company’s circumstances and strategy will determine which of these measures demand top priority.

In summary, irrespective of the technology available between a supplier and a customer or the sophistication of the organizations, supply chain visibility ultimately boils down to balancing the level of trust between supply chain partners with the information sharing required to jointly execute on the priorities of the extended supply chain. Without the right focus and without that trust factor in place, the best governance agreements and tools will fail to yield the desired results.

Without that trust factor in place, the best governance agreements and tools will fail to yield the desired results.