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by David Stauffer



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Risk: The Weak Link in Your Supply Chain

Because a lean operation can also be a vulnerable one, you need to think about efficiency and risk in tandem.

BACK IN THE early 1990s, managers of U.S. companies were justifiably proud of the well-oiled machines they'd made of their supply chains. Over the previous 15 to 20 years, they'd wrung costs from the mechanisms and processes by which they got components and inputs to the right places at the right times. They'd done it by implementing techniques and technologies at an unprecedented pace; among them, the lean production method introduced by W. Edwards Deming, just-in-time manufacturing, single-source suppliers, and global outsourcing.

But more recent events—terrorist strikes, political instability in Third World countries, and last year's shutdown of West Coast shipping docks—have awakened managers as never before to supply chain risks, some of which had been introduced or heightened by the very actions companies had taken to drive costs out of their supply chains. “Many of the key risk factors have developed from a pressure to enhance productivity, eliminate waste, remove supply chain duplication, and drive for cost improvement,” says William L. Michels, CEO of consulting firm ADR North America (Ann Arbor, Mich.).

Now that this inverse relationship between risk and efficiency has been cast in high relief, supply chain managers realize that they can no longer focus solely on cost reduction—any calculation of a supply chain's return on investment must also take customer satisfaction into account. “We're trying to make sure we operate the supply chain more efficiently and decrease

costs as we increase service levels to customers,” says Nathaniel Leonard, supply chain director for the Engineered Products Division of Goodyear Tire & Rubber (Akron, Ohio). Taken together, the company's objectives represent “competing priorities,” he says, “which we view as a triangle” representing cutting working capital, reducing transaction costs, and providing world-class customer service.

Balancing these competing priorities means that it's impossible to eliminate risk entirely. But there are steps you can take to mitigate risk while keeping your supply chain costs as low as possible. First, however, a little background on the nature of risk and how companies seek to deal with it.

The types, frequency, and complexity of risk

Risks lurk along the entire length of supply chains, and are as diverse as political instability, exchange rates, carriage capacity, shelf life, and customer demand. Such risks aren't new. In fact, “the underpinnings of problems today started two decades ago,” says Craig Holmes, director of business continuity planning for Aon Risk Consultants (Southfield, Mich.). But the dangers associated with these risks are now in the forefront of managers' minds.

There's no small irony in this reawakening to long-standing risks being caused by high-profile events such as the attacks of 9/11. Based on statistical probabilities, risk managers view 9/11 as an “outlier” or exceptional event; but even so, it has spurred a host of defensive reactions.

Outlier events “raise the frequency-consequence question,” says Steve Harris, vice president of ABS Consulting (Oakland, Calif.). Risk can be viewed as the product of frequency times consequence. That means a high-frequency/low-consequence event, such as the regular fluctuation of currency exchange rates, can be viewed as similar to a low-frequency/high-consequence event, such as the sinking of a cargo ship laden with critical parts. But depending on the particular company's risk tolerance, such apparently similar risks can have vastly different qualitative effects. “At some level, severe events can lead to insolvency,” Harris explains, “whereas low-severity events seldom do. Hence the need for insurance or other methods for transferring or mitigating catastrophic risks.”

Meanwhile, risks that are more mundane, but also more likely, may receive far less attention. “Outlier events have much more influence than they should,” says Harvard Business School professor Ananth Raman. Their influence is akin to the danger of drivers rubbernecking at the scene of a highway accident. In the days after 9/11, says Raman, the retailing executives with whom he's in regular contact discovered that their initial concerns that they would have too few dresses were misplaced. In fact, the terrorist attacks led to a severe shortage of customers and thus a problem of too many dresses on the market.

So don't be led astray by the sensational risks that grab attention and beg for resource-consuming mitigation. “Managers will often consider the giant risk but ignore the smaller risks that create friction in the supply chain,” says M. Eric Johnson, director of the Center for Digital Strategies at Dartmouth College's Tuck School of Business in Hanover, N.H. “They'll look at savings in the Third World, say, but maybe not the cumulative cost of deliveries that are frequently late

only by a week or so.” What’s the harm? Small disruptions can cause a big hurt if they result in a temporary stock-out and a frustrated customer.

The potential frequency of any hazard raises what Holmes calls “the risk manager’s dilemma”: “Frequency is never unarguable. You can’t guarantee we’ll have an earthquake, so what do you do about it?” The appropriate response when a critical supplier may be put out of commission by such an event is to identify an alternate supplier. But such steps double back on the very measures implemented to remove supply chain costs. “Because everyone operates more leanly today, the cost of a [supply chain] disruption

Inventory-related risks are like bulges in a balloon: Lessening one can raise another.

is greater,” says Gordon Eiland, vice president of strategy and new business development for books and entertainment retailer Borders Group (Ann Arbor, Mich.). “There’s not as much slack as there once was.”

“Slack” in the supply chain refers primarily to inventory. Traditionally, the easiest way of managing supply chain risk, Raman explains, has been through inventory. But “for numerous reasons, inventory became very expensive.” Shorter product life cycles contribute to higher expenses, for example, in the personal computer market, where the cost of carrying inventory can run as much as 1% of the product’s price per week. “The cost of obsolescence has gone up.”

Although obsolescence is a risk inherent in maintaining inventory, many potential causes of supply chain disruption are risks inherent in minimizing inventory. They’re like bulges in a balloon: Lessening one can raise another. “Certainly there are risks in

going with a single supplier,” says Tuck’s Johnson. But a single supplier, he adds, better ensures protection of the company’s intellectual property. “In that case, you’re trading off risks.”

Trying to cover your risks through insurance is no longer as feasible as it once was. Insurance carriers, which made huge payouts to cover losses related to the 9/11 attacks, have re-examined the risks implicit in today’s leaner supply chains. As a result, “what was insured in the past may not be insured as much or at all” today, Holmes observes. “And one way a risk manager can almost certainly get senior management’s attention is to tell them, ‘We’re not insured.’”

Also contributing to the difficulty of addressing supply chain risk is supply chain complexity. “One key factor is the increased pressure to differentiate products in the marketplace,” says Peter Rawlinson, director of product management for contract-management software company I-many in Edison, N.J. Increased product differentiation has also “increased the dependency on third parties in the supply chain. Wherever dependencies outside of the corporation exist, risks are introduced.” And the dependencies themselves are more complex than ever. “The part you get from Taiwan may go through five or six modes of carriage,” says Holmes. “Think of the possibilities for disruption. I’m not sure that anyone could fully understand the true risk involved at any single point of failure.”

Technology can help you cope with this complexity, but the high hopes some companies placed in supply chain management software have been dashed, resulting in near-total write-offs. Mark J. Colombo, vice president of strategic marketing for Memphis-based FedEx, attributes these failures not to the technology per se, but to a “lack of recognition of the degree to which [IT implementa-

tion] requires process change, cultural change, and brute-force effort.”

Fortunately, none of the complexities of dealing with supply chain risks preclude measures that can reduce the risks. Here is some advice that can aid mitigation efforts companywide.

Think strategically. Effective supply chain risk management must be holistic and integrated. “A company with a strategic source-planning process will deliver risk management; a lean, effective supply chain; cost and value

An appropriate regard for cost is one that doesn’t exclusively address cost.

improvement; speed to market; and innovation,” says ADR’s Michels. “It is the lack of a strategic source plan that can result in a conflict of cost versus risk.” A strategic source plan, he explains, can be thought of as “a business plan for a key commodity.”

Although supply chain cost-efficiency measures can increase risk, says Rawlinson, “cost efficiency can also reduce supply chain risk,” provided that “cost-efficient processes focus on core trading partner relationship management.” The principal tool for managing this relationship is the contract, which can be written to include “transaction compliance measurement, milestone and obligation monitoring, rebate and charge-back management, and supplier scorecarding.” These mechanisms increase the “visibility” of your trading partners’ performance, thereby reducing risk.

Broaden cooperation. Supply chain and risk managers regularly work with colleagues in purchasing, logistics, traffic, and other departments. But sorting out the issues involved in mitigating complex risks requires a greater degree of collaboration. John Marren relates that when he held a risk management position with a pre-

vious employer, the increased reporting requirements imposed by insurers “got me working with people inside the company with whom I’d previously not had much contact.” Marren, who is now director of risk management at Henkel in Gulph Mills, Penn., explains that the objective was to answer fundamental questions about the supply chain: “Is it sound? Where are the vulnerabilities? How are you planning for contingencies?” Getting the answers was not only beneficial in itself, but “got us into more of a team approach” to examining supply chain risks. Departments better understand not just the risks, but also one another.

Consider the tradeoffs. Experts agree that there are right and wrong ways of incurring and addressing supply chain risk. Think of cost and risk as variables that exist along a continuum; reducing one often comes at the expense of increasing the other. “You may increase your risks by lowering costs, because there’s less redundancy in the system,” says Marren. “But that doesn’t necessarily mean you’ve increased risks imprudently, [provided] you’ve examined the supply chain up and down before implementation.” Johnson agrees, noting that “the supply chain becomes more

brittle” if a company single-mindedly pursues reduction of overt costs, as in “chasing low-cost labor” anywhere in the world, without sufficient regard for the many risks that can create.

An appropriate regard for cost is one that doesn’t exclusively address cost. Thus, “the idea isn’t just reducing inventory to a ridiculous value,” Raman says. “Inventory protects against unanticipated events. So you need less of it if you find a way to forecast better or manage processes better. Some companies cut inventory without such improvements. That is fraught with risk.” Goodyear’s Leonard concurs: “You can only meet an inventory reduction objective if you improve forecasting,” he says. “Otherwise you’ll increase risk.”

Don’t ignore a risk just because you can’t quantify it. For example, what are the costs of a supply chain disruption that results in a stock-out? Not just lost sales, which might be readily quantified, but lost customers, too. “It’s not just the loss of those sales, but the way customers view you,” Borders’ Eiland observes. “If a customer is looking for an obscure title that we’re out of, there’s likely no long-term damage done. But customers looking for the latest Harry Potter

book expect us to have it and may never come back if we don’t.”

It’s not hyperbole to describe the risk of disappointing customers as one of corporate life or death. The apparel industry’s sales of marked-down items represented less than 10% of all sales 30 years ago, notes Raman; today they make up more than one-third of all sales. Meanwhile, one in three women shoppers fails to find the garment she wants in her size. “That’s our true supply chain risk,” he says, “making too much of what doesn’t sell and too little of what does.” ♦

*Red Lodge, Mont.-based writer
David Stauffer can be reached at
MUOpinion@hbsp.harvard.edu*

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