Improving Supply Chain Performance

IMPROVING VISIBILITY

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Companies make supply chains more agile with better visibility

Even a diligent manufacturer, farmer or retailer can find operations suddenly impaired by events occurring far from the factory, field or store.

If there was ever any doubt, the Japan earthquake and tsunami of 2011 and massive flooding in Thailand that year demonstrated the extent to which unexpected events, including those thousands of miles away, can hobble a company’s supply chain.
"As the cost of supply chain management and the overall complexity of the supply chain grows, the supply chain officer must find ways to mitigate risk. One way to achieve this is to establish better communication and collaboration."

While businesses can’t control natural disasters, shipping snags, supplier problems or demand volatility, those with the ability to spot and quickly respond to potential disruptions can weather the storms and perform better overall – a lesson not lost on companies across many industries.

Seeking to achieve that sort of resilience, companies have been retooling their supply chains, adopting various tactics and technologies – GPS, radio frequency identification and cloud-based software, to name three – to track products from factory to customer.

“It’s inventory visibility. You’re following your inventory around the world or your back yard,” said James Crowell, director of the Supply Chain Management Research Center at the University of Arkansas’s Walton College of Business. “Businesses want to make sure that as their products move through the supply chain there is nothing abnormal going on.”

Farmers who want to make sure their fresh strawberries stay in a temperature controlled environment, for example, can use GPS and other technology to monitor their produce from field to grocer, and a business awaiting a shipment can learn whether there’s been a delay in offloading an ocean container, Crowell said.

To limit hijacking risk, DHL Supply Chain installs GPS tracking and panic buttons on all of its vehicles that transport cigarettes; in some cases using locks that can be controlled by a remote command center, the company says on its blog.

“The bottom line is we live in a society, in a world, where we want everything a lot faster, a lot fresher, and we want to keep costs down,” Crowell said. The natural disasters of recent years “sort of woke some folks up.”

Among other lessons, the recent natural disasters woke managers up to the importance of end-to-end supply chain visibility. Companies that don’t know the routes their incoming shipments take, for example, may not know whether their products are in harm’s way.

The Iceland volcanic ash that halted European air traffic in 2010 demonstrated how companies with good visibility and backup plans can beat the competition.

“During the ash cloud, the companies that had visibility to their shipments and...”
...demand uncertainty and increasing complexity in supply networks, along with rising costs, are prompting businesses to revamp their supply chain strategies.

access to alternate routes locked up all the available ocean transit in order to keep their shipments moving,” the Aberdeen Group research and consulting firm said in a September 2012 report on resilient supply chains.

“Following the tsunami in Japan, the companies that could see the status of their orders and had visibility to alternate suppliers, capacity and freight options were able to lock up alternate sources of supply before other companies barely got started,” the firm added.

The Iceland volcano and Japan earthquake and tsunami, Aberdeen said, “were so visible and disruptive that all companies have gone back to the drawing board to evaluate how exposed they are from a supply chain risk and resiliency perspective.”

Gartner Inc. similarly noted that the 2011 disasters in Asia amplified the importance of risk management and resilience in the supply chain. The firm noted that the events “brought global-scale supply chain disruptions that impacted multiple industries, from chemicals to semiconductors and electronics to automotive,” hitting many on Gartner’s list of the top 25 supply chain leaders.

Companies “know that the potential for disruption at any time remains real,” the firm said in its mid-2012 report on the top 25.

Industry analyst Bob Ferrari wrote on his Supply Chain Matters blog that some manufacturers saw most supplies of certain components eliminated by the Japan tsunami. This required months of recovery and “herculean efforts by supply chain teams.”

Natural disasters are by no means the only impetus for change. Rising costs, increasing supply chain complexity and lack of clarity regarding demand also have companies looking for ways to make their supply chains leaner, more agile and more efficient.

A 2010 IBM study, based on conversations with nearly 400 senior supply chain executives around the world, noted that “as supply chains have grown more global and interconnected, they’ve also increased their exposure to shock and disruption.” The study identified five top supply chain challenges: visibility, risk, cost containment, customer intimacy (insufficient collaboration with customers) and globalization.

IBM said a “smarter” supply chain is emerging that will rely more on RFID tags, meters, GPS devices and sensors.

One measure of interest in supply chain tools, Gartner said, is the worldwide supply chain management software market, which totaled $7.7 billion in 2011, representing 12.3 percent growth over the 2010 level. It was the second straight year of double-digit percentage growth, the firm said in May.

Better Supply Chains Lead to Better Bottom Lines

“Responsive supply-chain configurations not only drive performance, but allow companies to serve their customers seamlessly in turbulent market conditions,” PricewaterhouseCoopers Global Operations Leader Mark Strom said when the consulting firm released its latest Global Supply Chain Survey in September 2012.

Companies that acknowledge the supply chain as a strategic asset achieve better financial and operational performance than their peers, the PwC report said.

“Companies that beat the competition on supply chain performance also achieve significantly greater financial results,” realizing greater efficiency and customer satisfaction without boosting working capital, PwC said. Supply chain leaders in the survey were twice as profitable as the “laggards.”

“Supply chain managers across the globe need to step up to their top management and claim their rightful place as one of the major elements in the success – or failure – of their company,” PwC said.

PwC, which interviewed more than 500 supply chain executives in Europe, North America and Asia, also found that interest in next-generation technologies is growing. More than half of survey respondents said they are implementing, or plan to implement, new tools to improve visibility and expand process automation. Supply chain execs in the life sciences, technology and consumer goods industries “plan to make particularly significant investments in those areas over the next couple of years,” PwC said.

The companies that Gartner judged to have the best-managed supply chains tend to be major global players, although smaller business can learn from their practices.

Apple, Amazon, McDonald’s, Dell and Procter & Gamble led Gartner’s top 25, a group for which resiliency is a key trend.

“Intel, P&G and Unilever improved multtier supply chain visibility and advanced network management capabilities to be agile in the face of disruptions, and we see it continuing to be a highly valued supply chain characteristic,” Gartner said. Resiliency allows companies to post industry-leading financial results year after year, despite demand and supply disruptions, according to the firm.

PepsiCo, number 12, collaborates with retailers to improve demand visibility and limit out-of-stock store shelves, and Nike, at 14, delivers products across a web of suppliers, contract manufacturers and logistics providers, “building the visibility and velocity upstream that allows it to meet dramatic swings in demand,” Gartner said. The firm considers Nike’s practice of building partnerships with suppliers a model for other companies.

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Among others on that list, Samsung has implemented collaborative planning, forecasting and replenishment with its larger customers and uses real-time scenario analysis to assess opportunities and risks in multiple dimensions of the supply chain, Gartner said. And Kimberly-Clark halved its total supply chain cycle times and costs with a supply chain transformation that includes working with leading trading partners to improve its demand-sensing capabilities, Gartner said.

As these iconic brands demonstrate, demand uncertainty and increasing complexity in supply networks, along with rising costs, also are prompting businesses to revamp their supply chain strategies.

The Aberdeen Group found in a 2011 survey of 191 chief supply chain officers that 40 percent were redesigning their entire domestic supply chain networks and 34 percent were reworking their international networks. Officers cited rising supply chain management costs as the greatest pressure driving change, followed by increasing complexity, escalating customer demand for service and higher demand volatility. The managers listed increased customer demand, raw material price volatility and inadequate supplier or carrier capacity as top supply chain disruptions.

“As the cost of supply chain management and the overall complexity of the supply chain grows, the supply chain officer must find ways to mitigate risk within this supply chain. One way to achieve this is to establish better communication and collaboration throughout the value chain,” Aberdeen said. The firm suggested the best place to start is within the company, across departments, geographic regions or business units.

The consulting firm found that 70 percent of supply chain officers named improving cross-departmental systems and process collaboration as their first action for improving supply chain function. Major areas that supply chain officers have targeted for improvement include supply chain visibility, inventory management and supply chain collaboration, Aberdeen said.

Aberdeen’s report included a quote from a small North American industrial manufacturer that planned to put in place a web portal for key suppliers to help optimize inventory in the supply chain. A large European manufacturer said it was continuing to focus...
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on improving inventory management through advanced planning and forecasting systems.

The strategies and technologies used to boost visibility are as diverse as the companies and industries implementing and selling them.

A 2008 Microsoft case study on customer Westland Milk Products said the New Zealand dairy aimed to improve business performance by enhancing data management processes. The cooperative dairy company had outgrown its information technology infrastructure, and disparate data systems and lack of visibility were hindering growth and productivity, according to Microsoft.

Westland ended up with an IT platform that provided a single view of data across its supply chain. “The net result is enhanced workflow management and the delivery of greater customer and shareholder value,” the case study says.

Similarly, a 2011 IBM case study of customer True Value noted that the U.S. hardware cooperative processes 64,000 domestic inbound loads and more than 600 million pounds of freight a year. The company uses five ocean carriers to import 3,500 containers annually through 30 international ports and 10 domestic ports, the study noted.

Because of the complexity and large volume of products in its supply chain, True Value needed to address inadequate procurement, shipping and receiving visibility in the supply chain, IBM said; shortcomings included fragmented visibility into product movements and an inability to model and track events specific to each product flow.

“[In order to achieve their goal of delivering the right product to the right place at the right time, True Value required electronic access to accurate decision critical data – real-time. The solution they were looking for would provide a comprehensive real-time view of orders and shipments across their global supply chain network,” IBM’s study said.

True Value built a central repository of internal and external data to provide a view of an entire order lifecycle. The technology provides customized models that alert the company to potential bottlenecks in the network, the study says.

According to a recent case study, global electronics manufacturing services providers SMTC utilized a cloud-based enterprise management system to operate effectively amid a volatile environment by achieving high levels of supply chain agility.

For a single order, “SMTC is able to determine the clear-to-build based on material status for every single part within two minutes. For a multi-level customer order involving a hundred different SKUs, the entire clear-to-build analysis can be performed in less than an hour.”

Smarter, more visible supply chains provide companies with the information they need to be more efficient and more agile when disruptions occur.

MHI members are leading the way with this technology. Visit mhi.org/solutions to find solution providers for your visibility needs.