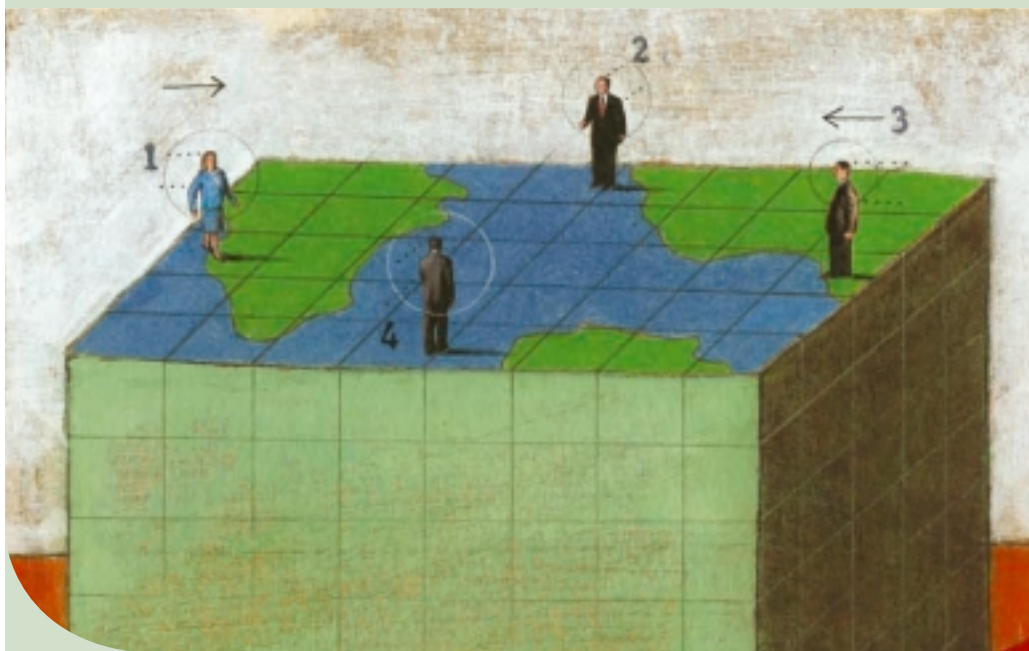


The Global Supply Chain

Discovering New Opportunity Across the “Flat World”



companies have focused on lean manufacturing principles, just-in-time deliveries, minimal batches, and shorter lead times,” says Andrew Kinder, product development director for Atlanta-based Infor. “It was all about getting manufacturing to be closer to the demand signal. But for companies like Ansell that are supplying domestic markets from offshore operations, it’s going in reverse. They find themselves moving toward elongated supply lines, longer lead times, bigger batch sizes, and more inflexible delivery patterns.”

According to author Thomas L. Friedman’s new book, *The World is Flat*, competition and capability around the world are undergoing a great equalization process. One result is that complex supply chains are delivering products created through the use of labor and

services available in emerging markets, such as India and China, and then leveraged through competitive commoditization strategies. Yet this very globalization and the accompanying economic successes are forcing many companies to rethink their supply-chain strategies and solutions.

When production and distribution operations are located around the world, the supply chain never rests.

Don’t stop till you get enough

The fact is, when production and distribution operations are located around the world, the supply chain never rests. Communications are exchanged 24/7, processes and related problems occur around the clock, and solutions are required at every hour. Formerly discrete supply lines converge, highlighting the need for collaboration and coordination. “Globalization is increasing the need for planning and supply-chain visibility,” explains Lora Cecere, research director at AMR Research Inc., in Boston. “Companies want to plan corporately for global coordination, then execute locally. To do this, they require richer functionality for sales and operations planning as well as improved supply-chain visibility.”

Ansell Healthcare isn’t unusual in viewing new markets and global manufacturing as opportunities waiting to happen. Over the past several years, growing sales encouraged the company — which supplies barrier-protection products such as condoms and medical gloves — increasingly to shift its manufacturing operations to lower-cost facilities in Asia, while opening distribution centers in the U.S., Europe, and Australia. Yet the success of this strategy was accompanied by an astringent dose of reality: it turns out that globalization, with all its potential for revenue gains, can turn the shortest, most efficient and direct manufacturing supply lines into lengthy, tangled chains of business partners.

“Most of our products are sent on ships to distribution centers,” says Ralph Johnson, vice president of IT for parent company Ansell Ltd., in Red Bank, N.J. “At any time, we have four to eight weeks of inventory on the water, and all shipments are processed through major ports. In order for our products to hit the distribution centers just as customers need them, we need to shorten our supply chain from order to ship and increase the accuracy of our forecasting and planning.”

As Ansell learned, globalization has created a massive increase in the complexity of supply lines. “For years,

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Early-warning signs, systems, and detection opportunities are basic equipment if companies want to understand — early — when there is a problem, so that it can be corrected quickly. "With offshore manufacturing, the most economical way to ship goods is by ocean, not air," states Jim Ritchie, president and CEO of Meridian IQ, the global logistics management company of Yellow Roadway Corp., in Overland Park, Kan. "But that creates a 17- to 23-day window from the time the product leaves the port in Asia to when it arrives in the U.S. If you find out only then that the product in the container is not what you requested, you are faced with a significant supply-chain problem that will affect your ability to satisfy your customers."

Companies that fail to enhance visibility along the supply chain can run into serious problems. The good news, according to Ritchie, is that such visibility technology is relatively simple to

Top-rated SCM investments for 2005

What do you feel will be the most important technology you will be considering to support your SCM initiatives?



Source: AMR Research 2004

build, use, and administer. Far more challenging are cultural and human issues. Taking care to develop relationships with offshore manufacturing personnel — which involves adequately training them to use the technology and helping them understand the cultural need to meet customer demand in a timely manner — is critical to developing cooperation and collaboration throughout the supply chain. "This is easy to do face to face, but much more difficult when you just issue written instructions that can be lost in translation both technically and culturally," says Ritchie. "Having a provider with a physical presence is the key to bridging the gaps between culture, collaboration, and technology."

This isn't what I ordered

One under-recognized component of visibility is the ability to gauge the impact of returned goods on the supply chain. Most manufacturers and distributors allow customers to return goods, but tracking data on the returns or analyzing returns trends is a skill many have not mastered.

"Brand owners must understand why items — be they capital or expensed — are returned," explains David Griffith, vice president of supply-chain management for the Americas for BAX Global Inc., an international logistics and supply-chain-management company, in Irvine, Calif. "Understanding these trends helps companies with their quality-control efforts and even their demand planning. Therefore, the returns' 'last mile' needs to become more sophisticated and more centralized, so that business decisions on scrapping or recovering products can be made more intelligently."

TIME IS MONEY

Supply-Chain Managers Get Smarter

The challenges posed by globalization and economic expansion are clearly affecting corporate decision making regarding supply-chain-management (SCM) strategies and technology. In a recent survey of 200 companies about their planned SCM budgets, technology investment priorities, and goals for this year and next, Boston-based AMR Research Inc. found that planned spending on SCM hardware, software, and services is up, for the first time in several years.

Approximately 47% of the respondents plan a 6.4% increase in SCM spending to support their demand-driven supply networks (DDSNs). The average budget for a company with total annual revenue of more than \$1 billion is expected to be \$8.5 million this year. "Enterprises are dealing not so much with supply chains, but with the synchronization of business partners," says AMR Research's Lora Cecere. "This requires a focus on better understanding customer demand, optimizing product launches, and managing an extended network."

To support this need, companies are planning investments in supply-chain visibility, demand forecasting, data warehousing and analytics, and sales and operations planning. Interestingly, many of these supply-chain decisions are being driven by line-of-business (LOB) managers, not the IT managers who had been responsible in the past. Those LOB departments are also paying for the new investments. In 2006, AMR Research says, 40% of the SCM projects will be funded by supply-chain or sourcing departments.

Although nearly half the respondents anticipated buying their SCM technology and services from an enterprise resource planning vendor, 26% said they will evaluate the use of hosted solutions. Surprisingly, 29% are considering developing their own software. "Commercially available software is often not meeting the needs of innovators," says Cecere. "For these companies, building their own is the preferred alternative."

Roundtable 2005



Eric Karofsky
AMR Research

We've heard people talk about green supply chain issues as a Y2K-like issue.

ERIC KAROFSKY, senior research analyst, AMR Research: It's similar in that the deadline is forcing companies to react. However, with Y2K, once you solved it, you were done. With environmental compliance, it's Y2K over and over and over again. As environmental laws change, as we find out new information about hazardous materials, and most importantly, as public perceptions change and influence governments to act, we need to constantly re-qualify products that are entering the market.



John Boucher, Celestica

How is compliance especially difficult for high-tech manufacturers?

CHRIS SMITH, president and CEO, RiverOne: Compliance is a challenge for all organizations, but high-tech manufacturers' extensive use of outsourcing creates an even larger challenge. Brand owners are trying to manage processes that they aren't even able to control directly, because they take place outside their four walls. So you have a dependence on partners and suppliers to achieve compliance, but ultimately the brand owner is responsible. That makes this a cross-supply-chain issue.



Chris Smith, RiverOne

How prepared are high-tech manufacturers to meet compliance deadlines?

RAY HOMAN, senior vice president, SAP: Overall, I think we have a long way to go. When you work back from a compliance date, with an eye toward the process design changes required, the challenge is very significant. The added complexity of knowing that these regulations will change over time also requires an approach that supports the business mandate for adaptability and agility in your supplier relationships. Given that scope and the corresponding level of effort required, the time to get started is now.



Ray Homan, SAP

Do companies see compliance challenges in the same way?

SMITH: Definitely not. Consider material content declarations for Restriction of Hazardous Substances (RoHS) compliance. There's no consensus right now on how to implement this. Some companies are working to obtain declarations for every part from every supplier, while others are expecting to focus on non-compliant parts, the exceptions, only. Waste Electrical and Electronic Equipment (WEEE) is a more complex problem and implementation is more confused. Each country has a different scheme, timetable, and fee structure. Companies will be responsible for producing reports and paying fees based on their net shipments into each country.

JOHN BOUCHER, chief supply chain and procurement officer, Celestica: From a scope and complexity standpoint, this legislation will have a broad-reaching impact on us as a company. It will impact each of our suppliers and customers (even those OEMs with exemptions), as well as our own global manufacturing operations. We must be aware of each customer's plans for every one of their products we design or manufacture, and work closely with them and the extended supply base to migrate to an overall state of RoHS readiness. With over 200 customers, approximately 7,000 suppliers, and approximately 400,000 different component part numbers to procure and transform, I'm sure you can appreciate the scope of this task.

What are the most critical compliance challenges that companies are facing?

HOMAN: The product area is number one, because product drives the supply chain. This involves a multitude of activities, including the initial collection of supplier compliance declarations, the identification of critical components, and the subsequent engineering changes, if needed. The second

area is the ongoing change management. High-tech companies live and thrive in a very agile and adaptive environment. Forward-looking companies will put in place solutions that not only meet the compliance needs of today but also support the agility requirements of tomorrow.

SMITH: It's almost like there are two supply chains: the forward supply chain and the reverse or returns process. Brand owners must determine what to do with their previously shipped products as well as their newer, greener products. Do they want to manage the recycling themselves? Farm it out to a third party or turn it into some kind of service offering? Unless they're going to do it all by themselves, they'll need to work with their new supply chain partners to make sure that everybody's ready for these new shared processes. And then there are the longer-term, broader ramifications. Companies are beginning to think about, for example, whether to redesign products to reduce recycling costs.

“Companies are beginning to think about whether to redesign products to reduce recycling costs.” —Chris Smith, RiverOne

What does it actually cost companies to become compliant?

KAROFSKY: We estimate that it's 2% to 4% of gross revenue for the first year of compliance. We recently spoke with a \$1 billion consumer electronics company that is spending about \$30 million to comply. That will slow down to under 1% after next year. But that's forever.

Are any of the companies that you're talking with deriving any additional value from green compliance?

HOMAN: Some companies are. Again, innovation leads the value curve in this industry. Those looking for value see this as an opportunity to create that value. And it shows up in their differentiation in the market, the way they sell, and how they position products. It also has a direct impact in terms of their citizenship and their environmental stewardship.

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RoHS/WEEE

**New legislation
“will require an
even deeper
integration into
your core execu-
tion systems....”**

—Ray Homan, SAP

So there are values that are both tangible on the revenue and sales side as well as intangibles in terms of corporate culture.

How can companies move forward with compliance?

HOMAN: This is just the beginning. RoHS compliance is due by July 1, and we have oncoming legislation from several Asian countries requiring compliance in the same timeframe. More complex European compliance legislation has already been announced. It will require an even deeper integration into your core execution systems and those of your suppliers. It's an industry challenge and a supply challenge, so it lends itself well to the cooperation of all parties to address these issues.

SMITH: Figure out how to minimize long-term costs by making products easier to recycle today. Companies need to

consider their recycling options in each country. And they need to start going through a triage process of deciding which products go back to whom and where. Last, get started! These deadlines are going to come up very quickly. If you get caught flat, there's going to be a big price to pay.

BOUCHER: Early adopters are going to enjoy competitive advantage. If you can get your plans in place, assess your inventory, and ensure that you have strong ties to your operations, you can achieve a competitive advantage and mitigate some of your costs.

KAROFSKY: Remember, this is a market-disrupting event that will change the way business is conducted. There is opportunity as well as risk. Some people will find ways to make money and some will lose money. The whole challenge is figuring out how you can be one of the ones making money.

For a complete version of the roundtable go to <http://www.RiverOne.com/roundtable>

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Discovering New Opportunity Across the "Flat World"

Enter "reverse logistics." These capabilities help companies automate and streamline their returns process — providing customers with Web-based protocols for submitting returns and scheduling pickup of the goods, as well as business rules that determine the most efficient, cost-effective place to ship the returns so they can be repaired, refurbished, or scrapped.

Companies are clearly recognizing the value of reverse logistics. BAX Global, which offers such a service, has seen its use skyrocket, growing more than 30% in the last 30 months. Brand owners can analyze the data collected about customer returns. "Most enterprises seek control over the reverse logistics process," says Griffith. "With this service, they can track serial numbers, assess quality issues, and use the information to plan future manufacturing."

Having this information available helps companies centralize their decision making and reduce unnecessary labor costs. "Not automating reverse-logistics practices guarantees that you will be adding cost to your supply-chain processes by requiring human intervention to handle returns," says Griffith.

Columbus is a Role Model

The challenges of globalization are not insurmountable. Ansell Healthcare is finding that a combination of new supply-chain software from Infor, refined business processes, and commitment to cultural change is the key to smooth sailing in a flatter world. "We've seen obvious improvements in our forecast accuracy, especially in Europe," says Ralph Johnson, the Ansell executive. "Our customer-service levels are rising because products are actually available to meet demand. Over time, we expect to shrink inventories in the distribution centers by \$50 million and cut lead times from 60 days to as few as 30."

Yet these improvements are neither automatic nor immediate. Managing the supply chain in this new world requires perseverance. "We are constantly working through the cultural issues, the data challenges," Johnson says. "It's not something you can do overnight. But the rewards are coming, and we won't stop until we reap them all."

About AMR Research

AMR Research provides world-class research and actionable advice for executives tasked with delivering enhanced business-process performance and cost savings with the aid of technology. Five thousand leaders in the Global 1000 put their trust in AMR Research's integrity, depth of industry expertise, and passion for customer service to support their most critical business initiatives, including supply chain transformation, new product introduction, customer profitability, compliance, and governance and IT benefit realization. More information is available at www.amrresearch.com

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Another industry force shaping supply-chain management strategies is the need to comply with government and industry regulations and changing customer requirements. Berner Foods Inc., in Dakota, Ill., is the dairy industry's leading private-label manufacturer of processed cheese, sauces, spreads, and toppings. If processed cheese doesn't evoke images of precise supply-chain operations, think again: Berner needs to meet evolving regulatory requirements for food safety and quality, including regulations such as the Bioterrorism Act of 2002.

Using supply-chain technology from Atlanta-based Ross Systems Inc., Berner created a system of record that supports cradle-to-grave knowledge of product manufacturing, distribution, and delivery. With the system, Berner can conduct mock product recalls, track products back to ingredient-level inventories, and determine within 30 minutes where a product from a specific batch is in the distribution cycle — even in most cases the shift and operator that produced it from Berner's suppliers.

"It's a different world today," says Gary Gold, vice president of quality assurance at Berner. "But if you make a map for success, you can get into a routine that supports compliance, product safety, and customer satisfaction. Our supply-chain strategy is to exceed our customer requirements, surpass the regulatory requirements, and stay ahead of the industry. By doing that, we don't have to look back."

Transformation⁰⁶
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Transformation, sponsored by Yellow Transportation and Meridian IQ, is the must-attend business and logistics event of the year. Held January 31 - February 2 at Mandalay Bay in Las Vegas, the conference includes two days of hard-hitting education, featured speakers such as Gen. Colin Powell, USA (Ret.), and true insights attendees can use to improve business.

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