

Information Gap

The Internet may have spun its web worldwide, but the mesh isn't very tight. Information gaps abound, and as a result, trading partners are still unable to exchange meaningful data.

Software vendors have developed all kinds of applications that provide visibility of items throughout the supply chain, yet information still isn't flowing smoothly. Without that information, it's impossible to realize the promise of e-commerce. Manufacturers, distributors, and retailers can't collaborate online to synchronize production with demand.

Where did the promise of e-commerce go awry? Some experts say that vendors have downplayed the technical

Though software solutions abound, technical and political obstacles have prevented trading partners from achieving smooth data exchange.

By James Aaron Cooke, Senior Editor

difficulties of linking disparate computer systems. Others note that political barriers still divide companies in the channel despite the advantages of collaboration. But don't despair, say those in the know. Business change, like evolution, takes years to occur.

The Information Gap

Effective supply chains depend on the exchange of critical information. Manufacturers need dependable sales forecasts and accurate counts of finished-goods inventory. Retailers need data on what's in the manufacturer's warehouses and what's arriving in the next shipment. Coordination between those parties should result

e-Commerce, continued

in improved in-stock availability, order-cycle time reductions, and enhanced customer satisfaction.

There's no question that software vendors have sold scads of enterprise resource planning (ERP) systems, warehouse management systems (WMS), and transportation management systems (TMS) to manage business functions and logistics activities. Yet a recent survey of corporate information technology professionals showed that current software fell short of meeting their needs. Professors Stephen M. Rutner of Georgia Southern Univer-

view. In fact, they found that the biggest information gaps existed for logistics system planning, sales forecasting, and customer service—areas that are critical to developing effective supply chains. (See figure below.) "The failure to address these gaps will prevent supply chain initiatives from achieving their full impact," they wrote.

Whereas companies have done a good job of data integration within their own four walls, says Rutner, "chokepoints" occur at the connections with trading partners. To a certain extent, the lack of interfaces between disparate computer systems and software applications

Technical Difficulties

In an effort to turn this situation around, vendors have recently introduced software packages that promise visibility of orders and shipments and assistance in managing key events. But those applications still require considerable integration with existing ERP or WMS systems. "Visibility, being a layer technology, sits above other systems so there's an integration issue," explains Dwight Klappich, a program director with the Meta Group, a market research firm based in Stamford, Conn. "A lot of vendors undersell the integration, but it's a significant component of the implementation."

Furthermore, displaying information to a trading partner on a Web site—as many of these software packages do—is only the first step in data dissemination, notes Kimberly Knickle, an analyst with the firm AMR Research in Boston. If trading partners' computer systems aren't connected to one another, data shown on a Web site have to be re-entered into a computer. The manual re-keying of data slows down information exchange and

Ratings on Logistics Information Needs

Logistics Activity	Information Need* (mean rating)	SCIS Meets Information Need** (mean rating)	Gap Between Mean Ratings
Customer service	6.33	4.73	1.60
Order processing	6.33	5.21	1.12
Finished-goods inventory management	6.31	5.18	1.13
Outbound transportation	6.05	4.80	1.25
Sales forecasting	6.05	3.80	2.25
Logistics management	5.96	4.02	1.94
Production planning	5.82	4.29	1.53
Sourcing/purchasing	5.78	4.40	1.38
Logistics system planning	5.69	3.58	2.11
Logistics control	5.55	3.69	1.86
Inbound transportation	5.28	3.92	1.36
Raw-materials inventory management	5.24	4.33	0.91
Finished-goods warehousing	5.11	4.61	0.50
Logistics engineering	4.83	3.28	1.55
Intra-company transportation	4.67	4.31	0.36

*Information Need: 1=Low, 7=High

**SCIS Meets Information Need: 1=Not at all, 7=Completely

Source: Supply Chain Management Review, March/April 2001

sity and Brian J. Gibson of Auburn University along with Kate L. Vitasek of Modus Media International and consultant Craig M. Gustin of Operations Associates conducted the research, polling 265 supply chain information systems professionals. These respondents were either members of the Council of Logistics Management or attendees at the 1999 Distribution/Computer Expo, an industry trade show.

"In every logistics activity, the need for information was greater than the ability of the information systems to meet that need," the researchers wrote in an article published in the March/April 2001 issue of *Supply Chain Management Re-*

forms the obstacle. "Information systems are not homogenous," he says. "There are still individual systems—internal, legacy systems—that keep people from communicating with one another."

But another of the researchers, Brian Gibson, says that rising expectations may account for some of the dissatisfaction. "People need more information because they are expected to connect with their supply chain partners, and their expectations are high because of what they read," he observes. "I also think there's a lot of market hype out there. There's no one company that does an exceptionally good job with across-the-board supply chain systems."

prevents applications from reacting to changes in real time. Thus, companies really have to connect their computer systems, in Knickle's opinion. "Machine-to-machine integration is expensive and takes time to implement," she says, "but you can get more process benefits."

Companies would also have an easier time integrating their systems if computers could interpret messages sent over the Internet in the same manner. But the absence of data standards for e-commerce messages has hobbled systems integration. Nonetheless, efforts are under way to solve this problem. Standards bodies such as RosettaNet and the Open Applications Group

e-Commerce, *continued*

(OAG) are hard at work defining protocols for commercial messages using extensible markup language (XML). "The construction of standards will be critical to driving information," observes consultant Kevin O'Laughlin, a senior vice president at Cap Gemini Ernst & Young Consulting, which is headquartered in Paris, France.

Knickle believes that the emergence of hosted integration services may go a long way toward easing the integration hurdle. Similar to value-added networks, these Web-integration providers will act as intermediaries on the Internet, converting messages from one company into a format that another company's computer can read. "With hosted integration," says Knickle, "you could reach many partners."

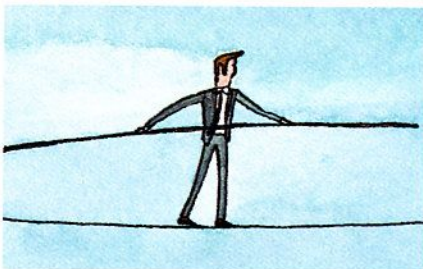
Political Obstacles

But today's information gap cannot be attributed entirely to technological problems. Conflicting corporate objectives often lead to confusion as well. Take forecast data, for instance. Consultant Mark Chandler, a principal with the firm Kurt Salmon and Associates in Atlanta, notes that retailers and manufacturers typically define critical terms and measure things differently.

When it comes to collaboration on planning, the retailer wants a sales forecast for items at the individual store level, but a manufacturer is more interested in an aggregate number to drive the production run at a plant. Chandler notes that in his experience, manufacturers engaged in forecast collaboration with a retailer have had to do extra work to obtain useful numbers. In many cases, the manufacturer would first take the retailer's sales forecast for its stores and then work back to figure out which distribution centers served those stores. After that, the manufacturer had to determine the timeline for production and delivery to get the required product into the distribution center. "The early steps

in collaboration have nothing to do with technology," Chandler notes. "It's defining the data. Both parties have to commit to doing this, assigning individuals to review the data on a daily basis."

Aside from the problems arising from a lack of common definitions, companies may also be reluctant to share vital information with their



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trading partners. "Political issues continue to plague companies," says Klappich. "Everybody talks about collaboration and the extended supply chain. But I would say that very few suppliers are willing to expose their data. They won't show [data on] all of their 500 items to the supplier. They still want to be able to leverage supply and demand to their benefit."

Janet Suleski, a senior analyst with AMR, agrees with Klappich that people represent the main hindrance to information sharing across the supply chain. "The problem is more about people than technology," she says. "Companies haven't caught on yet that it's not individual company vs. individual company anymore. It's supply chain vs. supply chain."

Still, Suleski concedes that change is difficult for companies because it's often not in their financial best interest. "It's tough for a company to

make a change that might cost it money but save a trading partner a great deal of money. A company still looks to maximize its short-term profit rather than the health of a long-term supply chain partnership."

As the old saying goes, every journey begins with a single step. To start the process of removing those obstacles, Klappich suggests that potential trading partners first determine each other's willingness to share data. "If you want to reach outside their enterprise, you'd better go talk to the trading partners and ask if they are willing to give you data and, if so, when and how."

Trading partners themselves may have to reach agreement on technological standards that will permit that information to flow throughout the supply chain. "The companies will have to agree which system to deploy," says Professor Rutner. "The response often is 'I'm using this system and it works for me. Let someone else change his system.'"

Evolution, Not Revolution

Given the considerable technical and political obstacles that create information gaps in the supply chain information network, it's clear that companies must first focus on the transmission of vital information and the system connections needed to permit the flow of data. "End-to-end visibility is the Holy Grail, but that's not going to be achieved for quite some time," says Gary J. Cross, a partner in the IBM Consulting Group, who's based in Cleveland. "But reasonable visibility on the items that are important and at the leverage points is where most people are focused today."

Patience, then, is the watchword. As political issues are resolved and standards emerge, companies will fill in the information gaps. At that point, analysts expect that e-commerce and collaboration among trading partners will truly begin to happen. But don't expect results overnight, warns AMR's Suleski. "It's going to take some time to build up the level of trust for worthwhile collaboration to take place." □