



Supply Network Panel

Downturn Relief: Here Is the Cure for Supply Chain Pain

Successfully blending people, processes, and technology is key in global high-tech supply chain networks.

By Bill Roberts

During any economic downturn, high-tech supply chain managers must grapple with exactly the same issues surrounding people, processes, and technology as they do during good times. But the current global recession is demanding even smarter use of resources, smaller margins of inventory error, and broader collaboration among partners—all with a stronger sense of urgency.

This and other insights arose during a discussion among five experts from industry and academia about “Orchestrating the Transparent Supply Network,” one of four panels conducted at the Microsoft® Global High Tech Summit 2009. Held on January 29 in Santa Clara, Calif., the conference brought together almost 300 senior execu-

tives from the high-tech industry. The purpose of the supply chain panel was to focus on best practices for orchestrating collaborative, transparent supply networks during difficult times.

“The importance of what we do has been magnified in recent months,” said one of the panelists, Tom Fletcher, vice presi-

dent of global services for the consumer digital division at Flextronics International Ltd.

The three other panelists came from the supply chain services business, the original equipment manufacturer (OEM) community, and the research world: Sanjay Jalona, vice president and U.S. head of the manufacturing industry at Infosys Technologies Ltd.; Owen Roberts, general manager of America’s operations, entertainment & devices division at Microsoft®; and Bill Killingsworth, executive director, MIT Forum for Supply Chain Innovation at Massachusetts Institute of Technology School of Engineering. Colin Masson, worldwide director for enterprise resource planning (ERP) and supply chain at Microsoft, served as the panel moderator.

High-tech companies compete on the basis of managing agile, collaborative supply chains in the face of shrinking product lifecycles, changing customer needs, rapidly evolving technologies, expanding product portfolios, global markets, global suppliers, and extreme competition. Given these challenges, how does a company orchestrate an agile, transparent supply network with all members collaborating to optimize the whole?

“Dialogue with your partners is what helps you determine the best mix of their needs and yours,” Fletcher said, echoing a widely held opinion among the panelists. “You can’t have a depth of relationship without dialogue.”

Supply Chains Get More Complex

The panel discussion was informed by the results of a survey commissioned by Infosys and Microsoft and conducted by KRC Research Inc. The survey found that most high-tech executives believe their supply networks have become more complex, not less so.

Lessons Learned

The supply chain panelists and audience members offered these insights:

- Technology can help supply chain professionals manage increasing supply chain complexity: Create transparency of information through the use of common metrics, key performance indicators, dashboards, and other tools.
- People, processes, and tools must be coordinated for smooth and transparent global supply networks and must integrate both structured and unstructured data.
- Supply chain technologies delivered through software as a service and cloud computing are cost-effective tools that can speed implementation.



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Supply chain panelists, from left to right: (moderator) Colin Masson, Microsoft; Sanjay Jalona, Infosys; Tom Fletcher, Flextronics; Bill Killingsworth, MIT; Owen Roberts, Microsoft

In the “Infosys/Microsoft High-Tech Manufacturing Supply Chain Survey 2009,” about half of the 140 high-tech executives from companies in the United States, Germany, and Japan with annual revenue of at least \$500 million said their supply chains had gotten more complex during the past two to three years. Four out of 10 respondents said they expected their networks to become even more complex by 2010 (see “Complexity of Supply Chain—Looking Ahead”).

Large majorities of the respondents—60 percent or more for each of the following items—said the complexity was the result of increases in the number of products or stock-keeping units (SKUs), demand geographies, suppliers, production locations, and demand channels. Nearly two-thirds of respondents reported experiencing some kind of disruption to their supply chains in recent years, with delays of hours or longer in the reporting of those disruptions.

“The economy may be down, but the number of products, suppliers, and geographies that high-tech man-

ufacturers have to manage has gone way up,” said Tyler Bryson, general manager of the U.S. manufacturing and resources sector at Microsoft.

One of the supply chain panel members, Jalona, whose Infosys division works with dozens of supply chains, emphasized the urgency of the survey findings. “The supply chain *is* getting complex, and it is only going to get *more* complex,” he said.

Jalona then identified three elements that Infosys executives believe are the keys to managing this greater complexity:

- Creating transparency of information through the use of common metrics, key performance indicators (KPIs), dashboards, and other tools to make quick, informed decisions.
- Providing employees and trading partners an integrated view of what is happening across the supply chain.
- Creating the ability to collaborate in both structured and unstructured ways.

“We see these as best practices in today’s economy,” Jalona said. Other panelists agreed.

Wrestling with Unstructured Data

Structured and unstructured data is especially a growing concern because Web 2.0 tools—blogs, wikis, microblogs like Twitter, and other similar technologies—increasingly are finding their way into supply network communications, a topic thoroughly explored in one of the other afternoon panels (see “The Payoff from Social Networking” p. 12).

“When you talk about structured data, you have the data from ERP and data warehouses,” Jalona said. “You also need unstructured data from the end users, within the organization and outside, and supply chain partners. That needs to feed into the decision-making for operations, customer service, and even design of the product.”

The Infosys/Microsoft survey underscored this point with the finding that e-mail, instant messaging, and Web conferencing—all technologies that produce unstructured information—were among the more common tools used in supply chain operations.

In an interview after the panel dis-



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cussion, a Summit participant in the audience elaborated on this issue from one OEM's perspective. "What the panel said is true. One of the big issues with supply chain transparency is the explosion of data, including unstructured data," said Indranil Sircar, global supply chain solutions lead for manufacturing and distribution industries at Hewlett-Packard Co. "With the explosion of this data, getting useful information becomes more and more difficult unless there are processes, technologies, and tools to do that."

Sircar noted that some companies, including his own, are beginning to make use of unstructured data from Web 2.0 technologies as part of the



Tom Fletcher, VP, Flextronics International

product development process and quality. "We do this to a great extent. We mine this stuff. And there are companies [vendors] that can do this for you."

The panelists all expressed the sense that technology can help supply chain professionals manage increasing complexity; they also noted several significant technology issues that still impede the industry. Among them: lack of industry standards for visibility of data; ERP system inflexi-

bility; and diverse systems among supply chain partners.

SaaS and Cloud Have Potential

The panelists also noted that some tools available now, at not so great a cost, are extremely useful. "Technology will play a key role, especially during the next couple of years, and especially those technologies that can be brought in at a fairly modest investment and a quick payback," MIT's Killingsworth said. "What is driving this is our brains can't handle the complexity and messy supply chains, so we need networks to bring data to you and offer alternative actions."

Big, expensive ERP implementations are not necessarily the answer, and few if any C-level executives will approve multimillion-dollar projects or upgrades during any recession, Flextronics' Fletcher said. He asserted there are tools available now that are not overly expensive, that do not take forever to roll out, and that can be shut down just as quickly if they do not work. "Some of these tools allow us to begin to deliver value and at a much lower cost of ownership."

Fletcher noted two such projects Flextronics was engaged in, both capitalizing on the cost-effective software-as-a-service (SaaS) model and cloud computing. In the SaaS and cloud models, users typically do not own the infrastructure, but access or rent it. This option allows them to avoid capital expenditure, consume resources as a service, and only pay for what they actually use.

Flextronics was in the midst of a global rollout of SaaS software from RedPrairie Corp., a SaaS vendor focused on workforce, inventory, and transportation optimization, which Fletcher said should help his company better manage supply chain logistics. Flextronics also has undertaken a pilot project of SaaS/cloud service from supply chain solutions provider One Network Enterprises Inc. to provide

Complexity of Supply Chain—Looking Ahead

Do you expect your supply chain to become more complex, less complex, or stay about the same by 2010?



Source: KRC Research Inc., "Infosys/Microsoft High-Tech Manufacturing Supply Chain Survey 2009"

demand visibility into the inventories at retail for one of Flextronics' large OEM customers that sells consumer electronics in the United States.

"I can't sell my boss on \$7 million for a software license," Fletcher asserted. "But I can go out and begin to deliver value with these kinds of tools."

People, Processes, and Tools

Panelist Roberts agreed that technology is essential. His team at Microsoft has been building a suite of tools to help create more visibility throughout its supply chain for its Microsoft® Xbox® video game system and the growing number of hardware products it develops under a contract manufacturing model—Flextronics is its main partner—to build, test, fulfill, and service.

"Technology is the key," Roberts said. And collaboration between business users and the IT staff is the key to getting or developing the right tools and not wasting money, he added. Roberts' manufacturing group uses the Microsoft® SharePoint® collaboration platform and various applications built for it.

(During the course of the day, a number of Summit attendees noted in private conversations that they are using SharePoint for various supply chain collaboration efforts.)

As important as tools are, people and process come first. “We believe that investing in our people in conjunction with process is the key to success,” Roberts said. “You cannot decouple those things. People, processes, and tools—that’s the right order.”

Flextronics’ Fletcher and Infosys’ Jalona, the other panelists involved in managing supply chains, agreed.

“Our business model is fundamentally based on best-in-class people,” Jalona said. “We have people dispersed worldwide, working thousands of miles apart, so our processes and tools are important to consistently deliver superior value to clients.”

People, processes, and technology are all related, Fletcher agreed. In many cases, to blend them together requires a change of culture. And a change of culture, especially in these tough economic circumstances, requires leadership and change management, he said. “The change management piece is absolutely critical,” Fletcher asserted.

Metrics and Visibility

Key questions from the audience focused on the use of consistent metrics to measure supply chain performance and visibility across the global supply chain.

Part of the problem with metrics is that they can be a moving target. “It has

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—Sanjay Jalona, VP, Infosys

been a struggle to align our operational metrics across divisions,” Fletcher admitted. “In the last nine months the alignment has gotten better, but now the metrics need to be reprioritized with what is going on in the economy.”

“This is definitely a challenge that we see our customers have,” Jalona said.

“But about 70 percent of our metrics are typically common for all of them.”

HP’s Sircar said the ability to access the lowest level information is another issue in getting metrics right. “The hardest part is to have complete drill down to the operational level, the most granular data, and that data has to come not from just within the four walls of the enterprise but from the extended supply chain.”

In the Infosys/Microsoft survey conducted by KRC Research, lack of good industry data standards was identified as the leading (19 percent of respondents) impediment to improving supply chain visibility. ERP system

inflexibility ranked second (17 percent), and too many vendors or suppliers with different systems was the third (15 percent) obstacle.

Fletcher pointed out that issues like these can be exacerbated for an EMS provider with multiple customers and widely varying cultures and needs. “A

customer like Microsoft wants our input and values our experience, but we are fundamentally helping Microsoft execute its strategy. And the strategy is different for our other customers, like HP, Sony, and others,” he said.

Sircar said Fletcher’s comments resonated with his experience. Asked where he would rate HP’s global supply network on a scale of 1 to 10, Sircar answered: “It depends on the business unit. They are at different levels of maturity, depending on the complexity of the market and supply. Typically, our internal processes are advanced and developed commonly across multiple supply chains. We have five different supply chain routes, depending on product characteristics. And note that HP has products ranging from handheld devices to high-end products with long sales cycles.”

Any effort to improve transparency must be weighed against the cost of the initiative, Sircar added. “Many of today’s products have short lifecycles and small margins, which may not always justify expensive implementations. This is another reason there is no single answer to these questions.” •

Bill Roberts is a freelance writer based in Silicon Valley who writes about technology, business, and management.

Solution Spotlight

Big Idea: Real-Time Supply Chain Collaboration and Visibility

Microsoft® now offers manufacturers a set of technologies to integrate process workflows across systems, thereby creating real-time visibility into materials, orders, and inventory. Its supply chain collaboration and visibility solutions promote both supplier integration and the ability to constantly monitor, measure, and adjust.

To help high-technology and electronics (HTE) companies achieve greater supply chain visibility and collaboration, Microsoft offers easy-to-use, familiar, integrated software that helps provide unparalleled partner collaboration and detailed visibility into the journey of products from supplier to consumer. Microsoft and its partners enable manufacturers to transform supply chain performance by becoming more demand-driven, adaptive, and responsive in their sales and operations planning processes.

For more information about Microsoft and its partners’ solutions for the supply chain collaboration challenges faced by the high-tech and electronics industry, go to www.microsoft.com/hightech.