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Solutions-based Intelligence for Supply Chain ROI

The Winds of Change

How to make traditional supply chain management models evolve to succeed in turbulent times

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Companies and countries were blindsided by chaos that radically escalated the frequency and severity of volatility, affecting nearly every phase of the supply chain.

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Extreme Supply Chain Management

There are a number of buzz words flitting around the supply chain arena these days. We have agility, visibility, transparency and, of course, green. But, as this issue of *Supply & Demand Chain Executive* shows, another is making an appearance—volatility.

Whether caused by natural disasters, nuclear-plant explosions, political upheaval, international financial meltdowns or numerous other woes—including the inherent risks of simply doing business—supply chain professionals have to plan and prepare not only for the known, but the unknown.

Richard Douglass, the Worldwide Industry Director of Manufacturing and Logistics for the B2B & Commerce Industry Solutions group of IBM, says that most organizations, traditionally treated risk as something to be dealt with on a periodic basis using a contingency-plan approach, essentially as "one-off" incidents separated by periods of down time and recovery.

No longer, he writes in our feature story that begins on Page 19. "Business has entered a new era in which volatility is a systemic condition, rapid oscillation is a business constant, and recovery down time is an outmoded concept. Traditional supply chain management models broke down or, at best, bent under the strain of the unknown and the unexpected.

"As a result, the business world has realized that supply chain strategy and practice must evolve. In doing so, many companies are adopting a new style of 'extreme supply chain management.'"

"Extreme Supply Chain Management" challenges companies to be "perpetually vigilant."

What else is volatile? Fuel. Sure, it's physically explosive, but it's also volatile in price, in tax rates and in contracting. Fuel touches us all. Businesses have shut down and local governments have shaved or eliminated services like providing school buses, reducing police and fire personnel and more, just because they couldn't afford the fuel.

And don't forget the pain at the pump that we consumers deal with. Americans will spend about $700 more this year on gas than they did in 2010. In March, airline fares were up 15 percent over the previous year and Carnival Cruises announced lower earnings because of rising fuel prices, so our vacations will become more expensive.

There was a 400 percent increase in motor fuel excise taxes from 2009 to 2010. This year has seen 1,800 changes at the local, state and federal levels.

What to do? In a Best Practices piece on Page 17, we take a look at some of the issues—and provide solutions—to dealing with fuel volatility. Take a look.

Separately you may have noticed that we rolled out a new, improved and redesigned web site. We think it's more user-friendly, making it easier for you to find stories, research and helpful information. And don't forget to "like" us on our new Facebook page.

Finally, I'm honored to take the reins as Editor of *Supply & Demand Chain Executive*, succeeding Andy Reese, whom many of you have worked with over the years. I hope to continue the fine work he did in making this magazine a great resource for supply chain professionals. I look forward to meeting and working with all of you. ■

Barry Hochfelder
Editor
Supply & Demand Chain Executive
barry.hochfelder@sdcexec.com

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Executive Vice-President, Diversified Group Gloria Cosby
Vice-President, Marketing Gerry Whitty
Publisher Jolene Gulley

Staff
Editor Barry Hochfelder
Managing Editor Stacey Meacham
Contributing Writers
Richard Dougless, Nader Fathi, Stephen Heifetz, Tom Kozenski, Peter Leith, Joy McCaffrey, Steve Pugh and Bill Schneiderman
Production Service Representative Suzette Schear
Audience Development Manager Angela Kelty

Corporate Sales
Publisher Jolene Gulley, jgulley@sdcexec.com
Sales Account Manager Carrie Konopacki, ckonopacki@sdcexec.com
Sales Account Manager Judy Welp, jwelp@sdcexec.com

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Circulation & Subscriptions
PO BOX 3257, Northbrook, IL 60065-3257
847-559-7598, Fax: 800-543-5055
Email: circ.sdcexec@omeda.com

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Elizabeth Jackson, **Merit Direct LLC**
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A New Era for Business

Volatility has become a systemic condition and traditional supply chain management models must evolve to meet the challenges

By Richard Douglass

Supply chain volatility and risk have always existed in business. Most organizations, however, treated them as operational outliers—something to be dealt with on a periodic basis using a contingency-plan approach. Essentially, volatility and risk were viewed and managed as discrete 'one-off' incidents separated by periods of down time and recovery.

However, the events of the last few years changed that sentiment, at least within the world of supply chain management. Companies and countries were blindsided by chaos resulting from corporate and financial system meltdowns, the housing market collapse, political upheaval, natural disasters, fuel crises, wars, global recession/depression, massive market realignments and more. As a result, the amplitude and frequency of volatility escalated radically, affecting nearly every phase of the supply chain.

In the aftermath of this upheaval, business has entered a new era in which volatility is a systemic condition, rapid oscillation is a business constant, and recovery down time is an outmoded concept. Traditional supply chain management models broke down or, at best, bent under the strain of the unknown and the unexpected.

As a result, the business world has realized that supply chain strategy and practice must evolve. In doing so, many companies are adopting a new style of "extreme supply chain management"; defined in the 2010 book *X-SCM: The New Science of X-treme Supply Chain management* as the science of governing global supply chains experiencing instabilities of unprecedented amplitude, frequency and duration.

"Extreme supply chain management" tackles the conditions of systemic volatility, continuous oscillation, and few or no-rest recovery periods. It recognizes the need for collective, rather than sequential, risk management and facilitates collaboration on a new scale that is necessary for survival. It challenges companies to be "perpetually vigilant," and to develop sense-and-respond supply chains that constantly scan their networks using business intelligence systems and exception reporting to detect anomalies that exceed tolerances. Essentially, these systems allow companies to control their multidimensional supply chains effectively in "predictable" times, but, more importantly, in times of extreme change.

Today, many companies are employing these techniques to get a control on the volatile conditions that have been created by global upheaval. IBM recently connected with more than 300 of these companies—including executives from a number of manufacturers, distributors and third party logistics providers—to inquire about the most prevalent issues in managing volatility today, ask how these companies and executives are going about addressing those issues and look at some best practices from companies that have had success.

Takeaways:

- Volatility is a systemic condition
- Agility and responsiveness as unique supply chain disciplines are on the rise
- Consider the cloud
- Customers such as retailers want access to inventory but don't want to hold it

When asked what their primary source of volatility and risk is, the two top responses were customer risk (46 percent) and demand or channel volatility (41 percent). To manage this volatility and risk, the top three priorities were:

- Reduce order cycle times to customers (56 percent)
- Manage volatile demand (54 percent)
- Increase supply chain visibility and resiliency (55 percent)

In talking with these executives, it became clear that firms struggle not only to manage business uncertainty but to get out ahead of it, and that they are re-thinking all aspects of their supply chains to do so. Some of the strategies that we saw them pursuing include revising their demand and production planning process, reworking their inventory practices, updating their supply chain partner relationships, revamping their network design and asset strategies, changing information strategies and capabilities, and reworking their cost structures.

"Traditional supply chain management models broke down or, at best, bent under the strain of the unknown and the unexpected....Supply chain strategy and practice must evolve."

To reduce order cycle times to customers, many companies are focusing on customer intimacy, which requires a high degree of collaboration between companies and customers and includes such practices as "open book" contracts, gain-sharing and longer-term business commitments. Another strategy is to achieve a fluid production process that allows products to flow from the factory to the transportation system to the customer without excessive downtime in a warehouse or on a shelf. Customers such as retailers want access to inventory but don't want to hold it. Meanwhile, manufacturers cannot afford to carry excess inventory. This means that inventory levels across the end-to-end supply chain have become leaner.

To spot demand changes more rapidly, some companies have created centralized supply chain volatility monitoring groups. Their mission is to constantly scan the global market and mine company sales data for change indicators and new demand patterns. The goal of these groups is to identify which demand fluctuations are "ad hoc" or one-off blips, and which reflect a true demand change — and execute accordingly.

To address demand variability, some companies are embracing more adaptive inventory strategies. To support greater flexibility in responding to demand variability, these companies are changing the way they contract with 3PLs. Contracts are relationship-based rather than transaction-based. They are partnership-oriented, longer term (five to seven years) and incorporate mechanisms that enable both parties to adapt to change. The overarching goal of these partnership contracts is to be able to respond to demand variability as it occurs while enabling longer term growth for both parties.

To achieve these results, executives are employing a number of different technologies. They are looking to restructure the IT underpinnings of their supply chains and, in particular, take advantage of new collaborative computing architecture and technologies.

A key collaborative technology focuses on visibility—on a real- or near-real-time level—that is essential in more intimate, yet simultaneously more multi-tiered, business relationships. To gain this visibility quickly and without huge IT infrastructure investment, leading companies are "moving to the cloud."

Cloud computing among trusted trading partners, whereby participants share in a common platform of resources, software, information and computing hardware, facilitates quick, highly scalable collaboration that is not possible with older, fixed-connection models and technologies. For all companies, regardless of industry, cloud computing enables more and better business collaboration. It also fosters closer bonds—i.e., greater "stickiness"—among supply chain partners.

Companies also are investing in business analytics to enable them to identify trends faster and more accurately. Business intelligence (BI) tools mine data from myriad sources—point of sale, demand management, inventory, order, warehouse and transportation management systems—to generate actionable information on which to base business decisions.

It is clear that agility and responsiveness as unique supply chain disciplines are on the rise. Most companies have cut costs and inventories over the past two years, and will continue to do so. But the real opportunities in supply chain management lie in improving agility and visibility. There is a lot of work yet to be done in this area. Largely manual, ad hoc trading partner collaboration practices continue to be the norm rather than the exception. Ultimately, volatility management cannot improve if these processes are not automated, connected and streamlined. ■

About the Author:
Richard Douglass is the Worldwide Industry Director of Manufacturing and Logistics for the B2B & Commerce Industry Solutions group of IBM. In this role, Douglass directs top-line marketing strategy for the group's B2B and Commerce solutions while serving as a liaison to customers within the manufacturing and logistics industries.