

Spring 2009

# Supply Chain Leader

Ideas & Innovations from i2

## Surviving *and Thriving* in a Challenging Economy

- **Managing Disruptions with Continuous Design**
- **Recession-Resistant Demand Management**
- **Channel Management Strategies for Tough Times**
- **Social Marketing and the Supply Chain**

### Plus

- **Sales and Operations Management: A New Paradigm**
- **Interview with Old Navy's Matt Salmonson**
- **Designing a Supply Chain to Achieve Maximum Value**
- **Case Studies from:**
  - Deutsche Edelstahlwerke
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## Supply Chain Leader

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# Volatility Is Reality

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# The Supply Chain Opportunity in a Challenging Economy

I don't have to tell you that these are difficult times for businesses. Foreclosures, bankruptcies, layoffs, consolidation, reduced consumer spending—the list goes on and on. Cash is king. Many companies spend their days trying to figure out how to make more of it and how to spend less of it while remaining relevant. Spending less money seems to be a logical step when times are tough, but it can be a short-sighted approach. Companies must not just make fewer, smaller investments, but make *smarter* investments. Just because the economy has slowed down, it doesn't mean you have to.

In this tough economy, a sharp focus on supply chain management is critical to your company's success. In times of prosperity, you can more easily overlook problems if the bottom line is still good. But nothing illuminates business challenges like an economic downturn. That is why now is the ideal time to address those challenges with technology that provides a quick return on investment and long-term savings. Technology implementations that streamline manufacturing operations, optimize inventory, and focus on increasing cash through improved asset utilization and enhanced transportation management can enable your business to maneuver through volatile times, setting you up for success once the economy recovers.

Not all supply chain investments have to be made in new systems. I recently read that business is booming for cobblers—yes, the people who fix shoes—because people are trying to get more out of their existing footwear investment. Auto mechanics, too, have seen an uptick in business, as consumers are becoming more diligent about increasing the longevity of their current vehicles. While the investment you make in a new pair of shoes—or a new car for that matter—is substantially less than an investment in your supply chain, the approach merits consideration.

What are you doing to maximize the investments you've already made in your supply chain? Are you sure you're getting maximum performance from your current systems? Now is the time to fine-tune—or upgrade—what you have. Doing so will help ensure that you are in a position to not only weather the storm, but to move past the competition once the storm clears. A continued investment in i2 maintenance programs, or an upgrade of your existing solutions, is a good way to do this. Our maintenance and upgrade programs are supported by product and solution experts who have the requisite skills and expertise to help you leverage the most value from

your i2 solutions. The incremental investments you make now will allow you to better prepare for more expansive supply chain improvements in the future.

Did your long-range business plans call for supply chain improvements this year? If so, then stay the course. Any new investments you make today can put you ahead of the curve when things turn around. The key to success is identifying solutions that provide the greatest return on investment in the shortest period of time.

For instance, a large semiconductor company recently completed an i2 inventory optimization implementation delivered in a software-as-a-service (SaaS) model. Not only was the implementation 50 percent faster than a more traditional implementation, but it was done at a much lower cost. The result? That customer now possesses a robust, just-in-time scenario analysis capability to evaluate different forecast scenarios—a critical process during these turbulent economic times. Another key outcome is that the customer has moved from a 100 percent manual inventory review to a prioritized exception-based process, reducing end-to-end targets planning, review and approval times by 40 percent.

Solutions like this, and others such as our hosted transportation solution, i2 FreightMatrix, are generating a lot of interest these days. That's because the SaaS delivery model offers a reduced cost of entry, quick start-up time and lower total cost of ownership, making it an affordable option when need is great and budgets are tight. We continue to explore opportunities to deliver more of our industry-leading solutions via the SaaS model, because we believe solutions delivered in this fashion are not only relevant today, but provide opportunities for companies beyond the Fortune 500 to benefit from supply chain solutions from i2.


I believe history will show that companies making an investment in supply chain improvements today will emerge stronger and more successful than those who conservatively stand back and wait for the economy to improve. This is an exciting time for i2—and for you, should you choose to embrace the opportunity this difficult economy presents. We're not standing still. Are you?



**Jackson L. Wilson, Jr.** chairman, president and chief executive officer for i2.

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# **Are you prepared for the worst?**

**Managing supply chain disruption  
with continuous design**

**by Hal Feuchtwanger**

# Natural disasters, customer bankruptcies, product recalls . . . there are dozens of unexpected events that can wreak havoc on your global supply chain. Are you prepared to react swiftly to these contingencies? A continuous supply chain design process can help you to succeed when faced with even the worst “what-if” scenarios.

Nearly every major retailer, manufacturer and distributor has learned the value of comprehensive long-term supply chain planning. Whether they are looking at a two-, three- or five-year horizon, most executives can tell you what they expect their supply chains to look like in the future. They have top-level financial goals, as well as detailed plans for constructing new facilities, broadening their distribution networks, partnering with new suppliers, launching innovative products and other key supply chain activities.

But what happens when these carefully constructed plans go awry? Is the average company equipped to succeed in the face of a severe supply chain disruption such as a hurricane, work stoppage or transportation shutdown? What about the dramatic demand falloff caused by a product recall or a game-changing competitor innovation?

While many businesses have a firm grasp on their overall planning process—and have a clear direction for the long term—few companies are adequately prepared for the short-term contingencies that can devastate even the most robust supply chain organization.

Continuous supply chain design is a new concept that is emerging to help companies succeed in the face of the unexpected. It creates an ongoing, flexible capability to design the supply chain around both long-term goals and short-term realities.

## When the unthinkable happens

Just as every business has a unique supply chain, every company will have a specific set of “what-if” contingencies that have the potential to disrupt operations. But some threats are universal, including:

- Natural disasters, which have the ability to physically devastate any part of the supply and distribution network
- Product recalls, which can destroy consumer confidence and slash demand not only for the affected manufacturer, but for every manufacturer and retailer in the category
- Transportation roadblocks, such as the 2002 West Coast port closures that brought thousands of U.S. businesses to a standstill
- Customer bankruptcies, such as the recent Circuit City closure that dramatically affected many consumer electronics manufacturers
- Terrorist attacks and political unrest, which can impact both supply and distribution facilities, as well as national transportation systems
- Dramatic changes in currency exchange rates, which can mean the difference between profit and loss

Even a development that seems positive—such as a wildly successful new product introduction—has the potential to turn the supply chain upside down if an organization has not prepared for it.

Is it really possible to prepare for these kinds of contingencies and ensure that the supply chain maintains a high level of performance? Thanks to increasingly sophisticated technologies and associated processes, the answer is an unqualified “yes.”

A truly catastrophic event will certainly bring short-term disruptions, even for well-prepared companies. But, as demonstrated by some supply chain leaders, effective upfront planning can minimize these disruptions, and

DISRUPTION **CONTINUED** on Next Page . . .

quickly bring the entire organization back on track. (See “Masters of Contingency Planning,” page 7.)

### Hope for the best...

The first step is one that your business has most likely undertaken already: preparing a well-detailed supply chain plan that defines your organization’s future direction. Assuming all goes as expected, what will your supply chain look like in two, three or five years?

**As the earth has flattened, the supply chain design process has become much more complex.**

Your supply chain design should define the future scope of your facilities and the shape of your distribution network, as well as include detailed plans focused on sourcing, inventory, new products and staffing levels. Of course, this supply chain design will be based on your organization’s projections about overall and regional demand levels, growth projections for specific customers and the likely actions of your primary competitors.

As the earth has flattened—and both offshore sourcing and international customers have become more prevalent—the supply chain design process has become much more complex. Are you allowing enough lead time to ship products from around the world? Is product inventory optimized to match demand and distribution in every local market?

With so many suppliers and customers to consider, often spread across the globe, designing a supply chain plan to support your organization’s long-term vision under a “best-case” scenario can be a daunting task.

### ...but prepare for the worst

Even more intimidating for most companies is looking past the best-case scenario and designing a flexible, responsive supply chain that can weather any number of contingencies. With so many possible threats—ranging from random storms to carefully planned acts of terrorism—how can the typical company expect to consider, and plan for, every possible disaster?

The answer lies in a company’s basic philosophy of supply chain design. Instead of viewing design as a one-time event, or an annual planning exercise, today’s planning leaders are taking a continuous approach to supply chain design. In a volatile business world, it is becoming imperative to design—and redesign—the supply chain on an ongoing basis to reflect the newest dangers and the emerging opportunities.

Companies should use their long-term supply chain plan as a starting point, then begin to ask themselves what they would do if various contingencies occur. They need to consider the impact of a number of threats on various critical components of the supply chain, including:

- Sourcing plans, which can be disrupted by extreme weather, political unrest and other events across the global supply chain. Even changes in currency rates can suddenly make an entire group of suppliers unprofitable. In today’s fast-changing world, companies need to take an ongoing look at their network of suppliers, modeling the effects of any disruptions on the overall sourcing plan.

- Inventory levels, which need to be continuously optimized against long-term business objectives, changing market conditions and supply constraints—as well as emergencies like customer bankruptcies. In the event of such contingencies, businesses will need to define which inventories to carry, where, in what form and quantity across the entire procurement, manufacturing and distribution network.

- The transportation network, which may need to be reconfigured due to port closures, natural disasters or even rapidly escalating fuel costs. When the optimal transportation plan becomes impossible, businesses can consider the use of cross-docks, compare the advantages of various transport modes, and assess flexible strategies such as merge-in-transit, co-mingling, and multi-drop direct shipments.

Of course, as the typical supply chain becomes broader and more global, the complexity of the continuous design process will only increase. With suppliers and customers spanning the world, there is a long list of contingencies that may disrupt the supply chain, and the effects of each one must be considered and prepared for.

### Making continuous design a reality

Fortunately, the supply chain management industry has responded to this high degree of complexity with a new generation of technologies and associated processes that support continuous supply chain planning.

Today, it is easier than ever for businesses to make intelligent decisions at every stage of the supply chain, from raw materials procurement to finished goods distribution—and then reexamine these decisions as the business situation changes. Powerful new modeling tools provide a dynamic look across the entire supply chain, enabling an ongoing assessment of raw materials sources, factories and factory processes, distribution centers, seasonal demand variations, transportation links, outsourcing, inventory and related costs, and constraints.



Innovative technology solutions can serve as a central repository of data about the current and potential performance of the supply chain. Organizations can create dynamic supply chain models that allow them to consider a wide range of variables and contingencies, as well as create strategic responses to these what-if scenarios.

From the terrorist attacks of September 11, 2001, to the catastrophic devastation caused by Hurricane Katrina, recent events have changed the face of modern business—affecting every facet of our organizations. While many of us view our international supply chains as strong and robust, in reality they are fragile and easily disrupted when the unexpected occurs.

There is no longer a question that companies have to prepare for contingencies within their businesses; today's volatile world has made such preparation an absolute necessity. The only question that remains is, "Can we do it?"

With the advent of sophisticated modeling and simulation tools, and the innovative processes that support them, every business can embrace continuous supply chain design with a high degree of confidence—and face its "worst-case" fears head on.

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## Masters of Contingency Planning

No company wants to find itself dealing with a disaster. But these businesses have earned admiration for the way in which they conquered unexpected obstacles—and delivered consistent long-term performance, even when faced with incredible short-term trials.

- In March 2000, telecommunications leader Nokia found its supply chain in chaos when a supplier facility in Albuquerque, NM, was struck by lightning. Nokia responded quickly by partnering with the supplier to find other facilities that could manufacture radio frequency chips (RFCs)—the critical component that was made at the New Mexico plant. Nokia also rapidly re-engineered these RFCs, so that they could be quickly and easily produced by the company's other worldwide suppliers. Even faced with this supply chain disaster, Nokia maintained its production goals and increased its market share from 27 percent to 30 percent ("Value Opportunity Three: Improving the Ability to Fulfill Demand," *Business Week*, 2003).

- By the time Hurricane Katrina struck the U.S. Gulf Coast on August 29, 2005, computer giant Dell was ready—thanks to its system of Dell Enterprise Command Centers (ECCs), created specifically to

manage such emergencies. As Katrina approached, crisis experts at the Dell ECC in Round Rock, Texas, were able to quickly dispatch rapid-response teams, proactively shift resources and manage ongoing customer support. First on Dell's agenda? Ensuring that the U.S. Coast Guard, hospitals, police and fire departments, and other emergency responders would be able to continuously access their critical systems. ("Nothing Basic About Next-Generation Enterprise Support," Dell Power Solutions, [http://www.dell.com/downloads/global/services/powersolutions\\_article.pdf](http://www.dell.com/downloads/global/services/powersolutions_article.pdf)).

- Consumer products leader Procter & Gamble was able to quickly resume its high level of supply chain performance following Hurricane Katrina—even though the storm wiped out the company's entire production facility for Folgers coffee. Thanks to a highly detailed and continuous disaster planning process—which included secondary sourcing plans for fresh water and other critical supplies—the company's coffee production was at 85 percent of capacity by September 23. By November, Folgers production was back to its normal levels. ("Supply chain execs share disaster-planning techniques," *NetworkWorld*, June 5, 2006).



# Social Marketing and Supply Chain Management: The Next Consumer Data Challenge—and Opportunity

by Guy Courtin and Gurdip Singh

Social marketing tools and Web 2.0 technologies now permeate our everyday lives. A recent Forrester Research report states that three of four adults who go online in the United States are leveraging social content on a regular basis (“The Growth of Social Technology Adoption,” Forrester Research, October 20, 2008). Whether it is checking a friend’s status on Facebook, “tweeting” about the Super Bowl on Twitter, looking for a job via LinkedIn, receiving text messages from a political candidate or joining a “Twilight” fan group on Ning, growing numbers of people are participating in technology-based communication, entertainment and socializing activities.

Corporations are also embracing these tools to accomplish a variety of goals (Figure 1). Best Buy has started the social networking site “Blue Shirt Nation” to allow its employees to communicate and collaborate online. In March 2009, Skittles launched a new web-based marketing campaign that replaced its traditional web site with real-time feeds from a variety of web 2.0 outlets, such as Wikipedia, Twitter and YouTube.

A March 2009 social media study by Michael Stelzner for the Social Media Success Summit 2009 found that 88 percent of marketers surveyed say they are now using some form of social media to market their business, but 72 percent of those using it say they have only been doing so for a few months or less. As corporations increasingly integrate social networking tools into their own internal initiatives as well as external marketing campaigns, the question arises: “Can retailers and consumer product companies leverage these tools and the demand signals they render to better run their supply chains?” The answer is a resounding “yes.” When these tools will become fully integrated in both retailer and consumer product companies’ supply chain strategy, however, is not as clear.

## What social intelligence means to retailers and consumer goods companies

Retailers and consumer goods companies have always sought to make their supply chains faster, more efficient and more intelligent when it comes to understanding end-consumer demands. Who is buying—and more important, who is not buying—a product is the Holy Grail of information for these companies.

Historically, companies have sought to gather this information via focus groups, credit card purchasing behavior and the capture of point-of-sale (POS) data at the cash register, as well as other methods. These tools give companies some pieces of the puzzle, but the missing piece is the direct voice of consumers en masse. Social media now gives the consumer the platform and tools to

SOCIAL **CONTINUED** on Next Page . . .

### Benefits of Social Media Marketing

(% of Respondents, multiple response OK)

Benefit . . . . .	% Responding
Generated exposure	81%
Increased traffic, subscribers, list	61%
New business partners	56%
Increased position in search rankings	52%
Generated qualified leads	48%
Reduced overall marketing expenses	45%
Helped close sales	35%

**Figure 1**

Source: Social Media Marketing Industry Report, March 2009



have their voices heard on a scale that is large enough to create real value for retailers and consumer goods companies.

Consumers have been leveraging social tools for years to discuss and comment on retailers' products, customer service and brand image, and it's only becoming more pervasive (see Figure 2).

First, companies need to survey their existing client base to determine if there are already communities engaging in related discussions. As increasing numbers of companies begin to look for ways to exploit social intelligence, the dynamic will be similar to what occurred in the late 1990s when companies across all industries recognized the

## Popular Social Networking Sites

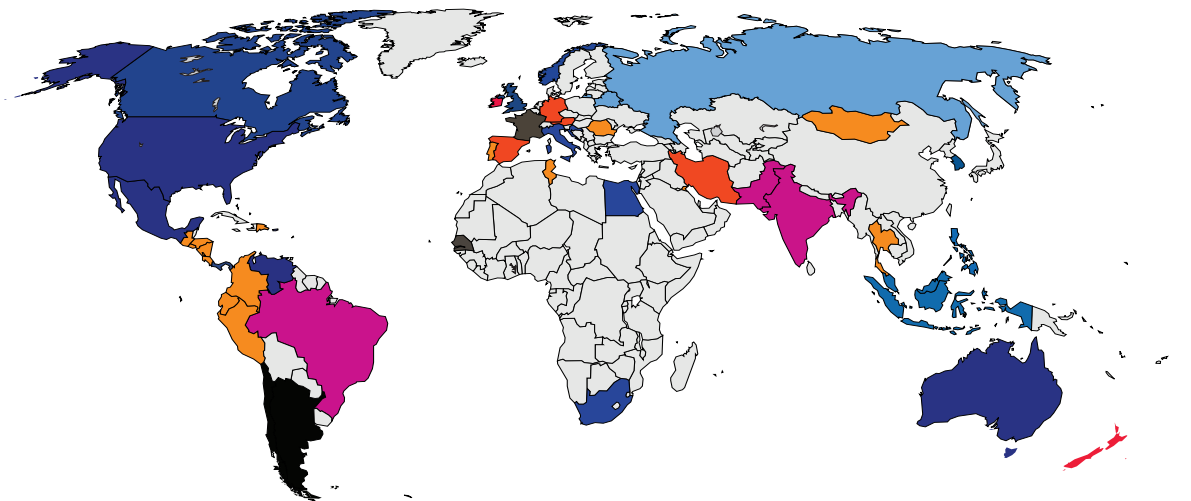
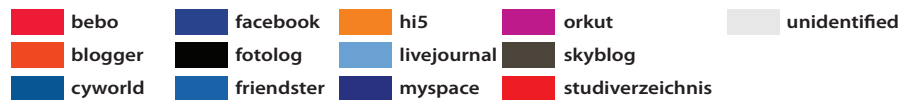


Figure 2

Source: <http://gawker.com/tech/data-junkie/the-world-map-of-social-networks-273201.php>

Smart companies recognize the value inherent in harnessing the power of social intelligence to improve their communications with the end consumer, as well as to better understand demand signals and therefore achieve supply chain efficiencies.

### Looking to social intelligence to improve product design, development and marketing

Retailers have the opportunity to leverage social intelligence to assist in the design of their own private-label products, collaborate closely with consumer product companies to ensure proper product development and more important, keep a pulse on what consumers are saying about products. There is tremendous potential for retailers and consumer goods companies to encourage elite online communities to aid in the design and development of new products. How can these companies take this from concept to reality?

need to become part of the internet community, and therefore rushed to develop their own web sites. And as technology evolved and strategies matured, retailers began to add e-commerce capabilities to their sites. Today, a significant portion of consumers are just as comfortable making both small and major purchases online as they are buying the same items in a traditional brick-and-mortar store.

A similar evolution will likely occur with social intelligence and how it is leveraged by companies. For example, companies can leverage tools provided by Facebook to establish a company presence, attract fans, communicate with customers and gather information. Companies such as Old Navy (See Interview, page 26) have created Facebook pages that contain their latest videos, allow fans to post comments to their wall, have pictures of stores and products, and even give visitors access to coupons. The Old Navy Facebook page includes a note that states,

“...if you post comments on the Old Navy Wall, you are agreeing that those comments may be used publicly in our stores, and included on audio and visual media, including without limitation videos and DVDs.” The retailer has clearly recognized the intrinsic marketing potential of social networking sites. These communities are easy to start and can grow in a very viral manner.

The hard work begins when retailers and consumer goods companies try to harvest the valuable information from these communities to influence their product design and send signals into the supply chain. Retailers can employ traditional promotional tools—such as coupons, private sales, free shipping, and early promotions—to reward consumers that help aid in product design. These communities need to be nurtured because they serve as a “focus group on demand.” The community can not only assist via providing inputs into product design, but can provide retailers with real-time feedback that will impact their supply chain. How? For example, on the Old Navy Facebook page, there is a discussion about the use of sweat shops in the production of clothing. Old Navy’s executives can access this candid discussion and learn what their customers feel about sourcing and manufacturing strategies.

Finally, once product is in the marketplace, companies can monitor public opinion via tools such as Twitter or consumer sites such as FatWallet.com to gauge reaction about their products. The potential exists here to both identify demand signals as well as to identify problems with a product, enabling retailers and consumer goods manufacturers to adjust their supply chains accordingly. Rather than waiting for reports to come from various channels or sifting through mounds of POS data, companies can leverage true real-time data. It is easy to see how the information could be gathered. For example, similar to how Twitter monitored comments about the Super Bowl during the game ([http://www.nytimes.com/interactive/2009/02/02/sports/20090202\\_superbowl\\_twitter.html](http://www.nytimes.com/interactive/2009/02/02/sports/20090202_superbowl_twitter.html)), retailers could encourage consumers to “tweet” their feelings about certain products within the store and then look at a Twitter map to determine how their promotions are being received. Rather than receiving a delayed signal that consumers in New England were not happy about the colors available in a certain product, a retailer could see the reaction in real time from the tweets.

Additionally, there are sites such as [www.expotv.com](http://www.expotv.com) that enable consumers to upload their video testimonials of products ranging from the BlackBerry Bold to the latest Dyson vacuum cleaner. While this information may not be real-time data, it is information conveyed in the consumers’ voice. Retailers and consumer product firms

need to monitor these signals and understand how they can better react, adjust and leverage the rich data.

### Addressing areas of concern

As with any new technology, social intelligence will raise resistance and concern within the retail and consumer goods industries. Undoubtedly it already is; some of it will be warranted and some will come from laggards fearful of change. There are a few major concerns that companies should be prepared to address.

First is the privacy issue. Within online communities, companies will want to aggregate and access the kind of valuable demographic data that individuals may be hesitant to provide. Retailers and consumer goods manufacturers can overcome this issue by enticing elite consumers to opt in to communities. Members of these communities will be able to enjoy increased perks in exchange for providing more personal data. Those who opt not to provide this data will still be able to comment and provide feedback but will not receive the same rewards or be leaned on as intensively as those in the “elite” group.

**Companies need to take the potential mountain of unstructured data that will inundate them and make it useful.**

The second potential roadblock is a fear of losing control of proprietary information. This concern has permeated early adopters looking to leverage social media to perform such functions as product development. When done properly, however, companies will see more value in being open with their community rather than worrying about what a competitor might learn from the forum.

In addition, companies may find it daunting to extract the valuable data gained from social media tools from the inherent and invariable noise that will be included. They will need to ensure that they can take the potential mountain of unstructured data that will inundate them and make it useful. The companies that can achieve this will reap significant financial benefits.

Finally, companies may be wary to create an open forum that may allow negative commentary to snowball. To counteract this possibility, companies must create dedicated resources to monitor social channels and attempt to address the issues before they get out of control. The ability to complain in cyberspace already exists, which is the reason why companies such as Comcast have the dedicated resources to monitor these sites and react before the problem gets out of hand.

SOCIAL **CONTINUED** on Next Page . . .

### Leveraging social intelligence to stay ahead of the curve

Good supply chains incorporate a constant feedback loop: plan-do-check-act. Social intelligence strengthens this loop by serving as another critical consumer data source that facilitates more robust and faster planning and checking. Feeding social intelligence signals into the supply chain management process offers vast potential to improve product designs and better plan for demand. Rather than having only static signals, the consumer products supply chain can enjoy the dynamic and rich content afforded by social intelligence.

While social intelligence does not replace traditional means for companies to gain access to end consumer information, it does give them another important signal—the unfiltered voice of the purchaser. Those companies that learn to generate, understand and integrate this signal within their supply chains will achieve improved customer satisfaction, greater market share and increased profit margins.

To take advantage of the power of social intelligence,

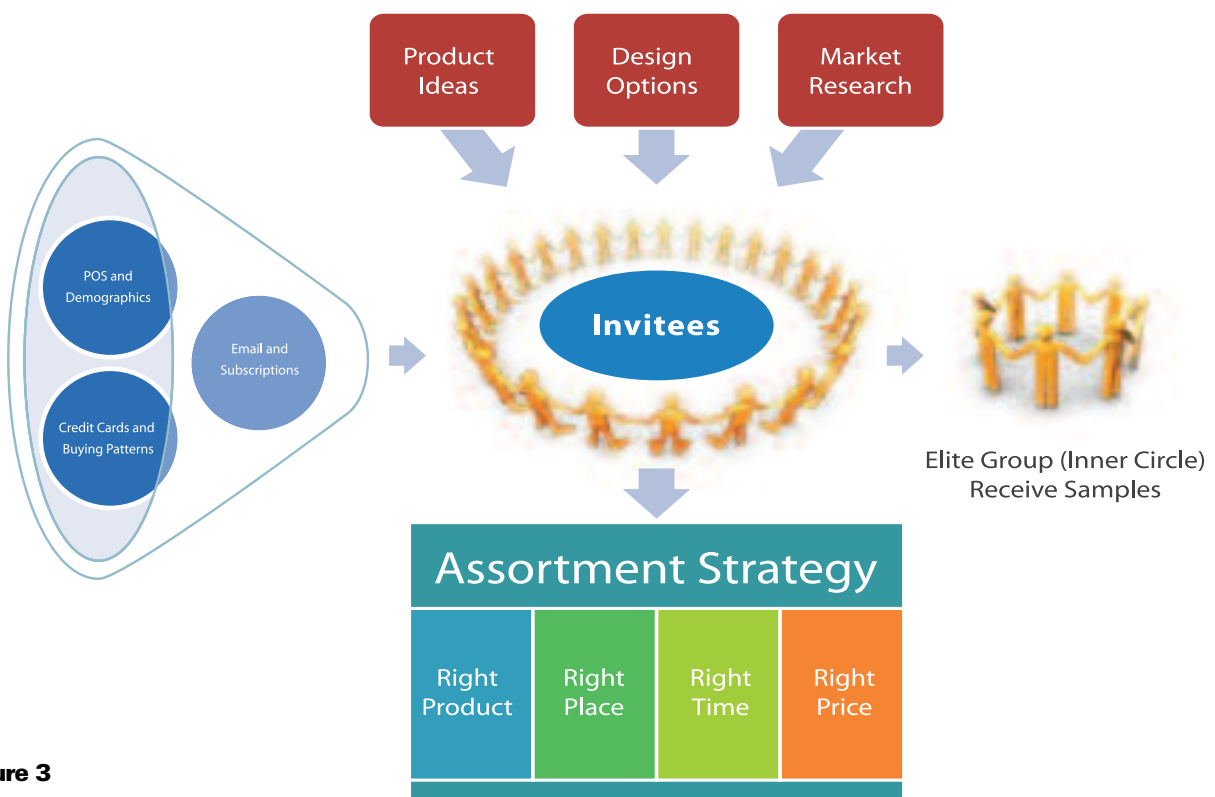
companies must ensure the proper resources are in place to create and monitor the communities discussing their brands. Just as companies need to have the systems in place to accept demand signals and to infuse them into supply chain planning engines, they will also need to ensure they have similar discipline in incorporating signals from social intelligence into their planning (Figure 3). Companies can pull this data into dashboards that will enable them to understand where and how items are being sold. In aggregate, the signals can provide retailers and consumer products companies with rich data that will ensure better planning and improved response from their supply chain.

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## Process to Incorporate Consumer Insight from Social Networking Sites into Localized Assortment Management



**Figure 3**



# Recession-Resistant Demand Management Strategies and Tactics

By Adeel Najmi, Manish Ghosh and Hae-Goo Song



*How resilient companies can manage demand and pipeline inventory when the past is not a reliable indicator of the future.*

Accurate demand management is widely accepted as the cornerstone of supply chain excellence. It enables manufacturers to efficiently integrate production, distribution and inventory management, and deliver superior customer service, while at the same time significantly reducing cost and increasing revenues. Over the last several years, world-class organizations have developed agile, responsive, demand-centric and tightly integrated operations. These organizations, with their sophisticated algorithms, business intelligence, synchronized planning, roles-based abilities and cross-operational visibility, still depend upon long-term past performance history to consistently balance demand and supply.

That was then. This is now: AMR Research's February report, "2009 Consumer Products Market Outlook: Anything but Business as Usual," states unequivocally, "Never in our history have we experienced the level of

demand volatility we'll see in 2009...85 percent of [consumer product companies interviewed] showed an increase in volatility at the end of 4Q."

Since January 2009, nearly all major retailers have reported sales figures declining in the double-digit range and consumer product manufacturers are taking hits on deeply discounted pipeline inventory. Consumer and business-to-business purchasing behavior has abruptly shifted, making past product performance largely irrelevant. Yet, looking forward, some tried-and-true forecasting practices may still be relevant for executives and sales managers as they wrestle current forecasts and pipelines, trying to get a handle on an entirely new and unpredictable demand paradigm.

DEMAND **CONTINUED** on Next Page . . .

## Demand planning strategies and techniques for volatile times

Though business as usual is no longer an option, companies still need to use all available tools to manage in

a volatile environment. Figure 1 contrasts the key differences between the effective demand management tactics and strategies in a stable economy, and our recommended adaptations to navigate demand turbulence.

**Figure 1**

Stable Economy	Volatile Economy
<ul style="list-style-type: none"> <li>Statistical models use 2-3 years of history to compute a baseline forecast.</li> </ul>	<ul style="list-style-type: none"> <li>While it might still make sense to use 2-3 years of history for determining seasonality, level and trend are best determined from the past 2-3 months only.</li> <li>Now is also the time to invest in new models that incorporate insights from order backlogs and history to derive the forecast.</li> <li>For near-term forecasting, increase reliance on collaboration inputs from key customers.</li> </ul>
<ul style="list-style-type: none"> <li>Rules-based scripts automatically adapt forecasting models to changing demand patterns.</li> </ul>	<ul style="list-style-type: none"> <li>Escalate the most significant changes in demand patterns for manual review. These transitions might reveal valuable insights.</li> </ul>
<ul style="list-style-type: none"> <li>Only adjust the forecast when you have “insider information,” i.e. you know something that is not already in the data.</li> </ul>	<ul style="list-style-type: none"> <li>Look for clues and trends to gather more insider information when patterns look different from expectations.</li> </ul>
<ul style="list-style-type: none"> <li>Rely on consensus focus to get to a common, agreed-upon demand plan.</li> </ul>	<ul style="list-style-type: none"> <li>Shift focus toward triangulation and analysis of multiple scenarios across functions. Reconcile leading and trailing indicators. Try to share assumptions and risks. As a starting point, use aggregate annual operating plan guidelines or quarterly plan numbers distributed top-down and using recent bottom-up sales mix.</li> <li>Evaluate the known unknowns in the plan, and the contingencies that need to be in place. Most important, determine how, when and by whom contingency actions will be mobilized.</li> </ul>
<ul style="list-style-type: none"> <li>Demand-performance reviews focus on monitoring process compliance, validating assumptions and identifying root causes of the most significant demand errors.</li> </ul>	<ul style="list-style-type: none"> <li>Increase the emphasis on identifying where process, model and demand collaboration adjustments are needed.</li> </ul>
<ul style="list-style-type: none"> <li>Utilize long-term forecast and push strategy.</li> </ul>	<ul style="list-style-type: none"> <li>With demand signals undergoing very frequent changes, a manufacturing-based push strategy relying on long-term forecasts may well lead to obsolete or devalued stock.</li> <li>A combination of push-pull and stretching the push-pull boundary further downstream will keep business more profitable.</li> </ul>

## Collaboration and demand sensing

Pressed by the unprecedented array of bad news about the economy, retailers are increasingly willing to improve collaborative relationships with their vendors, strengthen relationships with key partners and customers, and proactively use collaborative demand inputs for shorter-term demand planning. For most leading companies, the traditional sell-buy relationship between manufacturer and retailer has already evolved into a collaborative planning, forecasting and replenishment (CPFR) model. Now it needs to go a step further. Manufacturers and retailers must collaborate on a weekly basis regarding product assortments, product placement in stores and product stocking decisions in distribution centers.

## Localizing POS data

Manufacturers can also leverage sell-through information to improve their understanding of demand. In a market downturn, getting an accurate demand signal is a real challenge unless companies have a solid process and system for collaboration in place. In the past, i2 has helped companies by analyzing sell-through information from like stores to identify demand upside opportunities. A typical methodology for understanding consumer demand is to collect point-of-sale (POS) information from retailers once a week on a national level. But to really understand what is happening in the market, companies need to look at the data on a far more granular level. Some of i2's leading customers are currently processing sales data for every SKU from thousands of stores every day to adjust marketing and promotions at regional and local-store levels.

## Forecast optimization

Now is the time to audit forecasting models and their underlying assumptions and then realign them to the new market conditions. i2 recommends an approach called forecast optimization. Forecast optimization differs from traditional demand management approaches in that it leverages deep understanding of data through rigorous segmentation along various dimensions. The tools then apply diagnostic techniques to profile variability, drilling down to root causes. Different forecasting models and model parameters are used to analyze each segment.

For example, segmentation along process attributes yielded several forecasting insights for one of i2's semiconductor clients. Sales inputs based on the latest customer buying pattern, at a weekly granularity, offered a more accurate forecast on the product mix. In the midterm forecast, a blend of sales and marketing data, at a monthly granularity, yielded a better handle on the product-family level. This blended forecast showed a 10-25 percent improvement over more traditional methods. Further-

more, customer order lead-time information from this analysis was used to drive postponement policies that staged inventory at different points in the supply chain to improve service levels, despite forecasting challenges.

Given today's business climate, it may be worthwhile to investigate the applicability of models such as variable response smoothing for some of the segments. Such models rapidly adapt to the most recent demand patterns while incorporating seasonality patterns derived over the long term.

## Continuous monitoring of forecast and business performance

Fine-tuning forecasts is not a one-time or discrete exercise. It must be a continuous learning process with a closed feedback loop. This loop helps determine whether the root causes are still valid or new ones need to be explored, or whether the current techniques of forecasting are working in the current volatile business environment.

In this business climate, it is critical to monitor changes and tune the forecast optimization parameters weekly to control the forecast quality and impact on business results. This requires systematic institutionalization of the knowledge gained as new patterns emerge, assuring the ability to call up the entire series of optimization calibrations and responses as a repeatable process.

## Demand shaping

Many companies have pushed their supply chain organizations into back-office roles that have little direct interaction with sales and marketing. This inevitably results in a fatalistic posture where all demand is treated as an uncontrollable external phenomenon that at best can only be anticipated and reacted to. In contrast, the savviest companies leverage insights about demand gained through disciplines such as forecast optimization to actively influence and shape demand.

Pricing and promotions are not the only ways one can shape demand. In retail stores, the simple strategy of placing merchandise prominently at the front of the aisle or next to a cash register can be effective in raising sales for that item. This same concept applies in many other situations. For instance, Dell is well known for changing the configuration of its product offerings on its web site—daily if needed—to steer customers toward material that they want to move, or at any given time, to steer customers away from materials where inventory is low. Consumer electronics companies such as Apple closely monitor sell-through demand and may accelerate or delay product transitions to shape demand advantageously.

DEMAND **CONTINUED** on Next Page . . .



Samsung experienced significant business success with a “Black Friday 2008” promotion, strategically positioning four flat-screen TV models in 30- and 40-inch ranges at Best Buy, Circuit City, Sears and Wal-Mart. Samsung acted on the assumption that, given the down economy, demand would gravitate to the low- and medium-end flat-screen TVs. In addition, Samsung did not opt for buy-down promotion of the existing line-up models. To avoid cannibalization while maximizing the sales volume, they introduced cost-down models by simplifying the product specifications and maintained primary functionality from the end-user perspective. Samsung sold about 360,000 units of Black Friday models only, which represented 120 percent achievement against the planned quantity, according to *Hankook Ilbo*, a Seoul, South Korea newspaper.

The key takeaway here is that Samsung had analyzed the economic situation carefully and took the proactive demand shaping actions six months before Black Friday—seeing opportunity where most other consumer products manufacturers suffered steep sales losses. It is a best-practice example showcasing the power of streamlined demand sensing and demand shaping strategies in a highly volatile marketplace.

In a consumer electronics market such as LCD TVs, revenue generation through spot deals is also playing a bigger role in sales and operations planning. Coordination of the entire supply chain for spot deals across product offering, collaborative volume estimation, pricing, capacity reservation and key part procurement are the critical differ-

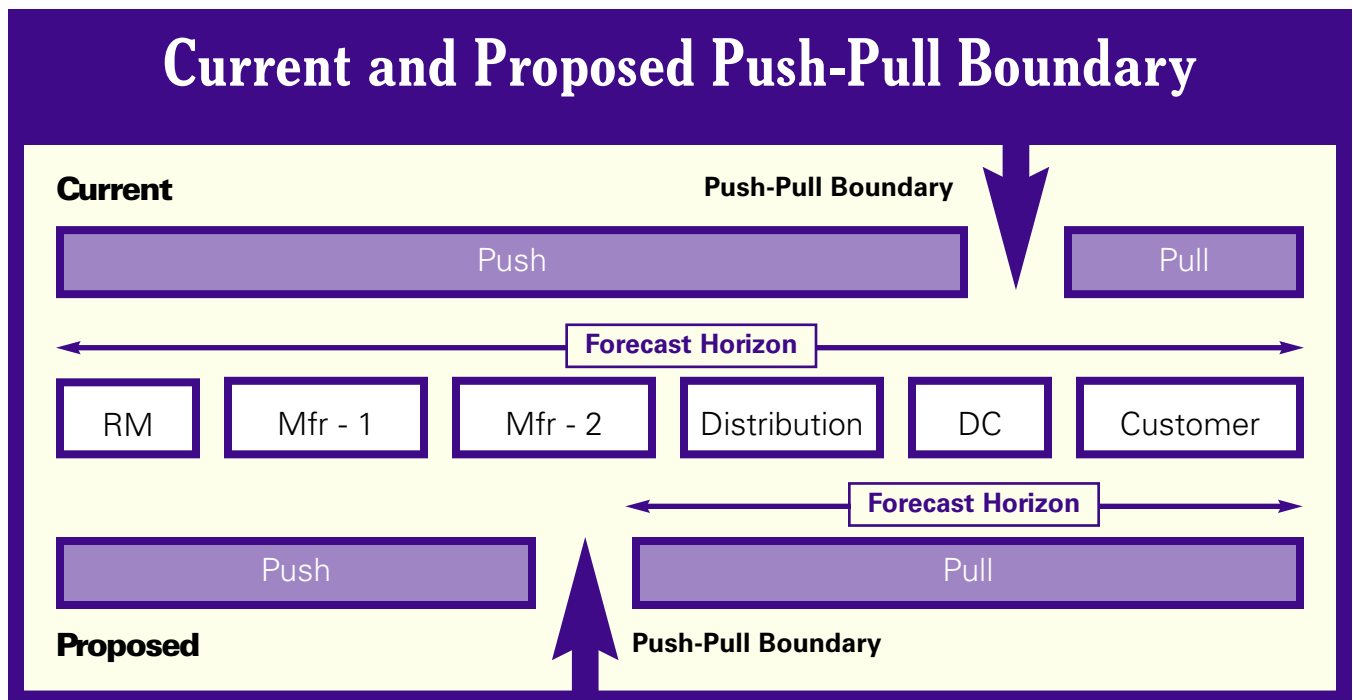
entiators in demand shaping capability. In fact, AMR Research has identified seven levers in all for demand shaping: price management, marketing actions, sales incentives, promotions, trade deals, new product introduction and product run-out strategies (“What Is Demand Shaping?” Lora Cecere and Robert Bois, AMR Research, March 22, 2007).

### Push-pull strategy

One effective way of dealing with demand uncertainty is by shifting the “build-to-forecast” point upstream in the supply chain. Frequently, this is also referred to as the “push-pull boundary,” as show in Figure 2. Products are “pushed” to a distribution center (DC) based on forecasts and then “pulled” out and shipped in response to orders. The placement of a push-pull boundary is fundamental to supply chain and inventory policy design, and companies may have limited flexibility in this regard. In today’s uncertain demand climate, even for companies that have traditionally operated in pure push mode, it may still be quite worthwhile to explore how to adjust the push-pull boundary further downstream and improve forecast accuracy by reducing the forecast lag horizon.

Defining it very simply, high levels of demand uncertainty lead to a preference for pull strategy, and lower demand uncertainty favors a push strategy. Most businesses fall somewhere in between the two poles, with more product movement on pull as a rule. Given the long lead time for procurement from Asia, however, long-term forecasts are

Figure 2

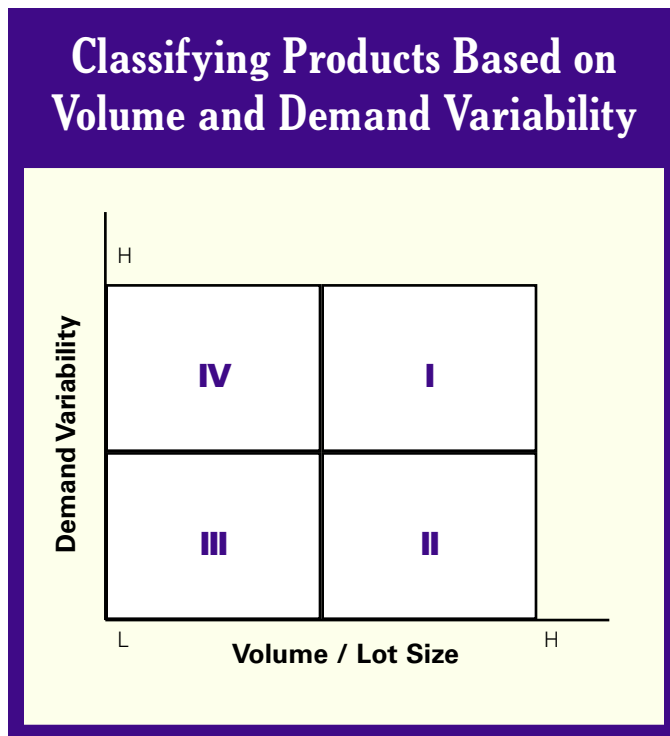


imperative. By adjusting push-pull boundaries it is possible to manage long lead-time procurement as well as appropriate inventory levels when long-term forecasts are unreliable.

### Classifying products based on volume and demand uncertainty

When demand volatility is high—particularly with products manufactured globally—postponing the manufacture or delivery date as long as possible to obtain a better demand forecast means moving the push-pull boundary upstream, as show in Figure 3.

**Figure 3**



**Category I** (high volume/high demand variability): Here lot size is large but forecasts are inaccurate due to SKU proliferation and long lead times. Home-appliance companies who are selling their product globally from China, India or Eastern Europe require long transit times as well as long procurement lead times. They tend to forecast for finished goods two months in advance, resulting in very high demand uncertainty.

i2 suggests creating a vendor-managed inventory (VMI) hub for inbound component inventory for better control of procured components, thus bringing the forecast lead-time window down. In this case the push-pull boundary is now shifted almost post manufacturing (cycle time is less than a day), and the forecast is now just accounting for lead time—increasing forecast accuracy almost twofold.

**Category II** (high volume/low demand variability): This is still dominantly a push sector, however, from a

forecasting standpoint, i2's recent experience and understanding is that sales managers/brand managers are not really responsible for forecast accuracy as much as for fill rate, market development and collaboration. Distribution planners are in constant contact with the market, including the key accounts and positioning inventory. So even for a very stable demand industry, such as grocery or beverage, one may need to have more trade, key account and non-trade relationships (such as collaboration) to effectively disaggregate the forecast to the SKU-DC level.

**Category III** (low volume/low variability): Depending on transportation cost and production lot size, these companies may need to depend on a long-term forecast.

**Category IV** (low volume/high demand variability): This represents portfolio segments where products are customized and manufacturing is predominantly on pull (i.e. order-based). Assembling components to manufacture computers or airplanes fall into this category. The push-pull boundary is at manufacturing, but these companies still need to have a long-lag forecast (equal to transit lead time) to procure components. Such companies use VMI relationships with upside flexibility terms to manage near-window forecasts.

Due to the long procurement lead time for products from Asia—components, finished goods in consumer electronics, or other fast-moving goods where the portfolio mix contains imported SKUs or imported raw materials—it is imperative that long-term forecasts are available to help in procurement.

### Conclusion

Uncertainty rules the day in the current business climate, and supply chain executives are challenged as never before by the variability of supply and demand. Resilient companies will monitor and analyze point-of-sale data and channel inventory on a frequent—often daily—basis. Equally important, they will have put in place the organizational structures, management processes and IT systems necessary to respond quickly to changes in buying patterns and other demand or supply disruptions. A sixth sense for recognizing leading demand indicators, supported by the tools to take rapid, advantageous action is the best defense and offense against a turbulent global economy.

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# Channel Management Strategies to Maximize Revenue, Margins and Cash Flow When Times are Tough

by **Sweeni S. Ponoth**





Consumer products manufacturers and retailers face a perfect storm of global economic disruption. Companies across the board are reducing headcount, experiencing unprecedented price, brand, and market share erosion, and dealing with excess capacity and double-digit decreases in sales, all of which have resulted in retailer and supplier bankruptcies. Consider the following:

- According to CNNMoney.com, December 2008 marked the sixth straight month in which consumer spending declined, falling a record 8.9 percent in the fourth quarter. That marked the worst quarter of spending since the U.S. Commerce Department began tracking the statistic in 1947. Overall, consumer spending in 2008 was at its lowest level since 1961.

- Consumer electronics (CE) manufacturers whose market dynamics are volatile in the best of times are facing a severe nosedive. According to AMR Research's 2009 Consumer Products Market Outlook, "The consumer confidence index, which reached an all-time low of 38 in December 2008, has all but frozen consumer spending in electronics. To combat this trend, CE companies are taking price and promotion activities and devaluing inventories that are not moving."

- On March 2, 2009, Gartner forecasted that worldwide personal computer sales will fall almost 12 percent this year, to 257 million units, as the industry faces extraordinary conditions due to the weakening global economy, users stretching PC lifetimes and PC buyers growing increasingly cautious.

### Winning channel management strategies

Successful strategies of the recent past—such as using collaborative planning, forecasting, and replenishment to achieve 98 percent in-stock levels or 10-plus weeks of target inventory—are no longer guarantees against steeply declining sales, market share and margins. Monitoring retailer scorecards and point-of-sale (POS) data are also no longer enough to achieve success. Manufacturers and retailers alike must reset expectations and develop a methodology for dealing with the performance disruptions that occur daily. The following four strategies can help channel managers through these challenging economic times:

#### 1. Leverage POS data to fine-tune channel inventory

Many retailers expect consumer electronics brand owners to carry 6-8 weeks of supply (WOS) of safety stock, causing manufacturers to jump through hoops to

CHANNEL **CONTINUED** on Next Page . . .

meet the requirement. For the manufacturer, the benefit is little more than a good grade on the retailer's scorecard. Instead of simply continuing to meet this requirement without question, the manufacturer must ask, "What is the right WOS number for my business, and does it vary by channel?" For the brand owner, high safety stock leads to higher markdown and price protection expenses and potentially places inventory in the wrong location. Similarly, for the retailer, it locks capital in the form of inventory. Revenue, margin and free cash flow improvements depend on how intelligently and effectively a company uses the power of POS data.

Instead of taking the easy approach—maintaining uniform safety-stock levels across all categories and all regions throughout the product life cycle—safety stock should be used for its intended purpose: buffering for demand and supply variability and meeting a target customer service level. When analyzing significant amounts of POS data in the CE space, it becomes clear that when you account for supply and demand variability, you typically do not need more than 2-4 weeks of safety stock in the channel (this will vary based on the requirements of each individual channel).

But for a retailer to be comfortable with the lower 2-week safety-stock figure, the manufacturer must demonstrate performance of on-time delivery and on-time "right quantity" metrics.

It should also be noted that high inventory levels mask the flaws of forecasting. While adopting a strategy of lean inventory will improve margins, low safety stock can also make you vulnerable to the losses associated with inaccurate forecasts. Consequently, forecast improvement and inventory reduction must go hand in hand.

Since you are going to manage WOS at a more granular level, say at a distribution center or store level, you must manage the forecast similarly at a lower level.

## 2. Use process playbooks to proactively monitor store performance and conduct root-cause analysis to identify structural problems

Process playbooks—predefined sets of business strategies and rules that guide informed responses—address both problems and opportunities with appropriate action. Whether they exist at the strategic or the tactical level, process playbooks are based on a series of three actions

# POS-Based Root-Cause Analysis

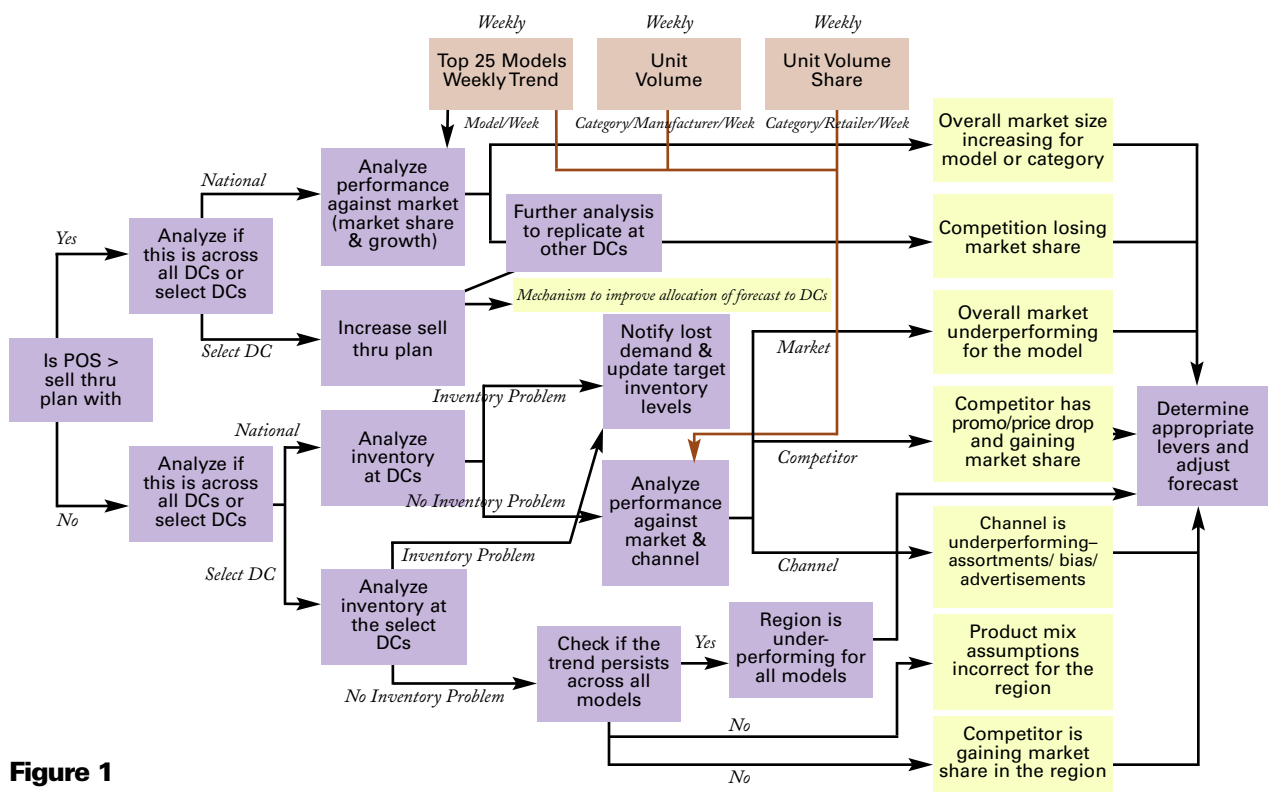
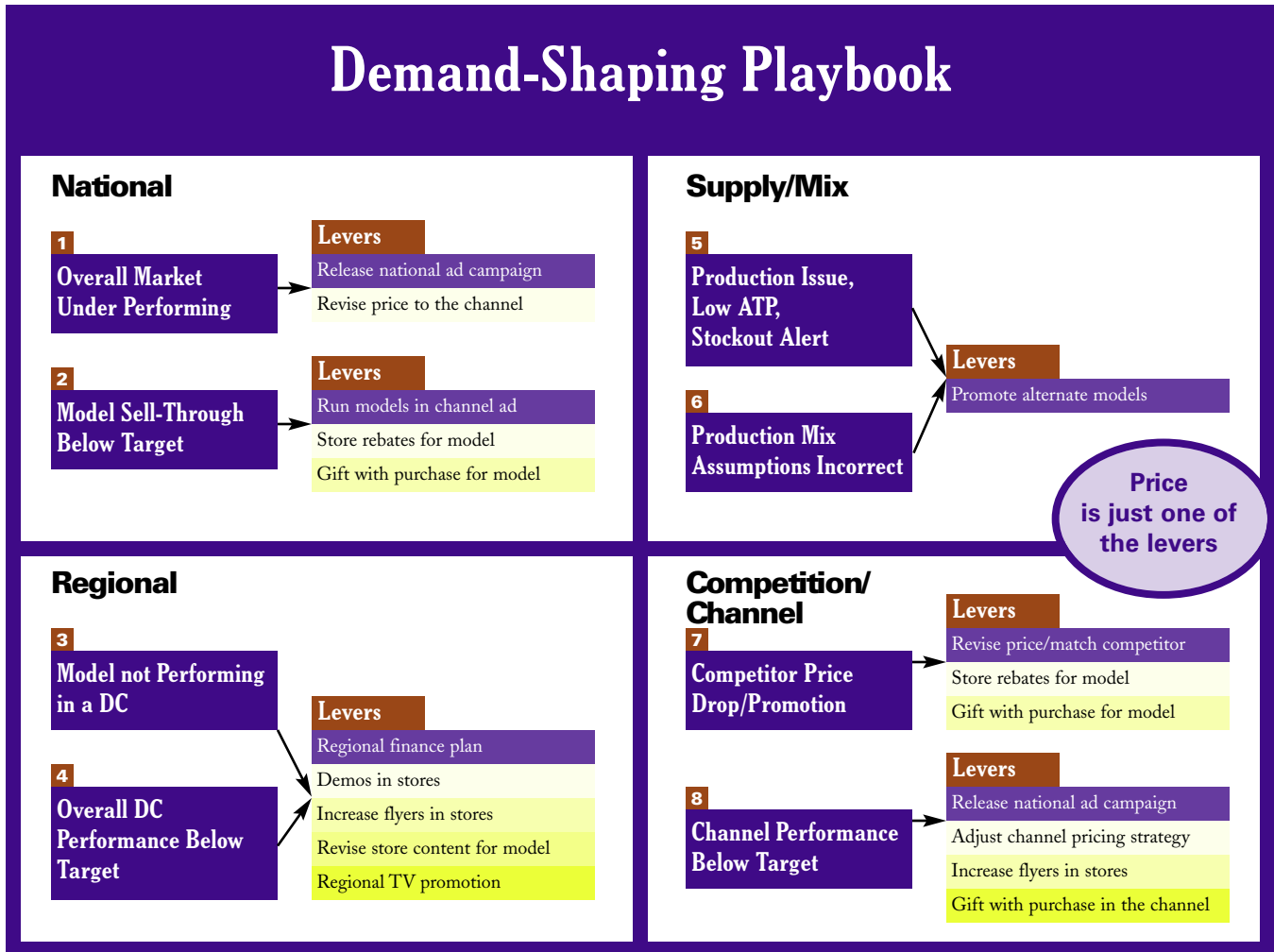


Figure 1

Figure 2



that occur in a continuous cycle:

- Monitoring performance to identify deviations from the strategic plan
- Performing root-cause analysis to clarify the underlying reasons for these deviations
- Taking predetermined actions to address these root causes with a set of rules and contingency plans that have a high probability of leading to a specific outcome

Most retailer scorecards typically measure performance at the national level. Any regional-level/store-level discrepancies are lost in the aggregation to the national level. These discrepancies can lead to a significant amount of lost sales.

Active monitoring of store-level trends using process playbooks (Figure 1, page 20) can uncover issues ranging from simple POS issues (e.g. data is incorrect due to shrink), to lack of inventory, to more complicated issues such as presentation stock set-up issues.

### 3. Co-manage forecasting and replenishment

The typical chain-level collaboration between the

manufacturer and retailer leaves individual store inventory levels and replenishment thresholds in the hands of the retailer. Given the typical retailer goal of maximizing revenue from different brand assortments—and given the fact that many retailers are currently streamlining operations by reducing headcount—maintaining brand awareness takes a back seat. Manufacturers’ considerable efforts to optimize their supply chains are held hostage to the performance of the last 100 feet.

The current economic downturn demands not just collaboration, but the power of co-management. Manufacturers will need to utilize their own and/or third-party resources, called sales support representatives (SSR)—or field marketing representatives (FMR)—to monitor floor performance and advise the retailer on issues and potential resolutions.

For instance, an SSR can use a questionnaire to collect tactical store intelligence such as which products are displayed where, what competitor models are also

CHANNEL **CONTINUED** on Next Page . . .



displayed and where, what SKUs are visible, how many and what SKUs are returned, etc.

Additional data that is typically not available in the normal course of interaction between a manufacturer and retailer can easily be gathered through the co-management process, and can be invaluable for store-performance monitoring.

#### 4. Empower your sales and marketing organization to use demand shaping playbooks to increase the size of your market

Past strategies have aimed to improve a company's profit and loss by preemptively identifying problems and taking the necessary corrective action. But the overarching business priority is to enlarge the market size. Demand shaping, which is another term for employing promotional activities targeting a specific region or market segment, can be very effective in accomplishing this.

Price cuts are widely used to increase and protect revenue, but there are many other strategies (Figure 2, page 21)

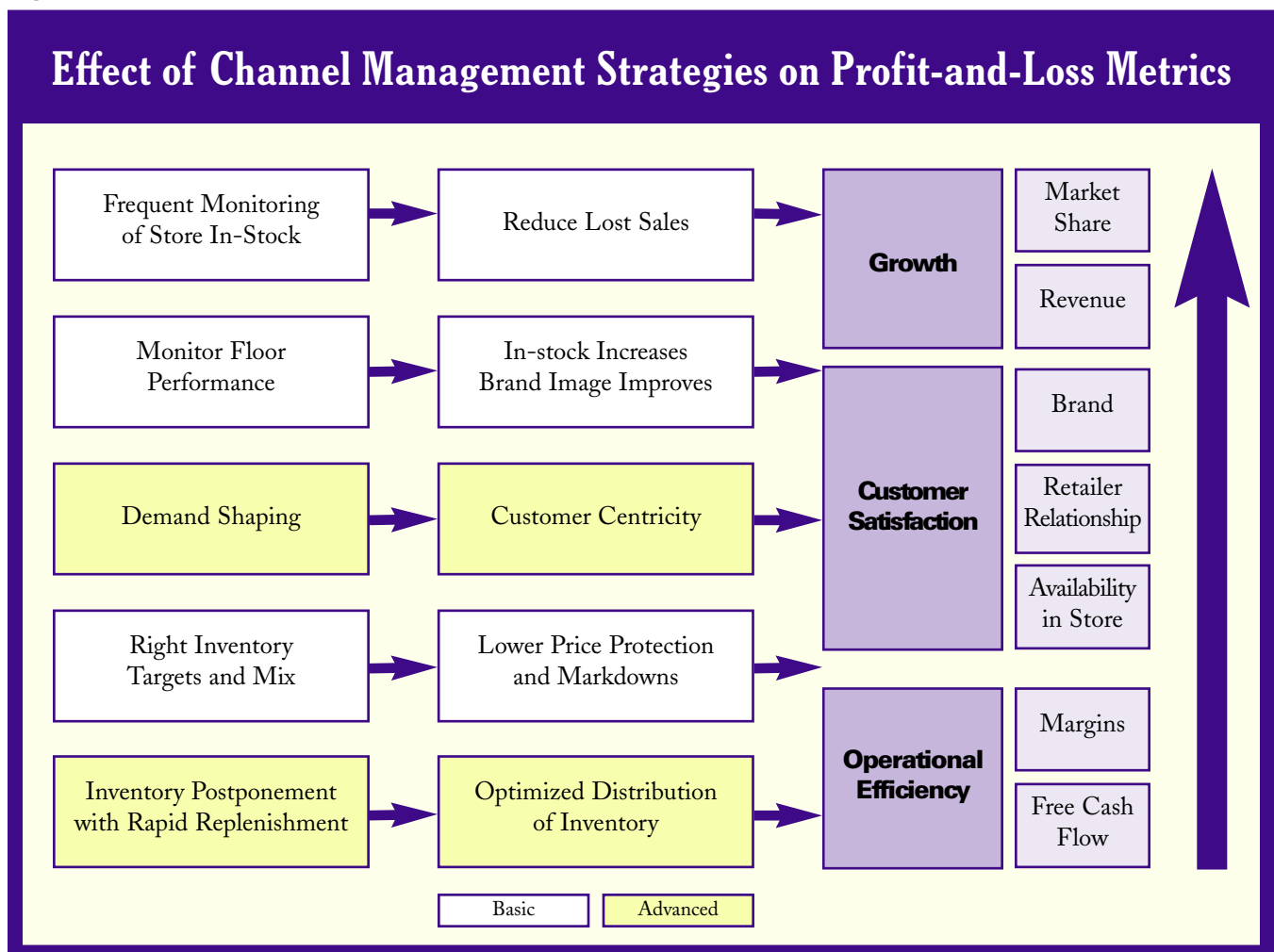
that can better serve an organization. The cumulative impact of POS analysis-driven strategies protects service levels and profits.

In the face of widespread global business and economic disruption, manufacturers will do well to employ an array of tools, strategies and tactics to anticipate and effectively respond to supply and demand fluctuations, while improving profit-and-loss metrics (Figure 3). By institutionalizing corporate knowledge and standard workflows across diverse regions and networks, process playbooks enable companies to make informed choices in the face of precipitous demand shifts, regional sales variations, product stock-outs, high channel inventory levels, extreme price sensitivity, and other challenges associated with short-product life cycles and unprecedented market uncertainty.

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**Figure 3**



# Sales and Operations Management – A New Paradigm in Global Supply Chain Management

Managing supply chain risk and achieving operational excellence is paramount in tough economic times. In the face of high market volatility, shrinking demand and limited visibility, companies must have strong planning processes that are capable of providing synchronized operational and financial plans and are backed by tight organizational alignment. One way to achieve this is through sales and operations planning (S&OP), a corporate planning process used to generate a consensus view of demand and supply between sales, production and finance.

Companies have been using S&OP for more than two decades to ensure that supply planning functions are synchronized with customer demand to meet overall customer service and productivity goals. The traditional S&OP process, however, has largely remained fragmented and non-responsive for most organizations. Moreover, the traditional approach is mostly ineffective given today's increased demand volatility, global network with supply risks, increased product proliferation and shrinking product life cycles.

The majority of the companies adopting S&OP utilize it as a rolling monthly planning process with a time horizon of 3-12 months. The level of planning granularity varies from SKU or item-level to aggregated product family level, depending on the audience. But, invariably in all cases, the goal of traditional S&OP has been focused more on generating a balanced supply-demand plan and less on execution of the plan and synchronization with overall corporate profitability objectives.

Upon careful examination, it is clear that traditional S&OP in most corporations suffers from some common limitations, which makes the process less valuable in today's business climate. These limitations include:

- **Inadequate synchronization:** The traditional focus has been on generating a plan by matching demand and supply to ensure fulfillment and production targets. However, closed-loop synchronization between plan and actual performance in the light of overall profitability and financial goals is not adequately addressed.

- **Non-value-added manual effort:** Corporations spend more time and effort collecting and aggregating data and less in planning or making decisions. Plan inputs typically reside in multiple sources and formats, challenging

unified, timely visibility and rapid synchronization of plan adjustments.

- **Poor quality and timing of information:**

Outdated, incomplete or incorrect data and long S&OP cycles with little provision for adjustments within a cycle seriously limit a corporation's ability to detect market changes and assess any demand or supply shaping decisions.

- **Lack of structure and plan accountability:**

Lack of structured accountability leads to high variance in plan and finger-pointing. Also, misaligned priorities and process inefficiencies promote gaming and ad hoc execution.

## Sales and operations management: Bridging the operational and business performance gap

Today, the majority of the companies executing S&OP processes achieve lower than desired levels of success. The degree of synchronization and plan accuracy varies significantly across companies and most suffer from the limitations highlighted previously. A few leading manufacturers, distributors and retailers have realized the need for tight synchronization among all corporate functions to execute the plan. These companies have improved upon traditional S&OP processes by enabling tight integration between plan and execution and extending demand-supply matching to include reconciliation with financials. This closed-loop management of S&OP process allows monitoring for deviations from the overall business plan to enable proactive, synchronous response and continuous process refinement. This approach is called sales and operations management (S&OM). Companies are quickly realizing that S&OM can actually become a mission-critical element of an integrated business management strategy.

## Key capabilities required to realize a closed-loop sales and operations management process

Successful S&OM can enable complete business alignment between business planning and operational groups, allowing the entire organization to work as a synchronized unit and to better manage supply chain risk. A company using S&OM as a monthly planning process can detect market shifts and collaborate across functional groups

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and trading partners more quickly, as well as provide a comprehensive response that is in line with corporate objectives on an ongoing basis. Most companies, however, lack the necessary capabilities to execute S&OM. Doing so requires fundamental strength in five key areas.

## 1. Process Orchestration

A key limitation faced by many organizations is the inability to create a repeatable process for S&OM activities, making even monthly monitoring of adherence to the overall business plan impossible. Creating an overall plan, and identifying and correcting deviations from that plan, requires defined business processes to coordinate the necessary activities among business units. In addition, supporting these coordination efforts necessitates data collection activities, such as demand forecasting, pricing analysis, competitive research, and root-cause analysis. Without these business processes, companies cannot identify deviations and gaps in the overall plan on a regular basis.

S&OM differs from S&OP by also focusing on plan achievement through the plan-do-check-act (PDCA) paradigm of closed-loop management. The “plan” and “do” phases encompass the traditional planning and execution processes of S&OP, as well as additional supply chain planning functions, which create, operationalize and execute business plans. In the “check” phase, feedback is continuously collected and analyzed. Finally, in the “act” phase, adjustments are made on an ongoing basis to ensure all planning is maintained and executed accordingly through the use of process playbooks. Process playbooks are formalized decision trees for major events that provide a planned, repeatable process to evaluate the deviation of execution from the plan and action items to reduce or eliminate the deviation.

## 2. Corporate Accountability

Many companies do not have the framework in place to enable the level of organizational alignment necessary for S&OM processes. They are not structured in a manner that allows for the necessary accountability from all corporate stakeholders. Lack of organizational alignment could be the result of limited engagement at the executive level during the execution phase. A disconnect from the operational side could mean lack of participation from sales or finance. Without accountability, business units do not have the incentive to make a corporate-wide analysis of performance possible.

Executive involvement is fundamental to enabling S&OM. All corporate stakeholders must be involved in the creation of the overall business plan. To ensure accountability, tools such as dashboards or an audit trail

are needed to track performance history. Sense-and-respond capabilities, which detect plan deviations and other events and then respond to close any gaps, are S&OM components that are also important to corporate accountability. “Sensing” requires an event framework that looks at various plan elements and can detect deviations on a continual basis. Once detected, deviations can be routed to the appropriate stakeholder for analysis and resolution.

## 3. “What-If” Scenario Analysis and Demand Shaping

Many companies are often either demand- or supply-oriented. They lack the “what-if” decision support capabilities to factor both demand and supply. Without the ability to understand the impact of demand, supply, and product mix decisions on revenue and margin, planning accuracy remains limited. The ability to weigh actions that can change demand to match available supply enables companies to optimize their decision-making process.

Over the past few years, scenario analysis and demand shaping have been introduced into the S&OP processes of major companies, allowing them to run scenarios for different demand and supply profiles, as well as “what-ifs” related to strategic, operational and tactical events. Each scenario may be evaluated by its financial impact and is incorporated into the monitoring of the overall business plan. Demand shaping is a mechanism that allows a company to introduce actions that change demand to match its available supply, including price changes and promotions. Scenario analysis and demand shaping also play an important role in deriving plans for process playbooks. Scenarios are run with different demand and supply profiles, and their impact on the company’s financials are evaluated.

## 4. Financial Plan Synchronization

Another obstacle faced by many companies is the lack of reconciliation between supply chain and financial data. Without this data synchronization, it becomes impractical to determine financial implications through various demand-supply scenarios. Additional financial considerations, such as global currencies and supplier financial data, are also key factors in the corporate decision-making process.

A financial plan is a core component of S&OM. Bi-directional integration between the financial plan and plans created through planning processes—such as constraint demand plans—are necessary for closed-loop management. Because profitability and revenue are key corporate indicators, assessing the immediate financial impact of planned changes, deviations and scenarios is critical in evaluating corporate performance. Therefore,



the synchronization of all of a company's business unit plans with its financial plan is crucial to achieving an effective S&OM process.

## 5. Master Data Management

S&OP processes within organizations require significant time for data gathering and management. The data collation process becomes an even bigger problem for companies working with a global S&OP initiative. Different data formats, levels of aggregation, varying information systems among regions, and integration of data from trading partners outside the enterprise create significant supply chain management challenges.

Companies today require a comprehensive master data management (MDM) strategy to reduce the lead time associated with data collation to support the S&OM process. MDM acts as a meta-data management layer that provides mappings and common data definitions for various dimensions of data, including organization, product and geography. This allows two different regions and organizations to map their data elements to one another and enables proper roll-up, roll-down, aggregation, disaggregation and allocation.

S&OM is a continuous process and not an annual or quarterly event. A committed management team is a prerequisite to institutionalizing a standard process across all business functions. Stakeholders, business processes and key performance metrics need to be clearly defined and managed and must be consistent with the overall corporate objectives. A well-structured S&OM process can facilitate complete business alignment between the strategic/business planning unit and the various operational groups so that the whole organization works as a synchronized unit.

The benefits of expanding and institutionalizing S&OM across the enterprise can be quite impressive. Measurable benefits typically include lower inventory and procurement expenses, reduced expediting and logistics costs, better forecast accuracy and more profitable production scheduling. From a qualitative standpoint, the benefits of implementing S&OM include increased supply chain visibility, improved customer service, and a better balance among demand, capacity and profitability across the enterprise. Taken together, these factors add up to significant improvements in overall business performance.

See also **S&OM REQUIREMENTS** on Page 44 . . .

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## Sales and Operations Management Case Study – A Global Automotive Company

A global automotive company wanted to establish an S&OM process that would enable it to balance global demand with global supply, properly allocate supply based on margin, and make adjustments based on changing business conditions such as demand fluctuations, exchange rates and transportation costs. This company had global operations, but S&OP was performed by each region independently at a frequency mismatched with the market dynamics.

Data consolidation across various regions and countries of the world was a monumental challenge. Each region—assuming they were on the same systems—defined product, geography and other data elements differently. Furthermore, system and data sophistication varied widely from spreadsheet-based processes in emerging markets to standard ERP systems in mature markets. Business units spent most of their time trying to get data into a presentable and explainable format to support meetings. The effort required to obtain accurate information did not leave time for analysis and effective decision-making.

This company defined a global process for demand and supply balancing and put in place a managed, shared-service model to perform the required information consolidation for an S&OM process. This shared service model created and maintained data mappings and reports to support the global process. What once took weeks to execute now is being done in a matter of days, allowing planners and stakeholders to focus on value-generating decisions. This foundational capability has enabled the company to advance further in its S&OM efforts by implementing scenario analysis and demand shaping.

# Old Navy Leverages Supply Technology to Remain Lean

*Facing tremendous challenges to reduce costs and increase market share, retailers today must ensure agile and rapid responses to demand signals to achieve success. Learn how Old Navy, a Gap Inc. division, is meeting those challenges.*

Matt Salmonson is the senior vice president of Inventory Management at Old Navy, a division of Gap Inc. In this position since 2007, he is responsible for production, planning and allocation, brand management, and pricing. Since joining Gap Inc. in 1992, Salmonson has held roles across all three of the company's major brands.

In this interview, conducted by *Supply Chain Leader* Editor Lauren Bossers at Old Navy's headquarters in San Francisco in February, Salmonson discusses the state of supply chain management in the retail industry today, and the critical role of planning and preparation in Old Navy's implementation of i2 solutions.

*You've had quite a tenure with Gap, Inc., with more than 16 years of service. Obviously many significant changes have occurred within the retail industry during that time, but what changes—from a supply chain perspective—stand out as the most noteworthy?*

Ultimately, inventories have become increasingly leaner in the world in general. That dynamic has been punctuated by the economic blips that we've seen in the last 10 years, whether it was 2001-2002 or whether it was this year. By virtue of the fact that inventory levels have gotten a lot leaner, it's caused people to really have to think about different things. One is the classic, which you hear all the time: "Be more responsive in the supply chain." There is a drive to quickly respond to whatever data signals you receive, and there is no "one size fits all" approach. There has to be a number of different options for managing inventory and parameters for responding to both positive and negative signals.

If you go back 10 years, it was more about responding to positive signals in the market. Now, I think it's far more balanced between responding to positive signals and responding to negative signals, so that causes you to do things differently. Before, the thinking was, "Stage it so that we can get our hands on it very quickly." Now, the approach is, "Do that with discretion, but also be prepared if you have to go the other way and ratchet it back." That creates a lot more dialogue with vendors, with whom we now have tighter connection and a lot more transparency—even if it's just by virtue of phone and e-mail—than we had a just a few years ago. If I were to project out 10 or 20 years from now, I would say that there will be an absolute transparency, and presumably it will be technology-based.

On the other side, you have consumers. Because inventories have gotten leaner, how you deploy your inventory becomes a lot more precious. And while we've always strived to be demand-based and match inventory with consumer demand, when inventory gets lean, every unit counts for more.



Photos: Steve Skoll

# Chain Management and Green

*You mentioned 10 to 20 years from now, that you envision even more transparency in the supply chain. What other big supply chain trends do you see moving forward? What's going to have the biggest impact?*

Cost has become king, and it's becoming increasingly important for us to negotiate the best prices for our products. We source our products from all over the world, and are always looking for new opportunities. As a company, the social aspect of what we do is incredibly important, and labor issues in many of these countries can be very challenging. When we go into new markets we do a lot of work to understand the social, political and economic conditions of those regions and our responsibility as a buyer in those places.

*I know that Gap Inc. has long been at the forefront of social and environmental responsibility. And that brings its own challenges, because when you're manufacturing halfway around the world and you're involving casual workers at times, I'm sure it's hard to exert the level of control that you'd like to have. So what kind of impact does the level of conscientiousness that you strive to maintain have on your supply chain?*

It is very difficult. But we have one of the more rigorous—perhaps the most rigorous—reviews of a vendor base of anyone in retail. We have a team of more than 80 people around the world that assess factory conditions, and we monitor both direct suppliers as well as their subcontractors before production can even be placed. Each of our suppliers must sign and abide by our code of vendor conduct. Other retailers are coming up the curve, and they've become more socially stringent, even in the last six months. When we think of social responsibility, it's not just making sure we select the right vendors and that they have the right conditions for the workers. We seek to actually improve the conditions by which people are employed around the world. That becomes more difficult in the current economy, because as we're trying to drive costs down so we can survive this downturn, so are the vendors. When they start doing that, it brings up other questions, other points of review. So we've increased the rigor by which we look at secondary relationships with our vendors, because we don't

want to go backward in this process. We've been a leader in this respect. We do our best to live up to what we believe is important.

*Environmental awareness is obviously an important issue for Gap. How do you stay as environmentally responsible as possible while maintaining economic viability and meeting consumer expectations?*

The world is only just beginning to become green, and green is here to stay. We're looking closely at things like plastic hangers and plastic bags, for example. So we have a whole separate work stream looking at ways to address issues, such as plastic bags, in the supply chain, not only from an environmental standpoint, but to comply with government regulations that are coming down the pike. When you're a publicly held company, economics are very important, and in some cases, economic pressures are forcing us to become greener. For instance, there are some provinces in Canada that have begun to tax us for the amount of waste that we create. So that's going to force us to become more innovative further up in the supply chain. Governments are looking for ways to become increasingly green themselves, but they're also strapped, so things like recycle taxes are going to be something that we really have to think about.

One of the things I love about this company is that our stores put a tremendous amount of pressure on us to figure out how to manage things like recycling boxes and hangers and the amount of plastic around product when it arrives at the stores. They look at it both environmentally, and in terms of how it is a benefit or a detriment to the work that they do. The amount of courage that people have in this company to raise these issues keeps us, as individuals or as leaders, on the hook to address them.

*Old Navy is a destination for low-cost clothing for the entire family. How do you compete with Target and Wal-Mart, who are also selling apparel to a similar demographic, when they are also getting foot traffic from people that are shopping for paper towels and dog food?*

INTERVIEW **CONTINUED** on Next Page . . .



That's their competitive advantage, for sure. But we have got to offer brand experiences that transcend going into a store, loading up a basket with donuts, milk and orange juice and saying, "By the way, I'll throw a sweat-shirt in there, too." For our portfolio of brands, there is an emotional connection. And part of the reason I've stayed here as long as I have is because I believe these brands are important. They're not just a storefront. Gap means something to people. The beauty and the burden of this business is when you tell somebody you work for Gap, they will tell you that they walked in the store and the khakis that we used to carry weren't there anymore. To me that is a constant reminder that people care about their experiences when they go into these stores. On the other hand, we don't carry soap, food products or electronics, and so how we compete has to be along a different and more emotional dimension than what Wal-Mart and Targets will. It's the challenge. The retail landscape has changed over the last 20 years, driven by both of those guys. And it's a challenge that we take on every single day.

*I was doing some shopping on gap.com recently, and I noticed that all of the Gap sites—Banana Republic, Gap, Old Navy, and Piperlime—have been integrated now, so that shoppers can fill one shopping bag and pay one shipping fee. What kind of opportunities and challenges does this present from a supply chain perspective?*

The Gap brands operate very closely together in a variety of ways. We source products jointly, and we leverage the portfolio of brands strongly across the supply chain. It's a source of absolute efficiency for us, certainly from a cost standpoint. We have multiple channels in which we can either negotiate with vendors directly for multiple brands when we're making product or having product made, and we also can ship product together. We leverage our size in that way to stay efficient. Old Navy shares distribution centers with Gap and, to some degree, with Banana Republic. We want our direct channels to fulfill the relationship we have with the customer. We want them to be able to buy something. We want it to be easy. There's a lot more leverage to be had in that process online, but we're very proud of the web site. It's best-in-class and poised to do some amazing things.

*During your presentation at i2 Planet last year, you talked a lot about the importance of getting the organization ready for a supply chain management implementation. How do you prepare a team and build the processes around the technology?*



First, you have to have the vision to know where you want to be, and next, what the logical steps are to get there. When you're offering that vision to the organization's executives, you have to give them a real, pragmatic understanding of how you're going to accomplish your goals. You have to show them an example of what you think the processes are going to look like and what you think people are going to be doing. In the end, people might be inspired by the vision, but they think about the work. For me, I could be happy with putting a dot on a map and saying, "Oh, I can see clearly how we're going to get here." But for the other 100-plus people that are in the organization, that's not enough. You have to put a team together, and say, "If we want to get from point A to point B, this is how we think people will be doing their work. This is what we think is going to be important." You're probably going to be 75 or 80 percent right. When you put smart people in a room, they, generally speaking, are going to get you on the way.

*How do you then start putting that into action?*

To the extent that you can, you start pulling pieces out of the process and say, "We're going to do this starting

tomorrow,” or “We’re going to do this starting six months from now.” Once you get rooted in a fairly tangible view of what a day looks like, you start systematically pulling things out of the plan and say, “Why can’t we do this today?” And you just start doing them. We discovered, as we pulled pieces out, many of them were spot on, and by the time we actually got to the real change, people were experienced in the new process. There’s nothing that gives an organization bandwidth and confidence like experience. And you don’t want to start building experience day one; you want to build it on day minus 300. The other piece is, you’re going to find out that some of the thinking that you had was 80 percent right, but 20 percent of it was wrong. You want to make the necessary improvements and adjustments before you get into the real change. Otherwise, it’s going to create more chaos, and it’s going to stretch the time between implementation and proficiency.

*When all of your planning and preparation enables you to successfully shorten that time between implementation and proficiency, what are the positive results that you see within the organization?*

The goal for me as a leader is to compress that time. I want the team to be as proficient as they can, as fast as they possibly can, for a few reasons. First, it keeps people confident, it keeps their psyches intact, it keeps them learning and growing much more quickly. And by the way, it delivers benefit to the business more quickly as well. I talk to people in my role in many different companies, and the first thing they say to me is, “What technology are you guys using?” or, “We need technology. What should we do?” My response is always, “Do you know what you want to do?” And I have yet to find somebody who’s given me an answer to the question: “What is the business problem you’re trying to solve?” For an end user, it’s got to do three things. First, it has to solve a relevant business problem, and one that everyone can see and understand, like, “I’m having trouble putting my inventory in exactly the right places.” Second, it has to look good, meaning the user interface has to be natural. Finally, it has to perform, and deliver on its promise in a timely way. And for me, it’s about practice, practice, practice and practice in the business, as though you’re already doing the work. Be open to making change.

*Can you talk about a real-world example of an implementation experience with i2?*

We’ve been very successful, certainly with the i2 Buying and Assortment Management [BAM] implementation. Implementations are never easy, but in this case,

people were ready to use the tool. In preparation, we actually took some of the BAM algorithms out of BAM and put them in into the Excel spreadsheets that we were running, so our team had experience in what the algorithms were telling them. When BAM was actually up and running, they already understood what the system was telling them.

*Have you been able to leverage implementation best practices like this across other Gap Inc. brands?*

Between the Old Navy implementation and the Gap implementation, we discovered new things. We have been able to help Gap, and as a result, they’ve implemented slightly differently than we have. Their implementation is starting to wrap up, and now we’re going over to Banana Republic. But all along the process—and this is what I love about our portfolio of brands—we’re able to help Gap out so they can implement more quickly, or change more rapidly. The speed by which we’ve been able to implement in the other brands has been unbelievable.

*How has i2 helped you to accomplish your supply chain goals?*

Number one, we’ve gotten much leaner in our supply chain, and not just through a sheer desire to be leaner. We’ve become a lot more prescriptive and precise in how we’re making investments in our inventory. Number two, i2 solutions help us keep our assets much more fluid. And three, we’ve significantly improved our ability to deploy our assets in the right places, which is not easy to do in the very complex, volatile world of fashion retail. To be able to create any level of certainty or precision within that framework is difficult, but we’ve been able to overcome challenges, significantly improve processes and create substantial benefit.

When we started the i2 engagement three years ago, we didn’t look at 2009 and say, “Boy, it’s going to be a tough economic year.” But now we’re at the right level of maturity with the solution when we really need it. We chose i2 because we thought they would be a great partner who would give us the foundation of growth we were looking for. We knew that, on day one, we would actually start realizing the benefits that we were looking for, and we have not been disappointed at all.

**Lauren Bossers** is the editor of *Supply Chain Leader*. View **Matt Salmonson’s** i2 Planet 2008 General Session presentation at [www.i2.com/customers/retail](http://www.i2.com/customers/retail).

For more information, **contact** [supply\\_chain\\_leader@i2.com](mailto:supply_chain_leader@i2.com).

# How do you design a supply chain organization to achieve maximum value?



**Kevin O'Marah**  
Chief Strategy Officer,  
AMR Research

I think this is a timely and relevant question, because many businesses are just beginning to explore the concept of a supply chain organization—and are challenged with creating and managing one effectively.

While it may surprise those of us who read *Supply Chain Leader* regularly—and immerse ourselves daily in supply chain issues—a 2008 AMR Research study of nearly 200 companies found that only 76 percent had officially created a supply chain organization within their business. And, of those companies that did have a formal supply chain organization, 57 percent reported that it was less than five years old.

Whether your supply chain organization is well-established or in its infancy, it's worth taking a close look at this critical business component and asking: "Is our supply chain organization truly acting as a value chain? If not, what can we do to improve its contributions?"

Based on my own experience—and the results of a number of studies undertaken by AMR Research—a key determinant of success lies in the definition of "supply chain organization," which varies greatly across businesses. Is the supply chain organization limited to such logistical activities as planning, sourcing and delivering? Or does its span of control extend to higher-value activities such as launching new products and managing customer relationships?

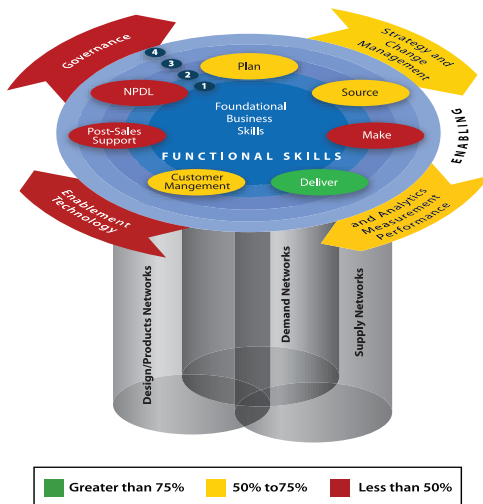
The aforementioned 2008 AMR Research study confirmed what most of us probably know instinctively: The highest-value supply chain organizations reach the farthest, extending into "value chain" areas that are significant contributors to revenue generation, profitability and customer satisfaction.

While most of the companies we surveyed included delivery (78 percent), planning (68 percent) and sourcing (63 percent) in their supply chain organizations, the functions that most of us consider higher-value activities had much lower representation.

Only 52 percent of participating businesses included any customer management capability within the supply chain organization, while new product design and launch (31 percent) and post-sales support (25 percent) were viewed as even less of a supply chain responsibility.

## Value Chain Spans of Control Vary Widely

Supply chain talent attributes – predominant span of control



Source: AMR Research, 2008

## High value = high performance

While it may seem intuitive that these functions should fall under the broad umbrella of the supply chain organization, will the overall business perform better if higher-value activities are managed by the same organization that plans, sources and delivers?

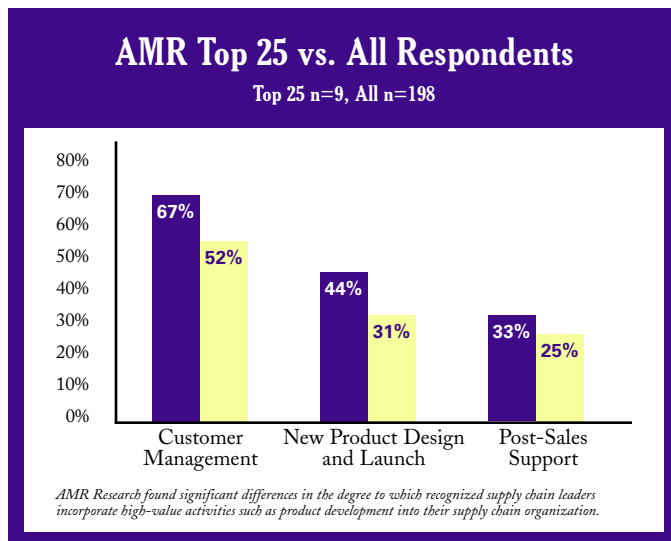
The answer seems to be a resounding "yes," if we compare the supply chain organizations of the typical respondent in the AMR Research study with those of some elite respondents who are members of the AMR Research Supply Chain Top 25.

These businesses were determined to be among the best in AMR Research's 2008 ranking of companies that display superior supply chain performance, capabilities and leadership. AMR Research's annual analysis begins with basic public data—return on assets, inventory turns and growth—and also incorporates expert and peer assessments of each company. The rankings also have hard data to back up their validity; in 2007 the AMR Research Top 25 delivered an average total return of 17.89 percent,



compared with returns of 6.43 percent for the Dow Jones Industrial Average and 3.53 percent for the Standard & Poor's 500. The AMR Research Top 25 list for 2008 includes such prestigious companies as Nokia, Dell, IBM, Samsung, PepsiCo and Coca-Cola.

When the demonstrated leaders in our study were compared with other respondents, they placed high-value activities within their supply chain organization at a consistently higher rate. A full 67 percent of the acknowledged leaders included customer management in their supply chain organizations, compared with only 52 percent of the total universe. The same was true for new product design and launch (44 percent, compared with 31 percent) and post-sales support (33 percent and 25 percent, respectively).



The AMR Research study also found significant differences in four key “enabling” functions that support supply chain performance: strategy and change management, performance measurement and analytics, technology enablement, and governance.

In comparing the leaders with other respondents, the most striking disparity was in the area of strategy and change management. A full 100 percent of the leaders included this capability in their supply chain organization, while this was true for only 64 percent of the overall respondents.

Another finding might be especially telling for the readership of *Supply Chain Leader*: While only 41 percent of overall participants saw technology enablement as a responsibility of the supply chain organization, this number was much higher—56 percent—for those among the AMR Research Top 25. This proves what most of us already know: Ownership of technology solutions really

does empower the entire supply chain organization, taking it to the next level of performance.

### A failure of imagination

I began by noting that the concept of “supply chain organization” is fairly new for the typical business. What’s even more surprising is that so many businesses that have acknowledged this concept are still viewing the supply chain organization as a mere cost center—responsible for sourcing, manufacturing and delivering products—that is separate from the higher-value activities associated with delighting customers and driving sales.

Properly defined and truly empowered, the supply chain organization can perform all of these functions, becoming a generator of satisfied customers, greater revenues and higher profits. By limiting the scope of their supply chain organization and defining it too narrowly, many companies are shortchanging their overall performance.

If this critical component of the business is only viewed as a cost center—responsible for lower-value activities and not high-level results—how can any supply chain organization achieve its full potential?



**Mile Gray**

Supply Chain Evangelist,  
CPM, CIRM

One element of supply chain success that is often overlooked is the human element.

In my opinion, many supply chain organizations need to spend more time identifying the specific roles needed to fulfill their mission—and then matching these roles with the right people. The most effective supply chain organizations are built by taking periodic actions to match roles with skills, fill talent gaps and cull out unneeded or redundant skills. While most of us focus a lot of attention on inventory management, we pay less attention to an equally critical concept: the management of our human inventory.

### Humans in the supply chain: Organizing for success

Organizing a group of humans to create, manage and continuously improve complex global supply chains is a daunting task.

But just imagine for a moment that you could start with a “clean slate,” building a supply chain organization

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from the ground up. What kind of people would you look for? Consider these questions:

- How important is it that employees have supply chain experience?
- Can you simply hire what you need from the long list of universities that are cranking out undergrad, graduate and doctoral supply chain majors?
- Do professional certifications matter?
- What common traits do outstanding supply chain employees share?

I think the first question is easily answered: of course experience makes a difference! As humans, we know a heartbeat is a pretty important indicator of survival. Seasoned supply chain practitioners have a deep, almost visceral understanding of the sales and operations planning (S&OP) process—and know that it's the heart of an effective supply chain. They will spend little executive time arguing about forecast accuracy and will get straight to the “heart” of the matter: establishing a regular heartbeat by designing and implementing a robust S&OP process as a first step toward a world-class supply chain.

While it's tempting to recruit from the increasing number of graduates of supply chain programs, there is no substitute for experience.

Now, that's not to say academically qualified humans have no place in a world-class supply chain. On the contrary, without fresh ideas and an intellectual understanding of the latest supply chain tools and techniques, any organization will stagnate.

But it's critical to blend this “new blood” with experienced members of your staff—not to show the new teammates how it's always been done, but to establish less experienced employees in the fundamentals of their particular function within the supply chain.

In addition to encouraging individual mentoring from seasoned employees, your organization should create a well-designed rotational program that will help assimilate new teammates to the way you practice supply chain management. Don't be tempted to move new recruits too quickly into management; the cross-functional nature of supply chains dictates the need for them to become established in several functional aspects of your supply chain before they can effectively lead.

## Are your employees certifiable?

In addition to having hands-on experience, I believe that holding professional certifications is critical to the effectiveness of supply chain employees. Why? At the very least, because it is worth learning the unique vocabulary and a huge number of acronyms that describe what we do.

For the sake of organizational learning and cohesiveness, it is imperative that our employees have a shared understanding of the basic terms of our profession—and certification helps to provide a common framework. Just think about the alphabet soup we deal with: S&OP, E&O or O&E, INCOTERMS, FOB, EOAP50...the list is endless!

There are several established professional organizations that confer certifications to practitioners who have demonstrated competence in particular supply chain disciplines. In my opinion, the top two are:

- ISM: To build on its Certified Purchasing Manager (CPM) program, the Institute for Supply Management ([www.ism.ws](http://www.ism.ws)) introduced a new Certified Professional in Supply Management (CPSM) designation in May 2008. This certification reflects multi-faceted skills in areas such as supplier relationship management, commodity management, risk and compliance issues, and social responsibility.
- APICS: The Association for Operations Management ([www.apics.org](http://www.apics.org)) offers a number of supply chain credentials, including Certified Supply Chain Professional (CSCP), Certified in Production and Inventory Management (CIPM), and Certified Fellow in Production and Inventory Management (CFIPM).

Another great resource is CSCMP, the Council of Supply Chain Management Professionals ([www.cscmp.org](http://www.cscmp.org)). This professional association offers many educational opportunities, including online courses available through its CSCMP University program.

You wouldn't want an unlicensed doctor performing heart surgery, would you? Why should it be any different for your supply chain organization? Seek out certified supply chain practitioners—you'll be glad you did!

## Effectively managing your human inventory

Supply chain organizations vary as much as the people who manage them—and every business will have its own set of human characteristics that define success. In my experience, successful humans in the supply chain organization share some common traits:

- Process orientation
- Pragmatism
- Global perspective
- Relationship focus
- Dogged determination
- Superb communication skills
- Tendency toward action

For those we ask to lead our supply chains, all of these qualities are essential—but effective leaders also require broad functional experience. They should have expertise in

planning and inventory control, procurement (contacting and supplier management), logistics (forward and reverse, along with network design), as well as IT enablement (ERP, MRP, CRM or PLM—pick your flavor!)

While we may never be able to “clean slate” our supply chain organizations, one important step we can take is classifying the range of human talent we possess. Creating a matrix that captures our employees’ unique skills, traits, education, experience and professional certifications can help us to leverage and optimize our human inventory.

When organizing a supply chain for success, I’d suggest you spend a great deal of time defining the roles you require and then matching your human inventory to those roles. By conducting this ongoing exercise, you will be able to design your organization for success—and effectively deploy your most important assets as you continue your journey toward building a world-class supply chain.



**Ricardo Monsalve**

Vice President,  
Supply Chain,  
Sanitary Ware Division,  
Corona

In my opinion, the most important consideration in designing a supply chain organization is that it supports the top-level strategy of the business—and that it enables the business to deliver on its key customer promises.

For example, if you have based your strategy on having the industry’s shortest lead times, then the entire supply chain must be built around speed, and on finding the most cost-effective way to accelerate delivery. If you have promised to offer the world’s most innovative products, then you should focus on research and development and other product development activities, as well as rapid market launches. If your competitive advantage lies in minimizing customer inventories, then you will have an entirely different set of organizational priorities that focus on flexible delivery.

To maximize strategic and financial results, every part of the supply chain must be aligned closely with the unique value proposition that an organization is offering to its customers. While this might seem like an obvious notion, I believe many businesses have supply chain organizations that—to some extent—work against the highest-level goals of their businesses. This is due, in part, to the complex nature of supply chains today, and the challenges involved in managing that complexity.

**A diverse network—with a single vision**

While supply chains used to be conceived as a straight line between supplier and consumer, today the typical supply chain is a complex network comprised of multiple suppliers, distributors and other partners who work together to deliver products to the end consumer. This network often spans many countries, each of which has its own unique currency, trade regulations, duties and customs procedures.

Given the complexity of today’s supply networks, it’s not really surprising to think that the supply chain organization could be working against the company’s overall business strategy. Supply chain executives must constantly assess how closely all the parts of the supply network are aligned with the highest-level goals of the business and tighten that alignment when needed, so that they are truly operating with a single vision.

If we have designed our supply chain organizations to support a shared strategy, how can misalignment occur? As we all know, operating a supply chain means that we make constant trade-offs as conditions change. Sometimes the trade-off that makes the most sense for one part of the supply network is not a choice that supports the strategic long-term success of the business as a whole.

For example, when sourcing managers are comparing a new group of suppliers, cost is traditionally the primary consideration. But, if the top-level strategy focuses on short lead times, new suppliers must be judged not only

**Supply chain executives must constantly assess how closely all the parts of the supply network are aligned with the highest-level goals of the business.**

on their total-landed cost, but also on less tangible factors such as their flexibility, responsiveness and physical distance from the consumer. And, because potential suppliers may be scattered around the globe, there are many hidden complexities—such as the amount of time and paperwork required by local customs regulations—that make this decision-making process even more complicated.

**New tools for managing complexity**

Given the diversity and geographic reach of business today, how is it possible to manage every facet of a supply chain and make sure that appropriate decisions are being made every day, at every level? New technology tools are helping to bring the supply chain organization together under a single set of objectives—and ensure that ongoing

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trade-offs lead to the best possible strategic outcome for the entire business.

At Corona, we are using a range of technology tools to align our global supply network with our top-level strategy and to ensure that we are fulfilling our promises to the marketplace. By focusing our entire supply chain organization on delivering our unique value proposition, we can say with confidence that we are working with a shared vision.

While there will always be unexpected events and new developments that affect our supply chain plans, supply chain technology tools help us to overcome these short-term challenges and bring us back on track. This technology supports the decision-making that brings Corona closer to our strategic goals.

Because every business has a unique value proposition and long-term strategy, every supply chain organization will also be unique. Each supply network serves its own markets, sources from its own supplier group and works to fulfill its own set of customer promises. The only thing supply chains seem to have in common today is a high degree of complexity.

Fortunately, today supply chain executives can use a new set of tools and decision-making processes to manage that complexity and ensure they are making smart, strategic decisions at every level of business. No matter what type of value companies bring to the marketplace, they can now maximize that value by aligning their worldwide supply networks more tightly than ever.

## The Last Word



**Kelly Thomas**

Senior Vice President,  
Product Strategy and Planning,  
i2

Achieving maximum value from the supply chain organization begins with placing a high level of importance on the concept of supply chain management.

Some companies value their supply chain capabilities and view them as a competitive advantage, while others consider the supply chain organization to be a back-office operation. The world's leading businesses have elevated the discipline of supply chain management to an executive level—and view it as both core and strategic. In these kinds of forward-thinking companies, a position as a

supply chain executive has become a stepping stone to the CEO's office.

Companies at lower levels of maturity view the supply chain as a logistics problem, or a procurement problem, or a materials problem, or a manufacturing problem, or a planning problem. Enlightened companies view the supply chain as an integration of all of these areas. They design their supply chain organizations accordingly, with a broad reach and a high level of visibility throughout the business.

The general characteristics that describe a company's supply chain also have an impact on the supply chain organization's design. Some companies offer a set of fairly similar products, which are made in factories around the world. Other companies are multi-divisional, with a diverse set of products serving different industries and market segments. Companies also vary widely in the extent to which they control their supply chain assets. Some own a high percentage of these assets, while others have outsourced most of these assets and must manage them virtually.

As the other authors here have noted, there are many other important considerations—including the specific functions that fall under the supply chain umbrella, the kinds of people who manage its daily operations and the degree to which it reflects the top-level strategy. But I believe that a successful supply chain design must also begin by answering three critical questions. Companies must ask if their supply chain organizations should be:

- Integrated versus functional?
- Centralized versus decentralized?
- Global versus regional?

## Integrated versus functional organization

Supply chain management incorporates a diverse set of functions, spanning multiple domains including demand, supply, manufacturing, materials, inventory and logistics. Traditionally, these functions were viewed as operational and assigned to certain functional silos, including manufacturing, procurement, supply and logistics.

Today, leading companies create supply chain organizations that integrate these traditional functional silos and transform them into a seamless whole—from order management through procurement and material delivery. Instead of focusing on functional strategies and targets, they look at the supply chain organization as a single entity, with shared priorities and objectives—and capable of achieving extraordinary strategic results. One supply chain executive I know describes his job as “managing between the goal posts.”

Companies who take this integrated approach tend to have a single executive responsible for global supply chain and procurement, typically reporting to the CEO.

### Centralized versus decentralized organization

Deciding which functions to manage at a corporate level versus a division level—or, in some companies, at a plant level—represents another critical element of supply chain organizational design.

Many companies operate a series of decentralized divisional structures, each with its own unique supply chain. These divisions may make unique products and, in some cases, may even compete in different industries with different customers and different suppliers. They may have their own design, manufacturing and materials teams, as well as other separate functions.

In such businesses, it may be difficult to create a single executive-level supply chain organization that spans all the divisions. However, there are great synergies to be gained from having a central view of all the supply chains in the company.

For instance, one company that managed its materials at a plant level discovered that one plant was writing off obsolete inventory, while another plant was ordering those same parts from the same supplier. These types of inefficiencies can only be seen by taking a higher-level view of the entire supply chain organization.

Some companies have created “shared services” supply chain organizations to coordinate across multiple divisions. While these organizations can serve as stewards of common best practices, they usually have no authority—and typically do not achieve their stated goals. A better strategy is to appoint a central supply chain executive who can view the disparate supply chains holistically and drive common processes, particularly in such functional areas as demand management, logistics, procurement, master planning and supplier integration.

### Global versus regional organization

Most large companies are global, but very few of them have global supply chain processes and associated global organizations. With sources of demand and supply around the world, companies today must decide how and where to manage demand, supply and all points in between. Manufacturing plants and sources of demand may be owned by regional organizations, but consolidated demand management, supply management and procurement must be centralized to achieve optimal financial results for the company. Both internal and supplier capacities must be managed globally to ensure that constrained supplies are

diverted to higher-growth or higher-margin sources of demand across worldwide markets.

To do this, companies need both global processes and global supply chain organizations. That does not mean that everything is managed by a large group of supply chain professionals sitting at corporate headquarters. On the contrary, while the headquarters organization may be centralized and global, a company’s team of supply chain professionals may be located regionally around the world. Each region of the world may also be assigned global responsibility for a specific set of supply chain functions, all managed within a centrally driven supply chain organization.

**A better strategy is to appoint a central supply chain executive who can view the disparate supply chains holistically and drive common processes.**

One company calls this approach “centralized decentralization,” whereby different organizations and regions are given different global supply chain or procurement responsibilities—with cross-functional coordination and management carried out by a central headquarters organization.

### Determining your own answer

The truth is, in today’s business world, leading companies have created supply chain organizations that are integrated, centralized and global in nature. These organizations are typically managed by a C-level executive who is responsible for global demand, manufacturing, supply, logistics and procurement.

This does not mean that a single organization structure makes sense for every company, however. Some businesses separate manufacturing from this mix and treat it as an execution function that is driven by the supply chain functions. Other companies choose to manage many functions in a decentralized fashion, but also provide a central coordination or visibility function to root out inefficiencies.

Which organization design is best for your company? Answering this question depends on the level of commitment to supply chain capabilities within the business, as well as the maturity of supply chain processes, people and systems. The answer will be slightly different for every business, but I believe that asking—and responding to—this question is the first step in increasing the overall contributions of your own supply chain.

Opinion interviews were conducted by freelance writer  
**Cynthia Fusco.**

# Kimberly-Clark drives sustainability



Kimberly-Clark takes a serious stance on sustainability and environmental responsibility. As the manufacturer of well-known global household brands such as Kleenex®, Andrex®, Cottonelle®, Huggies® and Pull-Ups®, the company is committed to sustainability in its truest sense and is now starting to reap the benefits of it. The company is both reducing its environmental impact and running a lean and efficient supply chain, which in turn brings real benefit to its biggest customers, retailers and ultimately to consumers. Along with other initiatives designed to improve its impact on the environment, Kimberly-Clark has implemented i2 Transportation Management solutions in its European and North American operations, to reduce its carbon dioxide (CO<sub>2</sub>) output, while also reducing costs.

Bath tissue, paper towels, diapers and facial tissues quickly fill up shopping bags on a trip to the supermarket. They may not weigh much, but they do take up space, and this creates a range of transportation challenges. Most of Kimberly-Clark's products have a large "cube size," but a relatively low price per unit. As a result, transportation costs comprise a significant proportion of the product costs. "Transportation is 6 percent of our net sales value and quite a big number on the profit-and-loss sheet," says Peter Surtees, European supply chain director of Kimberly-Clark. "In addition to that, transportation inflation is inevitable as oil prices, green taxation, road taxation, European working time regulations and driver shortages all affect rates."

In an effort to minimize its transportation require-

ments, Kimberly-Clark maintains manufacturing plants across Western and Central Europe and strives to produce 70 percent of its products in the same country in which they are sold. Even so, the company is still responsible for organizing more than 100,000 freight movements per year. All of these movements take place by road, and with customers in every corner of Europe, there are no primary routes.

Previously, Kimberly-Clark used a hosted transportation management system (TMS) to help it contract out its shipments to third-party haulers. Every time that it booked a truck movement using the software, it paid a fee to the software owner. While this solution met Kimberly-Clark's day-to-day needs, it did not enable the company to implement more flexible contract allocation processes to minimize costs. "Our existing TMS didn't offer us the functionality we wanted," says Surtees. "It restricted our ability to do some more imaginative stuff, to operate strategically and to exploit opportunities to reduce costs."

Kimberly-Clark uses SAP applications in many different areas of its business, but decided against deploying SAP's transportation management solution. It conducted a full review of the solutions available in the market and selected the i2 Transportation Management solution. "At the time, SAP didn't offer the functionality that we needed and we weren't prepared to wait," says Surtees. "i2 was the most functionally rich solution available and enabled us to run the transportation model that precisely suited our business."

## Savings of £2 million...

Following a three-month design phase, the i2 Transportation Management solution was rolled out to cover all European operations within just one year. In a parallel project, the i2 solution was also deployed at Kimberly-Clark in North America. "Compared to other software implementation projects that the company has undertaken, the i2 implementation was a relatively easy process," says Surtees.

Kimberly-Clark uses the i2 Transportation Management solution to operate a league table, which ranks available carriers according to the lowest cost per route. The company has no long-term, fixed commitments with its suppliers, so carriers can increase or decrease their prices flexibly, depending on different circumstances. For example, if a hauler has a partially empty truck that is already scheduled to travel between two cities, it may want to offer very competitive rates to Kimberly-Clark



# through the heart of its supply chain

to enable it to fill the remaining space and create a more cost-effective route. Equally, if a carrier knows that it has trucks due to return empty from regular deliveries to a specific location, it can offer lower rates to Kimberly-Clark to fill this capacity on the return trip.

The i2 Transportation Management solution keeps an up-to-date record of all prices offered by all carriers per route at any one time, and then as orders come in, it automatically offers the contract to the lowest-price carrier. If this carrier is unable to fulfill the job, the software automatically forwards the order to successive carriers until the best available price for the route is obtained. To enable this process, the i2 software is tightly integrated with Kimberly-Clark's SAP order management system and an external messaging system for communicating with carriers. "More than 80 percent of our freight movements are handled by our first-, second- or third-choice carrier for price on every route, and this is a key performance indicator for our business," says Surtees.

The system has been extremely successful in enabling Kimberly-Clark to find the most cost-effective operators by route and consequently reduce its costs. The company estimates that it will save £1 million a year by allocating transportation contracts more cost efficiently, route by route. In addition, the company saves £1 million a year by not having to pay fees to its software provider for each truck movement scheduled.

## ...and half a million kilograms of CO2

Because of the flexibility and automation of the i2 solution, Kimberly-Clark has been able to increase its carrier base to 170 companies, while decreasing its administration costs. It now does business with more small and niche operators, who are often more competitive on certain routes and more likely to have return legs to fill. "The more carriers you have, the less empty running you have and it's a virtuous cycle," says Surtees. "When we reduce the number of miles travelled on the company's behalf, we directly contribute to a reduction in CO2 emissions."

As a result, the i2 solution has enabled Kimberly-Clark to become greener. One gallon of diesel produces 12 kilograms (kg) of CO2, according to figures provided by the company. [Editor's note: 1 kilogram equals 2.2 pounds]. Therefore, if its trucks travel an average of 8.5 miles per gallon, every mile that Kimberly-Clark takes off the road leads to a reduction in CO2 of around 1.5 kg. The

company estimates that its £1 million savings corresponds to a reduction in mileage of 380,000 miles and a reduction in CO2 of as much as 540,000 kg.

Some organizations still see environmental responsibility as a cost. But Kimberly-Clark is among those companies that successfully demonstrate that a focus on sustainable business practices goes hand-in-hand with cost reduction and efficiency. Through its use of advanced supply chain management tools, it has saved money, moved a step closer to being an indispensable partner to its retail customers and proven that it is indeed possible to be both efficient and environmentally responsible.

## At a Glance

**Company name:** Kimberly-Clark Corporation

**Global headquarters:** Dallas

**Products:** Family and personal care products

**Annual sales:** \$19.4 billion

**Employees:** 53,000

**Global operations:**

- Products sold in more than 150 countries
- Holds the No. 1 or No. 2 share position globally in more than 80 countries

**Objectives:**

- Exploit opportunities to reduce transportation costs
- Minimize transportation requirements
- Eliminate third-party transportation software fees

**Key solution:**

- i2 Transportation Management

**Results:**

- Created more cost-effective routes, resulting in estimated savings of £1 million a year
- Eliminated annual fees of £1 million to software provider
- Increased carrier base while decreasing administration costs
- Estimated reduction of 380,000 miles and 540,000 kg of CO2

# MasterBrand Cabinets improves

MasterBrand Cabinets, Inc., the second-largest North American manufacturer of kitchen and bath cabinetry, strives to be a one-stop shop for its customers. The company provides a broad product line with an emphasis on high quality—not just in the product itself, but also in the services that go with it. With 95 percent of its cabinets made to order, MasterBrand seeks to differentiate itself by establishing customer intimacy. This goal, however, had been partially impeded by the company's highly manual transportation management processes.

“We had grown rapidly through acquisition, and at the time, the housing market was booming,” says Shelly Hedinger, MasterBrand's Logistics Systems Administrator. “Because our transportation processes were largely manual, all we could do to address our growth was to throw more people at it.”

## Manual processes limited visibility

While MasterBrand's transportation spend across all of its business units was in the nine figures, the only way it could accurately be measured was through its third-party freight payment provider. This meant MasterBrand was always 30-45 days behind in measuring its actual spend, and had to continually clean up its financial statements as payment information became available.

“There were a lot of questions around what our spend would be, and what our costs were, but no one could answer them because there was no tracking,” Hedinger says. “The visibility was very poor because everything was delayed and manual.”

MasterBrand executives knew that automating their transportation management processes would provide the increased visibility and information they needed to better serve their customers—big box retailers, dealers, wholesalers and builders, as well as the end consumer.

“We needed to better understand the cause-and-effect relationships in our transportation processes,” says Chris Cuda, MasterBrand's vice president, Logistics. “We were looking for more timely data, and an ability to understand the impact that modifications or adjustments would have on our bottom line and our customers. We were looking for a system that could build really great routes, but information was the number one driver.”

## Finding the right transportation solution

Gartner provided a list of the top six transportation management solution providers, all of whom received an RFQ and an initial interview with MasterBrand. Three solutions providers made the short list, and they were

brought on site with MasterBrand to conduct demos with real data.

“We were looking for someone that could handle cross-divisional optimization and automation of load tendering and scheduling,” Hedinger says. “We sent the short-listed vendors a typical week of data, and had them process it and show us the outcomes and functionality of their solutions.”

MasterBrand had additional complexity surrounding its transportation functions that the potential solutions providers had to tackle. The cabinet manufacturer designs each truck shipment before the plant actually manufactures it. The plant then “builds” the truck, in load-stop order.

“Because we plan our trucks upfront, it's a different transportation model,” Hedinger says. “We have to work around plant capacities and constraints. We needed someone who had the flexibility to incorporate that model.”

Through its diligent selection process, MasterBrand found that i2 solutions offered inherent flexibility and configurability to meet its requirements. Another deciding factor was i2's hosted transportation management solution, i2 FreightMatrix. FreightMatrix enables companies to rapidly deploy i2 Transportation Management solutions while lowering the total cost of ownership and accelerating the time to value compared with traditional software deployment methodologies. FreightMatrix also eliminates the requirement to invest heavily in ongoing infrastructure management and maintenance.

“We knew that FreightMatrix would speed our implementation, and it was advantageous from a cost perspective because we wouldn't need to hire personnel and implement hardware,” Cuda says. “It allowed us to take advantage of the i2 resources, knowledge set and implementation process.”



# its transportation efficiency

## Enabling transportation visibility and efficiency

Using FreightMatrix, MasterBrand implemented i2 Transportation Manager and i2 Transportation Planner. The system was ready to receive order data within six weeks of the commencement of the project.

New shipments are stored in Transportation Manager until they meet the required selection criteria for planning. Once selected, they are sent to Transportation Planner, which produces an optimal transportation plan, based on actual network costs and constraints, and generates the loads for production that day. MasterBrand's schedulers look at that data to ensure that all planned orders are on loads and that customers' expectations on delivery will be met. The final plan is then sent to manufacturing, which starts the production process, and is also confirmed within Transportation Manager to start the electronic tendering process. Loads are tendered to one of MasterBrand's multi-stop truckload carriers, who also provide EDI (electronic data interchange) status updates until final deliveries are confirmed. At that point, reports are created in Transportation Manager, to monitor and measure delivery performance by carrier and customer.

"Our new system is worlds apart from our old manual processes," Hedinger says. "Because we didn't have a way to measure before, we just said, 'Stuff the truck full.' We have found that isn't the best measurement. We're very comfortable with the routes we get, we feel we're meeting our carriers' expectations and we can give out information that's accurate to our customers. Our carriers are much more responsive now that we're measuring them, and we're receiving fewer customer service calls."

## Value realized

MasterBrand's implementation of i2 solutions has also enabled the company to weather the recent downturn in the housing market by delivering a positive financial impact to the bottom line.

"Through statistical analysis, we've found that even as our order volumes decrease, we're still able to maintain our transportation cost per unit in our business units where we have implemented Transportation Manager," Cuda says. "Though we've seen more trucks with lighter loads in some instances, our costs have not gone up with the number of trucks. We're in a strong cost-savings mode, and i2 solutions give us a tool to better position ourselves for success in this dramatic business downturn."

The cabinet manufacturer attributes much of its success to the FreightMatrix hosted model, which has provided a

strong, knowledgeable team that MasterBrands utilizes regularly.

"We view FreightMatrix as an extension of our own team," Cuda says. "We're excited because we just completed a total system upgrade with no lost production issues, because we have the FreightMatrix resources. We love the hosted model because it enables us to keep our IT folks focused on what they do best, and outsource the processes that i2 does best."

— Lauren Bossers

## At a Glance

**Company name:** MasterBrand Cabinets, Inc.

**Headquarters:** Jasper, Indiana

**Products:** Kitchen and bath cabinetry

**Annual sales:** \$732.1 million

**Employees:** 11,000

### Operations:

MasterBrand Cabinets is one of the world's largest cabinetry manufacturers (No. 2 in North America), selling its products through home centers, lumber outlets, and specialty retailers.

### Objectives:

- Gain ability to accurately measure transportation spend
- Improve ability to understand cause-and-effect relationships in transportation processes
- Improve transportation route design

### Key solutions:

- i2 FreightMatrix
- i2 Transportation Management
- i2 Transportation Planner

### Results:

- Maintained transportation cost per unit, even when order volume decreases
- Completed a total system upgrade with no lost production
- Reduced customer service calls
- Increased efficiency of logistics team



# Enabling a decade of supply chain

A full 10 years has elapsed since German steel manufacturer Deutsche Edelstahlwerke first began its supply chain transformation. In this time, the company has implemented a suite of integrated solutions and achieved outstanding levels of efficiency and customer service. But the company didn't have to wait 10 years to realize the benefits of its transformation.

## A vision emerges from necessity

Like many steel manufacturers, Deutsche Edelstahlwerke has very complex production processes. It produces 30,000 different varieties of steel products, each of which involves up to 10 production stages. Every month, it makes 11,900 shipments, including deliveries from stock and make-to-order consignments.

A decade ago, Deutsche Edelstahlwerke was struggling to provide reliable due dates for its customers. It didn't have good visibility into its capacity levels or inventory and wanted to be able to manage production orders more effectively. In particular, the company faced problems with "moving bottlenecks" that occurred when materials were transferred from one stage of production to the next. "We needed a solution that could link production phases and determine maximum lead times between phases," says Joachim Heidrich, leader, production planning, Deutsche Edelstahlwerke. "If a material cools down, it will scratch. We needed better visibility into the quantities of material that have to be transferred hot and the available timeframe before materials cool."

Deutsche Edelstahlwerke used a software solution for factory planning that it had developed in house, and it urgently needed to replace the outdated application. "We wanted to move away from bespoke developments and deploy a standard software solution that would be regularly updated and developed by the software vendor," Heidrich says.

The company reviewed three vendors of supply chain solutions and selected i2. "One of the most important criteria for us was to select a company that had experience in working with steel companies," Heidrich says. "i2 had several customers in our industry and offered a complete suite of supply chain management solutions. It therefore didn't just meet our immediate need for a factory planning system, but also had the capability to meet our wider requirements."

## One success leads to another ... and another

Deutsche Edelstahlwerke implemented i2 Factory Planner in 1999. As soon as the solution was up and

running, the company discovered data quality issues and bottlenecks in its systems that it didn't realize existed. After three months, Deutsche Edelstahlwerke succeeded in reducing its product throughput times from five weeks to under four weeks. It also reduced work in progress by 20 percent.

Based on this success, the company started to consider other improvements to its wider supply chain environment. "This first implementation was a success story," Heidrich says. "It therefore gave us the confidence to take the next step toward our long-term vision. It was a basic requirement that we had to have success with one solution before we could go ahead with another."

Fortunately for Deutsche Edelstahlwerke, success followed success, and the company rolled out a full suite of supply chain management solutions in the following years. In 2002, it implemented i2 Master Planner, i2 Demand Fulfillment and i2 Material Allocator. Two years later, it deployed i2 solutions for forecasting (i2 Demand Planner) and vendor-managed inventory, and in 2007, it upgraded from i2 Demand Planner to i2 Demand Manager on the i2 Agile Business Process Platform (i2 ABPP).

i2 ABPP enables Deutsche Edelstahlwerke to improve its supply chain workflows and streamlines the maintenance of i2 solutions, resulting in faster turnaround of plans, and allowing Deutsche Edelstahlwerke to respond to market conditions more efficiently. By removing the manual workflows required to manage its i2 solutions, i2 ABPP frees up the production planner and IT staff to focus more on plan improvements and accuracy. "Over the years we have developed a very sophisticated environment to manage our planning data," says Heidrich. "With i2 ABPP we were able to replace our homegrown solution and not only significantly simplify workflows, but also gain the flexibility required to align our business processes to changing business requirements. We are taking full advantage of the service-oriented architecture technology, which will help us further improve our competitiveness."

The deployment of i2 solutions was carried out in tandem with business process changes and internal reorganizations. Nearly each new step in the company's supply chain transformation made a positive impact on the business and paved the way for continued development. As a result of its incremental business improvements, Deutsche Edelstahlwerke succeeded in:

- Improving accuracy in production planning
- Following its yearly business plan more closely
- Making more accurate promises to customers
- Reducing warehouse inventory by around 20 percent

# success at Deutsche Edelstahlwerke

- Reducing pre-material inventory by around 5 percent
- Improving delivery performance by up to 10 percent

## Integration creates competitive advantage

Following a business merger in 2006, Deutsche Edelstahlwerke acquired two new steel production facilities, doubling its number of sites. Soon afterward it began to roll out i2 solutions to these two new facilities, mirroring the systems at its two existing sites. “We recognized that it would be advantageous to have one planning solution for the entire business,” says Heidrich. “We transfer material between sites, so we need to be able to control material movements and processes across the whole company.”

The integrated use of i2 solutions across all of Deutsche Edelstahlwerke’s four production sites has given the company much better visibility into its capacity and resources, as well as a better understanding of its due-date performance. The improvements in supply chain visibility have also enabled the company to introduce “reserved capacity” to allow strategic customers to place orders with a shorter lead time. As a result, the sales team can offer more flexible and competitive contracts to attract and retain high-volume customers.

After 10 years of innovation and development, Deutsche Edelstahlwerke doesn’t plan to stop. It plans to expand its use of i2’s solution for vendor-managed inventory, which is currently delivering services for four key Deutsche Edelstahlwerke customers. “It has been a clear success, and is therefore something that we wish to expand upon,” says Heidrich. “Customers who subscribe to this service save time and gain a reliable supply, while we have the opportunity to build a strong long-term relationship with them.”

Deutsche Edelstahlwerke is confident that its use of advanced supply chain management solutions and workflows puts it at the forefront of its industry. “When I compare our systems to those of other companies, I see that we have much greater visibility into our production and can make reliable promises to our customers,” says Heidrich. “We are a very competitive organization now and can offer our customers better service, capacity reservation and rapid production times.

“Every new step that we have taken with our supply chain management system has been justified by the success of the previous step. The business and customer improvements that we have achieved, motivate us to continue to implement solutions and pursue our goals.”

## At a Glance

**Company name:** Deutsche Edelstahlwerke GmbH

**Headquarters:** Witten, Germany

**Products/Services:** Deutsche Edelstahlwerke’s extensive product offering ranges from small-diameter drawn wire to forgings of up to 1,100 mm in diameter and includes engineering steels, tool steels and stainless steels. In addition, the company produces Ferro-Titanit®, a powder metallurgical titanium carbide material that can be further heat treated. The materials produced by Deutsche Edelstahlwerke are used in the automotive, aerospace, power generation, oil and gas, and tooling industries.

**Annual sales:** Nearly €4 billion

**Employees:** 11,000

### Operations:

Production sites in Witten, Siegen, Krefeld, Hagen and Hattingen. Heat treatment at locations in Lüdenscheid and Stuttgart

### Objectives:

- Provide reliable due dates for customers
- Increase visibility into capacity levels and inventory
- Manage production orders more effectively

### Key solutions:

- i2 Factory Planner
- i2 Master Planner
- i2 Demand Fulfillment
- i2 Material Allocator
- i2 Demand Manager
- i2 Agile Business Process Platform

### Results:

- Enabled more synchronized and consistent definition of due-date performance across the entire company
- Allowed strategic customers to place orders with a shorter lead time, leading to attraction and retention of high-volume customers
- Increased cooperation among teams due to improved visibility into the same information

# i2 and the i2 User Group Announce Ken Sharma Awards of Excellence Finalists

Companies from across the high-tech, manufacturing, retail and consumer products industries were recently named finalists for the Ken Sharma Award of Excellence.

Co-sponsored by i2 and the i2 User Group, the annual award, which honors i2's late co-founder Ken Sharma, was open to hundreds of i2 users. An independent panel of analysts from AMR Research judged each nominee in the categories of innovation, return on investment, and depth and breadth. Global winners will be named from the list of finalists in the second half of 2009.

## Innovation Finalists

**Fairchild Semiconductor** is a global leader in delivering energy-efficient power analog and power

The logo for Fairchild Semiconductor, featuring the word "FAIRCHILD" in a bold, black, sans-serif font, centered between two thick red horizontal bars.

**SEMICONDUCTOR**<sup>®</sup> discrete solutions for consumer, communications, industrial, mobile, computing and automotive systems. Fairchild's overall business driver was to achieve "Perfect Order Delivery Performance." With i2 solutions implemented across the entire Fairchild supply chain for all plants and divisions, the semiconductor company estimates a \$20 million savings during the next four years based on published industry research. Fairchild has also improved its "Perfect Order" rate by a full two percentage points.

**Whirlpool Corporation** is the world's leading manufacturer and marketer of major home appliances. Whirlpool sought to improve forecast errors to enable inventory reductions and service-level improvements and to streamline and document forecasting processes that drive improved communications and sales and operations planning efforts. With i2 solutions in place, Whirlpool achieved a year-to-date forecast error reduction of more



than 30 percent at both SKU level and SKU/location level.

**Woolworths** is a leading South African retailer offering a selected range of clothing, footwear, toiletries, cosmetics, homeware, food and financial services. With a need to conduct integrated assortment planning, to support change in its supply chain strategy, and to upgrade to supported software versions, Woolworths implemented i2 retail solutions.



**WOOLWORTHS**

These implementations are expected to deliver significant increases in profits due to improved sales and cost savings.

## Depth and Breadth Finalists

One of the world's fastest growing global steel companies, **Essar Steel NV** has tripled its capacity in the last two years and plans to become one of the top 10 global steel producers by 2015.



Essar Steel sought to increase profit-ability, strengthen customer relationships, reduce inventories and increase throughput. Since implementing a variety of i2 solutions to address advanced order planning and sales and operations planning, Essar Steel has increased forecast accuracy for domestic contract customers by nearly 30 percent. The company has reduced work-in-process inventory and order leads times, in addition to reducing response time for customer inquiries from 2-3 hours to 6 seconds.

**Lenovo** develops, manufactures and markets high-quality, secure and easy-to-use technology products and

The Lenovo logo, the word "lenovo" in a bold, blue, sans-serif font.

services worldwide and dedicates itself to building the world's most innovative personal computers. The company sought to improve serviceability, end-to-end supply chain cost, cash-conversion cycles and quality. Lenovo has reduced its end-to-end order fulfillment cycle by running i2 Factory Planner many times a day. By using the i2 platform, Lenovo can now better leverage supply chain information for enhanced and faster analysis.



**Maxim Integrated Products** is a worldwide leader in the design, development, and manufacture of the analog,



mixed-signal, high-frequency and digital circuits. Through its implementation of i2 solutions, Maxim has achieved significant improvements to its supply chain management processes. The company has synchronized planning, improved on-time delivery to customers, increased the efficiency of factory execution, increased the speed of its planning cycle, and improved data management.

### Return on Investment Finalists

**Incitec Pivot Ltd (IPL)** is Australia's largest fertilizer manufacturer and distributor of a full range of inorganic fertilizer products.

The primary driver of IPL's initial implementation of i2 solutions was to generate a cohesive, constrained plan for



the company's supply chain. Since implementing several i2 solutions as part of an overall planning redesign, IPL has reduced monthly planning cycles by 4-5 days. Weekly planning cycles used to take 1-2 days, but now multiple runs can be completed within a day. The number of errors, constraint violations and shorted demands in the final plan has been reduced significantly. Implementation of the total project has contributed to IPL reduced year-end inventory levels in excess of US\$28million and reduced year-to-date land freight cost by US\$1.4 million.

**Kimberly-Clark**, a leading global health and hygiene company, sought to implement a new transportation



## Kimberly-Clark

management system (TMS) along with a business process redesign to reduce its transportation spend. By implementing several i2 TMS solutions, and by leveraging optimization capabilities to achieve rate reductions prior to implementation, Kimberly-Clark had achieved US\$8.77 million in savings in North America at the time of its Ken Sharma Award application. During that same time frame, the company also saved US\$1.6 million from its implementation in Europe (see Case Study, page 36).

Serving both consumers and original equipment manufacturers, **SanDisk** designs, develops, manufactures and markets flash storage card products for a wide variety of electronic systems and digital devices. SanDisk wanted to create a supply chain capability that it could use as a

# SanDisk®

competitive differentiator to continue its market leadership, and to maintain profitable growth with a strong balance sheet. Since implementing i2 solutions, SanDisk has either maintained or improved its customer service levels as its unit volumes, customer base and product portfolio have dramatically increased. SanDisk has also strengthened its sales and operations management processes, and has reduced its planning cycle from about six weeks to one week.

## Ken Sharma: A Supply Chain Management Visionary

Vice chairman of i2 from 1988 until his death in 1999, Ken Sharma's impact on the development of supply chain planning and business-to-business technology solutions continues to resonate today. Throughout his career, Sharma worked to define and refine the concepts of global optimization, multi-enterprise planning, master planning and supply chain planning.

His leadership and vision not only helped to make i2 a top provider of innovative technology solutions, but also changed the paradigms by which industries understand concepts such as supply chain planning and technology. Most important, even as Sharma changed the face of business, he never flagged in his dedication to customers. He was known for saying, "Take care of the customer, and everything else will take care of itself."

Sharma's passion for customers and their success lives on through i2ers around the globe, and is celebrated through the award named in his honor. The Ken Sharma Award of Excellence serves as an appropriate legacy for the man who said, "This work of mine has been a great source of satisfaction. If I've been able to help at least one person, that will be enduring."

**Lauren Bossers** is the editor of *Supply Chain Leader*.

For more information, **contact** [supply\\_chain\\_leader@i2.com](mailto:supply_chain_leader@i2.com).

# Sales and Operations Management Solution Requirements

An S&OM solution needs to provide a functional technology foundation for complete information visibility, process repeatability, “what-if” game playing and analytics, and rapid decision making, thereby ensuring that operations are consistently aligned with overall financial and revenue plans. Here are some key solution priorities to be considered when putting together an S&OM process:

## Process orchestration

- Ability to setup a repeatable S&OM calendar and execute on it
- Approval hierarchy and editing cut-off dates to support process
- S&OM meetings driven by taking action items and tracking progress
- E-mail alerts with action-item details sent to responsible parties
- Alerts and exceptions-based approach to drive the execution process

## Rapid impact analysis

- Live planning engine capable of comprehending the entire demand-supply network and determining the impact of demand decisions on supply constraints
- Ability to understand the impact of demand, supply and product mix decisions on revenue and margin through scenario creation and comparison
- Predefined resolution options tied to exceptions using process playbooks

## Corporate accountability

- Audit trail for tracking quantitative and qualitative changes, including new value, old value, reason codes and comments
- Plan vs. actual performance tracking (e.g. forecast vs. point of sale) to monitor plan variance and adherence

- Live dashboards to monitor plan and track KPIs, enabling management by exception

## Dynamic plan consolidation

- Ability to consolidate into one system the point-of-sale data, inventory, forecast and supply plans
- Ability to consolidate and aggregate regional data views into a global view
- Ability to consolidate item information across different regions that currently have different part names for the same SKU

## Corporate adoption

- Easy-to-use user-interface workflows that provide editable pivot views for quick adoption across the enterprise
- Offline and online modes for sales organization adoption
- Low total cost of ownership by leveraging current desktop office productivity tools and solutions

## Technology architecture

- Services-based architecture, which enables flexible web-services-based solutions to coexist with company’s ERP and legacy infrastructure
- Ability to adapt solutions and workflows to changing business processes
- Ability to catalog workflows and process playbooks in a business content library. A business content library is an electronic library that contains XML-based workflow definitions and process playbooks that can be stored, retrieved, modified and executed as needed
- Ability to provide a structured data management environment along with the flexibility of common spreadsheet applications, such as Microsoft® Excel

# Ideas and Innovations

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