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FEATURES

10 Eight Building Blocks for Successful S&OP

Sales & Operations Planning is both a science and an art. Like any science, it relies on principles, rules, methodology, and specific measurable outcomes. But an S&OP implementation also calls for creative, incremental thoughts to address challenges. Co-authors Charanyan Iyengar and Sandeep Gupta of Wipro Consulting Services outline the eight building blocks for a successful S&OP implementation.

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Private equity is best known for "slash and burn" fast turnover deal making. But, in today's economic environment, private equity is changing its focus from financial engineering to value creation. As a result, say authors Edward Davis, Jeffrey Collins, and Steve Stewart, the domain of purchasing and supply chain management has become a prime proving ground for private equity company managers.

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Global supply chains face incredible and complex challenges, says author Tom Craig, CEO of LTD Management. Among these challenges are events that affect supply chain operations with ocean carriers. In the past 30 years, alliances have been created and changed; routes have been added and revised; "slow steaming" is an ongoing practice; and vessels have gotten bigger and bigger. Craig outlines the changes to global shipping along with strategies to mitigate their impact.

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Supply Chain Management Matters

“We are on the cusp of real transformation in retail distribution and manufacturing.”

The above quote is from Kevin Gue, a professor at Auburn University and editor of the *Material Handling and Logistics U.S. Roadmap*. The project was launched this year to identify the needs of supply chain managers between now and 2025. If Gue’s assessment is correct, supply chains will be at the forefront of that transformation. That’s another way of saying that supply chain matters: What we do in procurement, transportation, manufacturing, distribution, and talent management brings together the pieces of the puzzle.

Of course, few of us would get up and go to work if we didn’t think that we made a difference. But supply chain management is finally bubbling up to the level of corporate strategy and the C-suite. For proof, look no further than two stories that recently appeared in the *Wall Street Journal*.

In one, GM’s Chief Executive Dan Akerson discussed his plans to boost North American profit margins from 8 percent to 10 percent by focusing on logistics. “We spend billions a year on logistics,” Akerson told the *WSJ* reporter. “...Any savings I can get by cutting my logistics bill goes right to my bottom line.”

In the other, the *WSJ* reported that Amazon has set up a direct-to-consumer order fulfillment area inside a P&G warehouse to streamline its operations. According to the author, Amazon’s strategy “offers a rare glimpse at how [Amazon] is trying to stay ahead of rivals ... By piggybacking on [its suppliers’] warehouses and distribution networks, Amazon is able to reduce its own costs of moving and storing goods.”

Both companies are using supply chain innovations to stay one step ahead. Those kinds of transformations are highlighted in this month’s issue. Take, for example, Private Equity’s New Proving Ground: Operations and Supply Chain. Authors Edward Davis, Jeffrey Collins, and Steve Stewart explain that private equity investors can no longer count on a quick flip of an acquisition to deliver an ROI. Instead, PE’s like Unitas Capital, an equity investor with \$4 billion under management, are turning to purchasing strategies and supply chain management to realize higher levels of profitability and liquidity in their portfolio companies.

Still that transformation isn’t all smooth sailing. In *Global Supply Chain Performance Erosion*, Tom Craig, CEO of LTD Management, outlines how changes in the container shipping industry are affecting manufacturers and retailers. He also details off-the-water strategies organizations can take to keep their product flowing into factories, distribution centers, and retail stores.

Similarly, to satisfy the demands of today’s “buy anything from anywhere at any time” consumers, brick-and-mortar retailers are evolving from single channel to omni-channel retailers. Randy Strang, a vice president with UPS, details the characteristics and best practices associated with these new supply chain models.

GM, Amazon, and the practices highlighted this month are reminders that supply chains are essential to meeting consumer expectations. I hope you are as excited about the transformation as I am.



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Demand-shaping With Supply in Mind

Supply chain managers must advocate for “demand-shaping with supply in mind,” meaning that demand-shaping decisions aren’t made in isolation of supply issues.

At many of the supply chain events I attend, a slew of speakers advocate demand-sensing and shaping—as do I. Usually, we are referring to these activities in the context of leveraging various downstream demand signals and their associated plans, such as historical point-of-sale (POS), warehouse withdrawal, and distributor/retailer inventory data. Supply chain managers in the audiences must scratch their heads and wonder why we are discussing demand-shaping with them.

After all, demand-shaping isn’t their problem; nor are they directly affected should revenue goals not be met. That is the responsibility of managers in the marketing and sales departments. They are held accountable by the executive team for achieving revenue goals. Their performance reviews, pay raises, promotions, and job security are predicated upon meeting, and sometimes exceeding, revenue goals. That said, while supply-side managers don’t make any final decisions regarding demand-shaping activities, they have important support roles to play. The most important is ensuring that supply is available when customer demand materializes.

To that end, supply chain managers should be advocates for “demand-shaping with supply in mind.” That is, they need to ensure that demand-shaping decisions aren’t made in isolation of supply issues. Generally this involves identifying supply issues, such as an inventory or parts shortage or surplus, and then creating sales programs aimed at ameliorating the issue.

Doing a better job of aligning demand with supply eliminates waste, improves service, and leads to improved profitability—in contrast to only enhancing revenue which demand-side

managers are largely concerned with. During S&OP meetings, supply-side managers should make sure to vet all sales and marketing plans in terms of whether or not they align with potential available supply and with profitability goals.

Supporting Competitive Demand-Shaping

As anyone who has taken a basic marketing course will remember, marketing and sales activities fall under four categories. They are termed the *4Ps of the marketing mix*: 1) Price, 2) Promotion, 3) Product, and 4) Place.

Most supply chain managers have no influence in the decisions made by marketing and sales managers. Yet the ramifications make their jobs harder and often result in increased demand volatility and uncertainty. For example, at most consumer packaged goods (CPG) companies, these types of “self-inflicted” demand variations (due to product promotions) are a company’s dominant source of demand variation. This complicates the job of supply chain managers who favor constancy in demand so they can buy lots of materials and components to take advantage of volume discounts, make long production runs (i.e., make the same product over and over again), and fill up warehouses and load trucks with the same types of goods. Nevertheless, supply chain managers need to support 4P competitive activities. This can happen in multiple ways.

The first P of Marketing (Price) involves establishing and changing product prices. These activities cause significant demand variation and uncertainty depending upon the price elasticity of products and competitive reactions. Establishing the price for a new

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product is very risky and leads to significant uncertainty in demand. Revising the price of a mature product is less risky, but still causes significant demand variation. Supply chain managers can support pricing decisions and demand variations and uncertainties in several ways. For example, they can carry material and component buffer stocks, reserve excess manufacturing capacity, and maintain safety stocks of finished goods.

The second P of Marketing (Promotion) involves activities aimed at promoting and selling products to potential customers. As with pricing activities, these cause significant demand variations and uncertainties. Prior to a promotional campaign the primary role of supply chain managers is to fill downstream supply chains with product to cover the often substantial uplift in expected demand.

The third P of marketing (Product) involves establishing and changing the portfolio of products sold, including the introduction of new and reformulated products and the phasing out of old obsolete products. New product launches especially have significant demand uncertainty. Yet it is important to ensure that product is available to satisfy first-time buyers. Supply chain managers need to execute launches by initially filling downstream supply chains with sufficient inventories, as well as help-

As a rule, “demand shaping with supply in mind” involves identifying supply issues and creating sales programs aimed at ameliorating them.

ing to ensure new products are positioned at the points of sale. As a product launch progresses, supply needs to be replenished all along the downstream supply chains, as well as at the points of sale.

The fourth P of marketing (Place) involves establishing the distribution and sales channels through which products are made available for sale. Similar to new product launches, opening a new channel involves very significant demand variation and uncertainty. It involves establishing the ways products will flow and be inventoried throughout a new channel, as well as initially stuffing and replenishing it with inventory. For example, establishing an online Internet sales channel often involves deploying new order fulfillment and supply strategies, such as piece picking, packing, and shipping in customer-facing warehouses.

Advocating “Demand-Shaping With Supply in Mind”

The best example I know of a supply chain group that successfully implemented “demand-shaping with supply in mind” is Dell, during its heyday. We researched its

practices during the first phase of the MIT Supply Chain 2020 Project that involved research into excellence. Every day a team of Dell managers met to discuss whether or not to revise the merchandizing of products sold online via the website. The team assessed the “consigned” inventories of components at supplier warehouses. If they uncovered components that had excessive inventories, the team would alter the daily list of specially promoted items to include computer configurations that included these components. In contrast, if they uncovered components that had inventory shortages, the team would “de-promote” them. This meant taking them off the daily list of specially promoted items, raising their prices, and increasing their delivery lead times. Essentially the Dell team was running a quasi-S&OP process daily.

Remember what we stated at the outset: As a rule, “demand shaping with supply in mind” involves identifying supply issues and creating sales programs aimed at ameliorating them; thereby achieving a better alignment of supply with selling activities and enhanced profitability. If there is an excess of materials and components, underutilized plants, or a surplus of finished goods inventories, supply chain managers ought to work with sales and marketing managers to develop programs aimed at correcting these excess supply situations that might result in significant inventory obsolescence and write-offs. On the other hand if there are shortages of any type of supply, then marketing and sales should be convinced into changing demand plans to not aggressively sell products impacted by the shortages. If demand winds up exceeding supply for these products, supply chain managers will have to execute emergency procedures to meet the excess demand; and this will lead to increased costs and reduced profits. These include procedures such as paying higher (e.g., “spot market”) prices for procured materials and components, expediting procurement orders, adding emergency/overtime shifts at production plants, and expediting customer shipments.

Supply chain managers must recognize that they have a role in shaping demand. In addition to their primary role of ensuring that sufficient supply is in place to meet demand generated by marketing and sales activities, they need to ensure that demand is most profitably aligned with potentially available supply. This means that demand-shaping should be done “with supply in mind,” and not done independent of supply considerations. Joint decision-making with demand-side managers should be incorporated within integrated supply-demand planning processes, such as in the S&OP process. Doing so will shift sales and marketing goals from just maximizing revenue towards maximizing profits as well—and that is a good thing. □



Leveraging “Market Power” for Security and Profit

Supply chain managers have no peer in understanding the complexity of the global economic and regulatory environment. And, they are well positioned to expedite a cutting edge approach to public-private security cooperation.

According to a recent report issued by the Stimson Center in Washington, DC, new forms of global illicit trafficking threats mean that public-private security partnerships are even more important. Nate Olson, a research associate for the Managing Across Boundaries Initiative at Stimson, maintains that reliable data on global contraband flows is “notoriously evasive.”

One estimate, he says, puts the total annual trade in illicit goods, excluding money laundering, at \$650 billion. (Illegal narcotics, along with counterfeit pharmaceuticals and electronics, accounted for roughly half.) But in quantitative and qualitative terms, there’s little doubt that the problem is serious and growing. Whether they deal in drugs, counterfeit products, or weapons, decentralized criminal and terrorist networks are co-opting the same physical and informational infrastructure that enables legitimate trade.

“They’re moving at the speed of 21st-century commerce,” says Olson.

Unintended Consequences

Stimson analysts add that this hasn’t stopped governments from trying to bring cross-border trade more within their reach through the usual countermeasures of customs enforcement, intelligence gathering, and industry mandates. Yet even when the policy objective is laudable, using the traditional tools alone are often inadequate, and the report indicates that they can have unintended consequences. For example, new disclosure requirements related to minerals from conflict-affected

areas impose what many regard as “unrealistic” diligence standards on firms far downstream in supply chains for electronics.

Rather than risk legal entanglements, Olson observes that some of those firms might choose to sever trade relationships with all suppliers in the affected regions.

“The fallout hopefully would see a reduction in illicit commodity flows, but it certainly would include constraints on legitimate commerce throughout the supply chain,” he adds.

The corollary is that security today is less directly tied to being a Cold War-style superpower. It’s increasingly tied to “Market Power”—leveraging the private sector’s capabilities and expertise to serve the public interest without undermining economic competitiveness. Among other steps, that means complementing formal regulation with positive incentives for legitimate industry (see Exhibit 1).

As the connective tissue among disparate legal jurisdictions, business models, and geographic locales, supply chain management is vital to modernizing public-private engagements. For more than a year, firms from this sector have been part of a dialogue to shape practical implementations. Their ideas cut across three mutually reinforcing themes—three “asset classes” in a public-private portfolio that can both unlock value for industry and better support government security goals.

Create a Checklist

Stimson analysts recommend that the trio of asset classes should be measured and categorized. Here is a brief overview.

Patrick Burnson is the executive editor at *Supply Chain Management Review*. He welcomes comments on his columns at pburnson@peerlessmedia.com

- *Leveraging Value-Added Information.* Stimson recognizes that supply chain managers hold a clear comparative advantage over government counterparts in collecting, disseminating, and interpreting the data at their disposal. Innovations in “track and trace” technologies, like RFID tags and next-generation GPS systems, are allowing much greater visibility into how goods and information move through the pipeline. Enhanced tools for analytics and risk management also show promise. Even when operating strictly in the open-source domain, these capabilities can make further inroads against illicit trafficking in the coming years. Furthermore, supply chain managers could see even greater returns of their own as they identify new opportunities to dovetail data with adjacent industry spaces like port and warehouse operations, analytics and ratings services, and even insurance.

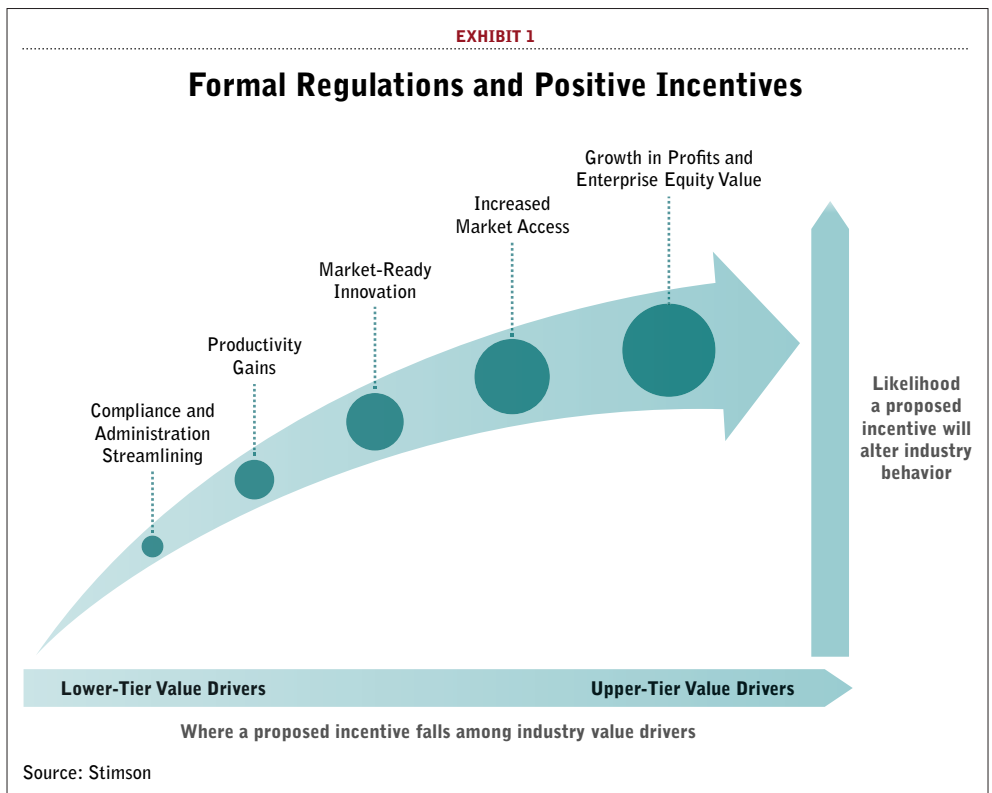
- *Building Cross-Functional Capacities.* Data sharing is only one potential area of deeper cross-functional cooperation, both across and within companies. A recent report from an industry advisory body to the U.S. government underscored in stark terms how the private sector, despite its relative agility, suffers from coordination problems with serious consequences. “The limited horizontal integration of [the licensing, import, export, and logistics] competencies is the source of many misunderstandings,” say analysts. “These misunderstandings typically result in shipment delays, increased risk, and unnecessary exposure for a company.” There, in a nutshell, is the business case for more integrated mechanisms. The security case is equally strong. Many of the illicit trafficking challenges that will compel public-private approaches in the years ahead will require organizations of disparate specialties to pool capabilities and expertise. For supply chain managers, it might make most sense to start by focusing these efforts in intermodal environments.

- *Strengthen “Trusted Trader” Networks.* The third area ripe

for mutual gains is a set of next-generation “trusted trader” regimes. This offers the most direct means to complement traditional government oversight and enforcement with decentralized, industry-embedded incentives for increased diligence. Government-driven efforts internationally to develop and harmonize Authorized Economic Operator (AEO) programs are important, but again insufficient. In the U.S., the continued exclusion of certain 3PLs from the Customs-Trade Partnership Against Terrorism is one example of government’s inability to align with contemporary business models. The real game-changer here would be more proactive industry participation in the design, implementation, and even administration of these networks.

Olson says that taken together, these three areas represent a compelling value proposition for supply chain managers.

“For government, they represent a natural starting point in building a broader public-private portfolio of tools for managing contemporary security challenges,” he says. “It is vital that the industry remain engaged to ensure that the actual implementation of these more innovative governance tools remains consistent with profitability in global business operations.” □



Complementing formal regulation with positive incentives for legitimate industry is a key part of modernizing public-private security operations.



5 Ways to Make Your Career Journey a Smoother Climb

By Andrea Carter

Andrea Carter has more than 20 years experience as a human resources professional, including responsibility for developing supply chain talent. This column is based on a talk she gave at the MIT Center for Transportation & Logistics. She is currently Vice President of Human Resources at a global apparel company.

Editor's note: This is the last in the series of Talent Strategy columns from the MIT Center for Transportation & Logistics. In the next issue of Supply Chain Management Review, MIT CTL will start a new column called Innovation Strategies that looks at the development and implementation of innovative supply chain solutions and practices. For more information, visit <http://ctl.mit.edu/>.

People often frame professional development as a climb up the career ladder. However, in my experience, this analogy does not accurately reflect reality, particularly in a dynamic profession such as supply chain management.

I would parallel career progression to climbing a rock face. Whether you're a new recruit or a seasoned practitioner, it is highly unlikely that you will rise through the ranks in a complete vertical ascension. You see, career paths are not narrow, ladder-like pathways; they consist of broad, irregular landscapes. Along the way, you will almost certainly make lateral moves in response to unexpected obstacles, opportunities, and shifting ambitions.

While you can—and should—plan the route ahead, it's important to remain open to change. Here are five pointers that will smooth the way for your ascent.

1. Know the company culture. A common misstep that many people make is trying so hard to impress the new boss that they fail to take time to learn about the company's culture. For example, an individual who aggressively pushes for reforms can easily get off track in an "old

school" company that resists sudden, drastic change. That type of business environment also shapes culture. For instance, while companies in mature industries may be slow to change, companies in fast-moving consumer electronics markets have to be extremely agile and innovative. They often thrive on constant change and new ideas.

Be sure to take the time to find out who the key players are in your enterprise. They may be individuals with a low profile, but they have great influence in the way the organization operates.

2. Performance is important—but keep it in perspective. It's almost a given that you need to bring your "A" game to work. However, standout staff members exceed expectations by pushing the performance bar a few notches higher. They find ways to be creative by, say, actively mentoring, solving problems, and identifying ways to

Career paths are not narrow, ladder-like pathways; they consist of broad, irregular landscapes. Along the way, you will almost certainly make lateral moves in response to unexpected obstacles, opportunities, and shifting ambitions.

improve the organization.

But let's sound a note of caution on the latter point: Suggesting improvements is not the same as constantly pointing out the company's flaws. Individuals—and notably junior employees who may not yet be sufficiently qualified to pass judgment—will soon lose ground if they become known for constant criticism and unwelcome negativity.



3. Pay attention to image. Recognize the importance of personal brand, which is not just your physical appearance. What you say, when you say it, and how you say it, carries weight in the workplace. This is even true for personal conversations that take place in the office. For example, when you are nurturing working relationships, avoid divulging too much personal information.

Professionals who have recently made the transition from the college campus to the workplace need to leave dorm room type conversations about their weekends behind.

Keep in mind that a negative image limits your potential in other people's eyes, even when the perceptions are unfounded, because they are based on gossip or indiscretions.

These vulnerabilities are even more significant in the age of social media. Inappropriate comments posted on personal Facebook and Twitter sites, for instance, can be picked up by employers and undermine your professional credibility and chances for advancement.

Another red flag is being too ready to blame others. In image terms, a reputation for shifting responsibility for setbacks to coworkers is toxic. Enterprises want team players.

Be aware that the type of negative feedback described above can come up during discussions about promotions and assignments. And the higher you progress in the organization, the more vulnerable you are to unflattering descriptors.

4. Have a plan/share the plan. No prizes are given for creating a career plan for how you intend to scale the heights,

even if a career plan is essential to success. But it's easy to overlook the need to share this strategy with others, especially the high-impact individuals mentioned in the first point.

Early in my career, I had aspirations to move to the next level. I was willing to relocate if that's what it took for me to meet my goals. When I was passed over for a promotion, I looked into why the opportunity had slipped away and found that few people in the organization were actually aware of my ambitions and willingness to move.

Drawing up a career plan is only the first step; to put the plan into action you need to communicate it to coworkers, especially those who can influence your career.

5. Network. Again, this is not a revelation, but networking has taken on a new significance in today's cross-functional, global work environment.

It is no longer enough to confine your networking circle to the function in which you operate.

These days, your sphere of contacts should encompass colleagues in other departments and geographies. Although you may not be in their organizational hierarchy, leaders of other teams and departments can still vouch for you when promotions are under discussion.

Looking beyond your immediate functional area or locale is becoming especially important in the supply chain field. Operational teams are often dispersed across multiple countries and cultures. What's more, supply chain often connects with other disciplines such as finance and marketing. The likelihood that you will be involved in cross-functional teams or initiatives is greater than ever.

Don't overlook leaders who are external to your organization. For example, an aspect of supply chain management currently gaining importance is the ability to communicate with trading partners such as core suppliers. Even though these parties are external to your enterprise, endorsements from them can help to build your reputation as a top professional.

Spread your net as wide as possible; who knows where the next job opportunity will come from, or how you will come across information on a job opening that you had never even considered before.

Like rock climbers, supply chain professionals need to develop a keen sense of which footholds offer the most leverage in their careers. As you progress towards the summit of your ambitions, you will probably have to move sideways or even suffer some slips, but these setbacks are opportunities to regroup and launch a better route to the top. □



Building Blocks for Successful S&OP

Sales & Operations Planning is both a science and an art. Like any science, it relies on principles, rules, methodology, and specific measurable outcomes. But an S&OP implementation also calls for creative, incremental thoughts to address challenges.

By Charanyan Iyengar and Sandeep Gupta

Since the birth of Sales & Operations Planning (S&OP) in the late 1970s, volumes of text have been written about the subject and hundreds of organizations have embarked on implementing S&OP. It has been referred to by a number of names, including Executive S&OP and, more recently, as Integrated Business Planning (IBP).

Still, four decades later, organizations struggle to realize the promise of S&OP. In 2010, for instance, Gartner reported that about 70 percent of global organizations are in Stage 1 or Stage 2 of the four-stage S&OP Maturity Model. Most organizations continue to acknowledge the need for a step-change improvement to their S&OP process. Why then do organizations find it arduous to achieve sustained success from S&OP?

- Do organizations adopt S&OP as a fad, start with much fanfare but fail to support it?
- Is it lack of perseverance or discipline? Misaligned KPI's or silo-driven behaviors?
- Do they invest in training while embedding the process?

Lots of rich, intellectual content on S&OP presents valuable insights on strategies to succeed in this game-plan. Yet, there appears to be systemic reasons why so many organizations have had limited success.

We believe the S&OP Process is a science. Like any field, the science of S&OP needs its principles, rules, approach or methodology, and specific measurable outcomes. More often than not, the content on S&OP seems to revolve around the science of S&OP.

However, we also see an additional dimension to S&OP Process: the “Art of Implementation.” It is this art that results in differentiated success. This article presents real life examples that highlight the combination of Science and Art that may help the practitioner consider some creative, incremental thoughts to addressing their S&OP challenges.

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Challenges to Effective Execution of S&OP Process

By its very nature, S&OP Process is an enterprise-wide, highly collaborative, cross-functional process of balancing unconstrained demand and constrained supply. The level of inter-dependency makes the S&OP Process as critical as any other strategic intent.

Too often, however, the S&OP Process turns into a pure Sales & Marketing meeting, with Supply Chain toeing-the-line and Finance playing little or no role at all. Such a process, still perceived as an S&OP Process, doesn't meet the essential objectives. Instead, it fuels chaos, panic, and fire-fighting. There's nothing “strategic” about that process—as if the organizations live for today or at best for tomorrow.

Our conversations with clients and professional networks, as well as secondary research, has helped us identify the following challenges that result in sub-optimal organizational performance:

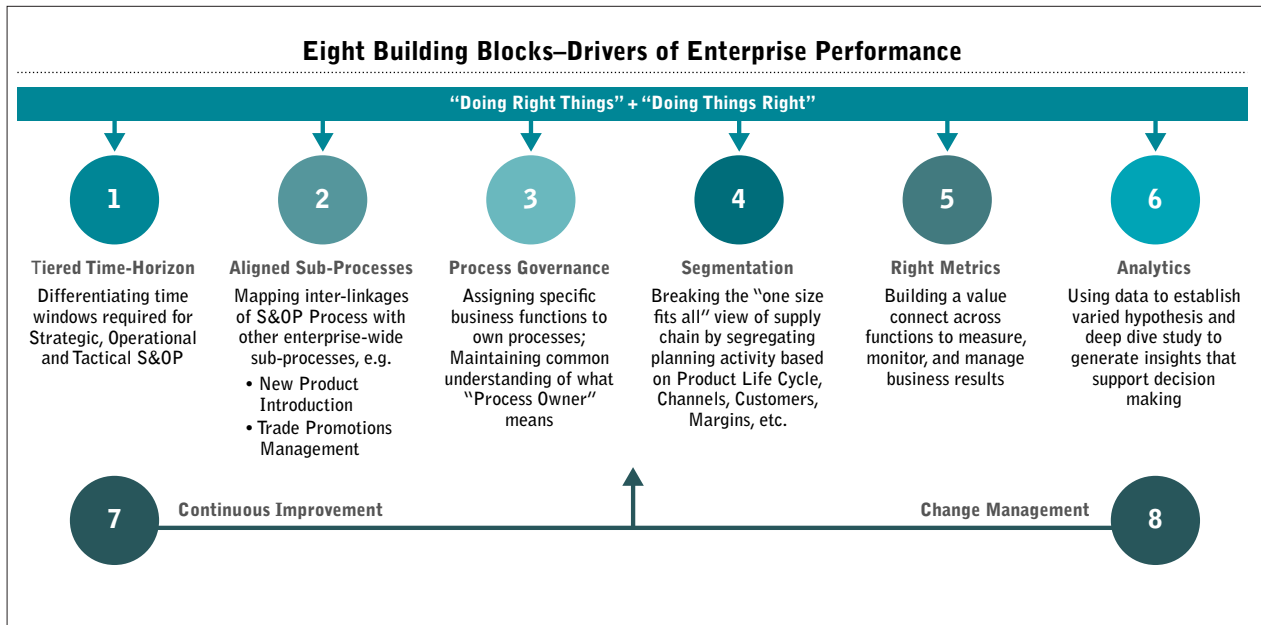
- Process Ownership issues / RASCI
- Misalignment between Organizational Strategy and S&OP Process
- Gross inaccuracies in Forecasting & myopic planning horizons
- Flawed metrics driving undesirable behaviours
- Disconnect between organizational objectives and employee objectives
- Lack of standardized reports
- Poor Master Data Management

Eight Building Blocks of Enterprise Performance

We supplemented our diverse experience in CPG, retail, pharmaceutical, and high-tech industries with a constant scan of the marketplace to develop a few insights and key ideas. We refer to these as the Eight Building Blocks of Enterprise Performance.

We believe that these blocks help mitigate the adverse impact from the challenges cited above and enable the S&OP Process to deliver superior enterprise performance.

Each building block has its respective place and relevance for S&OP; collectively, they present a complete picture of the process with no overlap. Let's dive in.



Building Block 1: Tiered time horizons

An effective S&OP process spells out clear execution levels with differentiated, or tiered time horizons, inputs needed, decisions required, outputs expected, and other important factors. It’s about getting everyone to move in the same direction—the internal organization as well as external partners, including contract manufacturers, suppliers, distributors, and customers.

Driven by quarterly stock market pressures, many organizations focus on the short term, with little or no consideration given to the long term. Such myopic tendencies result in the creation of critical but avoidable situations such as writing-off the inventory of products that did not sell but continue to be sourced despite the lack of sales.

What’s important is to distinguish “strategic” time horizons from “operational” or “tactical” periods. The classification, however, needs to be organizationally relevant as well as relevant to the industry. For example, a three month time horizon may be purely tactical for one firm while a six month time frame may be tactical for another firm in the same industry.

A pharmaceutical organization, for example, had just two time horizons: less than 24 months and two to 10 years. Their long-term horizon catered to product development timelines, FDA approval, and selling under patent before generic copies could get into the market. This strategic layer, however, was demand-focused, with two shift to three shift capacity lines, to see where demand was against capacity.

In another organization, a large share of product supply was dependent on imports from other affiliates. For a number of high-selling products, the transit time by sea

was as long as 90 days. Ironically, their standard S&OP Process discussed forecasts of month one and month two in month one itself. This is counterintuitive—what good could the S&OP Process be, when the products were already on sea for that month? It should come as no surprise that there was a complete mismatch between the forecasted demand and actual supply.

All time horizons need to be tightly integrated and information has to flow down from the strategic level of S&OP. A long-term horizon is needed to provide better visibility and allow for considered decision making. This becomes possible by factoring in: industry trends; economic indicators; competitive factors; new item plans; planned obsolescence; cannibalization factors; and sales and marketing initiatives. None of these can be reviewed or addressed successfully in a short time scale.

This integrated, multi-layered approach offers some key benefits:

- ability to step away from day-to-day management and look at the big picture;
- establish a stronger connection between strategic goals and day to day operations;
- build coordination and alignment of individual functions with business objectives; and
- help reach top level consensus between demand, supply, and profitability, which in turn eases the ways of working in medium / short term S&OP time horizons.

Building Block 2: Aligned Sub-Processes

The S&OP Process is not a stand-alone process. Depending on the industry, there may be one or more

sub-processes that feed into or branch out of the S&OP Process. The need for Aligned Sub-Processes cannot be over-emphasized.

For a CPG client, our analysis highlighted a number of handovers to and from two other crucial, independently managed processes: New Product Introduction (NPI) and Trade Promotions Management (TPM).

The firm hardly recognized how or why a causal relationship could exist across these processes or what was the impact on the business. However, one thing was very clear—everyone in the organization was experiencing pain, so much so that the expired inventory accumulating in the Regional Distribution Centre (RDC) included New Products that were being introduced, produced, and shipped even though they had little pick up in sales.

NPI and TPM processes, very much like S&OP, need to distinguish between Strategic and Operational dimensions. For example, the NPI roadmap was included within the Strategic S&OP Review. This is crucial for sales and marketing teams to secure precious shelf space in retail stores ahead of the launch date. However, the Trade Promotions Process, due to its very nature, may not find a prominent presence in the Strategic S&OP Process.

The strategic layer of the S&OP Process should provide direction on the strategy for each brand, such as how much promotional support brands should receive. This becomes an important input to the Trade Promotions Management Process. What can help enrich the TPM Process, and in turn, the S&OP Process, is a periodic analysis of **efficiency** (measure of promotion reaching its target audience) and **effectiveness** (measure of uplift generated), which helps in fine-tuning promotions planning.

Similarly, while the NPI process is expected to have its own Review Phase, the learning log from historical NPI should find a place in the Strategic S&OP Process as well. Typically, NPI products do not have a history—therefore, the process should rely on inputs from historical data. For instance, is there a product that comes closest to the profile of the new product? If so, could the history or performance of this product be considered for forecasting demand?

Such considerations are akin to a double-learning loop and help organizations accumulate lessons from the past for future reference. Such inputs should be used in the Demand Planning step of the S&OP Process and then validated in the Executive S&OP decision making.

Integration of these processes requires focus and hard work from the organization. Perhaps, this could also lead to creation of the biggest competitive advantage that any organization could enjoy.

Building Block 3: Process Governance

We asked one senior vice president and his functional directors a simple question: “Who owns the S&OP Process?”

The SVP and some directors saw the Head of Supply Chain as the owner; the Head of Supply Chain and the other directors viewed the SVP as the owner.

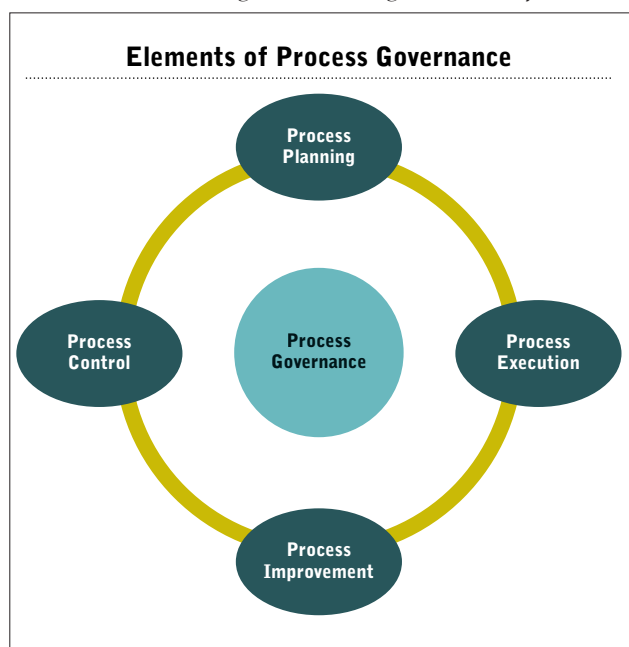
We then asked the Leadership team: “Who will own the new S&OP Process?” The responses were even more varied, with the most votes going for: “We should all own the Process collectively.” One responder said: “I can own the S&OP Process, but only if the Demand Planners report in to me.”

The Responsibility Assignment Matrix, also known as RASCI, is perhaps the most muddled and complex dimension of S&OP. Despite a general consensus about the criticality of S&OP Process, we’ve seen vice presidents and general managers reluctant to spear-head these initiatives. An inherent issue behind this reluctance is the silo-driven focus of respective functions, that drives “Individual brilliance; Collective mediocrity.”

So how does one establish the right kind of ownership for an enterprise-wide process like S&OP? We try to address this question at two levels:

Who is best placed to be the owners of S&OP Process? What does ownership or process governance mean?

Let’s look at the first level: *Who should own the process?* The focus areas and objectives of the respective functions shown above are almost universal. Supply chain does not have growth as its goal; similarly, cost is



not the primary goal for the marketing team. “What is the organizations’ strategic focus?” becomes a crucial question to find the answer on S&OP Ownership.

We now look at the second level: *What does ownership or process governance mean?*

Governance begins with planning, or defining who will do what, when, where, how, and why. “Plan the work; then work the plan” holds good for governance.

Positive effects of a successfully designed S&OP Process cannot last very long without governance. Process Governance is a process in itself. Governance begins with planning, or defining who will do what, when, where, how, and why. “Plan the work; then work the plan” holds good for governance.

Improving the Process Governance is important because of the different thinking types required to improve it. The execution of Process Governance requires a constant evaluation of the process, its output, and the requisite changes. It also requires a continuous evaluation of what leading practices could be embedded.

The role of an S&OP Process Owner is similar to that of the conductor of an orchestra: to bring the acts of different roles and functions together; define and enforce the rules, expectations, and deliverables; and navigate the performance.

Building Block 4: Segmentation

Market and Customer Segmentation are familiar concepts for Marketing and Consumer Research teams. However, Segmentation is a philosophy that also blends well with Supply Chain Planning.

Planning teams typically focus on all SKUs. With complexities of staggering proportions in terms of customers, products, SKUs, and channels, knowing where to spend more time refining and modifying models as well as talking to Marketing and Sales is the key to success in planning.

Segmentation addresses this by focusing on a select set of SKUs that contribute more to sales and/or are subject to higher volatility and seasonality. The answer to “How to segment your Supply Chain?” can be margin, brand life-cycle, customers, channels, or other factors.

Every product goes through a product or brand life-cycle, wherein the level of volatility fluctuates during the life of the product. To be effective, planning teams

need to remain wary of this fact and constantly segment the SKUs, based on pre-defined criteria. As a result, segmentation isn’t a one-time activity but a periodic drill carried out to minimize planner efforts.

One of our client’s Demand Planners used to spend days building forecasts for almost 100 percent of their SKUs. Our analysis showed that 64 percent of their SKUs earned their position in a pull-based replenishment segment. This meant that these SKUs were “low-touch” forecasting for the planning team. The planners worked terribly hard; but they weren’t working smart.

If these SKUs were managed purely through pull-based replenishment, the stock-out instances would be lower by 76 percent and secondary sales of these specific SKU’s could be higher by 5 percent.

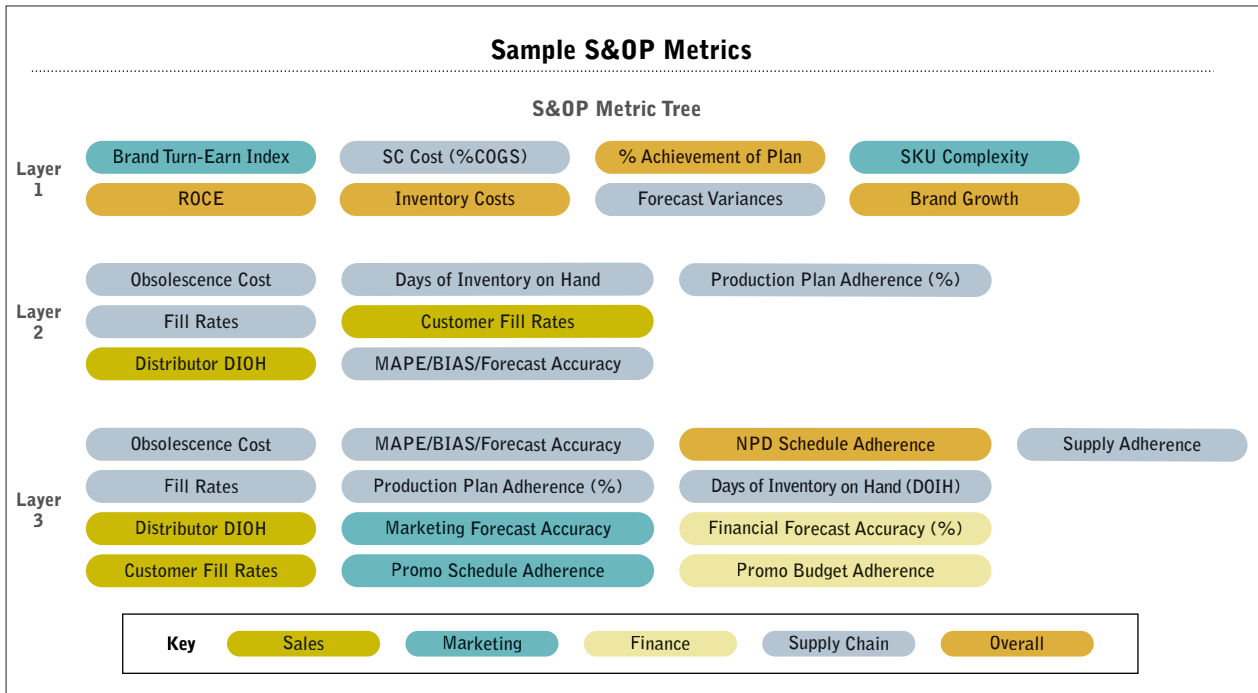
The potential benefits of applying Segmentation in S&OP are:

- Optimal use of time and effort to focus on exception-based decision making, such as planning for critical SKUs, and leaving the rest on “auto-pilot”
- Reduced working capital and inventory through accurate forecasting
- Increased revenues from improved fill-rates through right-stocking at the right places
- Improved Customer Experience due to improved availability of goods

Beyond identifying segments, planning strategies also need to be implemented at the ground-level. Segmentation is an on-going, periodic activity to validate whether the market dynamics have shifted any product across segments. An SKU that had characteristics of pull-based replenishment today, for example, could move into the segment of forecast-based inventory in future.

Building Block 5: Right Metrics

Performance metrics drive accountability and ownership for organizational objectives. The ability to regularly measure and report performance through meaningful metrics, or what we think of as Right Metrics, is a critical business skill. Ironically, most metrics are aligned to individual rewards and incentives. Right Metrics ensure that the right information is being captured at the right time in the right way. Right Metrics also drive healthy organizational behaviour. For instance, Net Working Capital (Inventory) can be a very healthy KPI for sales managers in Order-to-Stock supply chains. This will ensure that sales managers remain wary of the stock situation and help provide the right forecasts during the



beginning of each month. Hence, the implications of Right Metrics can be significant. Yet, as we found across our experiences, adoption of the “right” kind of metrics appears to be patchy at best.

During an S&OP Process diagnostic for a client, we observed the following:

Everything that had to do with metrics—such as Measurement, Ownership, Behaviors, Data-management—was being done incorrectly.

We’ve mentioned the need to align S&OP Process with different sub processes (Building Block 2). The success of any process depends on periodic stage-gate reviews (*a phase-driven, go/no-go decision point where activities leading to that point are reviewed and an outcome is decided*), with decisive actions based on pre-defined parameters. Metrics play an important role in such gate-reviews—they make the process rigorous, disciplined, and factual so that executives gain confidence in the integrity of the Process. Tiered Time Horizons (Building Block 1) help in differentiating which metrics are more relevant for a Strategic S&OP Process versus an Operational or a Tactical S&OP Process.

Since the S&OP Process is an enterprise-wide process involving almost every function, it is important that the metrics also showcase joint or overlapping accountability for different functions.

Right Metrics drive right behaviors. A tiered metrics framework cutting across functions and layers of the

S&OP Process would help support improved enterprise performance. The sample below showcases alignment with the Tiered Time Horizons, the cross-functional footprint, as well as some metrics shared by multiple functions (e.g. NPD schedule adherence, Inventory Cost, Brand Growth, etc.).

Every process needs meaningful metrics; every metric should have a purpose. Without a purpose (destination), your S&OP journey will be meaningless.

Building Block 6: Analytics

So much data; so few insights. S&OP Process is the forum for an organization to check where it is on its journey, where it wishes to go, and how it plans to reach a destination. It is a platform of making decisions. Data and insights support decision-making.

During our interviews of cross-functional senior managers at a client firm, we found little use for Analytics in decision making. Brands and product innovation were the prime dimensions of “thinking”—however, there was no evidence of how they measured brand performance.

We introduced Analytics and helped them to begin measuring their brands’ performance, within the S&OP Process.

This analytics graph raised a number of questions for the leadership team:

- What’s driving the brand’s current performance?
- Is there a desired / target position for a brand?

- Why is the brand not at that position?
- What do they want to do to change (improve) the brand's position?

An even bigger question was—which forum is best placed to discuss this? After all, this wasn't a function-specific problem.

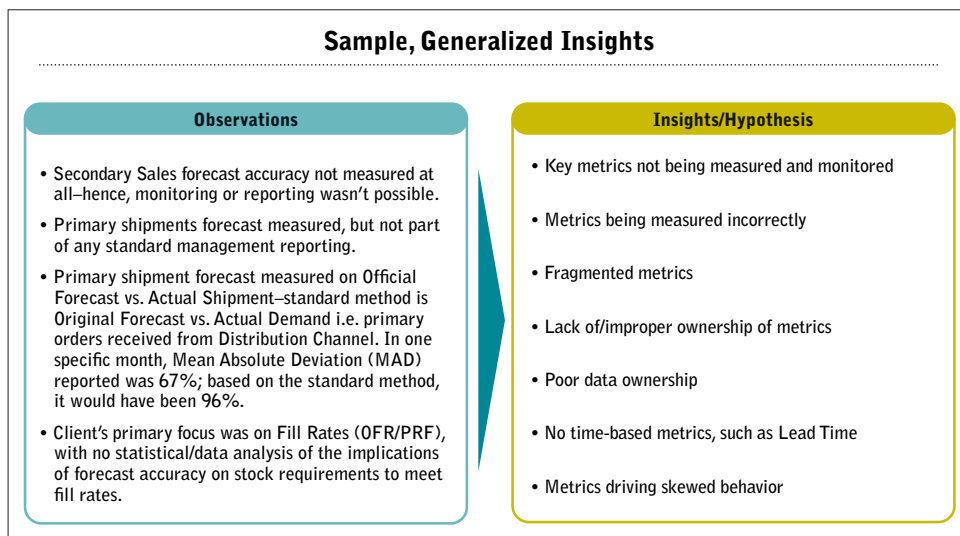
The client agreed that the Strategic S&OP Process is the most appropriate forum for discussing such questions. That is how Analytics found its relevant position of importance. It also helped us reinforce the need for

results and trends can they see from their decisions; what corrective steps do they wish to take; and so on.

Building Block 7: Continuous Improvement

Continuous Improvement is the on-going effort to seek incremental progress over time. Sometimes it can even identify a breakthrough progress all at once. Your processes may appear to be perfect for what they deliver. However, every process requires constant evaluation and improvements in the light of its efficiency, effectiveness, and flexibility. S&OP Process is no different.

The core thinking behind Continuous Improvement is the need to ensure a perpetual monitoring of what's working and what's not working. The fact that an S&OP Process involves representation from almost every organizational function enables diversity of perspectives. This diversity, in turn, becomes the catalyst of feedback and sharing of ideas as to how the process can be further improved. These ideas can then be implemented through the cycles of S&OP Process.



Right Metrics, including metrics for brand managers.

Our research of a pharmaceutical company highlighted its initiative on Portfolio Optimization—cutting the tail, based on revenue contribution. We had two key issues with this approach:

1. Revenue contribution was not necessarily the right key criteria.
2. It was a stand-alone, disconnected initiative—a one-time activity.

The S&OP solutions we've designed have built-in Portfolio Rationalization and brand performance evaluation as perpetual activities. In our Brand Analytics example, we drilled down to identify relative performance of various product segments within a brand and further at a SKU level below each segment. Our approach highlighted a cluster of SKU's (see below) as non-performing and as the prime candidates for clean-up, unless their existence was purely strategic.

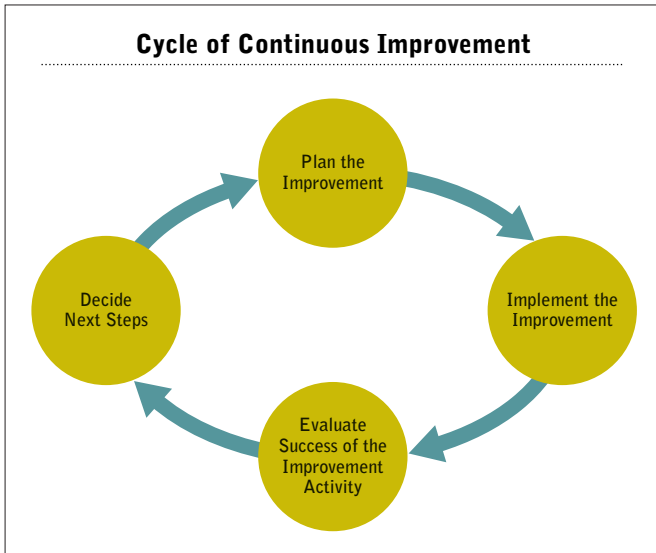
Appropriate use of analytics can help the S&OP Process become more meaningful and effective. Analytics-based reporting tells the leadership where they are; what actions need to be taken and percolated down into Operational and Tactical S&OP Processes; what

process can be further improved. These ideas can then be implemented through the cycles of S&OP Process.

The Continuous Improvement Building Block is critical because:

- ideas for improvement will come from participants of the process—hence, these will be less radical, rooted in realism and therefore, easier to implement;
- small improvements are less likely to require major capital investment than major process changes;
- the ideas come from the talents of the existing workforce, as opposed to using research or external consultants—any of which could be very expensive;
- once the employees see their ideas are being heard and considered, they will continually seek ways to improve their own performance; and
- it encourages employees to take ownership for their work and reinforces team working, thereby improving the level of motivation.

Occasionally, Continuous Improvement can also receive stimuli by leveraging knowledge from specialized institutions and research entities including APQC, Gartner, Aberdeen Group, and others. This allows cross-pollinating new thinking and successful practices. We



have also shared such knowledge for our clients—for example, we arranged benchmarking content on Trade Promotions Management Maturity Model and think tanks such as Product Development Institute.

Building Block 8: Change Management

An S&OP project is 60 percent Change Management, 30 percent process development, and 10 percent technology.

However, many organizations fail to consider Change Management as a component of their S&OP Process. It is therefore not surprising that over the last 20 years or so, change programs continue to fail. McKinsey research confirmed that the vast majority stumble on precisely the thing they are trying to transform—employee attitudes and management behaviour.

When senior executives believe that S&OP is more of an exercise of getting the right kind of information at the right time, rather than a Change Management practice, it is clear they are trapped in the change-management fallacy.

For example, we recommended that one client bring in someone who specialized in Change Management to hand-hold the firm through the process. A regional vice president brushed aside our suggestion, perceiving Change Management as a fluffy subject, and indicated that his leadership team would manage the change. It is no wonder that a year later, little had changed.

Organizational change can have many faces. But regardless of the type, the critical aspect is a company's ability to secure the buy-in of its employees on the change. Effective implementation of organizational change involves:

- recognizing the changes in the broader business environment;
- developing necessary adjustments for their company's needs;
- training employees around the appropriate changes; and
- winning support of employees with persuasiveness of appropriate adjustments.

Organizations that have openly conceded they lack the culture and capabilities to execute change are the prime candidates to demonstrate the need for Change Management during S&OP Process implementation. In contrast, the management of firms that did not give Change Management the due recognition have often found themselves wondering what went wrong in their journey.

Change Management is a remedy for many of the challenges quoted in the introductory section of this article. Strong change agents (internal and external) can perform the task of bringing the leadership on a common plinth, asking the right questions, and achieving consensus. Change agents can help define as well as gain acceptance towards ownership and restructure roles & responsibilities.

The Change Management initiative hand-holds an organization into the new process era by taking small, concrete steps towards the end-state. Leadership can be provided with awareness and can work its way towards accepting the S&OP Process. Change-agents also functions as mentors to the process owner while driving and managing periodic meetings through a pilot implementation. Without such support from a change agent, failure to adopt a world-class S&OP Process could be imminent.

Conclusion

To a large extent, the Science of S&OP is set in stone, with very little incremental innovation expected. The gear needs to shift towards the Art of Implementing S&OP. It requires flawless execution of each of the Eight Building Blocks we have highlighted here.

They can help make an S&OP Process efficient as well as effective—the two dimensions of excellence. Every dimension holds an equal position, there is no hierarchy within. Collectively, we see them as exhaustive. Hence, none of them should be ignored or considered less important. The onus is on organizations to review their Sales & Operations Planning Process and identify whether any gaps exist or not. The organizations that can successfully manage to build upon these blocks are assured of superior enterprise performance and market leadership position. ☺☺

Private Equity's New Operations and

By Edward Davis, Jeffrey Collins, and Steve Stewart

Economic conditions are extending the time that private equity (PE) firms own their portfolio acquisitions. Their primary focus has been shifting from financial engineering to value creation. Because of these changes, purchasing and supply chain management activities have become prime proving grounds for PE company managers who expect higher levels of profitability and liquidity from their portfolio companies. This article illustrates how and why that is being done, using an in-depth case example from the portfolio of one PE company.

Last year a single company purchased more than 50,000 Hewlett-Packard computers, buying in bulk to save millions of dollars. But the company wasn't General Electric, Procter & Gamble, or another large, well-known multinational conglomerate. It was the Blackstone Group, a large private equity firm.¹ As the *New York Times* reported, the computers Blackstone was buying were for use in many of its portfolio companies.

One of the surprising facts about today's private equity (PE) industry is that it is proving to be a powerful new presence in global markets. Blackstone alone shows why: Collectively, the businesses in its portfolio would rank as the 13th largest company by revenue, ahead of JPMorgan Chase, IBM, and Procter & Gamble. Kohlberg Kravis Roberts (KKR), another leading PE firm, would be fifth on that list, with its 74 portfolio companies and \$210 billion in total revenue, according to the *New York Times*.

The PE industry was much in the news during 2012, with the public media spotlight casting a mostly negative image—the result, primarily, of the sector's traditional practices of “slash and burn” fast turnover dealmaking. Charges against private equity managers of mass worker layoffs, indiscriminate offshoring,

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Proving Ground: Supply Chain

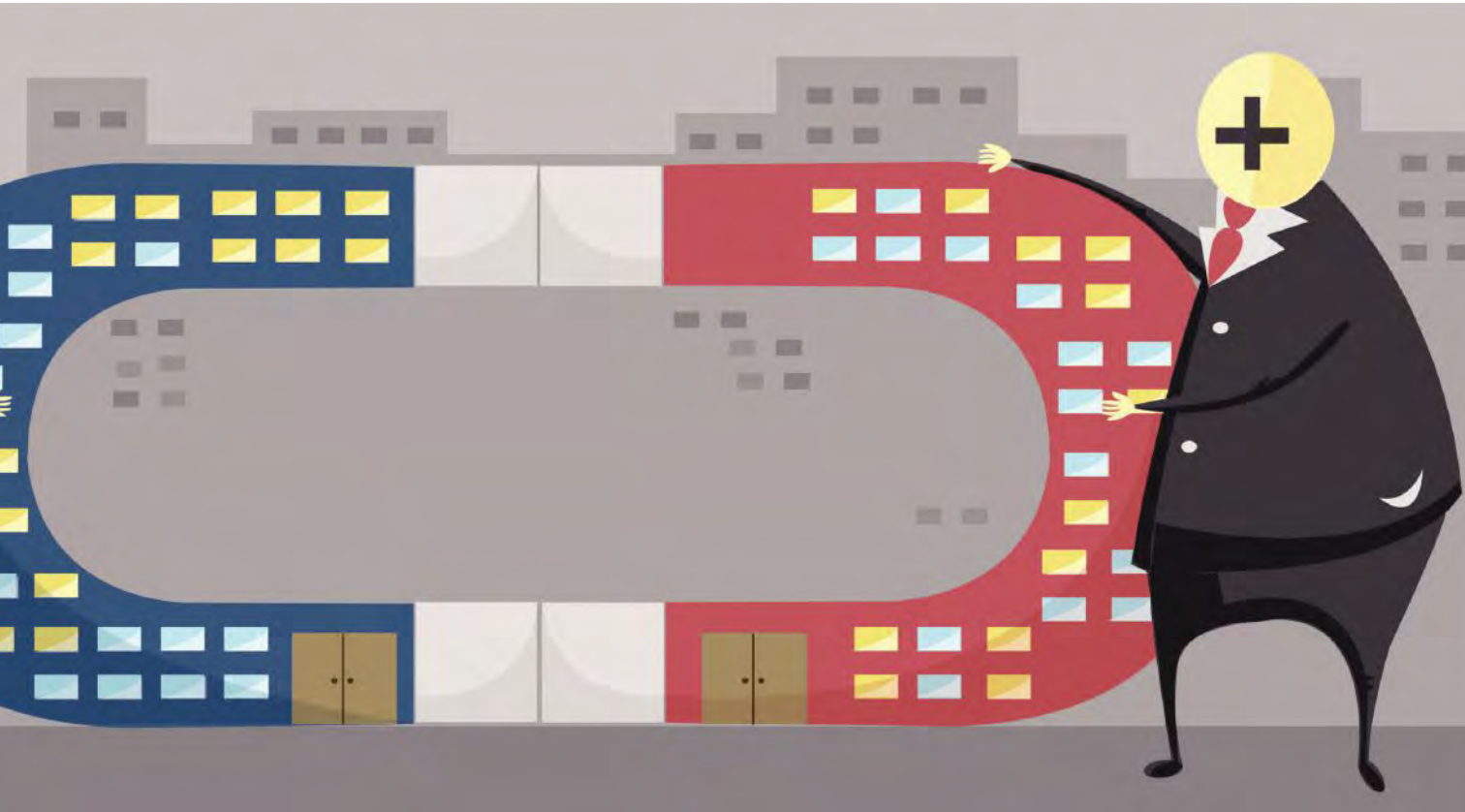
financial engineering, and excessive profits helped create—at least in the eyes of the general public—confusion and uncertainty about the industry.

But those charges do not reflect the totality of the PE sector's contribution to the economy—or to the health of individual enterprises. The industry has changed, and is continuing to change in response to economic and political conditions around the globe—in ways which were unexpected even a few years ago. The emphasis for PE firms today is more about creating fundamental value, and less about doing deals and exploiting leverage.² The tight money of the last few years has resulted in substantially

longer-term investment horizons for most PE companies, causing private equity's value creation model to become more complex and more challenging to implement.

Of course, saving money by purchasing in bulk quantities is not an especially clever response to such challenges; indeed, it is probably the lowest of the low-hanging fruit for PEs. So what do PE firms do for an encore? What are some of the ways in which they actively engage with their portfolio companies to create new value?

During private equity's glamour years, when heavily-leveraged businesses were bought, financially re-engineered, and quickly sold for profit, not much attention was placed



on operations functions such as purchasing and supply chain management. In PE-owned businesses, contributions from these functions were typically limited to tactical activities such as supply market evaluation, parts sourcing, and price negotiation. In manufacturing companies in particular, common practices such as long-term contracts with existing suppliers, uniquely designed and tooled component parts, and lengthy customer approval of new suppliers, made it very difficult to implement meaningful, short-term re-structuring of portfolio companies.

However, this situation is changing rapidly as PEs look at longer investing horizons and seek out more sustainable ways to add value. To achieve this, they are building and applying specialty skills in some of their portfolio companies in purchasing, supply chain management, and operations.³

The Portfolio Play

To illustrate this trend, this article will use the case of Air International Thermal Systems (AITS), a tier one supplier of heating, ventilating, and air conditioning (HVAC) and power train cooling (PTC) modules to major automotive manufacturers on four continents. AITS is owned by Unitas Capital, a smaller PE firm with about \$4 billion under management. Headquartered in Hong Kong, with offices in Melbourne, Shanghai, and Seoul, Unitas focuses primarily on Asian companies in the consumer and industrial sectors. The firm has been pushing AITS and its other portfolio companies to utilize “bureaucracy-lite” versions of big-company management processes and innovative operating practices that deliver both bottom line (profit) and top line (revenue) value—actions not previously possible with private equity’s traditional, short-term approach.

It’s useful to understand more about AITS and its business. Established in Australia in 1967, AITS established its first overseas manufacturing operation in 1995, in China. This was followed by the initiation of manufacturing operations in the US in 1997. The company now operates a global network of 10 technical centers, 11 in-house manufacturing/assembly facilities, and nine supply facilities in China, North America, Australia, Thailand, Japan, and Germany. Each of the company’s HVAC and PTC modules requires a unique, complex design for a particular vehicle application and a development cycle of 24 months to 36 months from business award to product launch.

A majority interest in AITS was acquired in 2005 by Unitas’ corporate predecessor,

JP Morgan Partners Asia (JPMPA). At the time, AITS was still a predominantly Australian-focused business with half of its sales in that country, but with a growing presence in China and North America. For most of the first three years of JPMPA ownership, AITS grew rapidly—profits as well as revenue. However, the company’s strong growth masked limitations in its management’s functional expertise and cross-business coordination—factors that were manifested in skyrocketing overhead costs. By spring 2008, the company’s revenue and EDITDA forecasts had begun to slip. In a harbinger of what was to come for the entire automotive industry, AITS soon suffered a pronounced drop in unit sales volumes, together with cancellation of several key programs, and found itself in a severe cash/liquidity crisis. Cash flow was of crucial importance to Unitas because the company’s debt, created during the 2005 purchase, was linked to banking covenants which, if breached, could result in liquidation or a fire sale of the company.

The “Operations Type” Gets Involved

To address the situation, Unitas sent in one of its operating experts, Steve Stewart. A veteran of almost 30 years in manufacturing at Emerson Electric, Stewart is a managing director at Unitas—an “operations type” in a company and industry dominated by finance types. Stewart met with senior managers at several AITS locations, visited several of its manufacturing and technical sites, and studied its financial and operating reports in an effort to understand the working of the company, the skill sets of its key people, and whether those people were the right people, focusing on the right business issues. Stewart quickly saw that, because of the nature of its products, engineering was where the highest value-add occurred. He also determined that a new engineering technical center, set up in China two years previously to provide low-cost engineering resources worldwide, was not living up to its potential. The center was underutilized because division heads of AITS units in Australia and North America were not sending it work. As a result, AITS global engineering costs were twice as high as they should be, based on benchmarks Stewart derived from his past experience.

The impact of those higher than planned costs extended beyond the corporate engineering function to negate most of the cost advantage gained from AITS’s “manufacturing provider” (MP) model, which AITS was using in selected locations to overcome the manufacturing cost disadvantages of its smaller size. Unable to follow the vertical integration and scale-economy approaches of its large competitors, AITS had begun seeking out established, high-quality plastic injection molders located close to its customers’ auto assembly





plants and had started negotiating to buy both plastic components and the HVAC module assembly labor from them. AITS provided engineering resources to create a validated design, as well as offering its proprietary HVAC assembly line process and test equipment. The supplier-partner then provided floor space for the equipment and the workforce to assemble the HVAC modules. AITS paid a fixed fee per module, avoiding the fixed overhead costs of manufacturing associated with the equipment, facilities, and people that would normally be required to produce the parts in-house (because of the latter effect, the MP model was also called the “asset-lite” approach).

After two months as an observer, Stewart was named interim chief executive. He set as his top priorities cost containment, operational effectiveness, and getting the right people in the right boxes. He immediately took a fast trip around the world, meeting the AITS senior managers he had not previously met and visiting the AITS manufacturing and technical sites he hadn't yet visited.

Over the next two months, Stewart created a 100-day plan with ambitious cost reduction goals, stabilized the business, cut costs, and replaced virtually all senior managers. The replacements included a new CEO to lead the business out of its continuing crisis, which in coming months would include the company's largest customer, General Motors, declaring bankruptcy, 2008 fourth quarter sales coming in at 67 percent below budget, and the revised 2009 revenue forecast being 40 percent to 60 percent lower than previously expected. Unitas' assistance in renegotiating bank loan terms gave breathing room for the new CEO (Todd Sheppelman, a veteran “car guy”) and Stewart (now chairman of the AITS board of directors). The new management team focused first on cash conservation and cash generation, and then began building functional excellence across the organization.

Recognizing that a full recovery could take years, Stewart and new CEO Sheppelman designed a multifaceted recovery plan to establish a performance-based culture, establish (or fix) fundamental business processes, and grow the business beyond pre-crisis levels. With this plan, longer-term value generation became another key focus for the new AITS management team.

As a foundation for the overall plan, Sheppelman led a company-wide activity to establish a clear set of personal values and a Leadership Behaviors Code to which all employees, including senior executives, would be held accountable by supervisors, peers, and subordinates. To assure lasting cultural change, Sheppelman directed that the code apply consistently to employees' interactions with each other, with OEM customers, and with external suppliers. The inclusion of suppliers in the scope of the code signaled the new management's inten-

tion to view key supplier partners collaboratively and as an extension of AITS internal departments.

Global Purchasing Organization Established

The next step was to establish a central purchasing organization to consolidate and manage AITS's multiple interfaces with suppliers, and to serve as the suppliers' primary contact with AITS. The new group was also tasked with developing “bureaucratic-lite” processes to identify and select preferred suppliers, deliver improved total cost savings (bottom line improvement), and support the business development group's pursuit of new business. A search for a chief procurement officer (CPO), to report directly to CEO Sheppelman and lead the new purchasing organization, was authorized by the board of directors early in 2009. Jeffrey Collins, another auto industry veteran, was hired as CPO in May 2009.

Collins quickly identified some tough purchasing challenges. For example, although the cost of parts and services from suppliers was running at 70 percent to 75 percent of sales revenue, working relationships between AITS and many of its suppliers worldwide were adversarial in nature. AITS had no central purchasing organization and no coordinated interface with suppliers: Each of its five manufacturing locations operated independently, with components sourcing determined by many different processes and departments. The operating mentality was described by one manager as “three bids and a cloud of dust.” Additionally, there was no purchasing IT system, no supplier performance data, and no consolidated spend data; suppliers to multiple AITS plant locations were confused by the unique business terms and operating practices at each location; AITS's contracts with its OEM customers guaranteed annual price concessions averaging 3 percent of sales price but material cost reduction from AITS's external and internal suppliers averaged only 1.5 percent of sales; customers were imposing arbitrary commercial conditions without advance notice and there was pressure from the company's finance department to cascade these adversarial practices down to AITS suppliers.

Collins also discovered that the AITS culture of adversarial supplier interface practices was deeply ingrained in employees' thinking and in AITS plant functional practices. For example, the finance group had become infamous for arbitrarily holding up supplier payments for “technical” reasons, while engineering was known for its confrontational and expletive-punctuated

verbal exchanges with suppliers. Employees in all functions regularly advised purchasing personnel to “treat our suppliers like our (worst) customers treat us,” with some even suggesting that purchasing “bring them in and beat ‘em up.” Clearly, any progress toward collaborative working relationships would require big changes.

Principles to Guide Supplier Interactions

With the help of an outside consulting firm specializing in buyer-supplier relations, Collins and his team developed a clear set of AITS-supplier interface principles which confirmed AITS management’s intent to operate with integrity and reinforced the CEO’s vision of engaging key suppliers as an extension of the company’s engineering, manufacturing, and business development departments. (See Exhibit 1.) The team also turned to designing three core business processes they viewed as critical for a successful transformation: commodity strategy, material cost reduction, and new business pursuit.

Leading companies in the automotive industry have long used some type of “commodity strategy” process, which generally means a process for evaluating supplier performance in key categories such as quality and delivery that is purchasing-led, but cross-functional and cross-organizational. The process uses a “rating and ranking” scheme to select the best performing suppliers in various commodity groups such as steel, rubber, electronics, etc.)

for new model program sourcing. Collins, the new CPO, knew from his personal experience at Ford Motor Co. how effective such a process could be. But he also wanted to avoid the over-complexity and bureaucracy that often accompanied such big-company processes.

With the help of the operational buyers in the AITS USA headquarters in Auburn Hills, Michigan, a four-step, low-tech, but comprehensive commodity strategy process was created for AITS, as shown in Exhibit 2 shown on the next page, and explained below:

1. **Step #1** involved the use of plant-based, cross-functional teams (CFT) in a non-threatening data-gathering activity, where current buy metrics (for instance, part price, design, and supplier), and supplier performance metrics (such as quality, delivery, and cost) were consolidated for each category of supply spend. Using a simple red-yellow-green rating scale, suppliers in each category were rated and ranked, piece-price discrepancies identified, and lowest prices leveraged for quick savings.
2. **Step #2** called on the cross-functional teams’ engineering experts to establish a “preferred” design and/or performance specification for each commodity category. These common designs were then used by purchasing to gather component cost element data and identify lowest total cost suppliers through global supply market testing and on-site supplier manufacturing plant evaluations. Another important element of this step was ensuring that AITS personnel identified and understood the cost drivers of each component or unit purchased.
3. **In Step #3**, the cross-functional, cross-organizational commodity teams used their accumulated data and experience to recommend preferred suppliers for each of the 18 established commodity categories.
4. **Step #4** was then devoted to re-sourcing existing business to preferred suppliers and to engaging these suppliers early in the new product development and new business pursuit processes described below. The sourcing/resourcing was done under the direction of a newly established sourcing board of directors, headed by the CPO.

Designing the “bureaucracy-lite” commodity strategy process requested by the CEO was the easy part of the new purchasing process. The real challenge came in obtaining timely and accurate data for supplier and part analysis, and overcoming the regional plants’ resistance to change—specifically, their resistance to the leadership role of the new central purchasing organization for supplier selection and management.

Material Cost Reduction: A “Team Sport” to Improve the Bottom Line

With the company’s commodity strategy process beginning to show progress, attention turned to creating a

EXHIBIT 1

Supplier Interface Principals

Integrity

- AI lives up to the “spirit” of the contract
- AI’s departments establish a “tough, but fair” interface reputation at all levels

Trust

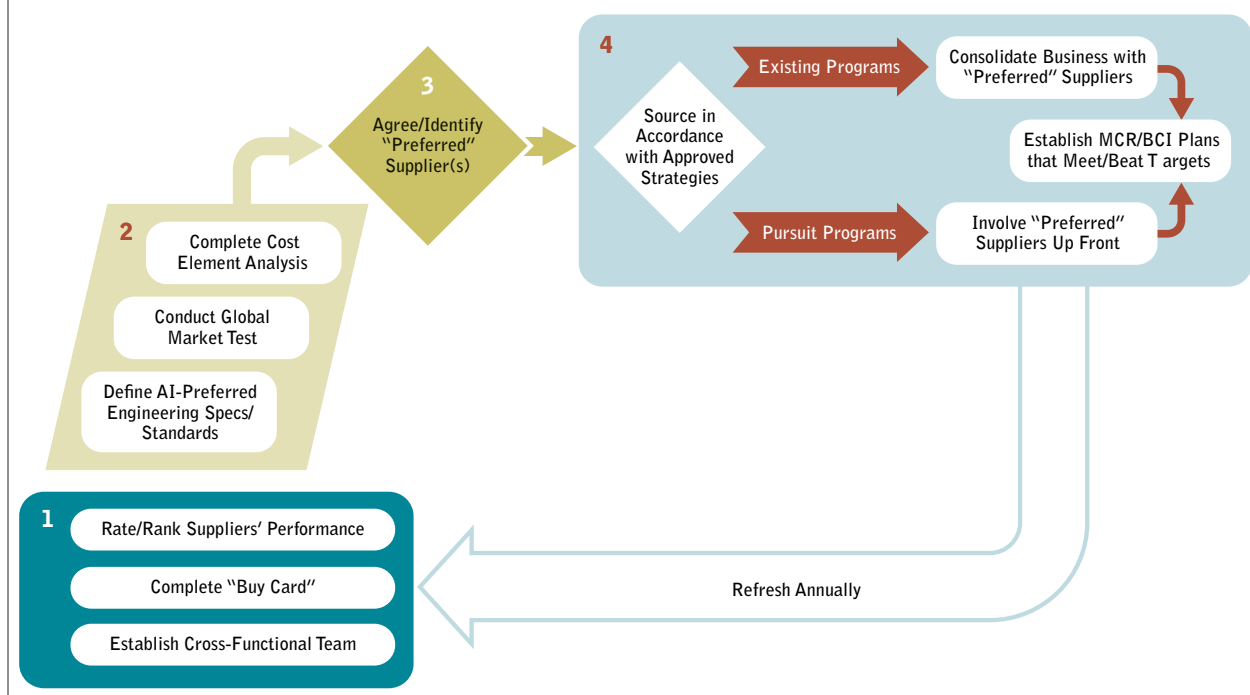
- Business objectives aligned between internal, AI functions and departments
- Investments made at AI’s request fully utilized
- Payments made/received in accordance with contract T&Cs
- Premium costs incurred at AI’s request acknowledged and reimbursed
- Accurate information communicated in a timely manner by all AI functions
- Suppliers’ intellectual property respected and protected

Long Term vs. Short Term Perspective

- Buyers represent AI’s collective interests and objectives to suppliers, and represent and support suppliers interests to internal functions
- AI acknowledges and shares piece price and supply chain savings resulting from supplier suggestions
- AI provides adequate support; buyers remove internal barriers
- AI acknowledges suppliers’ need to make a reasonable profit

- ▶ AI employees view suppliers as a value added extension of AI departments and functions
- ▶ Suppliers consider AI a “preferred customer”

Commodity/Sourcing Strategy—Four Step Process



broad-based, multi-year material cost reduction (MCR) process with the potential to increase AITS's yearly cost reduction performance by orders of magnitude.

AITS's historical MCR performance had been mediocre. For the most part, cost reduction was defined as a purchasing only activity dominated by annual piece-price negotiations with suppliers. Existing finance and business development practices encouraged purchasing to negotiate annual "productivity" reductions in initial contracts; suppliers played the game by adding premiums onto their initial production prices to fund future year "give-backs." Even still, AITS's profit margins were deteriorating over the life of its multi-year automotive programs since its contracts with OEM customers required "give backs" on the selling price of the HVAC module, whereby purchasing could deliver reductions only on the value of components purchased from external suppliers (roughly half of total purchases).

Fortunately, however, Sheppelman, the new CEO, understood the need for all departments and all employees to contribute to cost reduction and business case improvement. "Cost down is a team sport—not just a purchasing task" he told his global leadership team. What AITS needed next was a formal process to prioritize, budget, and program manage specific activity that would improve both bottom line performance and the business case for individual programs.

Building on best practices from the auto and aerospace

industries, the AITS team crafted a global, cross-functional material cost reduction and business case improvement (BCI) process (MCR/BCI). The process is focused on identifying and tracking cost reduction and business case improvement activities in seven operational categories, focused on both current year and longer-term actions and assigning ownership to plant-based functional leaders. Exhibit 3 below illustrates key elements of the process, which was developed during calendar year 2010 and launched at the start of 2011.

The Role of the "Pursuit Buyer"

New business pursuit at AITS had historically been managed independently from other departments, including purchasing. As a result, its responses to requests for price quotations were generally reactive, with the business development group typically proposing aggressive selling prices, which were required to meet OEM-buyer targets but not necessarily supported by quick quotes from AITS's component suppliers. Then, to meet internal financial hurdles, unidentified "stretch" targets were cascaded down to parts buyers with the assignment to "eliminate the penalty to target" through negotiation.

What AITS needed was a new process that would engage preferred suppliers (as identified by the commodity strategy teams) early in the business pursuit and product

development cycle, and link with the material cost reduction process to forecast future material cost reductions. The result would enable rapid quote responses and facilitate more accurate business case analysis and financial forecasts.

As with the commodity strategy process, the U.S. team volunteered to lead and designated one of its regional senior buyers as the company's first "pursuit buyer." In only a few weeks, a process was established to match a new product program's list of material requirements with preferred suppliers recommended by the category specific commodity strategy teams. In addition, the pursuit database was linked with the MCR report to forecast already identified cost reductions by part and by supplier over the new program's business cycle. Purchasing was now operating "up front" with business development, aligned with business case reporting, and engaging preferred suppliers early enough for their ideas and recommendations to have impact.

During the first six months of operation, pursuit buyers were trained in North America and China, and the process was successfully used to improve customer request-for-quote (RFQ) responses for one global program involving Europe, North America, and China, two regional programs in North America, and one regional program in China. Commodity strategy, MCR, BCI, and business pursuit

were now connected, both in process and with data.

Quarterly Reviews with Key Supplier Partners

With increasing reliance on preferred suppliers, many of which are substantially larger than AITS, there was a need to regularly confirm the strategic, business-plan-level alignment between AITS and these partners. Quarterly business reviews (QBR) with five selected global suppliers began in 2009. Agendas for these meetings are dedicated to assessing the quality of each functional interface between the organizations (for instance, purchasing to sales.) AITS also invites suppliers' suggestions for improving quality, performance, and/or price; the partners share strategy updates and review new business awards and potential joint business development. Participants from both sides include C-level executives and directors of all major departments. Tactical and operational issues are deliberately excluded to ensure that senior leaders focus on strategy and business plan alignment. The relative role and positioning of the QBR is shown in Exhibit 4.

Quantifiable Wins with the New Processes

As noted earlier, the new MCR/BCI process was launched in 2011; by early 2012 it had cut costs, year to date, by nearly 100 percent over the prior year. For all of 2012, the program generated total dollar savings 50 percent higher than in 2011.

Since 2009, AITS's revenue and earnings have grown at more than 40 percent, compounded annually. While this growth has been driven by the auto industry's recovery as well as by the company's new business wins, the management team credits the new business pursuit process with quite a bit of the gains, particularly in China. Over the last three years, AITS has added nine new customers in China and won more business there with existing customers.

In recognition of the turnaround occurring at AITS, an investor consortium arranged by Unitas Capital led a recapitalization

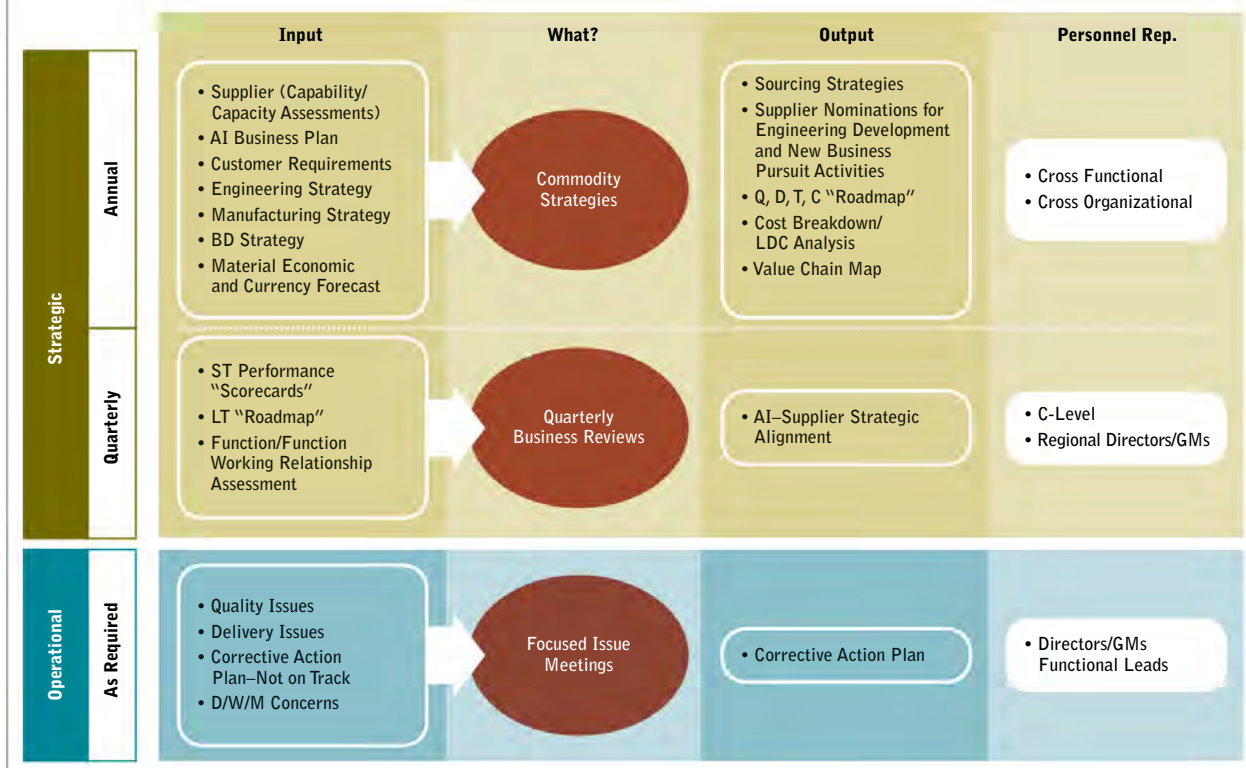
EXHIBIT 3

Key Elements of the MCR/BCI Process

Opportunity Range	Savings Category	Savings Activity	CY2011 Plan	Long Term Forecast
1-5%	Commercial/Purchasing	<ul style="list-style-type: none"> Sourcing/Re-Sourcing Negotiation Volume Leverage Commercial Terms Performance Improvement Reduce "Cost of Non-Quality" 	50%	25-30%
5-30%	Design/Engineering	<ul style="list-style-type: none"> VAVE (ex. Material Specifications) Re-Design 	20%	30-40%
1-5%	Manufacturing Operations	<ul style="list-style-type: none"> LEAN Manufacturing Test/Measuring Equipment 	5%	5-10%
1-5%	Logistics/Shared	<ul style="list-style-type: none"> Logistics Network Optimization Packaging 	5%	5%
1-5%	Supplier Suggestion	<ul style="list-style-type: none"> Number and \$\$ Value of Ideas QBR Targets 	10%	10%
1-5%	Customer Terms	<ul style="list-style-type: none"> Revenue Improvement Offset Raw Material Surcharges/Increases Commercial Issue Improvement (ex. Payment Terms) 	15%	10% Plus Material Offset
TBD%	Raw Material (Risk)/Opps	<ul style="list-style-type: none"> Aluminum, Resins Copper, Steel Currency/Labor Economics 	-5%	+/- TBD

EXHIBIT 4

AITS Supply Base Management



of the company in 2010, which resulted in the elimination of all long-term debt and meant that the consortium then owned all of AITS's equity—a significant vote of confidence in the company's future.

Conclusion

AITS's story underscores the value of PE firms taking a "sleeves rolled up" approach to operational improvements at their portfolio companies. Clearly, this approach calls for PE firms to have experienced and highly capable operations managers on their teams. Although it is not mandatory that those "hands on" PE managers actually assume operational control—as Steve Stewart did—it is another option available to those firms as they re-assess the best ways to create value across their portfolios.


For its part, Unitas Capital has intentionally positioned itself to take on investment opportunities that face operations and supply chain challenges. Corporate public statements mention that "Unitas Capital offers a combination of operating focus and local market knowledge... we apply our operationally-driven investment approach to maximize value for our portfolio companies."⁴

Given the many recent changes in manufacturing and operations practice caused by "flat world" global economic

and social forces, supply chain expertise has become much more valuable. But these days, such expertise is not limited to technical proficiency in purchasing or logistics. It requires effective execution, which calls for superb teamwork and reinforcing behaviors. Most of the new processes introduced at AITS—from commodity strategy to new business pursuit—rely heavily on the cooperation of other companies whose personnel are not under AITS control. Obtaining their compliance may be straightforward, but achieving the higher levels of collaboration required to properly implement some elements of these processes can require intensive cross-company programs and much deeper operational expertise. It is reasonable to expect that more PE firms will acquire and apply that expertise. The result is likely to be for the good of many businesses. ☺☺

Sources:

- 1 "Private Equity Giants Use Size to Lean on Suppliers," *New York Times*, July 11, 2012.
- 2 "Dealmakers Stop Leveraging, Start Managing," *Fortune Magazine*, May 25, 2009.
- 3 "For a Few Dollars More," *Private Equity International Magazine*, Nov 3, 2011.
- 4 Unitas Capital Website, April 15, 2013.



As trade has grown into a global business, ocean transport has grown in importance. At the same time, the shipping landscape has continued to change. The result is that performance and service levels are inconsistent, unpredictable, and eroding. Despite this, there are corrective actions shippers can take to ensure smoother sailing and a more consistent delivery of their product.

Global Supply Chain Performance EROSION

By Tom Craig

Shoreline erosion does not happen overnight. The changes creep up little by little over time. They may not be apparent until you look back and realize that this year's shoreline is different from last year's shoreline.

A gradual erosion of performance has also occurred in global supply chains, especially in those that rely on ocean carriers to deliver the goods. We describe it as erosion creep because, like the shoreline, there is not one big, obvious change that hits a shipper between the eyes. Instead, a variety of events, such as longer shipping windows, unpredictable shipping schedules, bigger ships that can be handled in fewer ports, and new regulations, have gradually led to inconsistent and less reliable service levels.

These actions affect importers, exporters, and their supply chains. Retailers that miss a shipping window may end up with extra costs and lower margins to carry unsold inventory. Multi-national companies with global facilities and suppliers in multiple trade lanes feel the effects even more as they synchronize the flow of goods that feed production facilities, distribution pipelines, and customer distribution centers.

In this article, we will look first at the most important changes affecting global shipping and ports and their impacts on the supply chain. Then, we will look at strategies shippers

should consider to bring more consistency to an inconsistent environment.

The Container Shipping Evolution

Global supply chains have become more complex, with more parties involved in a single transaction, and an evolving landscape of carriers, ports, and practices. The distance between nodes in today's supply chains, the time on the water, carrier performance, currency fluctuations, and culture are just a few of the risks global supply chain managers must contend with.

What's more, supply chains are not monolithic. Instead, there are supply chains nesting within supply chains like a Russian doll: A single international shipment, for instance, involves many parties, each with its own network of trading partners that can affect the performance of the lead supply chain. In that context, topics such as supply chain process, visibility, alignment, and collaboration take on greater importance and greater complexity.

Against this backdrop, the shipping landscape involving container lines and international trade has also changed.

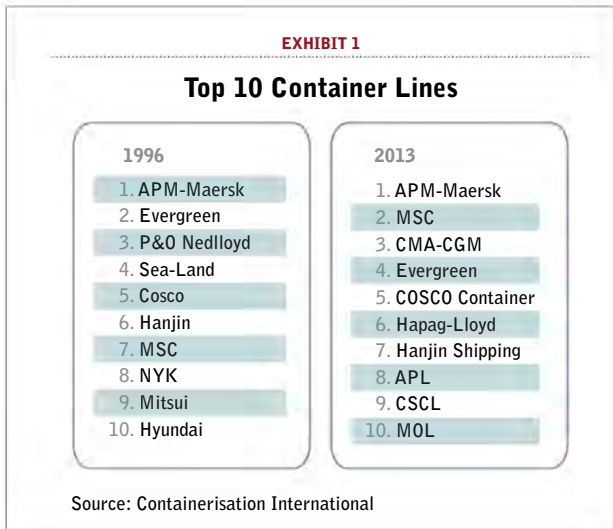
The past 30 years in container shipping illustrates this point. At one time, the major trade lane was the transatlantic. Then the transpacific took off, eventually surpassing the transatlantic for traffic. Today, there are three major trade lanes—Asia-North America, Asia-Europe, and intra-Asia, with intra-Asia being the largest.

Container industry shipping practices have also changed in a variety of ways, including:

- fewer carriers are now in business because of mergers and bankruptcies;

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Bill Henson



- alliances, slot exchanges, and vessel sharing among carriers have been created and changed;
- shipping routes have been added and revised;
- sailing schedules are regularly made and reworked; and
- “slow steaming” is an ongoing practice.

Today’s list of dominant players is different from earlier lists, as is illustrated in Exhibit 1.

There have also been operational changes, as the role of container shipping has grown with global trade expansion. While early ships transported 1,000 containers, as measured in twenty-foot equivalents (TEUs), new mega-ships targeted for use in the Asia-Europe trade lane will carry 18,000 containers. There is even talk of a 22,000 TEU vessel. These new mega-ships are longer than an aircraft carrier. The size and number of ships in operation or under construction has some in the industry questioning whether the total supply/capacity of

container ships exceeds demand.

The ranking of main ports has also shuffled as trade has expanded. China now dominates in all three of the major trade lanes (Exhibit 2). There has been a similar reshuffling of leaders among U.S. and European ports.

Another reshuffling may be in the offing: Given the capital cost of mega-ships, a port must be able to berth, unload, load, and get the ship sailing again quickly so that service providers can meet the asset utilization and turnaround times required to make these vessels pay for themselves. Port authorities must decide whether to make the investments in dredging, cranes, container stowage, terminals, and underlying infrastructure required to handle these ships. Without that investment, it is possible that fewer ports throughout the world will be able to accommodate mega-vessels. That potentially limits the options of supply chain managers as they design networks, develop inventory strategies, and plan shipments.

It’s All About the Supply Chain

Almost all of the changes we have just discussed are the result of new supply chain models. Retailers that once procured local supply now import product from around the globe. Their operations are supported by overseas offices that handle purchasing, supplier evaluation, quality control, shipment inspection, and logistics within the countries from which they are sourcing. Manufacturers are sourcing parts, components, and subassemblies from many countries. Other firms have expanded into multinational corporations (MNC) with sourcing, manufacturing, and sales channels worldwide.

While some shippers care only about the rate they pay and give little attention to what is happening with carriers, companies that practice leading-edge supply chain management understand that carrier practices can adversely affect their businesses.

For these shippers, performance reliability is an important attribute of effective international supply chain management. Using tools such as Sales & Operations Planning, (S&OP) they create weekly buckets of production along with logistics plans to support their promotions and sales. These



plans can be very dynamic because they involve high volume products, seasonal items, and new products that must be sped to market. They reflect underlying assumptions about lead times from suppliers to factories, factories to distribution centers, and distribution centers to stores or customers. Prompt, dependable transit times are essential to planning. In other words, these supply chains rely on certainty to meet demand.

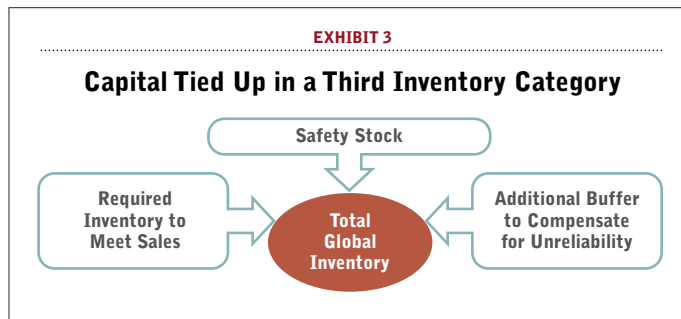
The changes in ocean transportation discussed above introduce uncertainty into the S&OP process. When container lines change schedules, vessel planning, alliances, or slow ship speeds, there is a corresponding change to the transit times implicit in logistics and build plans. That leaves shippers wondering whether their sourcing and inventory plans are sufficient to meet their needs.

Other factors raise similar questions, such as how mega-ships will be filled if supply exceeds demand and whether carriers' efforts to ameliorate underutilized capacity will affect transit times. In addition, shippers should be concerned with how long it will take to get new mega-ships unloaded, loaded, and back on the water. If fewer ports opt to handle the ships, that could affect costs, the time from the port to distribution centers, or to end customers.

As larger ships enter into the major trade lanes, container lines will move the smaller ships now used in these lanes into secondary trades. That raises questions about how ports in those trade lanes will handle bigger vessels and whether they will choose to invest in terminal upgrades. Shippers have to wonder what the cascading effect of large ships and terminal investments will do to global trade and a smooth flow of supply chains between and among countries.

These uncertainties lead to break downs in supply chain processes. Irregularities and the resultant performance erosion can cause companies to go into fire-fighting mode to compensate for poor customer service. Orders may be expedited and parts may have to be flown in to keep production lines rolling or to meet demand. Similarly, to deal with varying transit times, more inventory—more “just-in-case” safety stock—will be added throughout the entire production and finished supply chains. Additional working capital is required for raw materials, work-in-process, and finished goods. Such added inventories are anathema to supply chain management and to lean logistics. The net result of fire-fighting is that capital is tied up in a third inventory category—additional buffer to compensate for unreliability (Exhibit 3).

Another disruptive issue caused by service incon-



sistency is inventory yield maximization risk. One of the underlying factors for company profitability, yield management recognizes that there is a window of opportunity for the highest price or revenue creating ability of the item. Many items enjoy a short shelf life relative to demand and to the price customers are willing to pay. Firms that are in dynamic, volatile businesses, such as fashion, and those with strong seasonality, such as the Christmas holidays, know the impact of short product life cycles. For them, having the right inventory positioned at the right time is difficult and challenging. Insufficient inventory means lost sales opportunities, both immediate and longer-term, by customers. Too much inventory means price markdowns and reduced profits. This has an adverse impact on inventory maximization.

The challenges of having the right inventory available in the right amounts, at the right place, and at the right time are significant enough in complex, global supply chains. Carrier service irregularities can significantly compound the problems of obtaining highest yield.

Get Tactical and Strategic

Because transportation is often a key to speed of inventory. Companies need to take corrective actions to recover from the ocean transport inconsistency and achieve consistency.

One starting point begins on the water: That is to evaluate carriers by consistency of service. In this regard, the Panama Canal expansion will help some U.S.-based companies. But these actions do not really address the bigger issue, which is that carriers are going to continue to operate based on what is best for them and not for their customers.

In that light, there are both tactical and strategic actions that shippers can take off the water to improve performance and remove time and inventory from their supply chains.

Get tactical. Tactical actions emphasize the flow of products in the containers rather than the movement of the containers. The implementation of practices such as transloading and crossdocking at the ports reduces the time and handling required to position inventories

where they are needed most. Similarly, crossdocking at distribution centers speeds products to warehouses or stores.

Supply chain execution technologies, such as warehouse and transportation management systems, can manage international shipments. These systems can also be integrated with supplier, shipper, and corporate systems, and include tools such as exception and event management, to provide visibility to global supply chains from purchase order placement through to container delivery. Supply chain execution technologies help to coordinate the flow of goods across the entire supply chain.

Get strategic. Tactical adjustments are only part of the solution. Manufacturers and retailers should also take a strategic view to maintain a world-class supply chain program that supports corporate strategy, direction, growth, and profitability. This can include strong, active support of customer portfolios or other executive focus.

We have identified three, interconnected strategic actions that companies can take to mitigate the impact of erosion creep of supply chain performance. They are as follows:

1. Perform holistic performance analysis.

It's important to optimize the total supply chain, from end to end, and not just specific nodes in the supply chain. The core components to this type of assessment model are:

- Process
- Organization
- Technology
- Product flows
- Information flows
- Financial flows
- Costs
- Key performance measures
- Capacity, utilization, and scalability of supply chain

The assessment should confirm that the supply chain as a whole is aligned with the corporate strategy. Parsing the supply chain to optimize certain trade lanes or relationships with certain carriers can suboptimize the global supply chain. Gaps, redundancies, and improperly integrated areas will be overlooked when reviewing sections of the chain.

Supply chains are about pulling product through the chain based on demand, and not pushing product out into the pipeline. For that reason, a holistic performance analysis starts at the customers' warehouses or the company's stores and builds back through the supply chain. Assess what is done, how, when, and why it is done. Continue building back through the supply chains of critical suppliers. Identify where performances are below expectations and where they excel. Determine the

reasons, both internal and external, for these results and how the process can be improved. Once processes have been locked down, a shipper can establish which modes of transportation and logistics service providers, including ocean carriers, best fit into the new business model.

2. Implement lean supply chain best practices.

This action takes the holistic review to another level. Supply chain managers understand how lean logistics and supply chain management both emphasize demand-based pull and the removal of wastes such as time and inventory.

Lean logistics takes into consideration a company's distribution centers, factories, and transportation systems; however, in a global supply chain, the ability to remove waste from a supply chain that extends across thousands of miles is a challenge. For example, with an international transaction there are:

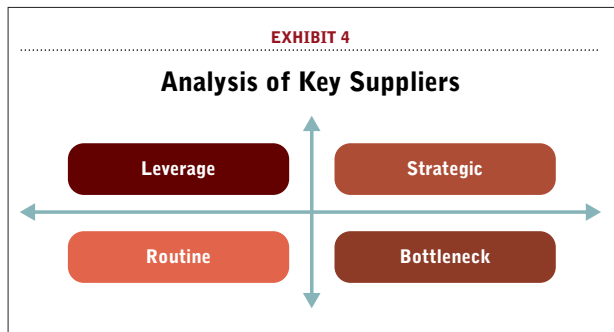
- Different groups within the company *buying* the product who have a role in the movement of information and product.
- Different groups within the company *selling* the product who have a role in the movement of information and product.
- Different outside organizations, including:
 - Banks
 - Trucking company(ies) at origin
 - Trucking company(ies) at destination
 - Port at origin
 - Port at destination
 - Freight forwarder at origin
 - Freight forwarder at destination
 - Warehouse at origin to load container
 - Customs at origin
 - Customs at destination
 - Other government agencies at origin
 - Other government agencies at destination
 - Railroad or water transport at origin
 - Railroad or water transport at destination
 - Ocean carrier booking
 - Ocean carrier transport
 - More than one ocean vessel and port involved with movement

Add in the interchange of information between and among these various parties. The challenge is that each of these parties has a different role and responsibility. Each is working on the internal efficiency of their operation and not on the efficient movement, with no waste, for a shipment. For that reason, value stream mapping is a very good tool to use with the supply chain.

Another important part of lean supply chain success is supplier performance, including container lines and

other logistics service providers. An analysis of supplier reliability—and its implied impact on time, inventory, and risk—can highlight key suppliers and their role in effective supply chain functionality.

Identify suppliers as measured in importance: volume or profit margin, long lead time, how critical, stringent specifications, and how strong or weak is each one. Note, not all products from an important supplier are critical. (See Exhibit 4).



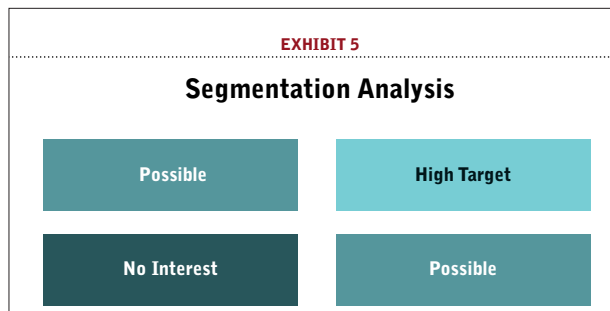
3. Segment the supply chain. Supply chain execution deals with many variables. People and groups, both inside and outside the company, have their particular issues and requirements, some of which may conflict with supply chain plans and operations. These demands create noise that can interfere with performance. Supply chain segmentation dampens the noise and keeps the focus on performance.

Segmenting is not unbundling the existing supply chain structure. Instead, it uses the supply chain in a targeted way to best support company strategy and to maximize return. Segmentation is focused, multi-tier supply chain management.

Through this process, segmentation enables companies to identify, focus, and prioritize key sectors and to tier, align, and, if needed, build supply chain resources and capabilities to successfully serve the sectored customers, cross-channels, or markets. Instead of applying a standardized supply chain service across all segments, it provides clarity of purpose and enables the company to match the supply chain service with each segment's requirements. This tiering creates a greater profit, and realistic competitive advantage. It



improves supply chain costs, capital, and performance. An example of segmentation analysis is illustrated in Exhibit 5.




The result of segmentation is a focus on the financial metrics that CEOs, COOs, and CFOs care about, such as higher profits and reduced working capital. Supply chain executives can target select product categories, or high-value customer or market sectors, or other criterion. This focus complements and fine-tunes the efforts of the holistic assessment and lean logistics strategies. Time reduction and time dependability are targeted to the segments that have significant corporate importance.

Conclusion

Container lines have played a vital role in the growth of global trade. They have been a strong logistics service provider for companies as worldwide sourcing, manufacturing, and sales have expanded. Yet, as these carriers enjoy significant growth, they are making operational changes that lack dependability and can negatively affect the supply chains of their customers. In some ways, ocean carriers and multi-nationals are diverging in what they are

An analysis of supplier reliability—and its implied impact on time, inventory, and risk—can highlight key suppliers and their role in effective supply chain functionality.

doing when the focus is placed on supply chain performance. Large shippers need to take tactical actions to counter the impact of some carrier actions. More importantly, companies should develop and implement strategic moves to improve the functioning and results of their global supply chains. While many of these actions will take place off the water, they result in smoother sailing and limit the impact of erosion creep. 

Retail

Without

Boundaries

Omni-channel retailing is upending the way consumers shop and interact with their favorite brands. In response, retailers must redesign their supply chains to meet growing customer expectations in a new retail world without boundaries.

By Randy Strang

Randy Strang is Vice President of Customer Solutions for the Retail Industry team at UPS. He leads a group of logistics professionals who design supply chain solutions for global retailers. He can be reached at rstrang@ups.com. For more information, visit www.ups.com.

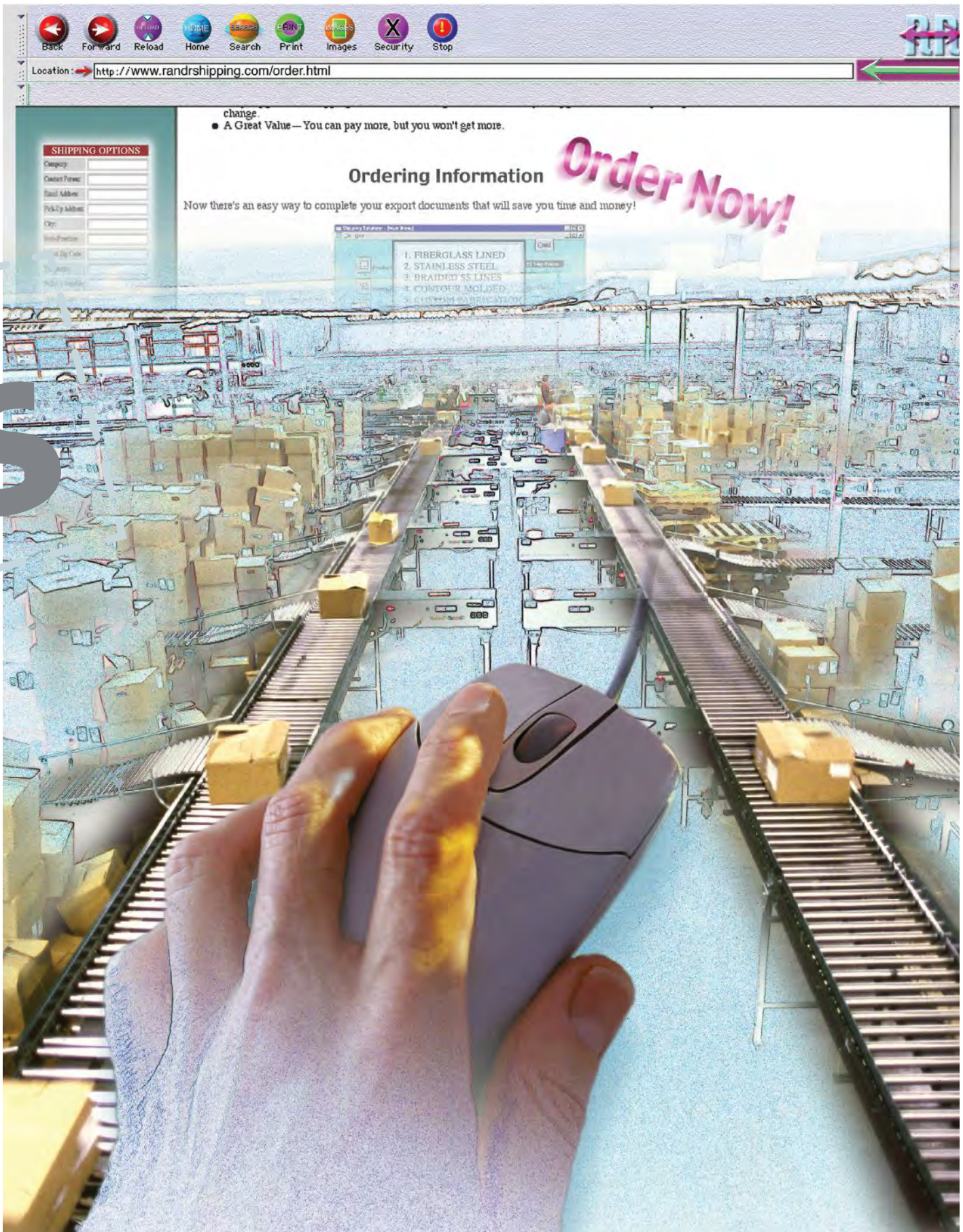
Supply chain innovation comes in two iterations: reactive and proactive. Reactive innovation is a response to change, including change that an organization didn't see coming. Proactive innovation is a catalyst for change. When a leading organization gains a competitive advantage through proactive innovation, the rest of the market has to react just to keep pace.

Both types of innovation are on display in the retail supply chain as the industry evolves from single channel to multi-channel to omni-channel retailing.

The catalyst for this evolution is Amazon Prime. Back in 2005, the online retailer announced free two-day shipping on qualified items. Designed to enhance loyalty and fuel top line sales growth, the Amazon Prime program has had a huge impact on Amazon's success in recent years.

The impact has rippled through the retail industry. Brick-and-mortar retailers, in particular, have scrambled to devise strategies to counter free shipping. In response, they are deploying reactive innovation solutions that leverage one of their best assets—their stores. This coupled with the growth of mobile commerce and social shopping has seen the emergence of what many are calling omni-channel retailing.

In many respects, this new approach represents a kind of boundary-less retail, where the silos between brick-and-mortar,



\$

John Riley

catalog, and Internet retailers have disappeared—at least as far as the consumer is concerned. Today’s shoppers are empowered by their ability to instantly connect to a global marketplace where thousands of sellers are offering an abundance of items at competitive prices. Online shoppers have access to price comparisons and customer reviews and opinions on any product they want to purchase and any retailer from whom they want to purchase. What’s more, they can research products on social media, videos, and consumer blogs.

The growth in this segment offers both opportunities and pitfalls for retailers. In order to survive and thrive in an omni-channel world they must adapt their supply chains, order management, and order fulfillment processes to this sea change.

This article will explore the catalysts behind the movement toward omni-channel retailing; the key con-

sumer behaviors that will affect how the strategy is deployed; and what retailers are experiencing as they redesign their supply chain operations.

Taking the Pulse of the Online Shopper

Retail analysts predict there will be more than a billion online shoppers who will spend nearly \$1.3 trillion this year on e-commerce purchases—18 percent more than 2012. Given UPS’s role in the last mile of the omni-channel supply chain, we wanted to understand the pulse of the online shopper—our retail customers’ customer—and the purchasing decisions that affect order fulfillment expectations and processes. Last February, working with comScore, a leading digital analytics firm, we asked 3,000 online shoppers which factors led them to shop more on their computers, smartphones, or tablets; abandon their shopping carts; and to recommend particular retailers to their friends. The result is the 2013 *UPS Pulse of the Online Shopper: A Customer Experience Study*.

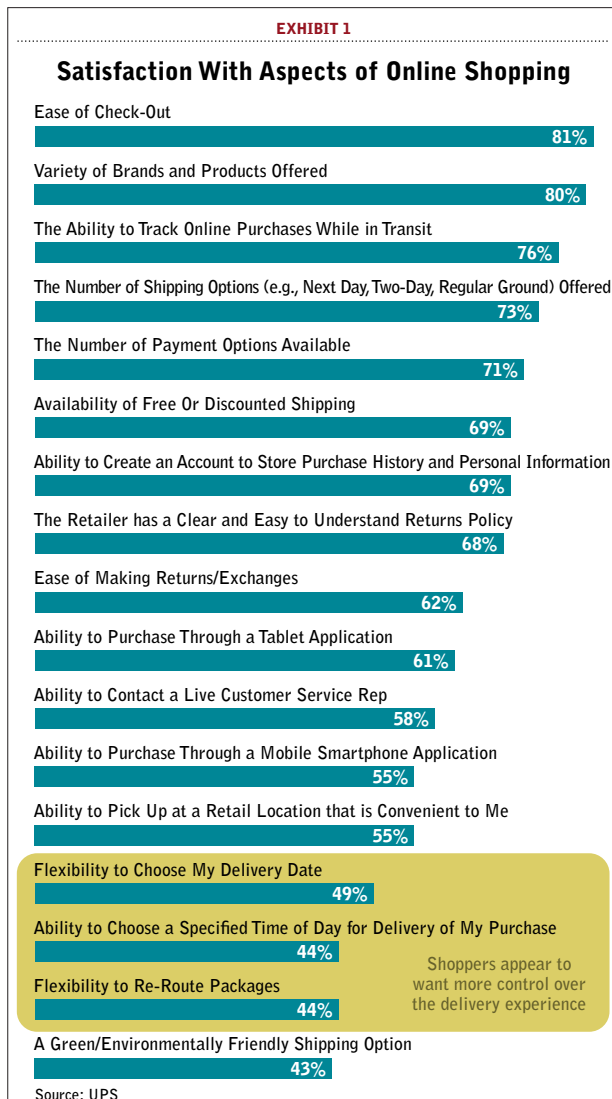
The most important findings: Consumers want more choices when it comes to shopping online; more control over when their purchases will be delivered; and a convenient returns process. They’re also using social media to shop for the best deals and expect more shipping options from e-tailers. Each of these has an impact on the retail supply chain.

One of the first questions asked consumers which factors compel them to shop with an online retailer. Many respondents said they expect a streamlined process across multiple channels:

- 62 percent want the ability to purchase online and make returns in-store;
- 47 percent want a coupon or promotion sent to their smartphone when they are in-store or nearby; and
- 44 percent want the ability to buy online and pick up at the store.

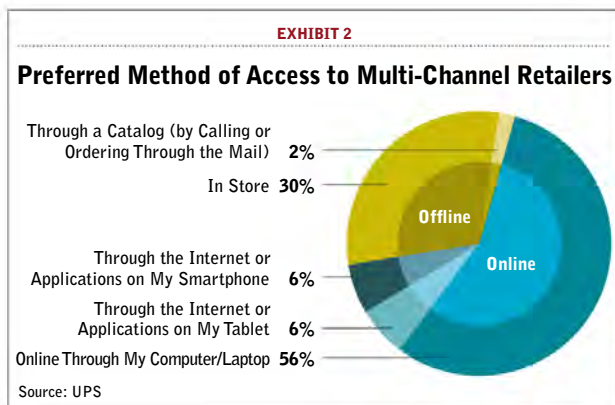
Although 83 percent of the respondents said they were satisfied with their online shopping experience, there is room for improvement. Ease of checkout, more variety of brands/products offered, and the ability to track online purchases while in-transit were most often identified as areas for improvement. Online shoppers said they want the ability to choose their preferred delivery date, time of day for delivery, and they want options to reroute their inbound packages. They also value free shipping. (See Exhibit 1.)

The study confirmed a recent online omni-channel shopping trend: Consumers want to shop *anywhere at any time*. In fact, Exhibit 2 shows that 68 percent of online shoppers prefer to shop with multi-channel retailers online instead of shopping in a store, from a catalog, or by the mail. Retailers using enhanced websites and



advanced mobile apps will have a competitive advantage.

When it comes to the check-out process, retailers should pay attention to cart abandonment as it continues to rise. In 2013, 88 percent of online consumers abandoned a shopping cart compared to 81 percent in 2012. Based on our study, half of consumers said they want to see estimated shipping costs and delivery dates early



in the check-out process—the second most important option after free shipping. Looking at the impact of cart abandonment due to an estimated delivery date, 85 percent of the respondents said it was because no date was given or it was longer than six days.

Online shoppers also value a hassle-free returns policy, especially repeat customers: 82 percent of consumers said they would complete the purchase if they could return the item to a store or have free return shipping; 67 percent said they would shop more with that retailer; and 64 percent would recommend the retailer to a friend.

Social channels continue to change the way online consumers shop. Not surprisingly, 84 percent said they use at least one social media site. Among Facebook users—the most popular channel—60 percent “like” a brand to receive an incentive or promotion.

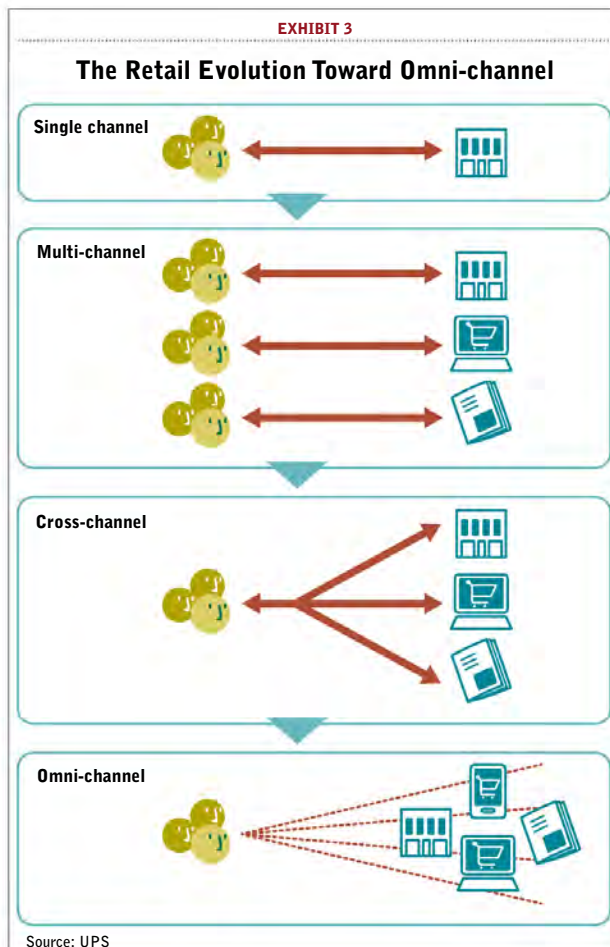
Another trend retailers are considering is same-day delivery. Like free shipping, this is a proactive supply chain innovation being driven by Amazon, eBay, and even Google. Other retailers, such as Walmart, have announced they are investigating same-day delivery options. Through our Strategic Enterprise Fund, UPS became an investor in Shutl, a British start-up that connects retailers to local same-day courier companies. Online shoppers can receive packages within 90 minutes or choose a one hour window for delivery. GPS tracking allows consumers to track the progress of their orders on a mobile device. We are presently conducting research to see how much consumers are willing to pay for this new level of customer service.

The Omni-channel Evolution

The omni-channel strategy that many retailers are pursuing today is being driven by e-commerce growth and consumer habits and expectations like those identified in our study. These changes are driving the need for supply chain transformation.

This concept did not suddenly emerge. Rather, it is a continuum of trends that were initiated in the early 90s as brick-and-mortar retailers that sold through a single channel began to expand their business by creating an online presence. Exhibit 3 shows the first phase that was called multi-channel retailing: which means a retailer was selling through more than one channel, which could include its own stores as well as sales to wholesalers, through catalogs, or online.

In the multi-channel model, there was often little in common between what was available in the store, in a catalogue, or online. Each channel offered multiple independent touch points to the consumer—many times selling different items under separate brands. Just as often, orders were satisfied through separate supply



chains. Inventory for store replenishment and wholesale orders was managed from one distribution center while inventory for online and catalog orders was managed from another facility or a third-party logistics provider.

Multi-channel evolved into the cross-channel model, as retailers started offering common branding and messaging. However, they continued to operate in separate functional silos with various touch points to consumers.

Multi-channel and cross-channel retailing innovations were driven by retailers that were trying to expand their sales. The transition from cross-channel to omni-

In an omni-channel world, retailers want to be able to satisfy demand from anywhere—a retail store, a distribution center, a third-party distributor, or drop-shipped from a manufacturer.



channel retailing, on the other hand, is being driven by consumers. The increasing use of smartphones, tablets, and mobile applications in the U.S., Asia, and Mexico has created online shoppers with an insatiable appetite for information. This omni-channel consumer is driving the desire

for a seamless customer experience across all customer touch points for retailers. They want to buy from anywhere—in a store, on a laptop or PC, or from their phones and tablets; they want to pick it up from anywhere—in a store, at their place of work, at their home, or sent to a friend; and they want to return it anywhere—to a store or back to a distribution point.

Moreover, in an omni-channel world, retailers want to be able to satisfy demand from anywhere—a retail store, a distribution center, a third-party distributor, or drop-shipped from a manufacturer; and they want the ability to have an order returned to where it can generate the most value on the next sale.

Crawl, Walk, Run, Sprint

Providing such an omni-channel experience for consumers is a retailer's "nirvana." It is also difficult to attain. From our experience with scores of retailers, we have observed the best organizations don't move from single channel to omni-channel retailing overnight. Instead, they use a method that

is common in the deployment of technology, which is crawl to walk, walk to run, and run to sprint.

Crawl. In the early stages of implementing an omni-channel strategy, many retailers continue to function in separate channels. In the crawl phase, online can't see what's in the store and the stores don't directly participate in what is being sold online or from the catalog. Marketing messages begin to align online with the stores and there are efforts to make sure the same or similar items are sold on both channels.

The process of synchronizing items can be difficult with various merchandising organizations, vendor relationships, and pack/display configurations. Some early forms of integration may be to sell online and deliver the item to the store for customer pick-up, or to allow customers to return items in-store that were purchased online. Some of the

impacts to the supply chain include:

- Adjustments to the website and order management system are necessary to allow the consumer to select the desired store. The order management system must also have the correct "ship-to" address.

- Changes in outbound shipping processes to leverage the existing store replenishment network may be required. Retailers must pick the stores closest to the consumer to meet delivery expectations. Often, the online fulfillment and distribution centers are in different locations.

- Onsite pick-up in stores is challenging for sales associates. Work processes must be created to help associates separate merchandise for customer pickup from items sold in-store. The point of sales systems must also be configured.

- The point of sales system must also be altered to handle the return of items not currently in the store inventory. Another process must be configured for items that cannot be resold. Often, online fulfillment centers can be leveraged to handle this inventory; however, transportation methods will need to be established.

Walk. The next phase of development involves shared inventory as items in distribution centers and stores are now visible and available to be sold anywhere. Stores also have visibility into the availability of items in other stores and can ship directly to a customer's home. Shared inventory visibility is the most critical—and perhaps the most difficult and expensive—step toward omni-channel retailing. Some of the capabilities do include:

- **Buy Online—Ship from Store:** The behind-the-scenes logic to make this happen is not simple.

- **Buy at Store—Ship from Distribution Center:** This option allows the store to “save the sale” instead of having the customer purchase from a competitor.

- **Buy at Store—Ship from (Different) Store:** This can also “save the sale” by allowing the store to locate an item at a different store and have it shipped to the customer from there.

As retailers enable these capabilities, they discover shipping from stores is not as efficient on a cost per item basis as shipping from the distribution center. We have provided several large retailers with the technology to improve and manage the productivity of in-store picking, packing, and shipping.

As retailers consider the added volume that will move to their stores from distribution centers or suppliers, and from stores to consumers, they often discover a need to re-evaluate their distribution network.

Another challenge is establishing the logic for routing orders to the stores for shipment. There are two primary strategies deployed:

- Reduce delivery time and/or costs for online orders by shipping from the nearest store to the consumer enabling next-day or second-day delivery.

- Optimize revenue by shipping merchandise sitting in stores and out-of-season to fulfill online demand. This will help reduce markdowns.

The deployment of either, or both, of these strategies can be tricky as the business models need to be coordinated between store operations, merchandising, and supply chain operations to make sure all group’s priorities are considered.

Run. A retailer that reaches the Run stage of omnichannel development has implemented universal inventory visibility. This strategy involves new ways to optimize this engine of growth:

- Create an integrated and seamless customer experience from the merchandise selection, store set-up, and catalog layout, to the web design.

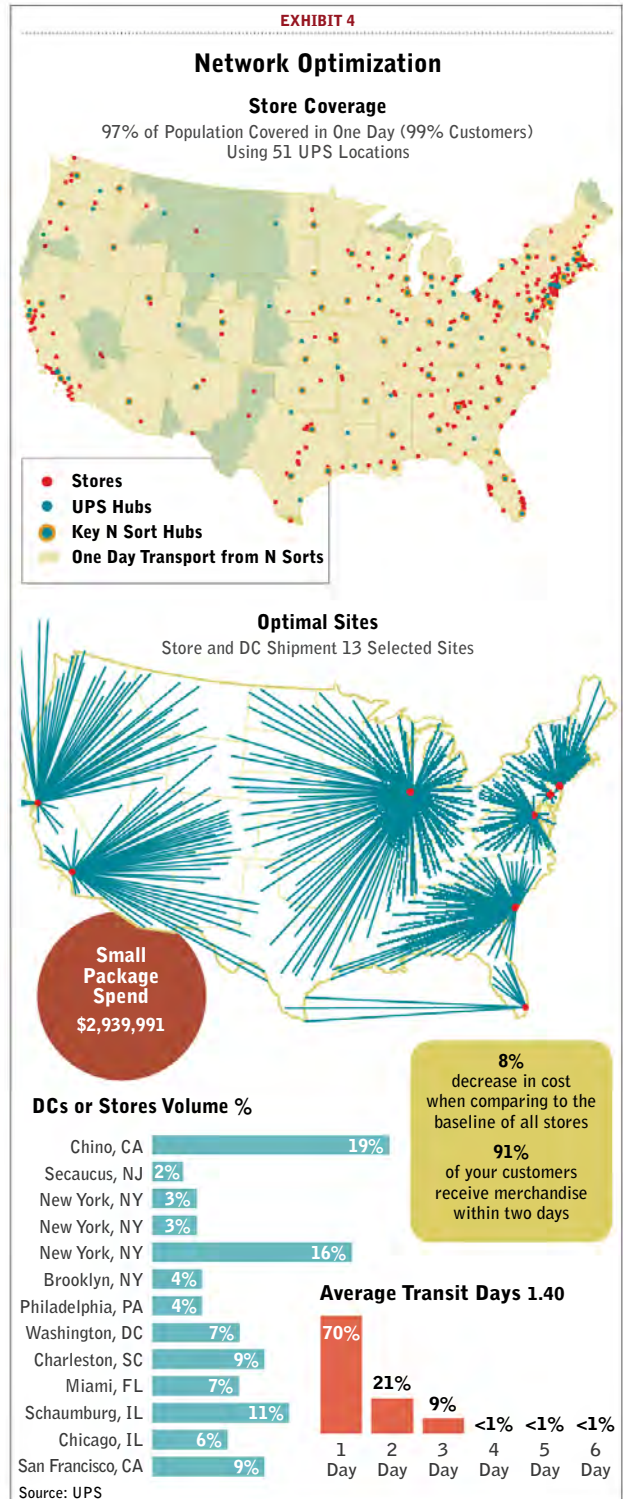
- Leverage information gathered both in-store and online to create an integrated view of each consumer. The retailer will know which items the consumer purchased online, and consumers can view a history of items previously purchased. Online marketing will target ads to the consumers’ preferences.

With a single view of a consumer’s buying history, a single integrated experience becomes possible to allow consumers to buy and return anywhere.

With broad visibility into inventory and consumer profiles, retailers can begin to offer more advanced

options to compete with retailers.

- **Buy Online—Get Delivered Next Day:** This service caters to consumers who shop online between 6 p.m. and 9 p.m. or “sit-back shoppers.”



In the most advanced deployments, retailers focus on improving the customer experience, increasing revenue, and optimizing supply chain operations.

- **Same Day Delivery:** For this service to be practical the merchandise needs to be near the customer.

Filling the increased volume of individual orders in omni-channel retailing is labor intensive and less efficient than conventional distribution models. This is especially true as retailers fulfill demand from retail stores.



Retailers transitioning from the Walk to Run stages of omni-channel retailing are employing several best practices to optimize their processes.

Network optimization, for instance, determines the right number of hubs and stores for the network, where those should be located, and how inventory should be positioned to meet both cost and customer service expectations. We have worked with retailers that have realized 8 percent or better decreases in fulfillment costs while servicing more than 90 percent of their customers within two days as a result of network optimization. (See Exhibit 4 on previous page.)

Process mapping and time studies are important tools for retailers including ship from store in their strategy. That's because store fulfillment is the least efficient and most labor intensive method of order fulfillment. Process mapping and time studies create a detailed chart of the steps required, or distance traveled, to fill orders in the store; how long the picking process takes; and how much time is spent walking. That can identify areas for process improvement. Retailers that have undertaken this process in their ship from store operations have identified as many as 180,000 hours of labor savings and \$2.5 million in annual cost savings (Exhibit 5). They are also able to re-deploy some labor used to pick orders back to the sales floor.

Finally, it's important to create a Balanced Score Card to measure activities more commonly associated with distribution centers, such as fill rates, on time shipping and units per hour in picking and packing operations. (Exhibit 6.) The point: Measurements are important to maintain the improvements designed into the process.

Sprint. In the most advanced deployments, retailers focus on improving the customer experience, increasing revenue, and optimizing supply chain operations. There are several strategies focused on inventory planning and store replenishment.

- Enhanced inventory and inbound supply planning processes incorporate the shipment from stores to

EXHIBIT 5

Current-State Estimated Demand and Cost
Annualized

	Units	Pick Hours	Pack Hours	Total Hours	Cost
Unplanned	793,603	37,611	32,659	70,270	\$983,781
Back Orders	706,097	33,464	29,058	62,522	\$875,305
ISP	976,610	46,285	40,190	86,474	\$1,210,644
Single-SKU	782,914	37,105	32,219	69,323	\$970,530
Air-to-Ground	166,733	7,902	6,862	14,763	\$206,688
Total	3,425,956	162,368	140,987	303,353	\$4,246,947

- Orders/Store: 349
- Hours/Store: 28.3 (3.5 FTE/Store)
- Cost per Unit: \$1.26

- Assumptions**
- Stores: 45
 - Pick Units/Hour: 21.1
 - Pack Units/Hour: 24.3
 - Labor Cost/Hours: \$14.00

Note: Process rates based on average of all three stores studied

Future-State Estimated Demand and Cost
Annualized

	Units	Pick Hours	Pack Hours	Total Hours	Cost
Unplanned	793,603	12,400	16,397	28,796	\$366,505
Back Orders	706,097	11,033	14,589	25,622	\$326,092
ISP	976,610	15,259	20,177	35,437	\$451,022
Single-SKU	782,914	12,231	16,177	28,409	\$361,568
Air-to-Ground	166,733	2,605	3,445	6,050	\$77,001
Total	3,425,956	53,528	70,786	124,314	\$1,740,406

- Orders/Store: 349
- Hours/Store: 11.6 (1.5 FTE/Store)
- Cost per Unit: \$0.51

- Assumptions**
- Stores: 45
 - Pick Units/Hour: 64.0
 - Pack Units/Hour: 48.4
 - Labor Cost/Hours: \$14.00

Note: Process rates based on best demonstrated time studies less expected improvements

- Nearly **180,000 hours of labor savings** were identified
- Resulting in a **\$2.5M annual cost savings**
- Significant **revenue improvement** by redeploying labor to sales

Source: UPS

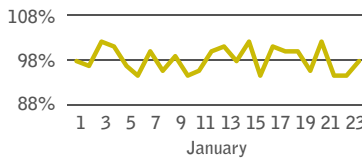
EXHIBIT 6

Metrics Recommendations: Sample Balanced Score Card Elements

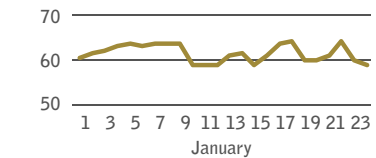
Customer Perspective

Element	Goal	Result	Weight	Score
Fill Rate	95%	99.5%	15%	15
Unplanned Inv. Acc.	90%	85.8%	15%	14
On Time Shipping	99%	93.5%	15%	14
Perspective Weight			45%	43

Fill Rate



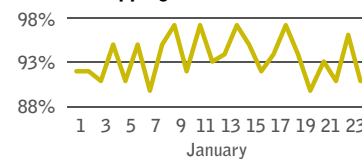
Pick UPH



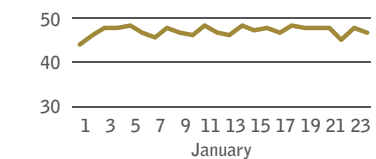
Financial Perspective

Element	Goal	Result	Weight	Score
Pick UPH	64.0	62.2	10%	9
Pack UPH	48.4	44.1	10%	9
Weekly Sales	\$55,000	51527.4	15%	14
Perspective Weight			35%	32

On Time Shipping



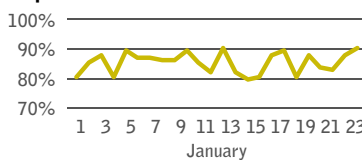
Pack UPH



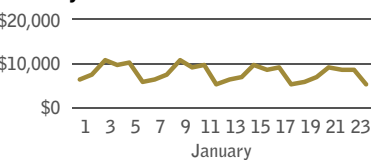
People and Learning Perspective

Element	Goal	Result	Weight	Score
On-the-Job Training	4.0	4	10%	10
Cycle Counts	12.0	11	10%	9
Perspective Weight			20%	19

Unplanned Inv. Acc.



Weekly Sales



Balance Score Card Results: 94

Source: UPS

online consumers. This involves anticipating store traffic and online demand to accurately plan store and distribution center inventory levels. Careful consideration of the business rules for how online orders are allocated to stores is important in this process.

- Rapid store replenishment responds to fluctuations in-store or online demand. This ensures high velocity and high profit items are available.

Another emerging technology is geo-fencing. This technology creates a virtual perimeter around the store and knows when smartphones enter or leave the area. Once a consumer arrives, a promotional message can be sent to them based on their previous buying history.

Conclusion

In some ways omni-channel was the natural evolution from multi-channel retailing tearing down barriers between channels, synchronizing brand messages, and creating a seamless customer experience to better serve customers. However, the rapid growth of larger e-tailers, the success of mobile commerce, and changing consumer behaviors accelerated the evolution into a reactive innovation. Retailers are discovering they need to make significant changes to their supply chain to align merchandise and make inventory visible and available across all channels.

It's widely known online consumers want more options and have higher expectations—it's up to retailers to meet that demand. Omni-channel is an evolving first step.

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B. Legitimate paid and/or requested distribution (by mail or outside the mail)		
1. Outside County paid/requested mail subscriptions stated on PS Form 3541	11,853	11,723
2. In-County paid/requested mail subscriptions stated on PS Form 3541	None	None
3. Sales through dealers and carriers, street vendors, counter sales and other paid or requested distribution outside USPS	268	248
4. Requested copies distributed by other mail classes through the USPS	None	None
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D. Nonrequested distribution (by mail and outside the mail)		
1. Outside County nonrequested copies stated on PS Form 3541	459	479
2. In-County nonrequested copies stated on PS Form 3541	None	None
3. Nonrequested copies distributed through the USPS by other classes of mail	None	None
4. Nonrequested copies distributed outside the mail	466	2,000
E. Total nonrequested distribution (sum of 15D 1, 2, and 3)	925	2,479
F. Total distribution (sum of 15C and E)	13,046	14,450
G. Copies not distributed	210	245
H. Total (sum of 15F and G)	13,256	14,695
I. Percent paid and/or requested circulation (15C divided by F times 100)	92.91%	82.84%

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Charles Tanner (signed), Director of Audience Marketing, 9/11/13

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Secrets to Successful Order Fulfillment

To deal with the challenges of today's global economy, companies need to transform their supply chains into information-driven value chains. Outdated planning processes and disconnected execution systems are too slow to respond to increased demand volatility; they lack visibility, increase supply chain risk, and cannot react quickly to unexpected supply chain events. A portfolio of order management and fulfillment applications can address these issues.

By Maha Muzumdar and Anijay Zinzuwadia

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The Supply Chain Council defines perfect order fulfillment as “the percentage of orders meeting delivery performance with complete and accurate documentation and no delivery damage.” The concept seems straight forward in practice, but it is often very difficult to accomplish. Leading contributors to this problem are outdated planning processes and disconnected execution systems that are too slow to respond to increased demand volatility; they lack visibility, increase supply chain risk, and cannot react quickly to unexpected supply chain events.

Take the example of a large, multinational manufacturer that had siloed back office systems, multiple distribution centers, scores of inventory locations, and a diverse mix of suppliers. They faced challenges around how to standardize business processes in order to gain visibility into inventory levels and the order fulfillment process; build a more efficient supply chain; and ultimately, improve customer satisfaction in an increasingly competitive environment.

Their initial thought was to “rip and replace” their existing legacy systems; however, this ambitious choice would have been extremely time-consuming, expensive, and disruptive. Value would only have emerged at the very end of a lengthy process. They also considered integrating the systems, an effort that might address today's problems but lead them into the same situation down the road when their business processes changed again. The company ultimately determined that they needed the



Photo by Blackred

flexibility to change their business processes without the hassle of changing out all the systems in which they had invested during the last 30 years.

If that scenario sounds familiar, there is a reason. To deal with the challenges of today's global economy, maintaining a core competency in order management and fulfillment is more important than ever for companies that want to transform their supply chains into information-driven value chains.

For most large organizations, however, order management complexity creates problems, including escalating supply chain costs, inaccurate promise dates, and higher-than-needed inventory. The mounting complexity has been caused by a number of factors, such as increasing global-

ization, M&A activity, multiple channels to market, and complex supply chains—factors that are here to stay.

This challenging environment is presenting companies from all industries with a startling reality: How effectively they manage their order management and fulfillment processes has a direct and immediate bearing on

EXHIBIT 1

Challenges in Maintaining Customer Satisfaction

Rank	Total	Manufacturing	Hi Tech	Retail
1	Accurately promising dates based on fulfillment planning lead times/estimates	Accurately promising dates based on fulfillment planning lead times/estimates	Accurately promising dates based on fulfillment planning lead times/estimates	Visibility to planned inventories to commit (internally and across partners/supply base)
2	Responding to changing customer order delivery expectations	Responding to changing customer order delivery expectations	Responding to changing customer order delivery expectations	Accurately promising dates based on fulfillment planning lead times/estimates
3	Managing different rules and order management processes for each customer	Managing different rules and order management processes for each customer	Managing different rules and order management processes for each customer	Multiple order channels and systems to manage

Source: Peerless Research Group (PRG)

the success, even survival of their business. (See Exhibit 1 on page 41.)

At the same time, the increase in demand volatility coupled with an explosion of delivery channels, more complex global supply chains, and ever-rising expectations of customers and end consumers, means perfecting order management and fulfillment is incredibly challenging.

Nowhere is this more evident than in some of the most dynamic industry sectors driving our global economy: manufacturing, high-tech, and retail. To fully understand the situation, it is important to consider some of the key issues and opportunities these industries face in order management and fulfillment. This article, which is based in part on a research study of 589 supply chain executives conducted for Oracle and Capgemini, looks at those issues as well as the opportunities to address them with a portfolio of order management and fulfillment capabilities.

Challenges Threatening the Bottom Line

One of the key findings from our study was the extent of the issues facing organizations from these industries. While many business executives think that their issues are unique to their organizations or industry, businesses across the manufacturing, high-tech, and retail industry sectors face many of the same challenges in managing

their supply chains, according to the study responses.

To begin with, businesses across the board are in agreement that managing fulfillment processes is becoming more multi-faceted and subsequently, more complicated. All this is happening as order processing windows narrow and customer demands intensify. Complying with the heightened demands likely increases internal costs to meet these order fulfillment requirements in a short time frame. In particular, the complexity of order management systems, the ongoing challenge of keeping customers satisfied, adhering to delivery schedules, and combating rising costs related to fulfillment are among the major issues companies now face in all three sectors.

A key area of challenge for companies is understanding and managing customer demand effectively. While the intent of this article is not to discuss demand management in detail, it is important to note that accurate demand/order capture is critical to effective demand management.

This study reveals that many companies today struggle with capturing true omni-channel customer demand through demand/order capture and management systems. Many large companies continue to have complex, fragmented order management processes and technology infrastructure.

What should industries do to improve order management and fulfillment capabilities?

Here are recommendations by industry.

When addressing this challenge, an organization should start by evaluating its current demand management and order fulfillment processes and models and performing a gap analysis by benchmarking its results against industry leaders/best practice models. Here are recommendations for improvement across industry segments.

- **Manufacturing:** Manufacturers should ensure that they have visibility to true end customer demand through the retailer. Technology integration with retailer demand capture systems can allow the manufacturer to get the accurate demand visibility as a product is consumed at a retail outlet. In addition, the manufacturer should consider following retailers in embracing the new multi-channel reality by evaluating up-sell and cross-sell opportunities, and in some cases, end-customer direct across product lines. They should also consider focusing on creating a consistent customer experience across all channels. Investing in a technology platform to help manage these changes will make it easier to adopt new business processes and create a single face to the customer.

- **High-tech:** High-tech companies should collaborate, enforce, and measure their allocation commitments with their key customers. As demonstrated in the survey, even if high-tech firms do a good job of planning their allocations, customer commitments are not being enforced at the time of order execution. To address this situation, companies need to integrate their allocations into the promise dates that are provided to customers. High-tech companies should measure their effectiveness in keeping these commitments and, on the flip side, have honest conversations when customers deviate from the agreed upon plan.

- **Retail:** Multi-channel commerce is a reality that retailers must embrace. It is critical for retailers to capture true omni-channel customer demand. Demand signal repository and demand management capabilities are key enablers for retailers to ensure that they have real-time customer demand visibility at all times. With better omni-channel demand visibility, retailers can now stock the right products at the right inventory levels in the right locations based on real time visibility to demand and consumption patterns.



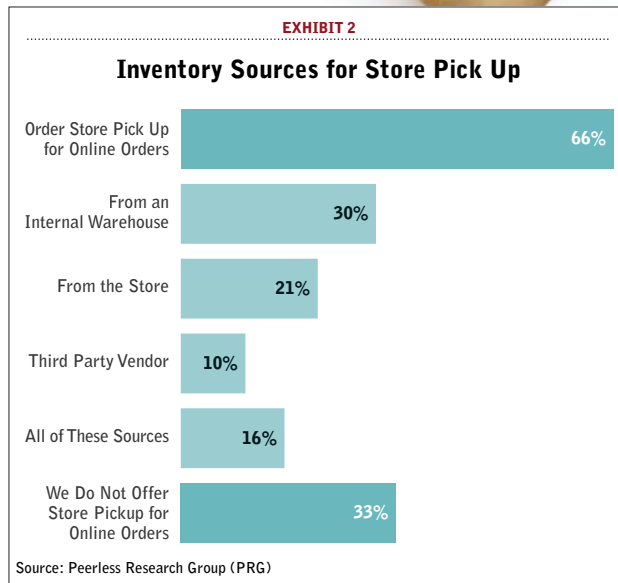
Contributing to the complexities of order management processes are the multiple, disparate order capture and fulfillment systems such companies now operate. When an organization has multiple systems in place, it is difficult to get a single complete picture or a single view of a customer. Roughly four out of five of the executives surveyed rely on several order capture mechanisms (79 percent), while more than two-thirds employ more than one order fulfillment system. In general, the companies in the study manage slightly more than three (3.1) order-taking channels such as e-commerce, call centers, and electronic data interchange (EDI). In addition, they have nearly three (2.7) systems for carrying out orders, which often includes Enterprise Resource Planning (ERP), warehouse management systems (WMS) and order management applications.

Survey data further reveals that larger companies, i.e., those with annual revenues of more than \$500 million, have an even greater number of systems, with an average of 3.5 order capture systems and 3.3 fulfillment systems.

Why does this keep happening? The study showed 50 percent of manufacturers have done an acquisition or have been involved in an acquisition during the last three years, and 45 percent of total companies are demanding orders through multiple channels. If there are three distinct channels, customers are often required to put one purchase order through one channel, a second purchase order through the second channel, and a third order purchase through the third channel.

As one vice president of supply chain operations responded: “Currently, we do not have the ability to create one invoice for a customer that has placed multiple lines of shipping from different facilities. The adoption of new technologies could help give us a better picture of what types of orders are coming in, what our average size is by volume and length, and streamline our invoicing process.”

As shown in Exhibit 2, ordering through different channels is particularly common and complex with retailers. Retailers maintain an average of four different selling channels that their customers actually go through. On top of that, only 38 percent of them actually have the software to manage these channels. A retailer with a different set of inventory allocated to its website versus inventory allocated for store replenishment increases the cost inside the entire supply chain, as only 21 percent of retailers utilize the inventory inside their store.



Alongside increasing complexity is an increase in expenses. Expediting fulfillment and shipping to meet order commitments is the primary factor contributing to order management expenses. Adding resources to respond to shipping delays and taking on additional labor to handle order processing are among the other major expense factors. (See Exhibit 3.)

While our survey went into more detail on the range of challenges presented by today’s economy, the overall point is clear: Organizations in dynamic industries face complex and increasing challenges when it comes to order management and fulfillment. And the potential consequences of ignoring these challenges are steep. Customer satisfaction and retention are put at risk and businesses are forced to allocate additional spending on resources and labor to address the situation. In short, these trends, coupled with the rising price of raw materials and mounting transportation costs, pose a growing threat to the bottom line of businesses everywhere.

EXHIBIT 3

Factors that Drive Order Fulfillment Costs

Rank	Total	Manufacturing	Hi Tech	Retail
1	Expedites to meet customer order dates	Expedites to meet customer order dates	Expedites to meet customer order dates	Expedites to meet customer order dates
2	Shipping delays or transportation issues	Shipping delays or transportation issues	Number of staff required to manage order entry processes	Number of staff required to manage order entry processes
3	Number of staff required to manage order entry processes	Number of staff required to manage order entry processes	Shipping delays or transportation issues	Shipping delays or transportation issues

Source: Peerless Research Group (PRG)

Striving Toward Perfect Order Fulfillment: Three Enterprise Capabilities for Success

While a list of challenges that spans organization, process, technology, and strategy seems daunting, there are low-hanging opportunities for companies in the manufacturing, high-tech, and retail industries to improve both their competitive positioning and their top and bottom lines.

Here are three capabilities that can help:

1. Accurate Demand Sensing and Shaping

The first step in better order fulfillment is better demand management. Businesses can utilize advanced demand management capabilities to significantly improve their ability to better manage demand volatility, improve demand-planning processes, and realize higher forecast accuracy. Two important capabilities that augment demand planning include demand sensing and demand shaping.

Demand sensing: According to respondents, as shown in Exhibit 4, the number of customers ordering from multiple channels during the last 12 months has either stayed the same (50 percent) or increased (45 percent). Only 5 percent indicated a decrease in customers ordering from multiple channels. With so many customers using various purchase paths, the ability to capture purchase data is becoming increasingly challenging. Applications such as demand signal repository allow companies to capture real time multi-channel demand signals and analyze, through “slice and dice” capabilities, the demand information to reveal patterns. When combined with demand history for a given product, this information can provide businesses with the insights they need to develop a more accurate forecast.

Demand shaping: Technologies such as trade promotions optimization complement demand sensing by creating incentives to stimulate demand or optimize product promotions to maximize growth and profitability. For example, leading supply chain companies use capabilities such as dynamic pricing to influence demand.

The result of these advanced demand management capabilities is a demand-driven organization with higher

service levels and sales, more satisfied customers, and lower inventory and distribution costs.

2. Global Order Promising (GOP)

To meet rising customer and end-consumer expectations, organizations across all industries need to increase their on-time deliveries, improve the reliability and accuracy of their promises to customers, and manage their commitments to key customers. In fact, in the Oracle and Capgemini study mentioned earlier, 39 percent of respondents named inaccurate order promise dates as a top inventory management challenge. In other words, over promising and under delivering is a huge concern for organizations in dynamic, ever changing industries.

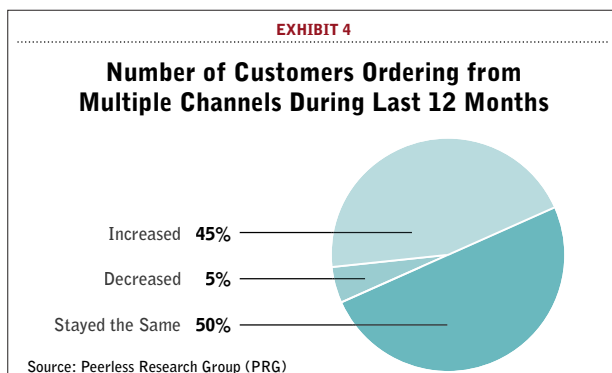
Take, for example, a high-tech company that was developing a product that had a quality issue. At the output part of it, the company had less supply than expected, so a balancing act was needed to determine which customers would receive their orders. It was difficult for the company to determine what part of the development process was causing the problem. This uncertainty raised questions about how to fulfill all of the orders in a way that upset the least number of customers.

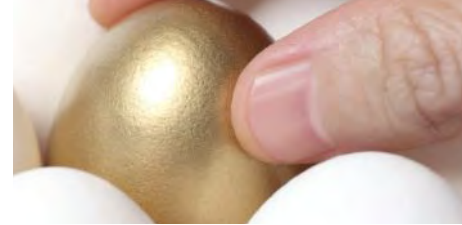
One approach to that issue is global order promising. GOP addresses this issue by enabling organizations to make quick delivery promises that customers can rely on. The technology allows organizations to address customer related issues from basic “available to promise” to “capable to promise” to “profitable to promise.” By combining dynamic, real-time data-driven processes with manufacturing, supplier, and logistics constraints, organizations can have more responsive, reliable, and profitable promising processes that improve customer service levels and increases fill rates.

GOP similarly enables retailers to balance planning and execution when those cycles are out of synch. Rather than tell customers that a product is out of stock, retailers with global order promising technologies now have complete visibility into their supply chain and can commit to customer orders taking into consideration the total order fulfillment cost.

For example, we worked with one large retailer that was concerned with cost effective fulfillment of customer orders. The retailer had full visibility across the network and could see the available inventory at each store location. However, it used GOP capabilities to utilize inventory without increasing transportation costs.

In addition, tight integration of GOP with order management processes enables accurate order promising of complex configurations while extensive backlog management allows organizations to promise a group of orders





in a priority sequence. When combined, these advanced management capabilities help organizations to improve customer satisfaction to retain existing customers while attracting new ones—the key to any successful business.

3. Global Distributed Order Orchestration and Fulfillment

As the survey highlighted, order complexity is a key challenge for supply chain professionals (42 percent of respondents) when managing order management and fulfillment. This difficulty in managing orders efficiently and accurately has been caused by a number of factors, including the explosion of order capture and fulfillment systems that many companies now operate.

The dramatic growth in the number of systems can be attributed to organic growth and M&A activity. Of course, the number of systems isn't exactly the problem here; instead, it's more the fact that they are often poorly integrated or not integrated at all. To eliminate these silos and give organizations a holistic view into global operations, a solution is needed that cuts through order management complexity to create a centralized view.

With Distributed Order Orchestration, organizations are able to apply enterprise-wide rules and processes, and identify and rectify problems before they become an issue for customers. By giving business managers complete control over order management processes, they are able to monitor order progress, review issues, resolve problems, and modify fulfillment processes as the business evolves. For example, the ability to consistently view margins during promising, fulfillment, and particularly expediting activities, can help improve decision making and drive profitability without sacrificing service level agreements.

Coupled with supply chain execution and real time global visibility (i.e., logistics and transportation, global trade management, and warehouse management), Distributed Order Orchestration Processes can also enable companies to close the loop—capture, orchestrate, manage, and fulfill customer orders more efficiently.

Automotive and high-tech companies are examples of industries that often struggle to meet commitments to key customers at the time of order execution. One manufacturer wanted to develop a system that allowed it to commit to and manage allocation commitments. In order to avoid or reduce errors and costs related to change orders in the fulfillment process, the company wanted to offer a program to encourage customer commitment well in advance of product availability. It also wanted to integrate its planning and order capture systems. This was a brand new process that was not supported by its current mainframe system, and it was too expensive to simply throw people

at it. Instead, a Distributed Order Orchestration solution served as a hub to provide the integration between planning, order capture, and fulfillment. The business process layer organized the allocation commitment process and provided visibility into the end-to-end processes, including proactive monitoring of customer complaints with their agreed-upon allocation commitments.

While Distributed Order Orchestration systems benefit organizations of all sizes, they represent a major opportunity for large, complex organizations. By streamlining order management processes across global organizations, they can help lower costs, increase margins, and greatly improve customer service.

Key Takeaways

It is not a big surprise that this survey revealed the increasing complexity and costs associated with managing and fulfilling orders. The survey did, however, reveal several opportunities for companies in the manufacturing, high-tech, and retail industries to embrace these changes and improve their competitive positioning and bottom lines. (See sidebar, page 42.)

Success in order management and fulfillment relies on the speed of decision making and continuous monitoring of the impact of those decisions at all levels in the organization. This can be achieved with advanced systems, like the ones outlined in this article, which enable best-in-class processes across all order management and fulfillment processes.

Returning to the story of the large, multinational manufacturer, this company found a solution to design and implement a new, integrated, end-to-end business process without re-implementing non-value added functionality. They inserted applications that could co-exist with their existing legacy systems to create a new standardized process, across all sites. By leveraging systems that separate the master data, business rules, and business processes from the physical integrations, they now have a platform for the future that delivers immediate benefits, including: greater transparency and a single source of inventory information, reduced cycle times for proposals, orders and fulfillment, and improved ability to address complex customer needs more quickly and with fewer data errors.

The insights this analysis delivers will help in the development of new models that can be implemented across people, processes, technology, and metrics. But as anyone that works in the complex world of supply chains will know, that alone is not enough. As to ensure success, organizations must strive to continuously enhance their order management and fulfillment processes to improve both their competitive positioning and business results. ☺☺

Re-shoring: Is it Fab or Fad?

Re-shoring activities are underway, that much is for sure. But is this part of a larger trend that brings the fabulous news that the U.S. economy is anxiously awaiting? Or is re-shoring just a fad?

By Patrick Van den Bossche



Before re-shoring became in vogue, companies like Caterpillar and General Electric had already starting moving some of their production back to the U.S. Faster than you can say tsunami,

a wave of re-shoring announcements rolled into press rooms: Motorola's Moto X became the first smartphone made in the U.S. in years; Apple announced plans to produce the Mac Pro in Texas; and Lenovo ThinkPads started rolling off the line at a plant in North Carolina. More recently, the chemical industry became a hotbed of re-shoring activity when Dow announced plans to restart and build new plants in Louisiana and Texas, while LyondellBasell and several fertilizer producers launched their own expansion and construction activities to meet domestic demand.

With marquee corporate names jumping on the bandwagon, re-shoring has all the makings of a trend. But despite the publicity, the trade value of these re-shoring examples is Lilliputian when compared to the Gulliver that is the U.S. trade deficit. While the trade deficit recently stopped growing, the balance between the U.S. and China didn't exactly swing back in our favor. Exports of goods made in America and shipped to China still only amount to about 20 percent of what Chinese manufacturers send to the U.S., according to the Manufacturers Alliance for Productivity and Innovation.

Yet, several factors point to a landscape that's changing in favor of U.S.-based manufacturing.

They include abundant and affordable energy in the form of natural gas; a technically well-educated and increasingly productive workforce; and cheap capital provided by the Fed. Other non-U.S. factors are bolstering the case for re-shoring—everything from rising Chinese labor costs and ever-present concerns around IP protection, to a desire for shorter supply chains that reduce risk, transportation costs, and inventory, and allow companies to be more responsive to changes in fickle demand. Finally, there are intangibles such as the marketing power of the Made in America label and the way positive publicity builds goodwill in Washington. Taken together, these factors add up to as much as a two to three percentage point drop in U.S. unemployment, according to some experts.

Is Re-shoring Here to Stay?

Despite the good news, there are skeptics. Case in point: Much of the re-shoring activity so far seems to be assembly-related, not true manufacturing-from-scratch. As a result, the bulk of the value-added activities may still reside with parts and components manufacturers located outside of U.S. borders. Also, two-thirds of the companies that re-shored did so by bringing activities back to existing facilities. In other words, they re-opened mothballed plants rather than expand their footprints, even though they are flush with cash and old plants are less efficient than new plants.

One explanation could be that manufacturers are not all that confident that re-shoring is here to stay. In that light, restarting old facilities may be the most prudent stance in the re-shoring debate, especially if many of the factors that drive the trend are

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still in flux. For instance, although the labor cost gap between the U.S. and China is shrinking, U.S. labor costs may also rise as companies struggle to fill the skilled positions being relinquished by retiring baby boomers at a rate faster than new talent enters the field.

Energy costs are another big factor on which the last word hasn't been spoken. Yes, we are benefiting now from the shale gas boom, but other regions, including China, are sitting on sizeable shale gas reserves, even if they are more difficult to extract with current technologies. Decisions about how much gas to export and about whether to build the Canada pipeline will impact energy costs and could alter the equation.

Among the "intangibles," Made in America is fashionable, especially after Wal-Mart's pledge to buy \$50 billion of U.S.-made products. But whether consumers are willing to pay a premium for Made in America is still untested. Finally, the political stalemate in Washington has delayed important policy decisions on issues such as immigration and taxes, which creates uncertainty. It is therefore not surprising that many companies are not comfortable to go "all in."

Making it Stick

Still, there are a few things that could determine whether re-shoring is the real thing. For one, government can do its part, particularly at the federal level, by creating legal and fiscal frameworks that remove uncertainty and allow companies to make sound business plans.

State and local governments can create the right business environment through tax incentives, accelerated permitting and, in general, through increasing the ease of doing business. For example, Greek yogurt maker Chobani built a \$450 million plant in Idaho in record time because state government was always two weeks ahead with permits and other documents.

State governments can also facilitate the creation of "business eco-systems", that is networks of suppliers, service providers, 3PLs, academia, stable and well-run unions, and R&D centers that manufacturers require to be successful. And they can work with local universities to modify the curriculum to better fit the requirements of manufacturers. One example: STEM needs to be a major priority, given that the major

shortage will primarily manifest itself in the engineering ranks.

Government can't solve these problems alone. Companies need to chip in as the current U.S. education system is not set up to develop talent quickly enough to fill the shortage of skilled labor on its own. They can do this by working with community colleges, tapping into "new" overlooked talent pools such as veterans and women, and by working together within their industry to develop common, industry-specific skills in much less time than the traditional education channels. In short, companies need to develop a human capital strategy to address worker shortages and help workers evolve their skills in line with the advanced technology that they will be operating.

At this point it's still unclear whether re-shoring is only a temporary fad or something more fabulous for the U.S. economy. Maybe U.S. manufacturing's recovery is only part of broader economic cycle? Or it's primarily linked to the low dollar exchange rate and as such is a short-term phenomenon? Or maybe China's manufacturing base is just a giant on clay feet, stuck in a swamp of labor inflation that even strong backing from the Chinese government can't pry loose and the U.S. is indeed gradually becoming the world's manufacturing powerhouse again.

Because the outcome is far from certain, before jumping on the re-shoring bandwagon, you should carefully assess the timing, effort, and benefits as part of a thorough re-shoring business case. This includes understanding the underlying conditions that drive re-shoring attractiveness in your industry and testing multiple future scenarios that make assumptions on how those conditions will change. Only then would you know if re-shoring is the right decision for you. □



2013 Warehouse/DC Operations Survey: Multiple Paths, Same Goal

Whether they are opening new DCs, improving inventory control, or turning to 3PLs to improve processes, survey respondents tell that there's no one prominent way to keep costs in check while simultaneously improving service levels.

By Maida Napolitano, Contributing Editor



According to the findings of our *Warehouse and Distribution Center (DC) Operations Survey* over the last four years, it's been tough going for logistics professionals looking to expand on their capabilities inside the four walls. In an economy that's been slow to recover, reducing operating and transportation costs has continued to be the top priority—with little or no capital to spend.

This year's survey results are only slightly more encouraging. Fifty-two percent of responding companies are planning to spend \$250,000 or more for equipment and technology to improve their warehouse and DC operations—just a few points over last year's 48 percent.

Designed to gauge activities and trends in warehouse and DC management, our annual survey offers a first-hand look into how U.S. operations are currently being run. In September, a survey questionnaire was sent via email invitation to *Supply Chain Management Review (SCMR)* magazine subscribers. The survey gleaned 530 qualified responses, from upper-level managers all the way to CEOs—all personally involved in decisions regarding their company's warehouse and DC operations.

2013 Warehouse/DC Operations Survey Webcast Multiple Paths, Same Goal

Thursday, November 21 @ 2:00 p.m. ET
www.scmr.com/wdc_2013survey

Most participating companies came from manufacturing (38 percent), followed by distributors (31 percent), third-party logistics providers (9 percent), and retailers (8 percent). A broad assortment of products handled in the DC was once again well-represented, with food and grocery leading the pack

at 14 percent, followed by paper, packing, and office supplies at 7 percent, and electronics and automotive/aerospace tied for third at 6 percent each.

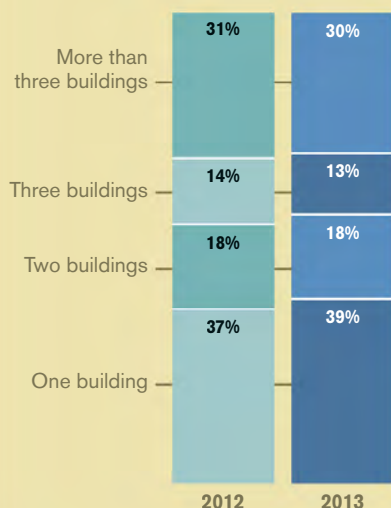
In this new normal of barely budging budgets, how exactly are today's logistics professionals planning to keep costs in check while simultaneously improving service levels?

"There is no magic bullet," says Norm Saenz, senior vice presi-

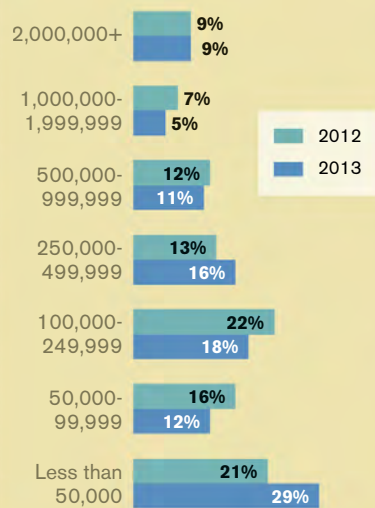
Size of distribution center network

- Distribution network made up of **3 or less buildings**
- Total area of network: **less than 250,000 square feet**
- Most common clear height: **20 to 29 feet**
- DC supports a **manufacturer**

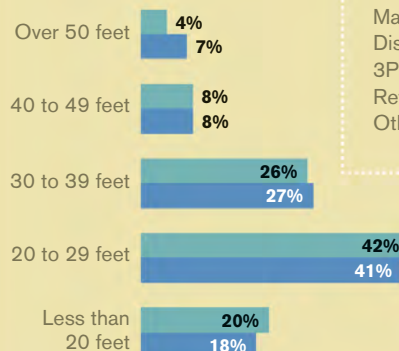
Number of buildings



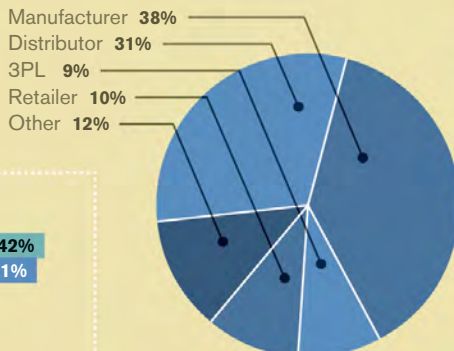
Total square footage



Clear height of buildings



Company description



Source: Peerless Research Group (PRG)



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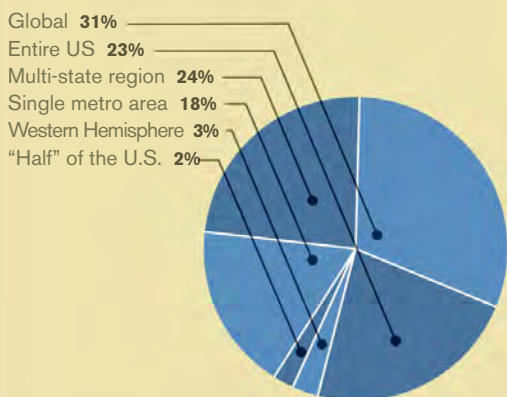
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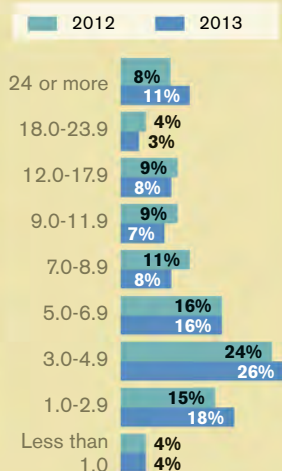
Scope of distribution center operations

- Area of service: **global**
- Annual inventory turns: **3 to 4.9**
- Number of SKUs: **less than 2,500 SKUs**
- Total people employed: **less than 100**

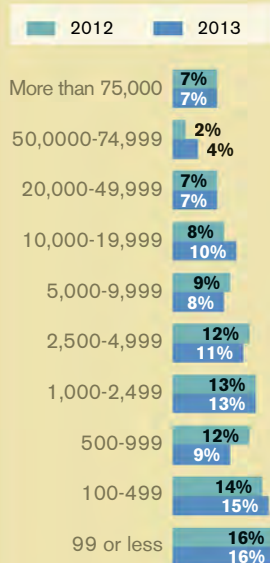
Area of service



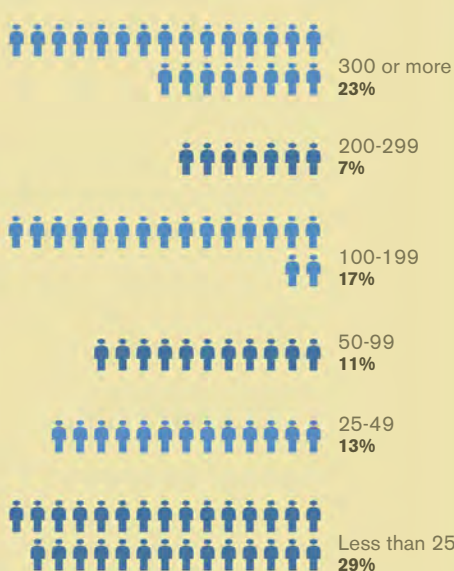
Annual inventory turns



Number of SKUs



Number of employees



Source: Peerless Research Group (PRG)

dent and principal of TranSystems, a supply chain consulting firm and *SCMR's* partner for this survey. "According to the findings, everyone's doing multiple things. Whether opening new DCs, turning to a third party logistics provider, or renegotiating with freight carriers, results show that there's no one prominent answer among this year's respondents."

Don Derewecki, senior business consultant also from TranSystems, agrees: "A significant number of respondents are taking multiple actions—and that's the key. Most are carrying out initiatives that don't involve major system changes and require hardly any capital investments, such as improving warehouse processes and improving inventory control."

Over the next few pages, we'll present how the warehousing and distribution landscape has changed over the past year, track critical measures of warehousing activities, and interpret results against a backdrop of current industry practice. We'll also highlight emerging trends in warehousing and supply chain management as we tack on another year's worth of results. Now, let's see how your operations measure up.

What's trending?

While the top priority remains reducing operating costs, it's encouraging to note that 94 percent of respondents tell us that they are doing something to achieve this goal. In fact, companies are favoring not just one, but two top initiatives: improving warehouse processes (67 percent) and improving inventory control (61 percent).

Derewecki questions if this latter push to control inventory is really working. "There's an emphasis on controlling inventory, but it doesn't seem to be translating into improved turns." In fact, results show that average inventory turns are holding steady at about seven turns per year over the past two years.

Derewecki speculates that this may



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Logistics resources and experience to reduce costs and increase supply chain efficiency

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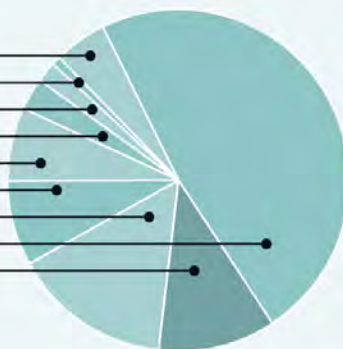
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Special Report

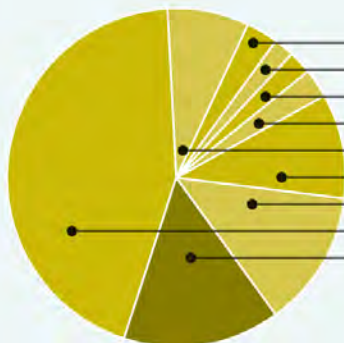
A SPECIAL SUPPLEMENT TO SUPPLY CHAIN MANAGEMENT REVIEW

2013 capital expenditures for warehousing equipment and technology

\$10 million or more	5%
\$7.5-\$9.9 million	1%
\$5-\$7.49 million	2%
\$2.5-\$4.9 million	3%
\$1-\$2.49 million	7%
\$500,000-\$999,999	8%
\$250,000-\$499,999	15%
Less than \$250,000	48%
Unsure	11%

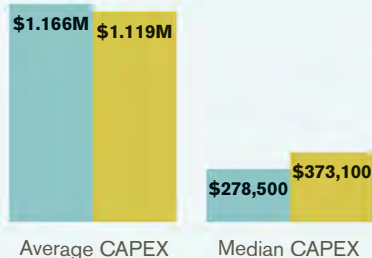


Estimated capital expenditures for warehousing equipment and technology in 2014

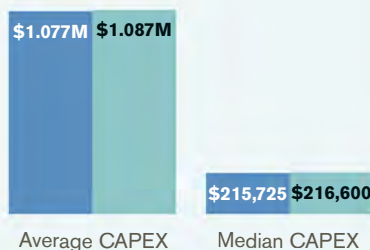


\$10 million or more	3%
\$7.5-\$9.9 million	2%
\$5-\$7.49 million	2%
\$2.5-\$4.9 million	3%
\$1-\$2.49 million	8%
\$500,000-\$999,999	10%
\$250,000-\$499,999	13%
Less than \$250,000	44%
Unsure	15%

2013 study



2012 study



2012 2013 2014

Source: Peerless Research Group (PRG)

stem from the continued “silo” mentality between buyers and warehouse managers. “The buyer gets a huge discount off a case of product, so he buys an entire rail carload without considering the negative impact it has on the warehouse manager who is incited to reduce costs. The warehouse now has to deal with the increased costs of this overstocked inventory.”

To reduce transportation costs, the majority (60 percent) of companies are “renegotiating freight rates,” followed by “shifting the mix of common or contract carriers” at a distant second (26 percent). Saenz points out that renegotiating rates is relatively easy to do. “It doesn’t require any systems or any capital investments,” he adds.

But more importantly, Derewecki notes how respondents are also “asking customers to order less frequently but in larger quantities” and “using 3PL warehouses to get closer to customers.”

“Again, there is no one single right thing you have to do,” says Derewecki. “Companies are trying out multiple initiatives to achieve the ultimate goal.”

Saenz and Derewecki believe that there’s even more evidence of optimism to found in this year’s data, with 72 percent of respondents reporting that they plan on expanding their distribution operations in some way in the next 12 months—versus only 60 percent last year.

While most are planning to “increase their SKUs” (30 percent), some respondents (14 percent) are opting to “increase the number of buildings” in their network. Saenz believes that these firms are trying to reduce outbound transportation costs as a result of high fuel prices.

“Strategy projects that we’re currently working on involve businesses that have an East Coast presence with a growing number of West Coast customers,” says Saenz. “These companies



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are contemplating opening a West Coast facility not only to control shipping costs, but also to improve service by getting closer to their customers.”

Our findings also show that warehouse software solutions continue to radically change how we do

business in the DC. Results reveal a slightly upward trend in respondents using cloud-based technology—1 percent in 2011 to 5 percent in 2013.

Derewecki expects the use of cloud-based solutions to increase particularly among smaller and midsized companies. “They will be able to afford these software solutions without the need for a considerable up-front investment in hardware and software,” he adds.

This year, a slightly higher percentage of respondents (17 percent versus 15 percent) experienced catastrophic events compared to last year. Open-ended responses show Super Storm Sandy as one of the main culprits, shutting down power and flooding warehouses in the Northeast.

To protect against these particular threats, many survey takers are undertaking multiple initiatives, including creating more robust disaster recovery plans; installing on-site generators along with satellite and critical communication backup and data retrieval systems; setting up alternate sources and logistics lanes; establishing offsite IT infrastructure; investing in diesel fuel stock piles; and upgrading cooling capacity and redundancy to their on-site data centers.

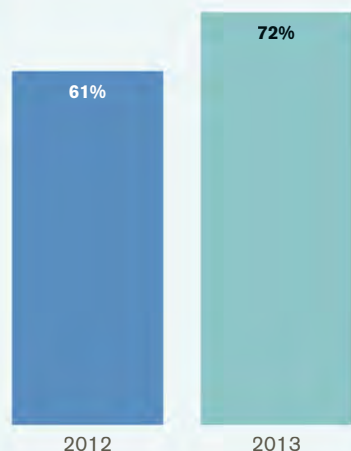
Blurred lines for e-commerce

The growth of omni-channel marketing finds us keeping a close watch on the different channels respondents are servicing. Derewecki says he’s surprised by the very slight uptick in e-commerce over the past year—from 29 to 30 percent. “This is a growth area among our clients in all areas,” he says. “And as time goes on, that 30 percent will likely increase considerably. If you’re not servicing e-commerce now, you’re going to be.”

Sanzen points out that even more manufacturers are offering their products online. “The line has blurred between retailers, manufacturers, and e-commerce,” he says. There is also a decrease—from 40

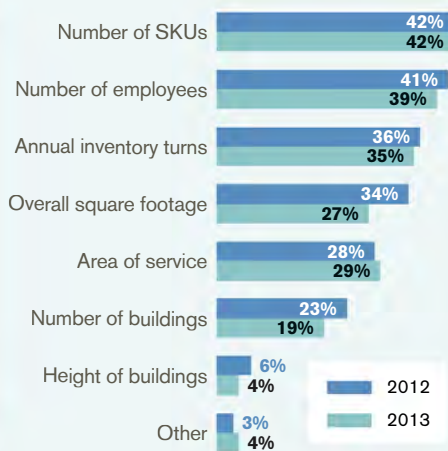
Distribution center expansion plans

Planning to expand over next 12 months



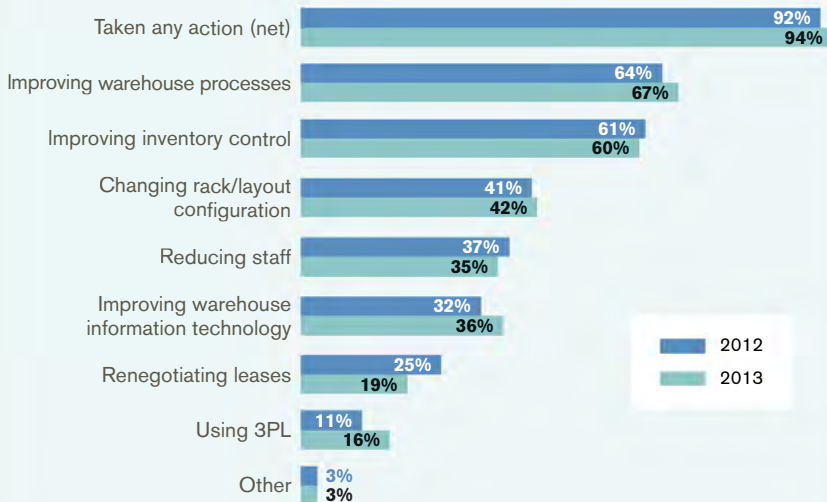
Areas for expansion

Based on those planning expansion



Source: Peerless Research Group (PRG)

Actions taken to lower DC operating costs



Source: Peerless Research Group (PRG)



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percent to 35 percent—in companies carrying out e-commerce fulfillment on their own from within their existing DC. “When e-commerce starts out, it is all in-

house, squeezed into a corner somewhere,” Saenz adds.

“As it grows, then it becomes an entity unto itself,” says Derewecki. “The e-commerce business becomes

very protective, not wanting the retail business to ‘steal’ e-commerce inventory. Thus the e-commerce business wants to be in a total separate facility—perhaps run by a 3PL.”

Saenz says that he anticipates that the biggest future trend will be retailers trying to service e-commerce from their stores. “It’s happening now, where they’re taking inventory out of the DC and processing those orders from their own storefronts—which makes sense from a geographic perspective in many cases as well,” he adds.

2013: Profile of a DC network

All in all, the DC profile across North America has remained consistent over the past few years. About 70 percent have three or fewer buildings in their distribution network, with 59 percent operating less than 250,000-square-feet of space in their distribution network.

While most DCs still have clear heights of 20 feet to 29 feet, Derewecki points out how there is a slight increase in buildings over 50 feet. “As time goes on, new, taller buildings are being added to the stock,” he says.

More respondents are planning periodic distribution network optimization and location studies—in exchange of the “as-needed,” reactionary study. Saenz says he’s seeing this firsthand. “These studies have become a regular activity for firms looking to stay competitive and make a profit.”

“When e-commerce starts out, it is all in-house, squeezed into a corner somewhere”

—Norm Saenz, senior vice president and principal, TranSystems



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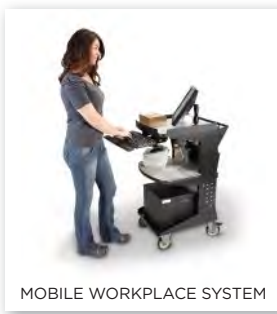
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Derewecki concurs, but notes that companies may sometimes require a mid-term update. “As companies make acquisitions, as they tack on new product lines, their needs change,” he says. “We’ve been called back within relatively short periods of time just because they want to validate a study they completed recently.”

And while recycling continues to dominate sustainability efforts at 71 percent, our experts also noticed a growing trend in “solar panels” and “LEED certification” coming out of this year’s data. LEED (Leadership in Energy and Environmental Design) certification is a rating systems developed by the U.S. Green Building Council (USGBC) to rate a facility’s environmental friendliness.

According to the USGBC, LEED-certified DCs continue to command higher rents because of its energy-saving features. And in good news for those facility operators, the push to go green remains a hot topic, with only 7 percent of companies “not at all likely” to evaluate green or environmental issues.

The last word on full pallets

The days of forcing customers to receive full pallet quantities of a SKU are few and far between.

According to this year’s data, most are receiving and shipping product in a mix of full pallet, case, and split case quantities. Saenz points out that regardless of the inbound unit of measure, the out-bound trend will be in smaller quantities, such as split and full case.

Derewecki agrees, recalling a project he completed for a New York-area hospital where storage space was at a premium: “If patients needed something tomorrow, the hospital would order it today and they expected their suppliers to deliver it to them the next morning. They depended on their suppliers’ supply chain to deliver. Now, as a manager of your own logistics and operations, do

you think your customers could depend on you?”

—Maida Napolitano is a Contributing Editor to Logistics Management



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