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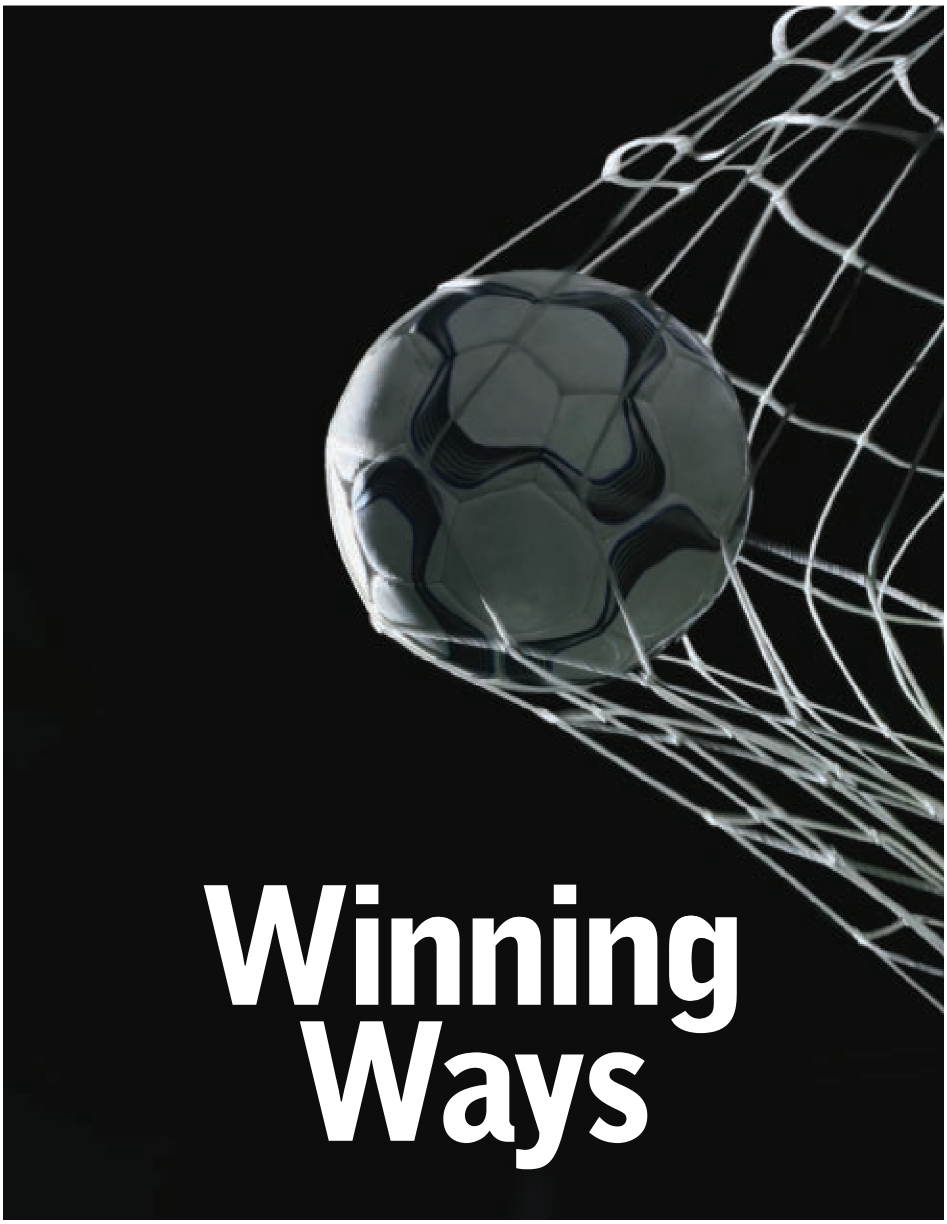
SUPPLYCHAIN MANAGEMENT REVIEW®



Winning Ways

FEATURES

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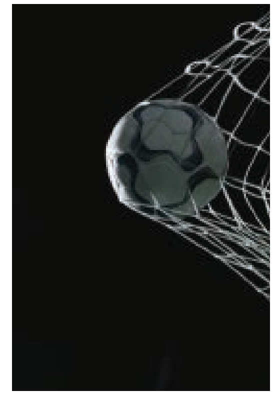

FEATURES

COMMENTARY

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On the Winning Path

Winning and winners have a powerful fascination for us. Everyone seems to go crazy when their favorite team wins a championship (think Boston Bruins in the recent Stanley Cup). Individuals bring out the adulation in us, too, whether they are in sports, politics, the community, or religious leaders. And don't forget business. Jack Welch, Bill Gates, and yes, Donald Trump are among the business "winners" who have captivated us.

But what does winning mean when it comes to a working supply chain professional? No doubt, different people will come up with different answers. But most would agree that one central component of winning is the ability to consistently make a positive impact on people both inside and outside of your organization, on the processes you control or influence, and on the ultimate performance of your business. And while you're doing all this, you're taking the steps needed to make your own career a "winning" one.

Tim Stratman gets us under way on the winning theme this issue by emphasizing the need to build your own personal "brand." The veteran executive coach believes that everyone has his or her own brand—i.e., all of those associations that others have when they think about or interact with you. In his piece, Stratman gives sounds advice on how supply chain professionals can improve their brand—and in doing so enhance their influence while advancing their career prospects.

Winning in a yachting competition is the metaphor Hugh Williams employs to convey the role of tactical planning in supply chain success. Williams argues that, just as in yacht racing, planning requires clear leadership, a well-understood goal, and a willingness to put turf battles aside to accomplish that goal. The author illustrates the point with three mini case studies of companies that have accomplished this with superior results.

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Procurement strategy is another key component of a winning performance. To execute supply management operations efficiently, you first need a well-designed procurement strategy. Accenture's Per Segerberg tells how to go about developing such a strategy, drawing on a major study his firm conducted on the procurement "masters." The framework for strategy development he offers is intended to help companies perform more like those masters and achieve the same kind of results they have recorded.

One company that certainly does have a winning procurement strategy is Dow Chemical. It also has robust processes, governance, and organization structure in place. As Dow Purchasing V.P. Paula Tolliver relates in her article, all of these elements come into play in the firm's merger and acquisitions activities. The end result: M&A synergies are realized faster and value is delivered quicker.

By developing winning ways, supply chain people can put themselves in great position for a long and fulfilling career. We hope that the articles in our July/August issue will accelerate your progress along that winning path.

Francis J. Quinn

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InSIGHTS

BY LARRY LAPIDE

Take the Supply Chain Modeler's Oath

Developed in response to the financial meltdown, the Modeler's Oath offers important guidance for supply chain planners.

Dr. Lapide is a lecturer at the University of Massachusetts' Boston Campus and is an MIT Research Affiliate. He welcomes comments on his columns at llapide@mit.edu.

As a quant, I enjoyed the book, *The Quants: How a New Breed of Math Whizzes Conquered Wall Street and Nearly Destroyed It*, by Scott Patterson. My interest was piqued because I had been teaching the role that faulty models, spreadsheets, and computerized systems played in the financial industry meltdown.

I was trained as a "quant" jockey, earning a doctorate in operations research. We learned about Decision Support Systems (DSSs) that were designed to support decision-making activities. The core of a DSS is the quantitative model representing real-world business environments. The model presents the impacts of various decision alternatives, which managers then use to help them decide what to do. Optimization systems are designed to go further and tell the manager what the best decision would be.

The Digitized Trading Market

The Quants chronicles the digitization of the financial industry from the 1960s to the financial meltdown. This industry built DSSs that not only supported decision-making but also made decisions for traders. The systems automatically tendered trades to an automated, global system that executed them as a "black-box"—unbeknownst to traders. Therein lays the crux of the role that the quants (shorthand for experts in quantitative analysis) played in the financial meltdown. They used the technology as decision systems not decision *support* systems. And while these systems did not trigger the meltdown, they quickly drove financial markets into a downward tailspin.

The Quants focuses on four investment managers who got their start applying mathematical principles to develop strategies for making money in gambling. Once they mastered these, they went into Wall Street to apply mathematical models there.

The models developed to represent financial markets assumed that these markets were efficient in the long-run and that prices behaved according to "stationary" probability distributions. Often these were assumed to be bell-shaped curve distributions with constant means and standard deviations. If a trader uncovered a financial instrument (such as a stock, currency, or option) that was overpriced/underpriced based on history, a bet could be made on price changes that often reaped huge profits if markets returned to normal.

Part of the trading systems was a globally interconnected network of financial information (such as Bloomberg) used to develop and provide input to the models, which were used for rapid decision-making. Another important part was the "Money Grid"—described in the book as "an electronic network, a digitized, computerized money-trading machine that could shift billions around the world…with the click of a mouse."

Comes the Meltdown

For a long time, the model-based strategies generated huge profits for these traders, their employers, and clients. That was until the prices of toxic assets, such as securitized mortgages, started to tumble and triggered the meltdown.

In the meltdown's early stages, the systems acted as designed, routinely assuming that markets would eventually return to normal behaviors. However, the markets were experiencing unprecedented behaviors. And, again to quote the book, "to quants, unprecedented is perhaps the dirtiest word in the English language. Their models are by necessity backward-looking based on decades of data on how markets operate in all kinds of conditions." During the early stages of the meltdown the standard deviations were not constant, because "volatility was actually…*volatile,*" leading to bad decisions and quickening the fall in prices.

Lessons for Supply Chain Modelers

Why didn't traders quickly recognize that things were not normal and switch to common-sense decision making? There were some quants in the industry who warned others before the meltdown that the markets were not always efficient and stationary. After the meltdown, Emanuel Derman and Paul Wilmott, developed the following Modeler's Hippocratic Oath:[1]

1. "I will remember that I didn't make the world, and it doesn't satisfy my equations.
2. Though I will use models boldly to estimate value, I will not be overly impressed by mathematics.
3. I will never sacrifice reality for elegance without explaining why I have done so.
4. Nor will I give the people who use my model false comfort about its accuracy. Instead, I will make explicit its assumptions and oversights.
5. I understand that my work may have enormous effects on society and the economy, many of them beyond my comprehension."

Except for a slightly modified fifth element, all supply chain modelers should take this oath. Often, planning is done using huge quantitative, complicated supply chain models that are driven by uncertain demand forecasts.

Early in my career, I learned that models must be both valid and face-valid. Validity has to do with the accuracy of a model. And as pointed out in the oath, the world doesn't satisfy the modeler's equations. That is why planners have to cope with and understand planning inaccuracies, a large part of which are often due to uncertainties in future demand as well as supply.

Per the oath, users should not be led to "false comfort about its [i.e., a model's] accuracy." This usually involves developing models with simple structures, not necessarily the most elegant and mathematically "impressive." While complex models might replicate history to the utmost degree possible, they will invariably break down over time as business conditions change.

A modeler should be transparent, clearly articulating the facts and figures that went into his or her model, as well as the assumptions and oversights that are part of it.

Face-validity has to do with whether or not the model can be easily explained to a non-quant. It should not be a black-box. If a planner cannot explain why it makes sense to include a factor in a model, it shouldn't be included. Furthermore, a modeler should be transparent, clearly articulating the facts and figures that went into his or her model, as well as the assumptions and oversights that are part of it.

The Modified Fifth Element

Because planners have minimal direct effect on "society and the economy" in general, the fifth element of the Modeler's Oath needs to be modified to deal with the enormous effect a planner can have on a supply chain. When a model is grossly wrong, a company's financial performance will suffer. It is unlikely, however, that a company would melt down as the financial markets did. The reason: a company does not use a plan to make bets on the price movements of things with no tangible value tied to them.

Supply chain resources marshaled in advance of demand are tangible things like labor, facilities, materials and components, and inventories. If a company's investments in these go south, at least the company is left with tangible things that have some value.

So while a supply chain modeler doesn't have to fret about a model driving the company to ruin, he or she would still do well to take the modified Modeler's Oath. Close adherence to the guidance in that oath will have profound effects on sustaining financial performance.

1 http://wilmott.com

PROFILES in LEADERSHIP

Talent Impresario: Michael B. Hadley

By John Kerr

John Kerr is a special projects editor for *Supply Chain Management Review*

You can never have too many good people on board. Although those aren't the exact words that Mike Hadley uses, they may as well be his maxim. You see, Hadley has done far more than most to open up the pipeline of talent for the supply chain profession.

In his "day job" Hadley is the senior manager of materials management for Boeing's Defense, Space & Security (BDS) operation in Mesa, Ariz. (That's where they make the Apache Longbow combat helicopter.) The role draws on his 36-plus years in manufacturing and materials management. And it's one in which he has demonstrated real success, driving everything from development of a cross-operating-unit supply chain strategy to implementation of lean principles and practices that have spurred competitive gains in quality, cost, delivery, safety, and morale.

But Michael B. Hadley is also something of a talent impresario. He founded and now chairs the Supply Chain Talent Academic Initiative (SCTAI), a not-for-profit consortium of industry, university and professional association leaders working together to define industry supply chain skills and competency requirements and to increase the quantity and quality of future supply chain talent. Talent development overall is something that Hadley takes very seriously.

He puts it this way: "A pressing leadership challenge today is developing our future leaders from the new generation entering the workplace. Leaving a legacy in others has to be a priority for all senior leaders. It's done by mentoring, with purposeful assignments and placements, and by taking a risk on people to allow them the opportunity to learn through success and failure."

For Mike Hadley, developing tomorrow's supply chain leaders has always been a top priority.

Hadley practices what he preaches with his first-line managers at Boeing—and has done so for a long time. "We place managers with an eye on leadership," he says. "The question is, do managers who grew up through the shops—who are technically proficient—do they have the skills to be leaders rather than just managers?" The materials management chief is proud of initiating and co-leading the Integrated People Plan team within materials management and transportation (MMT) at Boeing BDS.

But there is no hiding Hadley's pride in SCTAI—not only for what it stands for but also for the backing it enjoys and the progress it is making. "It's by far my highlight experience to date in working with the supply chain professional associations," he says. "The level of engagement, support and collaboration between the associations has been phenomenal. That's what has enabled us to reach out to our industry and university stakeholders."

The associations are well-known. SCTAI operates under the APICS Education & Research Foundation and is hosted by the Supply Chain Council. Members of the SCTAI steering team include key corporate staff from APICS, the Association for Operations Management, the

Council of Supply Chain Management Professionals, and the Institute for Supply Management.

Specifically, the all-volunteer consortium's mission is to increase the depth and breadth of the global supply chain talent pool by: identifying industry competency requirements for supply chain talent and providing forecasts of those requirements for university program planning; assisting universities and other educational institutions in building programs to meet those requirements by providing material and other collateral; and marketing the supply chain profession as a career of choice.

Collective Action the Key

The idea came to Hadley at a Supply Chain Council meeting in spring 2007. Attending a presentation on how one company was working with universities to identify the supply chain talent it needed, he realized that many of the presentations at the meeting dealt with talent supply. "The 'aha' moment was that we were all trying to accomplish the same goals," he says. "Individually, the professional associations were playing a role; individually, organizations had relationships with universities, and individually, the universities had relationships with companies."

He buttonholed the presenter in the hallway, and did the same with several other supply chain chiefs, sketching out his rough concept for a consortium approach. "Everybody kind of said 'yes,'" he recalls. In November of that year, Hadley convened about 20 supply chain leaders—practitioners such as Jake Barr of Procter & Gamble and Intel's Jim Kellso, along with leading academics from schools such as Arizona State, Howard, and Michigan State—to get the ball rolling. "We realized that even though we were in the supply chain business, we were not really doing a very good job of demand management as it concerned supply chain talent management for our own profession," said Hadley. Long story short: SCTAI was born, leveraging the approach and infrastructure proposed by Hadley and with the clear backing of the Supply Chain Council.

Early in 2008, SCTAI pulled together some seed money and chartered AMR Research to survey industry about its talent needs. The resulting study, titled "Supply Chain Talent: State of the Discipline", provided stark baseline data with which to launch the consortium's efforts. Among its core findings: that supply chain management had an identity crisis. Although many of its "components"—roles such as buyer or transportation manager—were recognized, supply chain management overall was not seen as a well-defined career. It was essentially invisible to high school career counselors. Most university students did not realize that careers and programs in the profession are available until their sophomore or junior year. And the U.S. Department of Labor had no official classification for supply chain management as an occupation—and still doesn't.

"A pressing leadership challenge today is developing our future leaders from the new generation entering the workplace."

Today, a core part of the work of the several dozen people who are active on SCTAI teams and sub-teams is to develop a common industry definition of supply chain management. "Universities are taking this information and working with it in their programs," says Hadley. He singles out the University of Texas at Austin as one school that used SCTAI's 2008 survey data to build its strategy and programs to drive a supply chain curriculum. And SCTAI is now leading discussions about where universities' supply chain curricula should end and industry's own training and development should begin. Hadley cites the universities' point that they have only so many credit-hours and so they cannot do it all. "What we don't want to do is homogenize all the schools," adds Hadley. "One is still going to be 'the one' in logistics, and another may be the specialist in negotiations."

Finding the Right Fit

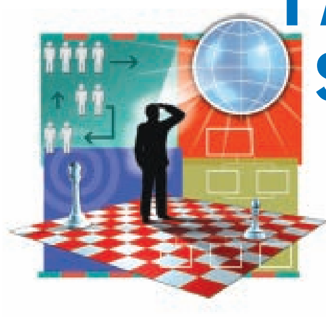
Hadley came to supply chain management somewhat late in his professional life. Fresh out of junior college, he worked for an auction house before starting as a machine operator at Caterpillar in 1973. Bright, conscientious and hard-working, he quickly rose through the ranks, becoming a shop supervisor in fabrication, production control, and quality control, including responsibility for production control and quality assurance for a new plant start-up.

He later went back to college—to the University of Illinois—earning his bachelor's degree in management. In his last year at Cat, he was systems implementation manager for cellular manufacturing, pull systems, and material requirements planning.

Moving to Boeing's commercial aircraft operations in 1986, Hadley worked in a range of increasingly senior materials management roles. He had acquired, and continued to add, a long list of certifications, chief among them his certification in production and inventory management (CPIM) by APICS.

Asked which leadership guru—living or dead—he would choose as his ideal mentor, Hadley does not hesitate: W. Edwards Deming. Perhaps, 30 years from now, one of the many students whom SCTAI is reaching will answer the same question with a different name: Michael B. Hadley.

TALeNT STRATeGIES



Getting Your Point Across Without Bullets and Builds

By Jarrod Goentzel

Dr. Jarrod Goentzel is Executive Director of MIT Supply Chain Management, a nine-month professional degree program. Send him your favorite stories at goentzel@mit.edu.

It is a fair assumption that most supply chain professionals reading *SCMR* can quickly recount a harrowing tale, probably set at the end of the quarter, involving a key shipment that is about to miss its delivery deadline. The customer is calling your mobile hourly for updates; a visit to the floor supervisor only reveals a new bottleneck; your inbox is stacked with a chain of emails that includes the V.P. and a long "cc" list; and the carrier has just sent you a text message that the pick-up driver cannot wait. Somehow, perhaps through an unexpected turn of events or an idea that you dredged out of your professional past, you save the day.

Being at the core of the action in today's globalized businesses, the supply chain is full of exciting stories about how someone moved mountains (of inventory) to save the day…or not. And these stories are getting more interesting as supply chains extend across cultural lines and take place in exotic settings. Given these dramatic settings, supply chain professionals have an opportunity to utilize the power of narrative beyond entertaining colleagues around the water cooler. Storytelling can become the most effective means to communicate messages that are critical to the success of your initiatives…and your career.

Stories can actually help us make supply chains more efficient and effective, too. After the earthquake in Japan earlier this year for example, new stories emerged about production lines being shut down due to a scarcity of simple components that lay forgotten in the networks of second- or third-tier suppliers.

A story like this may enable you to rekindle that initiative with engineering about simplifying the bill of materials for an upcoming product launch. Passing on first-hand experiences you heard at a conference about a company successfully rolling out electric vehicles might help you convince your fleet manager to pilot the new technology. Shared tales from the trenches of turning inventory into cash during the recent financial crisis may enable you to continue building that critical relationship with the CFO, which will prove useful come capital budgeting time.

Stories convey culture and build a common bond among colleagues. Indeed, long before we had standard operating procedures to document the ins-and-outs of our daily vocation, humans told stories to retain knowledge and pass on skills. Such chronicles of frontier experiences have helped us, and our supply chains, to evolve.

Many professionals can effectively increase their use of narrative. However, it is important to avoid the other extreme of "managing by anecdote." Some organizations seem to define improvement initiatives solely from problems identified by specific experiences—especially the dramatic ones. It is critical not only to undertake further, more comprehensive, analysis to determine if an issue is exceptional or systemic, but also to regularly assess the scope of operations to identify problems that are not bubbling up at the water cooler. Anecdotes alone are not the whole story.

At this point, you may be wondering: How do I identify specific opportunities to use stories given my role in supply chain? And is this a skill that I can, and should, develop for my professional success? Let's consider these questions in order.

Identifying Your Audience

You cannot tell a story without an audience. Fortunately, the supply chain is a nexus of communication across organizations and functions within an organization. Even for small companies, its setting is global and spans cultures. So supply chain professionals should not have trouble finding an audience; but it is important to know how to reach each audience appropriately. You can target audiences across three dimensions that utilize storytelling for different objectives.

Horizontally across the company. The supply chain spans corporate functions from product design to sales and customer service. To be successful in this landscape, supply chain professionals need to be able to relate to a wide variety of functional role players and geographical colleagues. Finance plays a similar integrative role across the company business units and functional divisions, but they have both the mandate and the means to facilitate communication through financial reporting, even if that is not the most enjoyable exchange each quarter. Lacking such a regular mandate, the supply chain organization must compel its audience with ongoing storylines—a serial drama, if you will—to facilitate regular communication.

Vertically from shop floor to the board room. Supply chain professionals also need to target audiences both up and down the corporate organizational chart. Successful implementation of an idea requires not only persuasive communication to get approval in the first place, but also motivational communication with colleagues on all levels who are involved in execution going forward. An effective narrative goes much further than PowerPoint slide decks in obtaining that broad-based buy-in to an idea. And stories can provide mental images that convey purpose much better than a wordy mission statement. A good example of articulating the customer service mission of the supply organization is P&G's Moment of Truth—the point at which a customer evaluates the shelves of product in the store.

Externally across suppliers and customers. A critical third dimension is the external audience. For many companies, the supply chain professional is as much the face of a company to its customers and suppliers as anyone else. We are definitely the people involved in the crisis stories when execution does not go as planned. We can also be part of the success stories when companies achieve common goals by working together. Openly sharing stories with partners can form a foundation of trust that is critical in scaling up the business relationship.

Telling Your Story

Not everyone is a great storyteller. But that need not be a critical limitation in becoming an effective communicator. First, it is important to distinguish the entertaining story from the effective narrative. While you may not be able to spin a yarn that has the room hanging on your every word, know that entertainment is not the primary objective. It is more important to develop a clear and consistent storyline that facilitates continual communication with the audiences mentioned above.

Second, just as with leadership, MIT CTL believes that communications skills can be developed through active learning exercises. On the writing front, we have expanded our logistics master's curriculum beyond the grammar and structure required in an effective master's thesis to include writing in the business context from emails to executive summaries. On the speaking front, we added a session where each student actually tells a story to the class so that they can focus on delivery rather than content.

Whether in written or verbal form, we emphasize three key aspects in building your narrative.

• *Setting:* Setting is a combination of purpose and context. Purpose considers the expected action based on the encounter (e.g., build support, make a decision, provide a status update) and the nature of the message (good news or bad news, neutral or judgmental position). The context considers time, location, room setup, nature of the audience, and expectations. The setting should direct you to the most appropriate mode of sharing the storyline. Too often, professionals default to one mode (say PowerPoints) and let it dictate the setting rather than finding the most effective mode for the setting.

Storytelling can become the most effective means to communicate messages that are critical to the success of your initiatives...and your career.

• *Language:* Professions and industries often develop an insider language filled with specialized terms and abundant acronyms. While useful in communicating within the supply chain, such lingo easily forms obstacles for an external audience. Sometimes the language is dictated from the outside, such as financial reporting practices. In that situation, it is good for supply chain professionals to learn the language and to translate their stories into that language, especially when targeting audiences up the corporate ladder.

• *Culture:* It is more common than not these days for individuals in a supply chain team to hail from different countries. People from various cultural backgrounds can interpret stories very differently. And the message can change when stories cross cultural lines where assumptions are different. At the same time, the diversity of thought and experience in our multi-cultural supply chain settings can enhance the stories and make them more compelling.

Being an entertaining storyteller is not critical for professional success. However, consistent development of narratives that target your professional audiences is crucial in effective communication. While storytelling may not show up specifically in your next annual review, know that your colleagues will better understand your impact when they remember your role in their story.

BUILDING YOUR *Personal Brand*

By Tim Stratman

Skilled practitioners though they may be, most supply chain leaders have the potential to significantly expand their influence and achieve greater success. They can realize more of their potential by deliberately building and marketing their personal brands. The dividends from making this personal investment are both quick and career-spanning.

Tim Stratman is President of Stratman Partners Executive Coaching, Inc. He can be reached at tstratman@stratmanpartners.com.

In the movie "Ray," there is a powerful scene where musician Ray Charles and his future spouse are having brunch and he innocently asks her if she likes his most recent record.

Ray: Did you like my new record; the one King Bee was playing?

Bea: It's not that I don't enjoy your music; it's just that I feel I heard it before. I keep wondering what the real Ray Charles sounds like.

Ray: The real Ray Charles? Who's he?

Bea: Nobody, if you don't know.

This small vignette offers a powerful lesson for any supply chain leader. Highlighting a pivotal moment in Ray Charles' career—a moment when he sees what else he must do besides being a gifted musician to establish his reputation—it reminds us that you must know who you are if you are to become a truly exceptional leader. This is more than simply being genuine or looking to stand out in a crowd. It is about establishing your own unique voice—a voice that encompasses your values, beliefs, expectations, motivations, and other intangibles and that touches those around you in profound ways. Simply put: it is about establishing your professional brand.

In addition to being a talented and innovative musician, Ray Charles understood brand marketing. In fact, the record deal he personally cut in 1959 with ABC Records, about five years after that conversation over brunch, was the most lucrative ever signed up to that date in the recording industry. It even eclipsed the contracts signed by another musical titan of that era: Frank Sinatra. Great talent leveraged by exceptional marketing launched Ray's career into the stratosphere. He became a sensation.

Marketing has been described as the "art and science of creating and managing successful exchanges of value." Strong brands fuel these exchanges. When a brand is strong, we say it has "pull"; it creates positive associations in the consumer's mind that ignite action. Great brands also create high expectations. When you went

Raphael Ricoy

to a Ray Charles concert, you expected to be blown away by his performance.

Supply chain executives can benefit greatly by following in Ray's footsteps. Skilled practitioners though they may be, most have the potential to significantly expand their influence and achieve greater success. They can realize more of their potential by deliberately building and marketing their personal brands. In doing so, they can elevate the status of their profession as a whole.

Brand Marketing Fundamentals

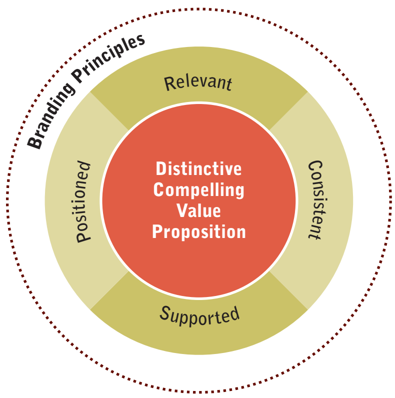
Like supply chain management, brand marketing embodies some fundamental principles. (See Exhibit 1.) Those principles apply whether we're talking about breakfast cereals or cars or individuals.

First and foremost, a brand must deliver a distinctive and compelling value proposition: It must provide significant benefits that aren't easily obtained elsewhere. Think about a retail establishment that you visit regularly—a clothing store or a restaurant, perhaps—or a product for which you paid significantly more than usual because there is "nothing else like it and it's worth every penny." Those are strong brands!

Great brands also create highly relevant associations in consumers' minds. It is easy to relate to brand's benefits, whether tangible (for example, product quality) or intangible (such as the status it confers on you, the purchaser). Luxury car makers regularly tout their quality and cachet in their advertisements. Many of their customers actually feel good about paying a high price.

EXHIBIT 1

The Fundamentals of Brand Marketing



Source: Stratman Partners

Marketers often talk about "positioning a brand." When brands are well positioned, they occupy a unique niche in your mind. Knowing how much information we have to deal with and how much we actually can recall, marketers know their brands must be unique and easily identifiable if they are not to get lost in the clutter. The Internet age has made product positioning that much more challenging.

Consistency is another fundamental. It's hard to overstate the importance of brand consistency. Consistent brands allow marketers to create tremendous scale by ensuring that regardless of where the brand is experienced, the feeling and associations that it creates are the same. Whether a brand is communicated in writing, on TV, in one-on-one discussions, or via other channels, the image and associations must have continuity. Consider McDonald's. Regardless of whether you eat in a McDonald's restaurant or read one of the fast-food franchise's roadside billboards, the company's image is consistent. The same applies across geographies as far apart as Chicago and Shanghai. Even as McDonald's has changed its menu, its image has been remarkably consistent.

The final fundamental is support—investments in time and energy, to be sure, and in the case of many products and services, significant financial spend too. If you work for a consumer products company, you know how much investment goes into growing great brands. Like any assets, brands suffer greatly if they don't receive reinvestment. Supporting a brand is not a one-time thing: It calls for constant, unwavering attention. Indeed, it requires intense focus and passion. Brand marketers love their brands.

Defining and Developing a Personal Brand

Those fundamentals apply equally to individuals' brands. Does Donald Trump have a consistent brand? What about Martha Stewart or Kobe Bryant or Apple CEO Steve Jobs? What about your company's CEO? What about you?

Individuals' brands have the ability to create pull as powerful as that of any product or company brand. Your professional brand is your most important asset; nothing else on your personal balance sheet trumps its value. Your brand represents your essence as a business executive.

You may wonder how you go about building a brand from scratch. For better or worse, that question is irrelevant. You already have a brand. We all do. Your current brand is comprised of all the associations that other people have when they hear your name or interact with you. The right question to ask is: "Does my current brand create the associations I desire? How well does it align with my professional goals and aspirations?"

To answer those questions, you need to become a brand marketer, passionately focused on the brand of you. Think of yourself as "You, Inc." In many respects you are like a publicly traded corporation. Your "stock" will be rated based on current performance and future expectations. A compelling professional brand will raise your stock price today and ensure that it appreciates far into the future.

Professional branding begins by determining objectively what your brand is today. Because all good marketing is derived by data-based research, you need to field a survey. Optimally, you should commission the survey to someone whom you trust to be objective and thorough. We can't always trust ourselves to be totally objective. Self-perceptions are often way off the mark.

Most of us hear hundreds of names every day. We know some of these individuals personally; others we have only heard of, and the remainder we don't know at all. Hearing names triggers thousands of associations, both positive and negative. I often ask business leaders: "When someone in business hears your name, what do you want them to imagine, think, and feel?"

One Executive's Discoveries—and Responses

As part of my firm's work with a senior vice president of supply chain, we conducted qualitative and quantitative research to determine his current brand. First, we co-developed a one-page survey which was sent to more than 25 individuals who knew him well: direct reports, bosses, board members, personal friends, and peers within his company. (From a marketing perspective, these constituted "market segments.") The anonymous survey questions were straightforward; they covered personal attributes such as strategic thinking, vision, operating style, values, personality, and so forth. We also conducted one-on-one interviews with six individuals who provided extensive qualitative feedback on these same dimensions. Finally, we set up a focus group with five of the SVP's closest associates that allowed us to see how each participant's associations differed or aligned; the group interaction was highly revealing.

The brand image that emerged was a surprise. At the outset, this supply chain chief felt that his brand was likely to be associated to words like "strategic," "approachable," and "hands-on." So he was taken aback when the research painted a different picture. It revealed a personal brand characterized by terms such as "tactical," "intense," "private," and "introverted."

The SVP spent time alone and in coaching sessions considering the difference between his self-identification and the research findings. He also asked some important questions: "Is it possible to reposition my brand to convey more balance between strategic and tactical orientations? What about my tendency to be private and introverted? Should I try to become more outgoing and approachable?"

He decided it was indeed worth the effort to develop a brand that identified more strongly with strategic leadership. In fact, based on his aspiration to become a general manager at some point, this brand shift was essential. The SVP was also aware that in some ways, he was working against a widely held stereotype of supply chain executives: that they are primarily tactical leaders focused on squeezing efficiency out of the value chain. He needed to reposition his brand so that people would associate him with the ability to "see around corners" and with setting a compelling vision of future supply chain operations.

The personality dimensions uncovered in the research—"private," "introverted"—presented more of a challenge. Should he try to become more outgoing? Is being an introverted leader a bad thing? How does one go about changing the core of who they are? The answer is simple: it shouldn't even be attempted.

Although there are schools of thought that promote the ability to bring about radical personality change, we believe that attempting this "transformation" is futile and unhealthy. Rather, you should aim to develop a brand that more effectively leverages your core, authentic personality. History is flush with examples of great leaders who were well-known to be "quiet," "private" and "low-key" yet strategic, bold and thoughtful in their actions. Examples include Ulysses S. Grant in the military, Mohandas Gandhi in civil justice, and James Kilts, the former CEO of Gillette, in business. The SVP embraced these characteristics and incorporated them into his brand by focusing on active listening, thoughtful questioning, and deliberate action.

It is important to note that there is no "right" brand. What matters is that your brand feels distinctive, compelling, and authentic to you and your "market." It is equally important that your brand should build upon your strengths while minimizing your weaknesses.

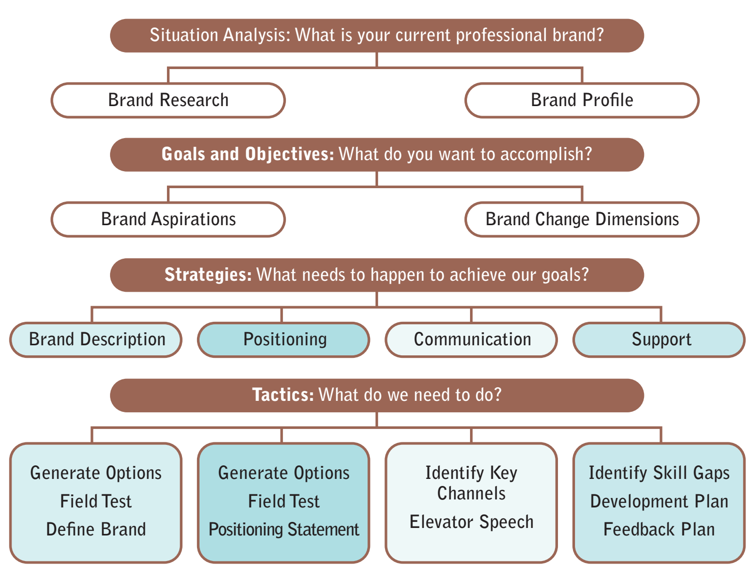
Building a Brand Marketing Plan

Bridging the gap between your current brand and your desired future brand is where your personal brand marketing plan comes in. This plan is comprised of strategies and tactics that address the key brand principles of value, relevance, consistency, positioning, and support. (See Exhibit 2.)

Another supply chain leader recently developed a brand marketing plan that would enable her to demonstrate the characteristics she wished to be known for. She called the desired state her "turnaround brand." She put it this way: "I want people to see me as a turnaround expert, someone who really knows how to pull

EXHIBIT 2

Personal Brand Marketing Plan



supply chain organizations out of the mud and is capable of doing the same for any business. I want them to feel highly motivated to meet me and ask for my help."

Turnarounds, whether they involve fixing a broken supply chain organization or saving a company, require battle-hardened leaders who thrive on high stress, fast pace, transformational environments. This woman had succeeded in these kinds of conditions, turning around the supply chain organizations at two different companies. One of her heroes was Jim Kilts, who led several impressive turnarounds, first at Nabisco and later at Gillette. Kilts' no-nonsense focus on fundamentals aligned well with her leadership philosophy.

We helped the business leader build a comprehensive personal brand marketing plan that would enable her to achieve the same kinds of turnaround successes that Jim Kilts had achieved. The good news was that her current brand was relatively aligned; in other words, people associated her with many of the attributes that she desired. However, in our research, we learned that while she was viewed as a no-nonsense, effective leader, the brand associations with "turnaround expert" were much more subdued. This was surprising given her successful track record. But it highlighted a branding reality: "If they don't know what you've done, they won't see who you are."

Mining History to Enrich Identity

To help the manager to develop a "turnaround brand" and to position her accordingly with her "target markets," we explored her history in detail. We wanted to turn over as many stones as possible, looking for nuggets that would support and enrich her desired brand—and do so authentically, without distorting the truth about her attributes.

All of us have experiences that shape our lives; they become part of us. The objective of mining those experiences is simple. We want to explore actual experiences and accomplishments—effectively asking business leaders to live those experiences again—so we can excavate authentic, powerful brand associations. The actual process of "mining reality" involves interviewing the business leader as if we are writing a human interest story. The process is organic, taking any twists or turns required to uncover important associations.

Fortunately, the aspiring turnaround leader had a rich history to excavate. She explained that when hired by her previous company, she had been told that the supply chain organization was in decent shape even though the overall business was underperforming. However, after one week in her new position, the executive realized that the supply chain organization was anything but the "bright spot" it had been described as. Good people were leaving, morale was poor, and she could see no evidence of a guiding vision and strategy that was steering the teams' actions. More importantly, inspirational leadership was nowhere to be seen. As she described it, "it was like the electricity had been turned off."

"It was a real mess," she said. "I realized immediately that the lack of positive energy was a fundamental problem. Meetings were more like gripe sessions. No one could identify any reasons for optimism. Managers didn't seem to connect the dots that their attitudes were affecting their people. The good leaders left and with a few exceptions, the ones who remained were C players at best."

Her first action was to attack the negative energy. She had direct, honest discussions with each of her managers in which she explained that their role was to produce energy, not to consume it. "I let each of them know we had a tough road ahead, but my commitment was unwavering," she recalled. "They each needed to take 48 hours to decide whether they wanted the opportunity to interview for several new management positions. If they wanted out, I offered them the softest landing I could." Several managers opted out. Two remained; both did very well in their new assignments.

Several months into the turnaround, she asked one of the managers how he was feeling. His response was that he felt like coming into work again. "When you first showed up and started talking about energy levels, I thought you were some crazy new-age guru," he told the supply chain leader. "Now I see what you meant. You injected a lot of energy into the group when you arrived and now more of us are generating it too. Most of us now believe that we are not only going to survive—we're going to achieve big things."

By discussing this experience with her in such detail, we uncovered a potent brand association: energy. This business leader had an uncanny ability to energize failing organizations. Through a mixture of inspiration and straight talk, she literally taught managers how to produce energy for their teams.

After a rich mining session, we uncovered these additional brand associations: inspirational, fast, practical, prudent, driven, and thoughtful. We then developed several brand identity descriptions and began "field testing" them with confidants who knew her well. Ultimately, the executive landed on this brand identity: "I'm a passionate leader who leverages positive energy and business fundamentals to rapidly turn around failing organizations."

Elements of a Good Brand Description

This declaration formed the core of her brand marketing plan. It had all the elements of a good brand description:

It concisely described who she was, what she did, and how she would benefit her "market." A brand description should create feelings and thoughts that position you effectively in the minds of your "customers." In this case, the executive decided that her "customer" was anyone who needed inspiration and swift action to fix a troubled business.

As an outcome, she developed a communication strategy founded on the principle that she would emphasize her brand identity in all of her internal and external statements. She placed "energy" posters in high traffic areas that had slogans like, "focus on the solution, not the problem," and "produce it, don't consume it." She also displayed real-time scorecards that called out team progress regarding key performance indicators such as inventory levels and cycle-time reduction. She also agreed to any public speaking engagement that could directly or indirectly help her organization. In every speech, she would pound home her brand identity themes.

Finally, she realized that to grow and prosper, her brand needed investment. What did she want to learn and experience that would grow her brand equity? She committed to a development plan with her CEO that provided her with ongoing leadership coaching and learning opportunities outside of the company. These opportunities included receiving an executive MBA at a highly regarded university.

Her personal brand marketing plan paid off; her CEO promoted her to general manager of one of the company's most troubled businesses. She is well on her way to turning it around.

Helping to Elevate the Whole Profession

In a previous issue of *Supply Chain Management Review*, we argued that supply chain executives are leading one of the most comprehensive and impactful functions in any company. In that article, we posited that by intentionally building their brands, supply chain leaders would enhance their ability to reach the CEO suite. (See "A Supply Chain Leader's Path to the Top Office," *SCMR*, Nov-Dec 2010.) Other than the chairman, CEO, and perhaps chief operating officer positions, no other role encompasses the entire business system and relies so heavily on wielding influence to capture hearts and minds. For these reasons, we believe that supply chain management is an exceptional training ground for senior leaders, general managers, and CEOs.

Setting aside those aspirations for a moment, there is much that individual branding initiatives can do, over time, to elevate the status of the entire supply chain profession. Like it or not, most supply chain leaders still confront brand perceptions that are not the most flattering when compared to those associated with other top executive positions. They continue to be perceived as primarily tactical and operationally oriented, and thus less strategic than other leaders. Peers (and board members) often think of supply chain chiefs as cost containment specialists who don't necessarily "get" the revenue side of the business. And in spite of the enormous spans of control now wielded by many supply chain executives, they still tend to be seen as functional specialists in areas such as logistics or sourcing.

Developing a strong professional brand to counter these perceptions is one important way to neutralize them. When enough supply chain leaders have worked on their personal brands, they will have helped to change overall perceptions of their profession. And that will benefit all those who follow in their footsteps.

Start Building Your Brand Now

Developing a strong professional brand is well worth the effort. Of course, there are the doubters—the executives who associate personal brand-building with terms like "narcissistic," "selfish," "arrogant," and similar pejoratives. These judgments are unfortunate and are likely driven by fear; they confuse narcissism with the honest pursuit of one's full potential. Development of a professional brand requires introspection, and introspection takes courage.

In a sense, personal brand development can be considered a key mechanism for adding value to the organization. In essence, the supply chain leaders we described earlier made it easier for important constituents in their companies to access their previously latent gifts and abilities. Powerful personal brands help executives become more focused and effective. We have found that executives with high aspirations tend to recognize the power of personal brand building. They realize that success doesn't just happen by "keeping their head down and doing their job." It takes a plan. It also takes commitment—and authenticity. Brand is not something that can be faked: If you need to develop stronger strategic skills, customer/market knowledge, and general business acumen, be prepared to do everything that it takes to build those credentials.

If you have yet to build a professional brand, you should not let another month pass without enlisting colleagues, friends, or a coach to help you research your current brand, mine your personal history, and commit to developing a 10-15-word brand identity statement that creates the associations you desire.

Brand building is a process that gets refined over time. The key is to begin that process today; it will pay huge dividends quite quickly, and over the course of your entire career.

Accelerating Value in MERGERS and ACQUISITIONS— DOW'S SUCCESS STORY

By Paula Tolliver

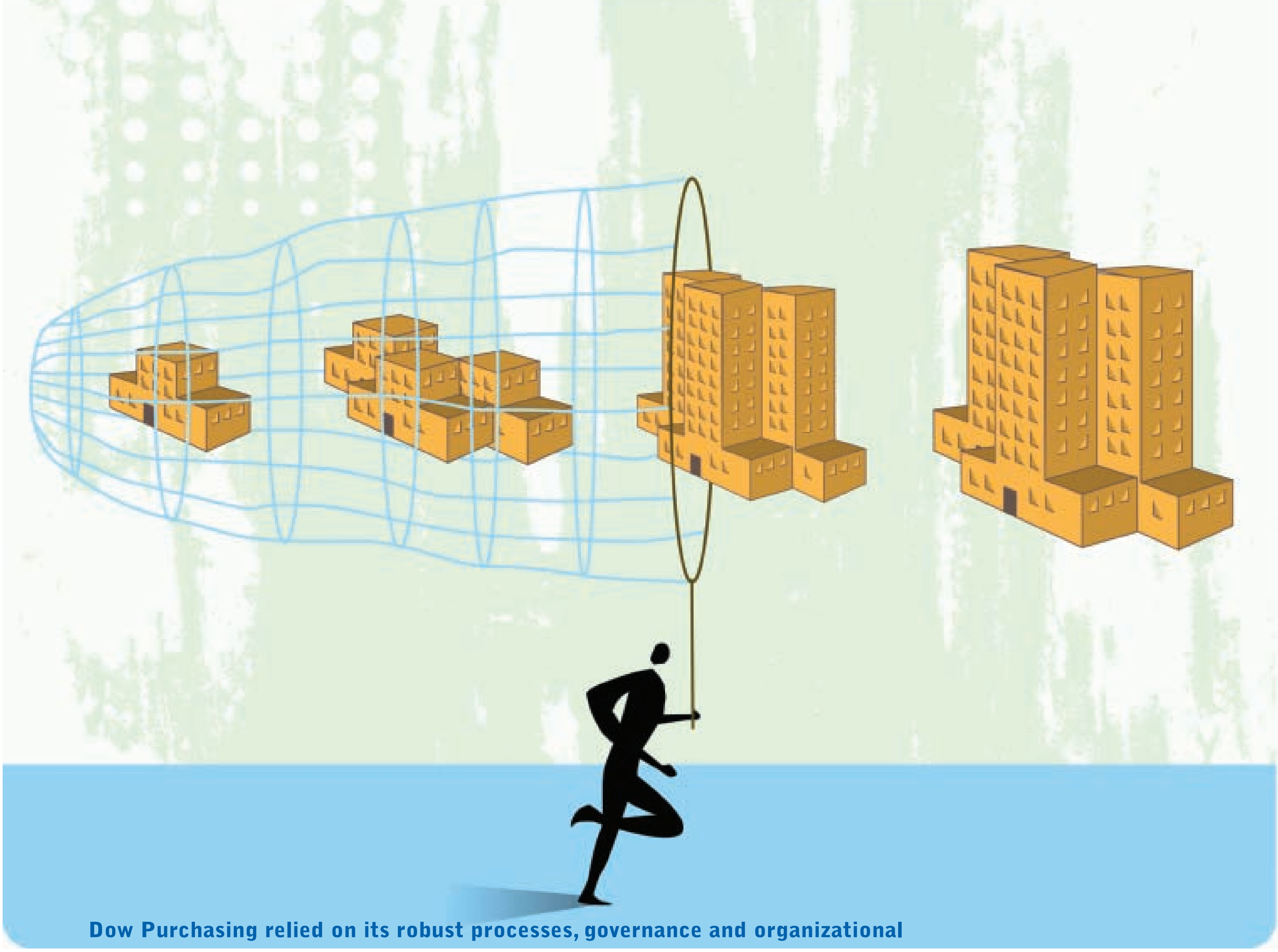
Paula Tolliver is Vice President Purchasing for The Dow Chemical Company. She can be reached at PTolliver@dow.com.

Timing is everything, it is often said. Thanks to a recent transformation within Dow Purchasing, we had developed comprehensive work processes, a robust governance protocol, and a disciplined organization that enabled us to effectively deliver results in a timely manner during one of the largest and most complex acquisitions in the history of The Dow Chemical Company—the acquisition of Rohm and Haas. The need for value delivery was immediate and urgent during this pivotal time for the company, and Dow Purchasing was on deck, with a commitment to deliver 30 percent of Dow's total synergy target. Synergies are the improvement in cost position of a combined organization vs. the two standalone organizations.

We were able to meet that commitment and more, and we'll describe what made it possible. First, we must start with a key enabler of our value delivery—our three-year transformation to a highly effective procurement organization. This transformation not only enhanced the value we were able to deliver to Dow businesses, but facilitated our ability to successfully navigate the sea of change on the corporate horizon.

Preparing for the Fronts Ahead

We set sail on a procurement transformational journey in 2006 with A.T. Kearney, further refining our strategic sourcing process. Dow Purchasing had always been



Chad J. Shaffer

Dow Purchasing relied on its robust processes, governance and organizational structure—along with some novel change management approaches designed to clarify roles and unify around corporate priorities—to quickly and efficiently integrate the most complex acquisition in Dow's history while accelerating significant value delivery. Here's a first-hand look at the ingredients that went into that successful endeavor.

an extremely efficient organization. However, we recognized that our ability to deliver significant results for the company as an organization relied upon our effectiveness across all areas of procurement, which would only be further fueled by our efficiency. That's why we engaged A.T. Kearney, a global management consulting firm that uses strategic cross-industry insight and a collaborative working style to tailor solutions we could further build upon. We knew we had the potential to have an even greater contribution to Dow's bottom line and we wanted to go full speed ahead. The enhanced discipline, robust governance protocol, and cross-category team structures we put into place as a result more than doubled our value creation over historical performance (pre-2007) while improving client satisfaction in a little more than two years time.

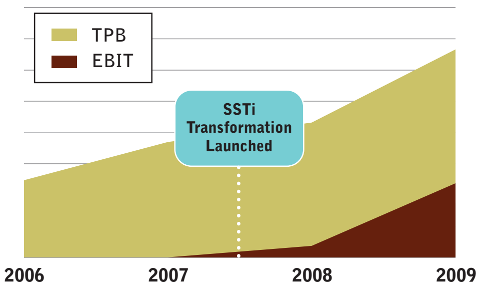
We reached most of our transformational goals a year ahead of schedule, which was perfectly timed to correspond to when we began preparations for Dow's acquisition of Rohm and Haas in 2009. (Exhibit 1 gives an overview of the value delivered to date.) Let's look at some of the key enablers that helped us to manage the aggressive pace and scope of the integration.

At the onset of our strategic sourcing transformation, purchasing was already managing an $18 billion spend portfolio. While navigating our transformation, Dow was also undergoing a strategic transformation of its business portfolio, which changed dramatically with the acquisition of Rohm and Haas.

Dow was intentionally transitioning to a more market-driven, specialty portfolio, which meant that purchasing needed to learn how to effectively support a variety of different business models. (That challenge is depicted in Exhibit 2.) For Dow, businesses that follow a "basics

EXHIBIT 1

Value Delivered from Purchasing Transformation



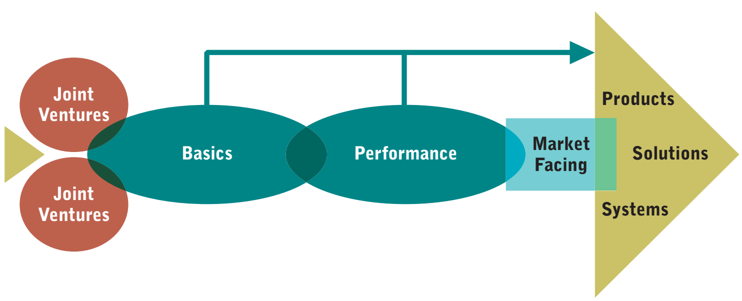
Additional Value

- Reduced sourcing project cycle time by 50%
- Improved credibility of metrics–disciplined value delivery target setting, tracking, and accountability
- Quality of results–world-class sourcing capabilities institutionalized globally

Note: Expected Total Procurement Benefits (TPB) and EBIT based on 12 months forecast volume and contracted price. TPB includes EBIT, Capital Reduction and Avoidance. Didn't begin tracking EBIT until 2008, so no baseline established.

EXHIBIT 2

Increasing Diversity Within Dow's Business Portfolio



model" have fewer GMIDs (Global Market Information Database items), and tend to represent larger volume commodities with global markets and low-cost-to-serve drivers. Because that was a significant portion of Dow's $18 billion spend portfolio, we were good at supporting these businesses. Additionally, JVs were playing a larger role in the basics business strategies and providing procurement services to these JVs was a growing responsibility for Dow Purchasing.

Concurrently, market-driven businesses were becoming a larger percentage of Dow's portfolio, which required purchasing to manage increasing complexity with significantly more GMIDs, suppliers, and specialty items. Market-driven businesses often sell solutions and differentiated products for customers with specialty or high-performance requirements—like Dow Water & Process Solutions, Dow AgroSciences, and more. The growing complexity and flexibility required to service Dow's diverse business portfolio presented a sizable challenge for the purchasing organization and was only possible through the improvements made during our strategic sourcing transformation.

Dow's strategic transformation also required purchasing to develop a core competency around managing Mergers & Acquisitions, as well as Divestiture (M&AD) activities. M&AD activities had been increasing over the years. JVs and divestitures had become an integral part of Dow's transformation across basics while mergers and acquisitions were an integral part of the market-driven growth plan. Post close, we often were engaged to provide procurement services for JVs and, in some cases, divested entities for a period of time. Additionally, we could not allow business continuity and value optimization to suffer during M&AD events. In other words, we needed to equip ourselves to keep our existing businesses running while we aggressively underwent a transformation within purchasing, ramped up support for acquired businesses and—just to keep things interesting—navigated the global market decline in 2008.

At the corporate level and within Dow Purchasing, the company had processes and structures in place to execute M&AD events so we were well prepared and practiced when the Rohm and Haas acquisition came along in 2008. The critical process elements that help set the course for our integration success follow.

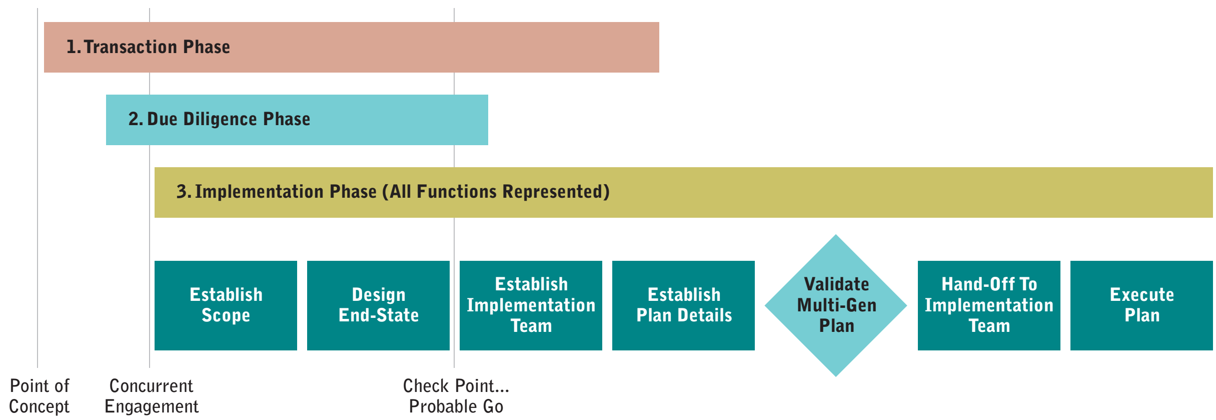
A Comprehensive Corporate M&AD Process

Dow has a comprehensive approach to M&AD activities. (See Exhibit 3.) The Corporate M&A Program

Dow was intentionally transitioning to a more market-driven, specialty portfolio, which meant that purchasing needed to learn how to effectively support a variety of different business models.

EXHIBIT 3

Dow's Comprehensive Approach to M&AD



Management Office (PMO) carries the responsibility for executing the corporate M&A plan and coordinating all integration activities, including:

- Significant up-front planning.
- Engaging the right functions for the transaction, due diligence, and implementation phases.
- Driving the time line of this three-phased approach.

Relevant support functions within Dow are most heavily engaged in the implementation phase, requiring management of workloads and people resources. Because this is where much of the work is concentrated, I will focus primarily on Dow Purchasing's role in the implementation phase (in the lower part of Exhibit 3) and how we made headway.

Functional Program Management Structure

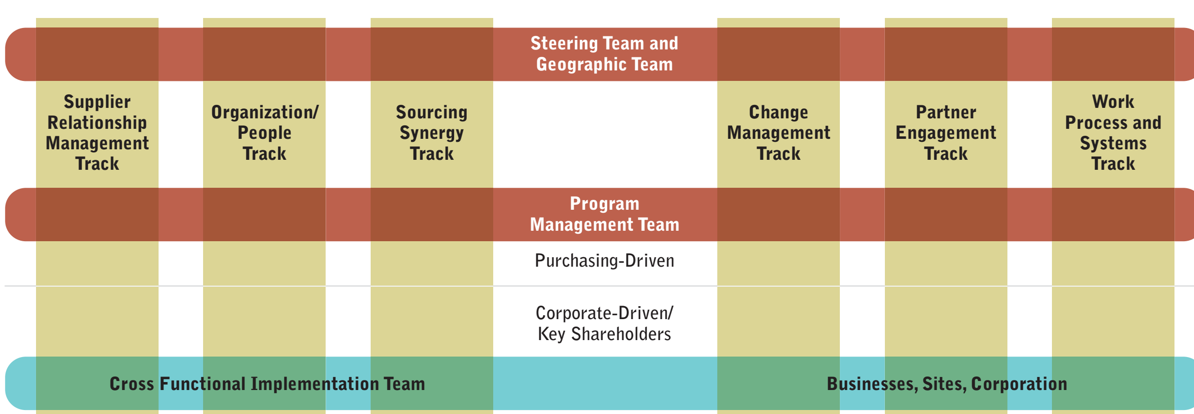
Purchasing leadership begins by establishing the scope of the project and designing the end state for procurement services. This includes:

- Establishing the purpose of the M&A and related priorities.
- Establishing high-level synergy targets.
- Defining organizational design principles.
- Defining the strategy to harmonize work processes and tools.
- Designing the approach for business partner and supplier engagement.

The result is a multi-generational plan (MGP) for

EXHIBIT 4

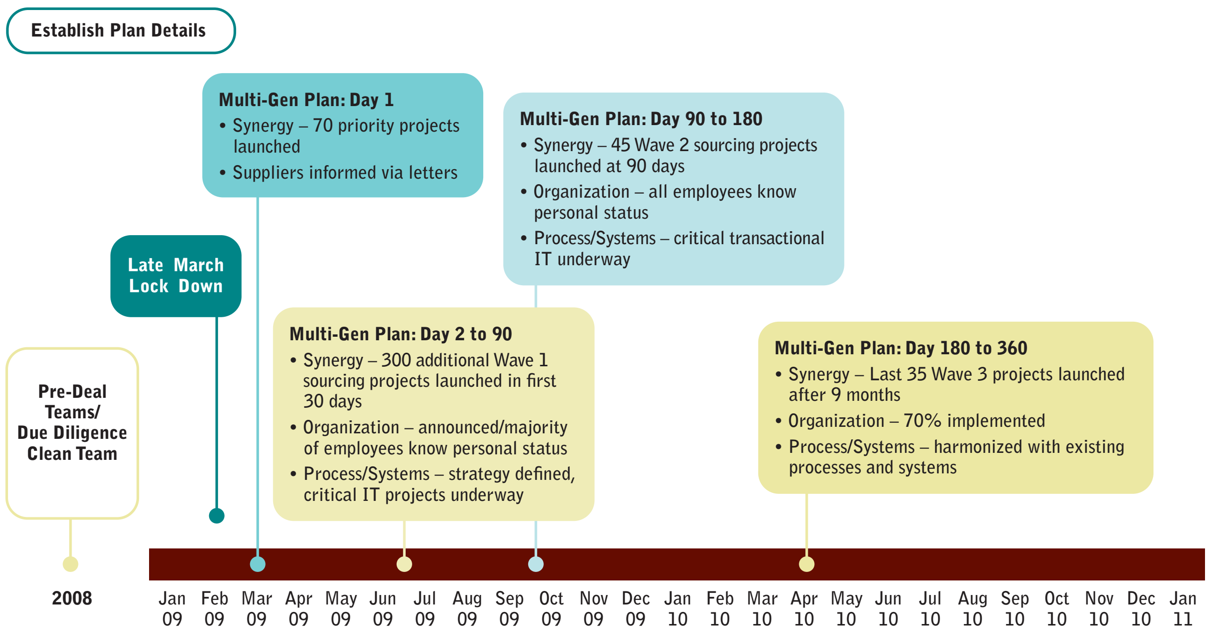
Program Management Structure



Seamless integration accomplished by considering people, processes and tools, and coordinating check points across functional teams and with key stakeholders

EXHIBIT 5

Developing and Validating a Multi-Generational Plan



Example from Rohm and Haas Integration

implementation that facilitates speed and prioritization of projects. We then implement a strong program management structure (shown in Exhibit 4) that drives disciplined delivery against our end-state objectives as well as ensures coordination with the corporate PMO through the cross-functional implementation teams.

Establishing the Purchasing Implementation Team

Dow Purchasing has a specialized team of M&A program managers who design the program plan and are responsible to drive the time lines and results outlined in the MGP. (Exhibit 5 depicts how the MGP is developed and validated by purchasing.) The team was created to accommodate the growing M&A activity within Dow. Members were hand-selected based on their excellent project management skills and expertise aligned to critical tracks for integration success such as Dow's strategic sourcing process, supplier management, work processes and systems, and so forth.

In the case of the Rohm and Haas acquisition, the program structure had six tracks. Tracks are determined by the objectives and ensure delivery of results as well as seamless transfer of responsibilities into the new organizational model. The Purchasing M&A Program Management team (the Purchasing Implementation team) is intimately aware of progress and obstacles that may require escalation to the (corporate) Cross-Functional Implementation Team, key stakeholders and the Purchasing Regional and Steering Teams.

Creating a Jump-Start for Synergies

Key practices that give Dow a jump-start in implementation and execution are establishing a "clean team" and an intensive lockdown period, which can last for days or weeks depending on the size and complexity of the

It's a beautiful thing when a plan comes together. However, creating a plan is the easier part of the challenge. Effective execution of the plan is where many companies fail.

With team members located around the world, we rely heavily on collaboration tools for file sharing, reporting, communication, and tracking to deliver against aggressive timelines.

merger or acquisition. Clean team activities precede the lockdown, which is the first step in the MGP and foundational to preparing for the surge of activity ahead.

The Clean Team: Prior to close, members from both the acquired entity and Dow as well as a third party are selected to become part of a clean team. The term clean team originated from the analogous clean room used in the health and electronics fields. The protocol required of these teams that meet prior to closing the deal allows the rest of the business decision makers to make informed decisions without being "contaminated" by exposure to confidential information about the other company if the deal falls through. Team members need to be experienced and knowledgeable about procurement for their respective organizations. They confidentially share data and map out large projects prior to closing the deal. Because of the knowledge sharing and stringent confidentiality agreements, clean team members are not able to continue in their jobs if the merger does not go through. They serve as trusted subject matter experts and facilitators that set the course of accelerated synergy identification.

Lockdown: Immediately prior to close, designated commercial teams validate assumptions around the sourcing portfolio opportunities, identify additional opportunities, and refine the multi-generational plan. The intensive lockdown week begins with team reviews of the synergy opportunities led by sourcing category leaders. Synergy target setting sessions are then conducted by category and are validated by both purchasing and the impacted businesses. Project charters and time line commitments are agreed upon in each session and the project teams are identified. By the end of the week, we are able to—and required to—communicate at the corporate level our purchasing synergy targets and time line for delivery.

In addition to the synergy-related activities, people leaders are reviewing talent profiles and drafting a first-pass organization design.

Multi-Generational Plan: Synergy projects are launched in waves, beginning as early as Day 1 (the day the deal closes) thanks to the pre-work delivered through the clean team and lockdown. In the case of the Rohm and Haas acquisition, the MGP included plans to launch 70 projects on Day 1, those being the highest priority and value delivery opportunities. The MGP helps keep our priorities and objectives clear.

It's a beautiful thing when a plan comes together. However, creating a plan is the easier part of the challenge. Effective execution of the plan is where many companies fail. It requires discipline and collaboration. Aligning the organization to execute the plan can be difficult. Clear priorities and guidelines, along with a multi-generational plan enable the organization to see the project in manageable phases and tracks. Robust governance is also required to ensure that all components of the plan, tracks of the program, and key interdependencies are managed.

Governance/Collaboration Structure

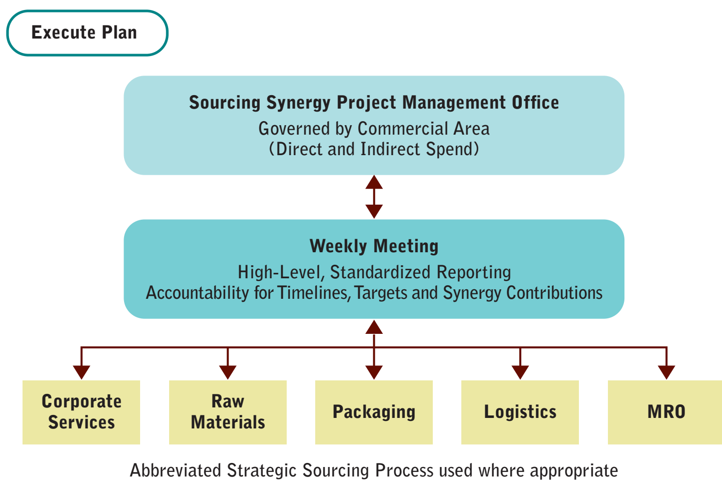
Keep in mind that there are multiple governance structures in place. Dow's M&A governance begins at the corporate level and is supported by a program management structure for each function. The functional programs roll up to the Cross-Functional Implementation Team that directs activities at a corporate level to escalate and resolve issues.

Purchasing's functional governance provides the capability to run a high number of simultaneous sourcing projects, which is a key enabler for our organization, especially during significant times of change. With team members located around the world, we rely heavily on collaboration tools for file sharing, reporting, communication, and tracking to deliver against aggressive time lines. Regular project management meetings are used to standardize status reporting, drive functional issue escalation and cross-category, team-based problem solving. (See Exhibit 6.)

Depending on the size and complexity of the M&AD activity, this governance structure is modified as necessary to support the corporate objectives and priorities for the activity, which was speed of synergy delivery in the case of the Rohm and Haas acquisition.

EXHIBIT 6

Timely Execution with Robust Governance



Cultural & Change Management Structure

Organization design and operational approaches are discussed in pre-lockdown meetings between the management team of the acquiring and the acquired company. Senior leadership makes the determination about how they want the merged organization to operate based on the drivers of the M&A activity. After the close and during lockdown, further details about the organization and operations are analyzed by the project teams. Analysis of the need for cultural change is a key enabler to complete integration.

Cultural, work process, and role differences are identified and evaluated by the program management team to make key decisions about which work processes from either company will be chosen for the combined company. Once those determinations are made, plans are put into place to close the gap for the company and personnel that are undergoing the change. This could include anything from training on new work processes to clarifying job expectations, roles and skill requirements, to matching an employee's willingness and capability to move to the new end-state organization.

One example of a gap-closure measure is the Role Management of Change (MOC) process we developed for seamless migration of work to facilitate conversion to the "New Dow." The Role MOC process helps Dow to better organize to support new-to-Dow businesses and to minimize disruptions while transitioning to the new organizational model. It is important to conduct the Role MOC process across businesses and work functions in a comprehensive manner to efficiently and effectively shift work as needed between functions.

Capabilities that Create a Tailwind

To summarize, purchasing can be a major contributor to the success of mergers and acquisitions through driving synergies. Speed-to-synergy return is a valuable capability driven by the combination of program management and governance of your sourcing excellence processes. Dow Purchasing combines program management and sourcing excellence, systematically implementing the following key enablers, to achieve and accelerate value extraction for mergers and acquisitions:

- Establishing unified priorities at corporate level to accelerate decision making.
- Implementing a global program team structure and governance to manage interdependencies, reduce disconnects, and resolve issues faster
- Creating regional, functional, and cross-functional leadership teams to ensure alignment and coordination around the corporate priorities.
- Cultivating deep knowledge of markets and well documented and understood sourcing strategies to project and deliver accurately against the synergy targets.
- Executing robust and disciplined sourcing and transactional purchasing work processes to improve speed and quality.
- Developing a thorough, well-planned, and coordinated role/job transition process to drive to transition to completion in less than six months and minimize business disruptions.
- Pre-defining, credible synergy accounting for credible synergy results.
- Treating employees with respect throughout the transition to reflect and embody our corporate core values.

Although our management and processes are robust, there are still obstacles to be overcome in any merger or acquisition. The key enablers listed above address many of them, but others take more finesse, like cross-functional collaboration and business buy-in. The structure and processes put into place for these two areas must always be evaluated and refined based on the objectives and priorities of the M&A activity as well as the differences in the two organizations and cultures.

Now that we've conceptually walked through Dow's methodology, let's look at what the methodology delivered using the Rohm and Haas acquisition as a case study.

The Rohm and Haas Integration

During the Rohm and Haas integration, we managed the change using the processes described above. But make no mistake, the formula we outlined here still required us to make some very tough decisions. For purchasing, our major priority for this integration was speed of synergy delivery. And moving fast can come at the expense of building consensus and buy-in. Partner engagement was a significant area of focus during our strategic sourcing transformation; in fact, if speed hadn't been our number one priority for the integration, we would have emphasized partner engagement and buy-in to a greater degree. We didn't have the luxury of time to bring each business partner along with us as collaboratively as we would have liked while we executed our sourcing synergy projects.

Purchasing's results were what the company needed and Dow is capitalizing on the strategic investment it made in Rohm and Haas. Dow Purchasing has re-emphasized the importance of strong partner engagement and is enhancing relationships with heritage Rohm and Haas businesses. Dow Purchasing is proud of the noteworthy accomplishments we made during the integration:

- We surpassed our total procurement synergy goal in 12 months; half of the allotted time.
- We delivered 125 percent of our synergy commitment; over $500 million in less than 24 months.
- We managed more than 400 synergy projects in addition to scheduled business growth projects and run-the-business activities.
- We implemented a global, centralized model for sourcing and transactional roles and achieved 70 percent of our organizational synergies within 12 months of closing the deal.
- We successfully engaged partners and suppliers throughout the integration to achieve our goals.
- We fully integrated our work processes within three months of close and established disciplined value tracking and credible metrics (audited).
- We transitioned roles effectively with no significant business interruption.

What We Learned

No M&A activity is complete until a post-analysis is conducted to identify improvements that need to be made going forward. There was a lot we did very well. In the case of Rohm and Haas, both Dow and Rohm and Haas had developed similar strategic sourcing processes. However, the execution of those processes was significantly different between the two organizations. So it was very important to conduct the Role MOC process across businesses and work functions in a comprehensive manner. We found that some work shifted between functions due to the new organizational design and disconnects would have been frequent had we not taken a comprehensive approach.

Some areas that we will improve upon going forward include:

- ***Earlier Human Resources Engagement***—to enhance employee-related transitions and better understand regional nuances.
- ***Further Enhanced Program Management***—to deliver more detailed and timely communications about the global purchasing implementation plan as well as establishing an additional regional PMO structure.
- ***More Robust Communications Planning***—to develop the majority of the communication plan prior to all operational decisions being made and fortify business partner communications.
- **Further Enhanced Cross-Functional Planning**—specifically, to improve post-lockdown planning to build a broad-based critical path across all businesses and functions, and address the unique needs of specific geographies.

The Benefits: Leveraging Our Success

The Dow Purchasing organization is benefiting from the significant value we deliver through sourcing excellence and the recent results of our M&A performance with Rohm and Haas. We have proven our ability to accurately project synergies and rapidly execute to deliver against stretch goals. This recognition creates a tailwind that we intend to harness to further fortify procurement excellence, enhance engagement with our business partners and tailor solutions that support Dow's business growth.

As illustrator Henry Hartman said, "Success always comes when preparation meets opportunity." With great success comes greater expectations. We don't anticipate those expectations to go down any time soon and we are continuously preparing for the next challenge and opportunity ahead.

A Framework for Managing SUPPLY CHAIN

Most supply chain professionals today fully understand that the potential for supply chain disruption has never been greater. Yet while they recognize the need for managing and mitigating such risk, they often lack the tools to do so. The practical risk management framework offered here can help.

By Bharat K. Kaku and Bardia Kamrad

Two facts are widely recognized in industry and academia. First, successful supply chain management is a key to competitive advantage. Second, global supply chains are increasingly vulnerable to risks that can have a significant negative impact on a company's profitability—and even survival. This makes risk management a critical task for any company.[1] Yet what's missing is a set of guidelines that managers can use to accomplish this task. This article fills that void by offering a framework they can use to address the following essential components in risk management: identifying risks, evaluating the negative consequences of risk factors, preparing for adverse events arising from these risks, reacting to events, and recovering from an event's negative effects.

Part of this framework is an iterative process with feedback loops for learning and improvement. Another distinguishing feature is a classification scheme that allows managers to identify risks along the dimensions of probability of occurrence, the potential magnitude and cost of an adverse event, and the degree of control a manager can exercise over the factors causing the risk—all of which provide useful inputs into the decision-making process for risk management.

Before proceeding any further, two key terms need to be defined: uncertainty and risk.

Uncertainty is the probability distribution associated with the outcome of any stochastic process—for example, demand, prices, exchange rates, availability of resources, cost of resources, quantity (yield) and quality of output from a transformation process, cost of transforming inputs into outputs. Our analysis specifically looks at uncertainty in supply, demand, and the transformation process as well as in the larger environment in which a company operates.

Risk is the downside of uncertainty and can be the result of an outcome being either less or more than expected. Examples include low demand leading to high inventories, or high demand leading to lost sales and loss of goodwill. These definitions provide a comprehensive coverage of risk factors. (An outcome different from the expected value can have an upside, too. But for our discussion, we're focusing on the adverse outcomes of risk.)

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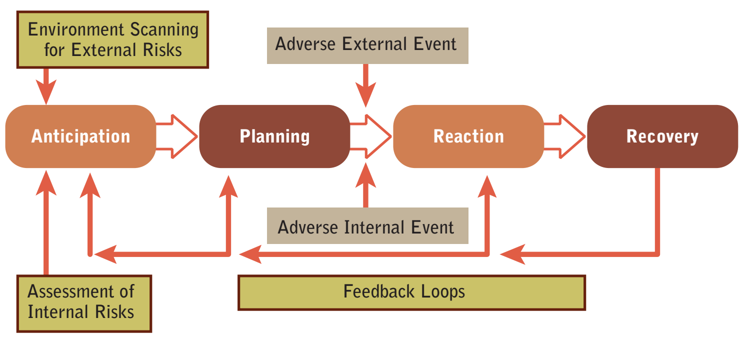
Darell Eager

The Risk Management Process

The risk management actions companies need to take can be divided into the following chronological stages with possible feedback and iteration for continuous improvement. (See Exhibit 1, which is a simplification of the framework presented by Paul Michelman.[2])

EXHIBIT 1

The Risk Management Process



• *Anticipation:* Identification of potential adverse events as well as an assessment of the likelihood of each event and an estimate of its negative impact.

• *Planning:* Activities required to minimize the likelihood of an adverse event, and to mitigate the effects if such an event occurs. This step should include a cost-benefit analysis comparing the costs of an adverse event and the costs of efforts to prevent it. This analysis will help to determine the appropriate combination of prevention and mitigation.

• *Reaction:* Actions taken in the immediate aftermath of an adverse event. The objective is to keep operations running, perhaps at some reduced level of activity.

• *Recovery:* Actions to restore operations to long-term stability. Implementing long-range improvements such as the introduction of new technologies could be involved at this stage.

The reaction and recovery actions are dictated to a large extent by the decisions made in the anticipation and planning stages. It is at these stages, therefore, that companies need to focus most intently.

Risk Classification Framework

Many authors have enumerated the risks in supply chains. Sunil Chopra and ManMohan Sodhi, for example, provide an extensive list of risk categories ranging from disruption and delays to capacity and procurement problems. They also highlight some drivers of those risks.[3] We take a different approach by classifying risks according to a scheme based on two major dimensions. The first dimension divides risk into internal vs. external events; the second dimension separates high-frequency, low-impact events from low-frequency, high-impact events. These dimensions are explained below:

1. *Internal events vs. external events.* Internal events would include, for example, design and production of product or service, process design, and operation; external events involve interface with suppliers/customers or with the larger operating environment. This dichotomy is important because it speaks to level of control a company can exercise in preventing adverse events and also in reacting to such events. External events involve supply chain partners and offer less opportunity for direct control.

2. *High-frequency, low-impact events vs. low-frequency, high-impact events.* Frequency and impact could be used by themselves to create a separate two-by-two classification, as was done by MIT's Yossi Sheffi and James Rice Jr.[4] to develop a vulnerability framework and by Jan Van Mieghem[5] to develop a risk map. We restrict the categories to the two combinations above because they cover most practical situations faced by companies. Low-frequency, low-impact events are not a serious concern to most companies; on the other hand, it's hard to envision anyone intentionally operating in an environment where it is subject to high-frequency, high-impact adverse events. This division of high-frequency, low-impact events (such as a process out of control) vs. low-frequency, high-impact events (for example, an earthquake) is important because it provides guidance on how much a company should be willing to invest in its risk management efforts.

It is likely that there will be some similarities across the resulting four quadrants; however, the differences are important enough to merit separate treatment. We present the classification matrix shown in Exhibit 2 with selected examples, and then discuss the risk management process within each quadrant in turn.

QUADRANT I: High-Frequency, Low-Impact Internal Events

These types of events are the most extensively researched. One of the earliest examples of risk management in manufacturing dates back to the pre-Civil War era and the manufacture of armaments. The uncertainty was in the dimensions of the different parts that went into the assembly of a rifle—the barrel, bayonet, lock, and ramrod. The risk was in the fact that two randomly selected parts to be assembled might not provide the

EXHIBIT 2

Risk Classification Matrix

Type of Event	Internal	External
High-Frequency Low-Impact	**Quadrant I** • Minor design issues • Quality problems • Scheduling issues • Machine breakdowns	**Quadrant II** • Availability and cost of resources • Availability, cost, and quality of inputs (e.g., fuel) • Availability, cost and quality of information (e.g., demand) • Competitor actions such as discounts and promotions
Low-Frequency High-Impact	**Quadrant IV** • Employee strike • Major design flaw • Intellectual property theft • Interruptions to company operations due to natural disaster, major fire, terrorist actions. • Financial crisis--poor investment decisions, embezzlement	**Quadrant III** • New materials and technologies • Competitors' actions • Demographics • Political instability • Environmental, other legislation • Financial crisis at national or global level • Severe shortage of inputs e.g., oil embargo • Financial issues at a major supplier leading to disruption in supplies • Major fire or other mishap in a supplier facility • Natural disaster affecting suppliers or customers • War, terrorist actions affecting suppliers or customers

kind of smooth yet secure fit required for good performance and durability. Remedies included specialization by tasks, introduction of more precise machines to replace manual work, and the use of gauges to maintain tolerances. The result was "interchangeability of parts," a basic premise of modern manufacturing that culminated in the system of mass production as exemplified in Ford's assembly lines.[6]

Anticipation: The fact that these are high-frequency events typically means there are sufficient data to provide estimates of measures such as the mean and variance, and perhaps the distribution of occurrence. Examples could include variations in the following: output of processes in terms of quantity and quality; time to complete activities; process breakdowns; and product mixes leading to temporary bottlenecks. The impact of these events would typically be measured in terms of lost sales, lost goodwill, expediting costs, and penalties for late delivery on contracts.

Planning: Common means of preparing for such events include holding inventory, having excess capacity, process control for quality, robust design of products, preventive maintenance, and effective scheduling. We discuss each below:

Inventory can be held to satisfy demand in the face of an unexpected drop in output. Inventory also is held to satisfy an unexpected (higher than average) demand, as is the case in the second quadrant.[7] For manufacturing organizations, inventory could be primarily in the form of raw materials, work-in-process, or finished goods; for service operations it could be mainly excess capacity in labor and equipment. Excess inventory carries its own risk in the form of extra cost, obsolescence, deterioration, and shrinkage. This risk can in turn be mitigated by pooling inventory, designing products to use common components or modular subassemblies, and postponing the final product configuration to obtain better estimates of demand. The professional association APICS (www.apics.org) provides information, training, and certification in operations and supply chain management including inventory management.

Excess capacity may be the only way to handle demand fluctuations where the inventory option is not available. This could be the case in utility-type operations such as electricity supply or in service operations, particularly of the high-contact type.

Risks due to *quality problems* can be handled through a more robust design of products and processes; controls to monitor processes and detect out-of-control situations; and inspection of outputs at intermediate and final steps. The American Society for Quality (www.asq.org) is a source for information and training in quality relating to supply chain risks.

Process stoppages can be minimized through preventive maintenance based on knowledge of reliability measures such as mean time between failures or mean time to first failure.

For operations with a diverse and changing product mix, the challenge of shifting bottlenecks can become critical. The best way to prepare is to have a forward-looking feature in the scheduling system so that the product mix at any given point in time can be balanced with available capacity at different resources. A system that can design new schedules, rapidly and with minimal disruption to the current workload, would be a definite asset.

Reaction: For the high-frequency, low-impact events in Quadrant I, the reaction stage is fairly simple, assuming that the planning stage was executed effectively. Actions would include using inventory to make up for shortfalls and delays; adjusting capacity utilization (opening additional counters in a fast-food restaurant, say); and modifying the schedule to lessen the impact of a bottleneck.

Recovery: In this quadrant, the most important activities linked to recovery are to monitor the success of the reaction stage—and make adjustments to plans as necessary.

QUADRANT II: High-Frequency, Low-Impact External Events

Anticipation: The events in this quadrant would include the following:

• Random variations in demand around some base, which may include trend and seasonal components.

• Random variations in cost, quantity, quality, and lead time of purchased materials and services.

• Fluctuations in the availability and cost of resources such as labor.

• Competitor actions such as promotions and discount pricing.

This quadrant includes external events that are observed on a regular basis. Seasonal impacts on demand and supply are not considered adverse events in this classification; only the random variations around expected increases or decreases. In terms of competitor actions, we include only those that occur with some regularity such as seasonal promotions. Not included are events such as the launch of a major new product or a sustained effort to gain market share through lower prices.

Planning: Many of the approaches and solutions proposed for Quadrant I would pertain to this category as well. The overarching goal would again be to balance the costs of excess inventory vs. the costs of shortages. Improved forecasting could be a useful and relatively cost-effective option for reducing the uncertainty in demand and hence the need for inventory. As for competitor promotions, a company needs a long-term policy to respond. It can choose to match prices, possibly starting a price war, or offer other incentives to maintain demand. Alternatively, it could temporarily cut production of products that compete directly with those being promoted by the competitor, thereby possibly freeing up capacity for other purposes. Planning for supply-side risks entails developing alternative sources, working with current suppliers to improve their reliability and quality, and creating long-term contracts to stabilize prices.

Reaction: For strictly internal actions involving the use of inventory and capacity, for example, the reaction to adverse events would be similar to that in the first quadrant. External actions with regard to suppliers would include shifting orders between the current suppliers, away from the defaulting party.

Recovery: Monitoring the success of the reaction and comparing it to the goals set in the planning stage could lead to adjustments in plans or even to a new plan. This could include a revision of inventory policies, changes to the policy for countering a competitor's promotions, and heightened efforts to develop and improve supplier capabilities.

QUADRANT III: Low-Frequency, High-Impact External Events

Many of the risks associated with modern supply chains lie in this quadrant. Among the reasons: increased use of outsourcing, global span of supply chains, more complex information systems, lean manufacturing practices, and growing product variety accompanied by shorter product life cycles. The earthquake and tsunami that struck Japan on March 11, 2011, provides a good example. Toyota reported at the end of April that the disasters had already caused it to lose production of more than a quarter million cars, which could place it at risk of losing its position as the top automobile manufacturer in the world.

Anticipation: Low-frequency events are inherently more difficult to anticipate because past data tend to be scarce. Thus, it becomes more difficult to generalize based on a very small number of observations. Moreover, many catastrophic events are not the result of a single cause, but rather cascading failures among interconnected factors. As an example, Eric Lerner reported that the power grid failure in the northeastern United States in August 2003 started as an overload on a single line in Ohio.[8] In general, the whole issue of anticipating low-frequency, high-impact events needs much more research.

Some of the factors discussed here technically are not low-frequency events because they occur gradually over time—demographic changes being one example. However, they are still included in this quadrant because the response typically requires a small number of major decisions rather than a series of incremental changes. In any case, the adverse effect is likely to be major, and perhaps even catastrophic. Consider some of the risks faced in this quadrant:

• New technologies that have the potential to wipe out entire industries. This happened with personal computers replacing typewriters, quartz replacing all but high-end mechanical movements in watches, and digital imaging replacing images made on photographic paper.

• New competitors on the global stage, especially in emerging countries. This factor has already caused the demise of large sections of U.S. industries such as clothing and footwear. Other industries may soon experience the same fate as the manufacturing base continues its shift from industrialized to developing countries.

• Changes in environmental regulations. These can make certain products or processes obsolete or very costly because of the compliance costs.

• Major disruptions in the supply chain due to natural causes. Included are earthquakes and hurricanes; man-made causes such as war, terrorist actions, and strikes; or accidents such as a bridge collapse or a major fire in a manufacturing or processing plant.

Planning: The planning in Quadrant III will depend on the type of threat event identified in the anticipation stage. Threats from disruptions can be handled either by reducing the likelihood of a disruption and increasing resilience or by developing the ability to recover after a disruption.[9]

Companies can become more resilient in one of two ways. First, they can build redundancy into the system in the form of inventory, excess capacity, and alternative suppliers. Redundancy in some form is required to effect an immediate reaction to an adverse event. Second, a company can build flexibility into their system. Flexibility can be achieved on the supply side by having alternative suppliers; by developing better, long-term relationships with suppliers to get priority treatment; and by helping suppliers to improve the reliability of their own operations. In seeking alternative suppliers, be careful to choose those that are not subject to the same risks. For example, they should not be in the same geographical area and thus vulnerable to the same natural disasters; nor should they use the same port or hub facility. Companies may also opt to provide financial assistance to a supplier facing bankruptcy. As an example, General Motors in September 2009 provided $210 million in support of supplier American Axle & Manufacturing Holdings Inc.

On the demand side, companies can use incentives to satisfy customers with substitute products. In 1999, a major earthquake struck Taiwan and affected the supply of computer components from companies such as TSMC. Dell was able to shift demand to products from other sources and actually increased its earnings for the year. Sheffi and Rice also mention the importance of control systems and organizational culture.[10] Control systems, the mechanisms for monitoring and reporting on processes, should be capable of early detection of disruptions so that corrective action can be taken promptly. The organizational culture should be one that allows "maverick" opinions to be heard, and empowers front-line employees to take the initiative because they are in touch with events as they unfold.

An essential activity at this stage is business continuity planning. This activity covers a wide range of issues such as organization roles; backup communication channels; returning information systems to an operational stage, including retrieval of data; sites for possible relocation of operations; and alternate plans for sourcing and customer satisfaction. To ensure smooth and effective implementation, the business continuity plan requires clear lines of responsibility and authority defined ahead of time, and should cover as many contingencies as possible. To illustrate, during rescue operations related to the 9/11 terrorist attacks, some police and fire departments were unable to coordinate action because communication equipment was not compatible. On the other hand, firms such as Walmart, Boeing, and UPS who operate around the Gulf of Mexico had developed contingency plans that enabled them to resume operations within a few days after Hurricane Rita hit at the end of September 2005, just a month after Hurricane Katrina. Among the lessons learned was that communication via email and websites is more reliable than mobile phones.

Reaction: In case of a low-frequency; high-impact External disruption, the control system should activate the reaction plan. At this point it's critical to monitor progress against the reaction plan. There are likely to be surprises along the way, so an effective monitoring system enables quick response to any surprises.

Many risks in this category require longer-term actions and involve ongoing processes rather than event-specific reactions. To illustrate, impending changes in environmental laws could initiate:

• A search for less polluting manufacturing or process technologies.

• Identification or development of non-toxic materials in the sourcing, production, and disposal processes.

• Redesign of products to use less and/or safer materials.

• End-of-life policies for buyback and safe disposal of products.

To cite another example, predicted energy shortages could push a company to either develop alternative sources of energy or design new products and processes that use alternative sources being developed by others. Promising sources of energy currently being explored include sunlight, wind, wave motion, geothermal, biofuels, and nuclear fusion.

Recovery: In case of disruptions, the recovery would seek to bring the company back to normal levels of operation. As part of this, important changes could be implemented to reduce future risk or improve operations. To counteract strategic threats that can be addressed internally (such as new technologies, competitors, or regulations) major changes could center on materials, products, processes, and suppliers.

QUADRANT IV: Low-Frequency, High-Impact Internal Events

Anticipation: Some events in this category such as natural disasters and terrorist strikes are difficult to anticipate. Other risks less so; for example, strikes typically follow a period of failed negotiations or the introduction of changes that are opposed by the workforce.

Planning: Planning for disruptions in this risk category again requires a dual approach: (1) measures to reduce vulnerability and (2) steps to increase resiliency when adverse events do take place. As compared to Quadrant III—External Events, it should be possible to reduce the likelihood or mitigate the effects of adverse events in this category because a company has better control over internal events. Vulnerability to strikes, for example, can be lessened through better labor relations. Design disasters can be avoided by employing well-established practices such as Quality Function Deployment, which links customer needs with design and manufacturing processes; through concepts like robust design; and with an organizational structure that encourages cross-functional collaboration within the organization and with supply chain partners. Related techniques like design for manufacturability, concurrent engineering, and design for quality also could be brought into play.

The risk of fires, for instance, can be minimized through proper storage and disposal of flammable material, regular maintenance of mechanical equipment and electrical connections, and no-smoking policies. Vulnerability to floods, hurricanes, and earthquakes can be minimized by locating facilities away from areas prone to these natural disasters. Facilities also can be designed to minimize damage in the event that a disaster does strike.

In building a resilient system, companies need to balance the costs of prevention, redundancy, and flexibility. For example, if the costs of prevention and redundancy are both high, then the correct choice would be to emphasize flexibility. Companies can achieve flexibility in their own manufacturing capabilities by emphasizing standard processes over processes that are highly specialized to individual products. The logic of flexible resources can be extended to the different plants within a multi-plant company. Researchers William Jordan and Stephen Graves showed that it is not necessary to produce all products in each plant.[11] They found that simply assigning each product to two plants significantly increases flexibility; assigning product to additional plants makes little additional contribution. Note that flexibility offers a competitive advantage even under normal operating circumstances whereas redundancy only adds cost. For this reason alone, a company might favor flexibility over redundancy—keeping in mind that some redundancy is necessary to respond immediately to a disruption.

For some companies, the redundancy and flexibility options may be limited due to factors related to costs or to technology limitations. In such cases, the company may have to seek resiliency outside of its own organization. This could mean bringing on a supplier who gets a portion of the business on a regular basis; or it could mean finding a supplier who can be used purely as a contingent source.

Contingency planning for utilities like telephone service and electricity supply is critical. Telephone companies can plan for strikes by training supervisory and administrative staff to perform line jobs, by establishing agreements with neighboring utilities to take over maintenance and repair tasks, and by keeping retired employees on call. Verizon adopted some of these strategies to keep communications flowing during a strike in 2000, although it did have to defer orders for new or additional services.

One research team makes the point that once a disruption in a high-impact internal category does occur, it is not possible to make changes to the infrastructure.[12] Strategic decisions on long-term, capital-intensive infrastructure should therefore consider the possibility of a disruption. In designing a new network of facilities, a possible tradeoff would be between more distribution centers to minimize the effect of a disruption at one of them vs. a smaller number of distribution centers to pool uncertainty and reduce the need for safety stocks. With an existing network of facilities, it may be too costly to redesign the entire system, thus options would include:

- Fortifying critical components by strengthening structures, increasing surveillance, placing vehicle barriers, and conducting security checks for incoming materials and persons.
- Placing protection and monitoring devices in

networks such as water and electricity supply to enable quick detection of a disruption.

Reaction: Following a disruption in the low-frequency, high-impact internal category, backup plans would go into effect. So for example, alternative sources of supply would be activated, whether internal or external; efforts would be made to resolve the issues leading to a strike; and product designs would be revisited to remove problems.

Recovery: Adverse events in this category are likely to be stressful for a company because the effects are immediate and personal. The solutions are also likely to require major changes in the lives of employees in the case that facilities need to be closed or moved. In this instance, a company can minimize damage to employee relations by offering relocation and retraining assistance, for example. Recovery efforts would include making improvements to plans based on experience with the disruption as well as repair and reconstruction of facilities as necessary.

Getting Started

Implementation of our framework will require companies to carefully analyze their supply chain position with the goal of designing a customized set of risk-management solutions. We can, however, propose some general guidelines for getting started.

The first step is to designate responsibility for this critical task to a team that is given sufficient resources, authority, and clear leadership. This team should be charged with implementing the risk management process (shown Exhibit 1 on page 26), starting with the anticipation and planning phases. The work can be structured in the form of a simple risk assessment grid as shown below, with the classification matrix (Exhibit 2 on page 27) serving as a guide.

Basic Risk Assessment Grid

	Internal Risks	External Risks
Existing Capabilities		
Desired Future Capabilities		

Such an analysis will allow a company to match existing capabilities against internal and external risks, exposing areas where additional capabilities are desirable. As adverse events occur, the company can react and recover in a planned way. Given the ongoing nature of risk assessment and management, constant feedback and improvement should follow.

A major advantage of such a methodical and structured approach is that it facilitates the collection of pertinent data—both quantitative and qualitative—that can form the basis of a performance measurement system specific to a company's risks and capabilities. Further, it will allow the company to monitor progress against appropriate yardsticks in the continuing risk mitigation and management effort.

Supply chains today are subject to increasing risks, both in terms of the likelihood and impact of an adverse event. Companies need to have a clear and proactive risk management strategy that emphasizes advance planning—which is the only way to reduce the risk of an adverse event as well as the best way to mitigate its negative impact. Finally, it's important to underscore that risk management is not a one-time or even periodic activity. Rather, it must be an ongoing process. Our hope is that supply chain managers can use the framework offered here to make effective risk-management a reality in their organization.

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PLANNG TO WIN

What lessons about tactical planning can supply chain executives learn from yacht racing?

Quite a few. In SCM, as in sailing, you need a helmsman (leader) and a willing crew (team) to achieve the common goal—victory. Tactical planning is not something that concerns just the supply chain director and his or her people. It's a driver of overall business success.

By Hugh Williams

HERE'S A COUNTERINTUITIVE PROPOSITION: in order for a team to perform optimally, some individuals have to intentionally lower their performance. This may seem impossible, but a simple sailing analogy illustrates this point.

When a yacht is racing towards a waypoint, or reference point, on its route to the finish, it seems logical for the helmsman to set a course that heads directly towards that waypoint. But usually due to the wind direction, he or she needs to put in a series of tacks (zigzag) in order to sail as close to the wind as possible for maximum speed. You might argue that sailing close to the wind is still optimizing in a sense. Perhaps, but the helmsman is still compromising direction for speed, while the other crew members are making constant adjustments to sail trim and weight distribution to achieve this "compromise."

Now let's look at what happens when several yachts are approaching the finish line and there is very little room to maneuver. In this case, where the helmsman

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is constrained by two factors—space and wind direction—the navigator will often decide to sacrifice speed for the sake of keeping the boat headed on a more direct course to cross the finish line. Putting in a tack could waste too much time, cause a dangerous collision, or run the risk of the yacht missing the finish line altogether. In this case several crew members need to operate the boat intentionally in what would normally be considered sub-optimal. The sail trimmer, for example, "luffs" the sail so it is not so close to the wind and slows the boat right down.

An experienced sailing crew trained in competitive yacht racing can see in real time how its collaborative efforts are contributing to the goal of crossing the finish line. So members intuitively sacrifice their own performance at different times in order to win the race. This is exactly how businesses should operate, particularly when it comes to their planning activities. Yet very few of them actually do.

Of course, besides being a little more fun, yachting has many obvious advantages over corporate planning. On a yacht, everyone has access to the same information, uses the same decision-making criteria, and the goal—to beat the others to the finish—is crystal clear. In the corporate world, the almost universal quest to achieve "one version of the truth" through IT systems is testament to fact that transparency eludes most companies

In the corporate world, planning and subsequent business decisions are usually out of synch with a host of important environmental variables like economic fluctuations, competitive activity, trends in consumer behavior, and other events. The reason: Planning is usually too static and too "silo-like." Typically, the executive team sets key performance indicators (KPIs) annually and cascades them downstream, expecting each division to perform optimally in their individual silos, quarter-on-quarter, in order to be rewarded for performance. If yacht racing teams took this approach, they would only ever win in the ultra-rare circumstances when the wind was blowing in exactly the right direction. This explains why fair economic weather disguises so many operational flaws in companies, flaws that are exposed when recessions occur.

Companies that want to succeed in the long term, through good weather and bad, can learn from the lessons of the yachting world. By implementing dynamic processes, systems, and people skills they can achieve optimal transparency, operational efficiency, and goal setting. An integrated planning process that looks out over an 18-month horizon is a complex but vital enabling activity to accomplish this, while helping to anticipate the so-called black swans that can destroy a company's value overnight. Crucially, this planning process needs to be managed continually, drawing on external market

Steve Bly

information and using this to inform internal decision making. Dealing with a problem before it has a chance to cause damage is so much easier and cheaper than fixing it after the damage is done. Saying that, contingency planning also is vital. Businesses can learn form the sailing crews that rehearse in repetitive drills the actions they must take in the event of the inevitable crisis, such as a "man overboard."

Heavy Weather for Supply Chains

Global supply chains are being subject to unprecedented volatility that demands greatly enhanced planning capabilities. The events include earthquakes in the South Pacific, the global recession, and scarce or overpriced commodities. Demand is rising in China for luxuries like vintage wines while the Middle East tightens oil supply and weathers its "Arab Spring." Economic recoveries in the normally buoyant U.S. and U.K. consumer markets have been sluggish. Will supply chains ever settle down and become more predictable? Probably not anytime soon. Today's leaders are those who can successfully manage heavy-weather supply chain conditions through more effective planning.

The planning process needs to be managed continually, drawing on external market information and using this to inform internal decision making.

The slow economic recovery has forced businesses to look at a complex mix of interdependent variables including cash (working capital), supply chain risk, sourcing locations and shortening product life cycles. Companies need to be careful not to react in a knee-jerk way when faced with short-term cash problems. When the recession started, most were focused on unproductive working capital, often forcing arbitrary inventory reductions. Companies in volatile, consumer-driven sectors like semiconductor cut inventories back too far, weren't able to meet demand when it resurged, and then found themselves faced with customer complaints and lost revenue.

Recent world disasters are still causing disruption to supply chains, forcing businesses to evaluate the security of supply in their own chains. Should they move to higher cost, more flexible and shorter lead-time countries? Where are the safer, lower cost economies that can supply? What is higher cost when there is supply chain risk?

In certain industries like consumer electronics and fashion, product life cycles are getting shorter all the time. This is adding complexity to sourcing decisions, given that low cost often means higher volume and longer lead-time—exactly the opposite of what's required.

All these complex factors are bringing supply chain related-issues into the boardroom, where they have historically been dismissed as "trucks and sheds." We have even seen the start of supply chain directors being promoted to CEOs—one of the most prominent recent example is Phil Clarke of British supermarket giant Tesco.

Engaging the Captain and Crew

Convincing the CEO and CFO to understand the importance of supply chain and tactical planning is no mean feat. In general, these individuals tend not to go to seminars, conferences or even read articles on the topic, preferring to delegate everything to do with supply chain to more junior crew members. This attitude is a disaster waiting to happen.

Executives need to get personally involved because a successful supply chain planning strategy requires the business to change its way of thinking, starting with the way top management measures the company's performance using KPIs (which many businesses tell us they have too many of). KPIs are the measures—like being the first yacht to cross the finish line—that drive behavior. They also are the measures most likely to be affected by external factors, like weather, which need to be monitored continuously to assess the potential impact on the plan.

By comparison, performance indicators (PIs) measure how efficiently teams are working to achieve the KPIs and are highly interdependent. In the yachting example, a PI could be the time it takes to make a sail change or the angle the helmsman is sailing to the wind, both of which are dictated to some extent by the weather conditions. Companies that do not distinguish between PIs and KPIs create conditions for unintentionally destructive and inefficient behavior and processes. For example, if one of your plant KPIs is "overhead recovery," in order to hit the target the plant manager may push people to produce many high-value products at the expense of meeting actual market demand. Then the excess products invariably get shipped off site and become somebody else's problem and cost. Do you need to know whether a plant is recovering its overhead? Of

course, but it's better to make this a PI and drive plant behavior through a KPI such as "Adherence to Plan".

It can be equally challenging to explain to crew members that sometimes they need to adapt their PIs depending on the weather. Supply chain managers are particularly loath to change the way they manage commodity costs, for example. Supply is tight, expensive, and unpredictable. Today, strategic sourcing has to replace transactional procurement to deal with price variability caused by increased speculation and other global factors. This means planning horizontally in order to synch the demand signal from the buy-side market to sell side decisions and to factor commodity risk into go-to-market strategies.

The benefits achieved by those companies whose captains and crews embrace an integrated approach to planning and decision making are huge. Among the gains realized are better working capital management, better decision-making, fewer surprises, less premium cost firefighting, and ultimately higher profits and market share.

Achieving those powerful benefits is not often easy, though. Many companies attempt to do to so by making huge investments in ERP systems. The rationale apparently is that having a common system and throwing enough money at a problem will solve everything. These huge IT projects, which call for (but rarely get) massive internal change programs, soak up key resources for extended periods of time, but on their own still do not create the desired change. Payback is difficult to quantify if, in fact, it is even calculated.

Planning and subsequent business decisions are usually out of synch with a host of important environmental variables. The main reason: Planning is usually too static and "silo-like."

On the other hand, how often have you heard it said, "Get an accurate forecast and everything will be easier?" This would be a good assumption, if truly accurate forecasts were possible. A forecast by its very nature is inaccurate because it's only an informed guess; the question is how good or consistent can you make it?

A system will not produce the results on its own—it can only make calculations based on numbers you give it. Who inputs the numbers, how do you get those numbers, and what can you do to make the numbers much better? The answers do not lie in making the sales team do the forecast on its own. Sales people have an important role to play in providing market intelligence, but they are generally the wrong people to turn this information into numbers.

Finally, what about marketing and its plans? What about new product introductions and the death of old ones? The answer to these questions is collaborative sales forecasting. The whole business should be driven by the "one number" forecast agreed to by the business.

Implementing Tactical, Integrated Planning

Companies serious about managing supply chain variability should implement cross-functional tactical planning (12-18 month window, depending on industry) to achieve alignment and deliver on the top-level KPIs. This should not be confused with strategic planning, which is long-range planning in a three- to five-year window. Nor is it the same as operational planning, which looks forward only six months or less. In parallel with the tactical plan, it's essential to run an S&OP execution process for monthly decision-making and execution. (By the way, don't get bogged down in debates about the differences between S&OP and Integrated Business Panning [IBF]. S&OP is simply a milestone along the road to achieving Integrated Business Planning, a good topic for another article. For more perspective on this see analyst Lora Cecere's comments in the accompanying sidebar.)

Prior to implementing the tactical plan, some key questions need to be asked, particularly regarding the board of directors and top management's perception of the initiative. Do they really understand what the company is embarking on, the related investment, and their very specific and personal roles in the process? Do they recognize that it is a process and not an IT system project? In fact, if the planning effort is generally referred to as a "project," that's not a good sign. Leading companies drop the word project altogether.

It's critical that the board and top management fully understand and commit to the tactical, integrated planning initiative. Without that, failure is pretty much inevitable. With the necessary understanding and commitment in place, the company can take the steps listed below to develop the plan. This effort should be driven by the person who has responsibility for the planning process, which in many cases is the chief supply chain officer. However, if this individual does lead the initiative, you need to guard against the perception that tacti-

cal planning is a supply chain process. It is not; it is a business process. For this reason, and depending upon the company, in some cases it might make more sense for the CFO, COO, or even the CEO to drive the planning effort.

• Map out the planning process in detail, looking at the inputs and outputs and specifying the roles and responsibilities. The underlying system support needs to be identified at this stage, too.

• Communicate to all areas of the business any intended changes in working practices and highlight top management's commitment. Changes might relate to the roles and responsibilities in delivering a "One Number" sales forecast, of KPI changes designed to optimize the whole business, rather than individual parts.

• Break the planning process down into its sub-processes and begin to improve the quality of information coming from those sub-processes.

• Start cross-functional collaboration—bring sales, marketing, product management, finance, and supply chain together. This is the only way to establish the best forecast number for the business and create a shared sense of purpose and commitment to achieving it.

• Set realistic expectations. If you think this effort is going to be smooth sailing from Day One, you're only kidding yourself.

• Emphasize that cross-functional, tactical planning is all about continuous improvement over an extended period of time. (Some would say it is a 10-year journey; others argue it is never-ending.)

• Remember this is not a systems project!

An Analyst's Perspective on the Planning Process

A common mistake companies make is letting the financial budget drive the planning process. Why is this a mistake? The financial budget is usually anything but market-driven, it's outdated the moment that it is published, and it is not a good basis to begin modeling the supply chain issues of mix, constraints, and variability. In order to maximize opportunity, the budget should be an input into the process, but not a constraint. Likewise, the S&OP plan should be an input into the financial forecasting process.

Our issue with most definitions of both S&OP and IBP are that they imply inside-out rather than outside-in planning. To navigate successfully, taking external market factors into account, companies must implement horizontal processes that can help forecast demand—variation, consumer trends, risk and competitive activity—and translate this demand across the vertical silos of the supply chain (sell, deliver, make, and source). Equally, the process needs to sense supply-side risks, commodity price volatility, and availability to determine hedging strategies, raw material sourcing strategies and contract manufacturing network design, and translate this risk horizontally and bi-directionally across the supply chain.

As companies become demand-driven, they realize that traditional process definitions are not sufficient. They learn that processes need to move from inside-out to be outside-in connecting market to market. The process needs to be bi-directional to answer questions like:

• **Marketing/sales:** How should a company best shape demand based on market conditions (buy-and sell-side markets)? This is not trivial. Over 50 percent of promotions are based on history, and the other half never evaluated. With commodity uncertainty, a bad decision in this area can be costly. Del Monte, a leader in demand planning, runs a Monte Carlo simulation every week to determine the risk profile for each product and inform the promotion strategy.

• **Logistics:** Based on what is happening in the market, how should I manage inventory builds? How should I manage carrier relationships? With rising prices, inventory builds may be necessary to hedge against inflation or to ensure supply. Inventory policy changes abound.

• **Supply:** Based on market conditions, what are the best formulations to use? Where should I source? How should I hedge? Should I pre-buy materials to hedge against stagflation?

—Lora Cecere, Altimer Group and author of the Supply Chain Shaman blog (http://www.supplychainshaman.com).

Roles and Responsibilities

Top management has to live and breathe the planning process for maximum overall effectiveness. They can bring about the culture change and leadership required to achieve buy-in to the process across the organization. In fact, a senior executive should be given oversight to the overall planning initiative.

Each sub-process should have a specific individual in charge as well. He or she must be given the appropriate level of authority to do the job efficiently and free from any obstacles erected up by the "silos." It's top management's job to make sure that everyone understands those ground rules.

A Word about Systems

Although this article is focused mainly on people and processes, it's worth including a few observations about financial data modeling tools, simply because a key objective of any tactical planning process is to be able to value the plan, or to judge its profitability.

Financial data modeling is still in its infancy and there is no one tool to cover every aspect of it, even from the major Enterprise Resource Planning (ERP) vendors like Oracle and SAP. Thus, the ability to carry out what-if analysis on financial decisions depends on a combination of different tools and iterative analysis. The modeling has to be iterative across constraint-based supply planning technologies, revenue management planning technologies, inventory optimization analysis, and financial data modeling tools requiring the both finance and supply chain resources. Achieving this end state requires clarity on supply chain excellence as well as available data for modeling.

Executives need to get personally involved because a successful supply chain planning strategy requires the business to change its way of thinking.

Typically, a different model and technology would be applied in the planning process to address these five key financial issues:

- The probability of a new item's success (margin and profitability).
- Ideal product portfolio mix.
- Fixed vs. variable accounting options with changing networks.
- Tax efficient supply chain planning.
- How to improve cost to serve to improve channel management.
- Value-add analysis on multi-tier cost of capital.

Winning the Race

Implementing a tactical, integrated planning process requires the business to work in a truly collaborative, cross-functional way. Experienced practitioners agree that in order to achieve this, 60 percent of the focus should be on people (training, education, mentoring), 30 percent on implementing new processes, and only 10 percent on systems and tools. So top management has to buy into the idea that most of its investment must be in people, not software or in the design process, which is where they typically spend their money today. Finally, total investment should not just factor in how much the program costs, but also the time it takes for implementation and the opportunity cost of maintaining the status quo.

This means that leadership ultimately has to come from the captain at the helm of the business. Tactical planning is not something that concerns just the supply chain director and his or her people. It should be a leadership mandate that sets the course for the business to sail.

The following three case examples spotlight planning success stories.They are written by the executives actually involved in these efforts.

Rapid Planning Progress at Knauf Drywall

By Eric Dancer, U.K. Operations Manager

We had a very out-of-date planning system that was insufficient for our needs. We decided to replace it with Infor's MLE Software, which helped solve some of the issues. However, it soon became clear that we needed to focus on improving our processes to get the most from the software to maximize the benefit to our business.

At the time this coincided with a huge boom in the drywall market, where demand was incredibly high. The resources of the business were focused on meeting that demand, so we focused on improving forecasting processes.

As the economy changed, we increased our focus on improving processes across the whole scope of S&OP, with a particular focus on releasing working capital. We primarily wanted to be able to realize better inventory controls to drive a drop in the working capital side of inventory and the associated costs.

We gave ourselves 12 months to reach a significant financial cost saving, and to begin the process of defining S&OP best practices that would underpin the whole of the planning process.

As a business we have made significant progress since working with Hughenden on our planning processes. We are more informed and confident in decision making. And, in fact, we reached our financial goal in the first six months. We are making more informed decisions based on solid assumptions and there is much less fire fighting as we now make these decisions in advance. We are still progressing on the journey, but are much farther ahead than we were before.

Business Planning Excellence at BP Lubricants

By Simon O'Neill, Head of Planning, EMEA

About two years ago, we began implementing a global Business Planning Excellence (BPE) program at LBM (Lubricants Business Management) that integrated with a more tactical S&OP process. We recognized that we needed to engage more directly with our staff and enable them to work more collaboratively across our integrated value chain.

We needed to look at the way we were positioning LBM and use it as a vehicle to change people's thinking and reinforce behavioral changes. To kick this off we worked with Hughenden to design and host an "activation" event in South Africa with the top 100 leaders from the lubricants business. The results really surprised us: 94 percent of the attendees identified a need to change as individuals. This was the highest level of commitment given across the three-day event.

Next we needed to develop education and training programs to transform what was quite dry course material and make it interactive and engaging for our staff. To achieve this, we designed a custom series of courses with our consultant that we could incorporate into our induction process so that any new staff would be able to receive the same level of training.

Since we began the BPE program, more than 1,000 senior managers have taken part in these training courses, and as we were hoping, this has now been incorporated into the on-boarding process for any new employee in this area.

Our profit and cash delivery have been exceptional within the last two years. There are obviously a lot of other factors that have contributed to these improvements but the work we have done on the BPE program has played an integral part. People are very important to the success of any business and they can deliver exactly what you need when they are trained sufficiently and their roles are clearly defined.

Faccenda Moves Toward Best-in-Class Planning

By Andy Dawkins, Managing Director

Faccenda (a leading provider of poultry products in the U.K.) started in 1962 as a family-run business, going from strength to strength to becoming a major player in the industry. After the most recent significant growth stage and an acquisition, we needed to be able to scale our business to support the increased number of processes, stresses, and services.

We wanted to be able to join up the various elements of the supply chain—made more challenging by the fact that we were moving into some non-core services and customers such as retail.

We wanted to put the customer at the center of the supply chain, so it needed radical overhauling. We initially recognized that we would need technology to help us do this, and following initial discussions with Hughenden, realized that the system would be part of the process, but that re-working processes and aligning teams would have to be done first.

Due to the significant growth, and the recent acquisition, we had a huge amount of complexity thrust onto the supply chain. So giving the internal teams the skills and understanding of what we were going to be undertaking was critical.

As the business would be undergoing significant changes, we needed a partner that would work with us through the entire process. Education and empowerment were critical—we didn't just want to be told what to do. We needed help to develop a sound strategy, and then work to develop the internal understanding and skills development to ensure a smooth change process, as well as to then implement the strategy across the business.

We wanted to be able to align the internal teams, and refine planning processes into proven best practice methodologies.

With the business units and departments now aligned and pointing in the same direction, we have sped up decision-making and reduced overheads with less internal competition and fewer people touching the plan. Overall this has led to more trust and collaboration in the company, and our service levels have reached 99.8 percent, which is best in class in the retail fresh meat sector.

How to Get PROCUREMENT STRATEGY RIGHT

By Per Segerberg

Per Segerberg is an Executive Director in Accenture's Supply Chain Management practice. He can be reached at per.segerberg@accenture.com.

Many procurement organizations still have blurred ideas of what their true strategic purpose should be. But a few—the procurement "masters"—do properly understand strategy. And they regularly practice it. The product lifecycle framework presented here provides a useful mechanism for others to follow in the masters' footsteps.

All over the world, the capabilities of procurement organizations are being tested as never before. They are required to help their businesses deal with the impact of globalization, supply market volatility, supply chain disruption, rising costs of raw materials, regulatory overload, talent shortages, and much more. If ever there was a need for procurement to lead the way, it is now.

The good news is that procurement is better equipped and more eager to meet these challenges than it has ever been. Today, more and more procurement executives have a seat at the top management table. Their organizations' activities and results are getting attention—and for all the right reasons. Not only do they successfully and consistently contribute to cost reduction, but in an increasing number of companies, they are regularly seeking to understand how they might drive revenue growth and innovation as well.

That said, though, many procurement groups still have blurred ideas of what their true strategic purpose should be. If you ask a dozen different purchasing leaders what their operation is designed to do—and importantly, what it is not designed to do—you will likely get a dozen different answers. Many of those answers will still tend to revolve around cost containment.

So it might seem logical to think that procurement chiefs are clear about their impact on their corporations' earnings. The trouble is, the purchasing function has the ability to influence corporate profitability only when it is operating at a genuinely strategic level within the company. In the great majority of cases, that is still not so; procurement still does not operate at its full potential. It has not yet gotten the strategy part right.

This article will lay out a systematic approach that enables procurement leaders to more easily create strategies that align with the business strategy and other key functions. The approach helps clarify what procurement's role should be in each phase of

a product's life cycle in order to ensure that the function is seen as proactive, and focused squarely on value and innovation. In doing so, procurement can control many more of the cost levers, influence the revenue side, and bring innovations to the table over the course of the product's life cycle.

To set some context, though, let's look at how strategy is viewed in general by leading procurement professionals.

How the Leaders View Strategy

Accenture has found that a subset of procurement organizations—we call them the "masters"—have a much firmer grip on strategy than do their peers in other companies. In our latest study of best practice in the function, it is clear that the masters "get" strategy—and they regularly practice it.[1] The development of a thoughtful strategic plan, tightly tied to the corporate strategy and business function strategies, is the foundation for procurement mastery. According to our findings, 77 percent of masters ensure that they have a formal procurement strategy that is integrated with the corporate strategy, as well as with the strategies of core business functions such as finance, manufacturing, research and development (R&D), logistics, and so forth. Only 29 percent of other procurement groups can claim this integrated strategy. Additionally, 90 percent of masters provide innovative value above cost savings as a key element of those strategies, as compared with 32 percent of others.

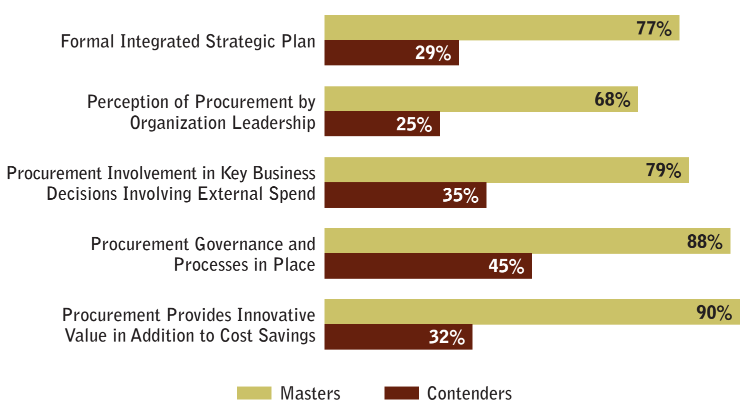
Three very clear leadership practices are built on these strategy foundations, and are supported by our 2011 study findings:

- The alignment of strategies leads to clear and common accountabilities and metrics across the organization.
- Procurement is involved in critical decisions that pertain to a greater portion of third-party spend, and as a result there is a more holistic, consistent, and analytics-driven approach to spend management.
- There is an innovation agenda that goes well beyond cost and working capital to address the needs of both internal and external stakeholders.

Clear alignment of strategies allows procurement organizations to stay in sync with corporate and business functions' accountabilities and metrics. Fully 88 percent of masters have procurement governance and processes that ensure that decisions are made in the best interests of the company and in full alignment with other functions. (See Exhibit 1.) Less than half of the others have this same capability. The supporting element of integrated metrics—standardizing the way in which success is measured and communicated to top management—ensures that the company will recognize procurement's accomplishments and contributions.

EXHIBIT 1

Procurement Masters Insist on Thoughtful Strategic Plans



As a result, the masters are able to manage 15 percent more of their indirect spend than the rest do, and 12 percent more of their direct spend. (See Exhibit 2.) The advantages go beyond controlling spend, however, leading to broader value-based solutions. Procurement can apply its strengths in spend control to move into innovation, supplier development, and more complex areas of procurement practice. Again, this raises the value of procurement to the company as a whole. Along with having clear metrics and governance, integrated strategies mandate that procurement is involved in critical decisions pertaining to third party spend. In fact, 79 percent of masters have this C-suite mandate. This allows them to start by controlling more spend, and continue by adding value-based solutions.

A clear and concise strategy, aligned with stakeholders' objectives, enables procurement to proactively develop an innovation agenda. Ninety percent of masters provide innovative value over and above cost advantage, as opposed to 32 percent of non-masters.

The development of a coherent strategy is a nuanced, complex exercise that involves rich and prolonged interaction with many stakeholders. That may account in part for why the non-masters fall short in having workable, clearly communicated procurement strategies. But it is something to which they must commit if they are to uncover new ways to add value beyond cost reduction.

A Product Life Cycle Model for Developing Strategy

One way in which more companies can develop a highly effective procurement strategy is to employ what can be called a "product life cycle model." This is well suited for any company in discrete manufacturing industries—automotive, industrial and agricultural equipment, electronics and high-tech, etc.—and it can easily be adopted for other sectors.

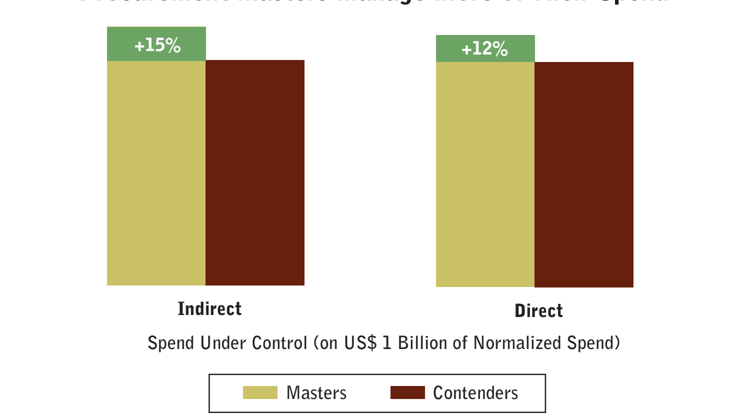
The first step in aligning the procurement strategy with the corporate business strategy is to clearly define the key strategic challenges that the company faces in each phase of the core product's life cycle.

In one example we can speak to—a company with a centralized procurement organization—the elements describe the product life cycle typical of an automotive manufacturer. They start with the product planning step. Typical strategic challenges during this phase include the need to make the right decisions not only about future product mixes—often for different markets—but also about the right assumptions regarding product volumes. This phase also involves setting the target cost for each new automobile.

The next phase—technology development—describes

EXHIBIT 2

Procurement Masters Manage More of Their Spend



basic research that is not linked to any specific new product development project. The elements that follow speak to three phases of the actual development of a new car: defining a new product concept, developing detailed designs and running prototype tests; then moving on to product launch and production; and development of aftermarket and spare parts operations.

Finally, there is a phase independent of new product development that we call "cross life cycle." This includes all activities involved with the maintenance of and improvements to current products as well as the activities needed to optimize and trim the supply chain for those products.

For each phase of the product life cycle, it is important to list all the key challenges that will later form the basis for the procurement strategy (and for those of the other functions). The challenges should be confirmed and agreed upon by the top management team.

Deriving the Role of Procurement, Phase by Phase

Once the strategic challenges have been clearly defined for each phase of the product life cycle, it's time to define what roles procurement should play in each phase. (See Exhibit 3.) For example, looking first at the product planning phase, there is a clear benefit to be had at the point when the target cost is about to be defined for the future product. Too often, product development specialists find a new technology solution and start to work with a supplier without getting into commercial discussions or involving the procurement function.

In the auto industry, for instance, when purchasing gets involved late in product development, parts and subassemblies that have been bought as prototypes often continue to be bought at the same price levels in series production. Those production parts can be up to four times more expensive than they should be. It is far tougher for procurement to bring down those costs than if it had been involved from the start. Because more than half of automotive manufacturing's total costs come from purchased material, the savings engendered by procurement's early involvement can be enormous.

When procurement has a seat at the product planning table, it can also provide proactive and experienced input about price volatility in raw materials, for example, constructively challenging the choices of material proposed

EXHIBIT 3

Procurement's Role in the Lifecycle Phases

		Role of Procurement		
Product Planning and Strategy	Annual Process	Proactively provide expert input on raw material and commodity pricing trends & its consequences		
Technology Development		Proactively drive and guide a structured and continuous search for innovations in the total supply market focused on brand pyramid		Select and contract develop suppliers /partners
Product Development	Concept	Provide should cost benchmark data into target setting process	• Be in charge of all commercial relationships with suppliers • Integrate suppliers into product development cycle • Drive sourcing for quality and supplier engagement process	
	Design	Complete sourcing, meeting all targets (nominate suppliers & make sourcing agreements)		
	Test and Verification	Secure ordering of prototypes and external testing according to program targets		
Launch and Production		Secure readiness of suppliers for flawless launch	Sign off production price and issue orders	Conduct supply chain risk assessment and management
After Market/ Spare Parts		Confirm and conduct after market strategies	Work with suppliers and after market to reduce capital cost (inventories, etc.)	Continuously optimize supply chain (re-source, reduce cost, ordering)
Cross Lifecycle		Create sustainable partnerships over the lifecycle	Continuously reduce cost by reducing the supplier base and finding the most competitive suppliers	Conduct supplier development activities

Source: 2007 Accenture

by engineering or R&D teams and offering insights into supply scarcity on certain types of components. Procurement can also share its detailed understanding of the supply base's cost structure and provide expert guidance on the likelihood of being able to meet the target costs.

Following the framework and moving into the technology development phase, there are further opportunities for procurement to add value. For many discrete manufacturers, a strategic challenge is to leverage the innovations available outside of their own R&D centers—particularly from their networks of suppliers. To be fully effective, the response to this challenge cannot be ad hoc; there has to be a formal decision about how the company should scan its supply base for innovations, with ancillary decisions about which function or functions are responsible for scanning, evaluating, short-listing, and working with innovative suppliers. Again, procurement is very well-placed to lead such efforts.

The development of a thoughtful strategic plan, tightly tied to the corporate strategy and business function strategies, is the foundation for procurement mastery.

Moving to the product development phases, a persistent strategic challenge is to introduce new product technologies and innovations with low risk—while meeting planned launch dates. A parallel challenge is to ensure that the new products can be built and delivered with an effective supply chain set-up. If the strategy can help define procurement's role such that the function is solely and completely in charge of all commercial relationships with suppliers—with no residual or ancillary arrangements between suppliers and, say, R&D—then procurement is free to do what it does well: ensuring that suppliers are integrated into the total product development plan, that the plan is well communicated to and synchronized with the selected development suppliers, that the appropriate tools are developed in time, prototype testing is planned, production processes prepared and tested, and so on.

During the product launch phase, the overarching challenges are to successfully introduce the new product at target cost, at the target production rate, and with no quality issues. Again, procurement should be the function that is held responsible for securing supplier readiness in preparation for a flawless launch, for assessing and communicating all supply chain risks, for proactively developing risk minimization processes, and for readying sound, easy-to-act-on mitigation plans in case supply chain disruptions do occur.

In the later ongoing production phase, procurement's declared role can be to continuously work with the suppliers to drive down cost and further improve quality. In the after-market phase, the function can be charged with working with suppliers to improve service levels to customers, to optimize capital costs (for example, reducing inventory levels), or to source services and products that are specific to after-markets.

Finally, in the cross life cycle phase, it makes sense to define procurement's role in classic category management activities such as looking into resourcing and further consolidating the total supplier base, reducing cost by moving to more competitive suppliers, conducting joint cost workshops with key suppliers to trim the overall supply chain, conducting supplier development activities, and so on.

Working through each phase of the life cycle using this framework has proven to be an excellent way of defining exactly how procurement can best add value in each phase; it quickly exposes the "value gaps" that procurement is well-placed to help fill. In general, the framework can help expand procurement's involvement upstream in the product's life cycle, enabling the function to be more proactive much earlier.

Defining the Capabilities Needed for Each Phase

When the procurement strategy has been clearly mapped out in this way, the next step is to define which capabilities the procurement function needs to support its roles in each phase. Specifically, that means identifying the necessary skills and competencies of procurement staff and pinpointing the tools and methodologies best-suited to each role. (See Exhibit 4.)

In the product planning phase, the procurement function must be able to proactively provide input for target cost decisions, and so it has to be able to demonstrate strong predictive analytics capabilities. As such, procurement teams must have a complete understanding of price volatility for the relevant raw materials as well as a detailed view of the supply base's cost structure, with clear "should cost" conclusions that result from such analyses. The truth is that these skills are hard to find and difficult to embed in broader roles. So if procurement groups are to be in a position to benefit from a "scale of skill," they may need to set up special teams or outsource the more specialized analytics work.

In the technology development phase, procurement should have a lead role in continuously scanning the supply base for innovations. Among the key questions: Which skills are required to do that? How much of those skills do we need? Should these skills be required of our existing category managers? Or is it better to set up a sub-function that handles "supplier innovation" full-time? There are no general answers to these questions; each company must arrive at its own responses.

One global industrial equipment producer assigned its innovation scanning tasks to its international procurement offices. But the innovation "work orders" came from procurement's category managers—they were the ones who had the insights into which new technology areas were of most interest. Then, when the international procurement offices discovered relevant innovations or suppliers that could demonstrate interesting technology directions, the suppliers were invited to headquarters to present their innovations or concepts in cross-functional workshops.

And in the case of a large automotive manufacturer, the procurement organization has been restructured to continuously search for new ideas not only by working with existing suppliers but also by systematically scouting for innovations throughout the broader supply market. Procurement can also select and contract with development suppliers—the subset of suppliers that can become true innovation partners. And it is set up so as to more easily create supplier clusters/alliances that help unearth new technology developments.

Once procurement's necessary capabilities have been defined, it is important to understand and define which processes the various roles and activities belong to. Often, the findings from those explorations mean that the overall process framework has to be updated to include the new roles. In parallel, the supporting IT technology should be defined, not by defining any specific software solutions but rather by identifying the

EXHIBIT 4

Capabilities, Processes and Systems Support

<table>
<tr><th></th><th></th><th colspan="2">Procurement Capabilities</th><th>Related Processes</th><th colspan="2">Enabling IT Systems Support</th></tr>
<tr><td>Product Planning and Strategy</td><td>Annual Process</td><td colspan="2">• Overview of product plan and position of all products in the lifecycle
• Predictive analytics raw material, supply market develop and cost structure</td><td>• Product planning
• Target cost setting</td><td colspan="2">• Raw material price forecasting system support</td></tr>
<tr><td>Technology Development</td><td></td><td colspan="2">• Innovation scanning skills and global reach</td><td>• Supply market analysis
• Supplier selection and contracting of develop suppliers</td><td colspan="2"></td></tr>
<tr><td rowspan="3">Product Development</td><td>Concept</td><td>Insights into product/project</td><td rowspan="3">• Target cost breakdown capability across complete BOM
• Category cost structure analysis and should cost modelling</td><td rowspan="3">• Product development process
• Supplier screening, selection, contracting
• Category strategy definition</td><td>Product plan view</td><td rowspan="3">• Spend analysis tool
• eRFX -tool</td></tr>
<tr><td>Design</td><td>Dynamic BOM roll up/down</td><td>Preferred parts/ parts rating system</td></tr>
<tr><td>Prototyping</td><td>Network of testing centers (inhouse or outsourced)</td><td>System/component bookshelf with all possible sourcing variables per segment</td></tr>
<tr><td>Launch and Production</td><td></td><td colspan="2">• Design change management
• PPAP, APQP skills</td><td>• Strategic sourcing
• Supplier relationship management</td><td colspan="2">• Extend vehicle break down structure with sourcing view</td></tr>
<tr><td>After Market/ Spare Parts</td><td></td><td colspan="2"></td><td>• Resourcing</td><td colspan="2">• Visibility of spare parts ordering and consumption levels</td></tr>
<tr><td>Cross Lifecycle</td><td></td><td colspan="2">• Holistic view of supplier capability, performance and risk status</td><td>• Supply chain risk monitoring</td><td colspan="2">• Supplier performance information
• Supplier financial health information
• Contract management tool</td></tr>
</table>

functional specifications. The actual selection of the best software tools should come later. Today, too many of procurement's IT investments fail to pay off because they are out of alignment with the procurement strategy or because the investments are made without a supporting strategy.

Accenture's research shows that 77 percent of masters ensure that they have a formal procurement strategy that is integrated with the corporate strategy, as well as with the strategies of core business functions.

The product life cycle framework clearly forces procurement managers to define and understand how IT best can support and enable the strategic role and the tasks that their operations are responsible for. For example, procurement should be able to drill down into the BOM model and clearly see the target cost for a sub-system or product group right down to the component level. IT tools can enable that, helping strategic buyers know what target price they are aiming at when selecting suppliers.

Analyzing the Gaps and Building the Transformation

When the new procurement strategy has been signed off by other functional leads and top management, it's time to clearly define the gaps between current practice and the ideal state identified earlier. With the gap analysis in place, then procurement leadership can create a plan to prioritize the changes that need to be made and weld them into an overall transformation plan. This effort will most probably involve skills mapping, defining skill gaps and a workforce transformation workstream to develop, over time, the skills and competencies required to perform the newly defined tasks.

In the case of the automaker mentioned earlier, the alignment of procurement with the product life cycle map has focused attention on what's needed to support the organization. For instance, procurement can work with human resources to make sure it has the skills and competencies needed to develop an early life cycle view of sourcing by key commodity. The new approach also helps clarify which IT systems will support which stages; for example, spend analysis tools are critical during the concept-through-prototype phases of product development. And Web-based supplier performance tracking systems are proving invaluable during product launch and ongoing production.

Early Positioning is the Key

Too many companies start to sketch out an organizational model for procurement using a classic category management structure. That model may have good strategic sourcing and supplier relationship management practices built in. But it may not have a clear view of what procurement's overall, end-to-end role should be. The consequence is often that the function is overly focused on downstream activities.

However, the good news is that the framework outlined in this article can help position procurement to have a major influence much earlier in a product's life cycle—with substantial benefits for innovation and ongoing revenue growth as well as for much more effective cost control. Clearly, there is not room in these pages to do justice to the full value of the product life cycle approach. Suffice it to say, though, that it can help many procurement organizations follow in the footsteps of the procurement masters.

Mastery does not materialize overnight, of course: purchasing groups must still go through the stages of organizing, sizing, and finding the right governance models that come into play after the strategy has been mapped out and agreed upon by senior management. But procurement mastery must become a goal—and the journey to attain that goal should start now.

Endnotes:

1 "Compulsive Contributors: More is asked and more is delivered," Accenture research and insights into high performance in procurement, Accenture, 2011.

Inventory Optimization: Show Me the Money

Minimizing inventory investment and carrying costs while maintaining high service levels can be a tough balancing act. But best-practice companies have shown that it can be done—profitably.

By Marisa Brown, Director, Knowledge Center, APQC

Companies today face an ongoing balancing act as they try to:

- carry enough inventory to respond quickly to customer demand and minimize transportation costs; and
- minimize investment in inventory, facilities, and equipment to reduce warehousing and storage costs.

How big is this inventory optimization challenge? Organizations participating in APQC's Open Standards Benchmarking in logistics report that 59 percent of their logistics labor is allocated to operating warehouses (Exhibit 1). Keeping the optimal amount of inventory on hand could make a difference in this time- and resource-intensive process.

In addition to the time and resource requirements, inventory carrying costs can be significant for organizations juggling the asset vs. service tradeoff. Exhibit 2 shows APQC data for inventory carrying costs. At the midpoint (median), organizations spend 10 percent of the annual value of their inventory to carry it. Bottom performers spend more than twice what top performers spend to carry their inventory (16.4 percent compared to 7.3 percent of annual inventory value).

The cost to carry inventory translates to a dollar impact on the organization. Exhibit 3 demonstrates the effect on the bottom line for a sample company with $5 billion in revenue. According to APQC's Open Standards data, the median inventory value as a percentage of revenue is 10.6 percent, so for a company with $5 billion in revenue that would amount to $530,709,500. Using the median inventory value, the gap in inventory carrying cost between top and bottom performers would be more than $48 million.

How can your organization optimize inventory to avoid excessive carrying costs and still satisfy demand? APQC's best practices report *Inventory Optimization: Balancing the Asset vs. Service*

EXHIBIT 1

Time and Resource Allocation by Logistics

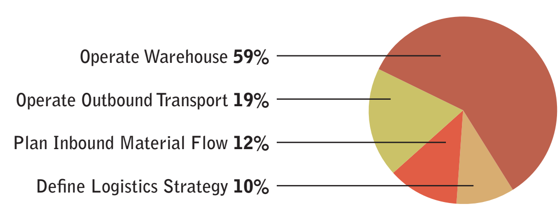


EXHIBIT 2

Inventory Carrying

(As a % of Annual Inventory Value)

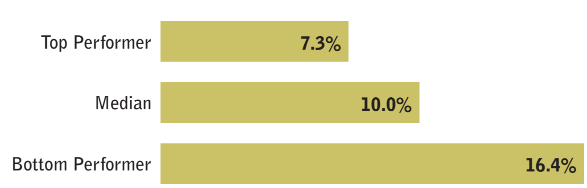
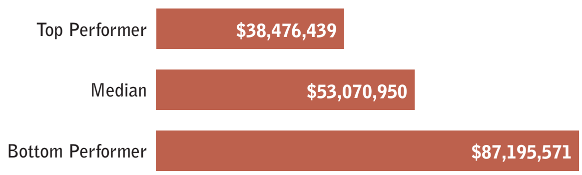


EXHIBIT 3

Inventory Carrying Costs for a $5 Billion Company

(Calculated by Taking a % of Average Annual Inventory Value Using Actual Open Standards Data)



Tradeoff reveals that the solution lies in creating an inventory optimization program focused on good design, effective processes, appropriate technology, and regular assessment. The discussion below addresses these key elements.

Key Components of Inventory Optimization

How do you determine the needs and objectives of each process area integrated across functions and of your suppliers and customers? Our best practices report points to sharing collaborative demand and supply information among supply chain partners, and using the information to optimize your global network to find the best balance between inventory levels and customer service. A well-designed strategy should incorporate senior management support, periodic evaluations, managing service levels, and partnering with suppliers.

Senior management support. Senior leadership should define, support, and enforce any new inventory optimization effort because it is interdisciplinary and will touch every aspect of the organization—from logistics and procurement to HR, sales, and marketing. The involvement of senior management ensures full organizational alignment. Make sure that your senior management team reinforces inventory optimization as a strategic initiative by committing budget and resources to the effort.

Periodic evaluation. A periodic evaluation of the supply chain design addresses inefficiencies in the physical network and ensures sufficient capacity to support business requirements. In supply chain design, the aim is to remove waste caused by or contained in the supply chain network itself. Identifying these inefficiencies can lead to opportunities for consolidation or realignment. Additionally, reevaluating the design at regular intervals helps position the physical network to support the changing marketplace. Drivers include demand growth and shifts, increased customer service requirements, and globalization of suppliers. These tend to require an organization to shift or expand its supply chain footprint.

Managing service levels. Because improvement of customer service is a primary objective of inventory optimization, it is imperative to maintain and improve service levels during the transformation process to ensure stakeholder buy-in and momentum for the initiative. Once leadership has defined the organization's service policy, determine the sufficient target inventory levels based not only on the service policy, but also on the effectiveness of the supporting processes and technology.

Partnering with suppliers. Inventory optimization requires the organization to partner with internal and external suppliers to improve replenishment speed and efficiency. This applies to all goods, whether internally produced or purchased from the outside. Two components are essential here: communication and accountability. Effective communication involves teamwork, collaboration, and visibility. Accountability encompasses making decisions with respect to the organization as a whole, not simply optimizing one function or sub-process. Accountability is critical when opposing forces meet within the same supply chain: consider the situation where manufacturing receives incentives for high utilization and productivity without regard to the space needed or cost to store those items. Use a planning process that determines the best course of action for the business as a whole. Make the appropriate combination of supplier upstream programs, supplier performance management programs, and supplier relationship management a foundation of your inventory optimization initiative.

Implementing Inventory Processes and Procedures

How do you determine appropriate procedural steps and relationships to manage efficient and integrated inventory practices? Start by realigning roles, responsibilities, and accountabilities, both internally and within supplier organizations. Defining and mapping processes and integrating supplier processes are two keys to achieving better alignment.

A well-defined order fulfillment process is critical to support inventory optimization and identify performance gaps. Assigning process ownership focuses accountability and helps drive execution of the strategy. Process mapping allows you to target areas for improvement and establish standardized, cross-functional processes with common goals among stakeholders. Establish sales and operations planning and forecasting schedules and maintain purchasing levels and policies to maximize improvement opportunities. By doing so, you set the stage for obtaining the best inventory optimization results.

To achieve lower inventory levels while maintaining or improving customer service, you also need to look beyond your corporate walls. Reach out and set up programs with your supply chain partners to help suppliers streamline their processes and integrate them into your organization's processes and goals.

Technology as an Enabler of Optimization

How do you use technology to enable your inventory optimization processes? Our best practices study suggests that you start by determining the features and functionality needed to minimize inventory investment and improve customer service. Then, assess how you can implement the technology effectively. By using tools and training wisely, you lay a foundation to get the most out of your inventory technology investment.

A well-defined order fulfillment process is critical to support inventory optimization and identify performance gaps.

Organizations should add incremental technology to stable planning processes where measurement and testing have pointed to functional gaps. You cannot expect technology outside the context of a well-defined and executed process to drive performance on its own. The process—not the technology—is the key as it provides the basis to evaluate needs and define and prioritize objectives. Once you know what you want to achieve, you can determine which technology best supports those objectives. Ideally, the organization should select new technology to support the redesigned processes, rather than redesigning processes around new technology.

Automating inventory optimization and embedding technology into the planning process enables organizations to maintain an optimal inventory mix. Although inventory optimization has a strategic component, the dynamic nature of the marketplace requires tying effective inventory optimization technology to an organization's operational processes and systems. Events that will quickly render obsolete a strategic view of inventory optimization include new product introductions, changing demand patterns, and evolving sourcing alternatives. Ensure that these technological exercises are not done only once, but instead are continual and evolve over time.

Finally, to maximize the effectiveness of inventory optimization technology, successful organizations implement training and education programs, set expectations, and provide context to those using the results. The aim of training here is to maximize the effective use of technology and avoid or delay additional IT investments, if possible. You can also use training to provide the foundation necessary to identify functional gaps and seek incremental performance enhancement. By informing the stakeholders, you pave the path for buy-in and confidence in the technology.

Measurement and Continuous Improvement

How do you measure the success of your inventory optimization strategy and continuously improve? Establish key performance indicators to enforce the processes, measure and benchmark progress, and raise expectations to improve capabilities and performance. Use adaptable metrics, and remember the importance of people throughout the program.

Successful organizations monitor inventory optimization via adaptable metrics on supplier performance, customer service, and internal assets. As your organization reaches desired goals or when performance falls short of its potential, you can develop programs with associated metrics to improve performance. The key is to adopt a flexible strategy and metrics that can be adjusted as the environment changes.

Over and above the appropriate metrics, the success of inventory optimization is primarily determined by the quality of the people involved in the process. Make every attempt to acquire, retain, and enhance talent, while driving performance and process improvement down to individual incentives. Engage people and set individual and team goals to achieve optimal performance levels.

The challenge of determining the optimum quantity and positioning of inventory to meet demand is a daunting one. To successfully meet this challenge, organizations must obtain credible demand information and use it to make intelligent, data-driven decisions about their supply chains. Best practices in inventory optimization can help improve service, reduce inventory levels, and meet organization-wide goals. Doing so will drive improvement throughout the entire supply chain and in all process areas in the business.

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Key Supplier Collaboration: New Way to Drive Value

By Mike Hales, Javara Perrilliat, Neeti Bhardwaj

Mike Hales is a partner with A.T. Kearney and Javara Perrilliat and Neeti Bhardwaj are consultants with A.T. Kearney. The authors can be reached through mike.hales@atkearney.com.

The 2008 economic crisis had unpredictable yet lasting effects on the power dynamics of suppliers and buyers around the globe. Suppliers typically gain power when they have a low risk profile, a limited supply base, and a product that's essential to their customers. The economic crisis, coupled with fluctuating raw-materials prices and natural disasters, culled lesser suppliers and increased the power of those that remained.

Yet the crisis also concentrated power on the demand side: Buyers typically gain power when they can offer their suppliers stable revenue amid turbulent times, growth opportunities, competence development (Six Sigma or Lean Manufacturing, for example), and brand enhancement (such as a public relationship that can build confidence among the supplier's investors). In the turbulent times following the crisis, stable buyers offer suppliers rare opportunities to achieve these goals.

What happens when both suppliers and buyers grow in power? One result is that both parties need to look for new ways to drive value. This column will explore how one such approach, ***key supplier collaboration***, can bring about sustained growth, improved risk management, efficiency through value chain optimization, and enhanced structural capabilities.

Opportunities and Methods

When either a supplier or a buyer has unmatched power, the powerful party can use a transaction to extract value from their weaker partner. But when both parties are powerful, they must shift to value creation through collaborative techniques, such as:

- Establishing a ***strategic alliance,*** in which buyer and supplier each contribute and share complementary strategic capabilities over the long term.
- Using ***tiered sourcing,*** in which the buyer identifies a set of first-tier suppliers to act as integrators, managing the second-tier suppliers. This model can effectively organize a complex supplier landscape; however, it requires the buyer to find the best structure for each situation.
- Committing to ***supplier development***, in which the buyer seeks to enhance a selected supplier relationship through investment, volume guarantees, exchange of know-how, initial price premiums, or other measures.
- Working on a ***project-based partnership,*** in which the collaboration has a defined period of time or scope of activity, such as development of a new product.

Despite the value of these approaches, our research indicates that companies lack a structured process for implementing them. Only 20 percent of respondents to A.T. Kearney's Key Supplier Collaboration Survey (2009) stated that they had a systematic process for collaborating with suppliers.

A Two-Phased Approach to Collaboration

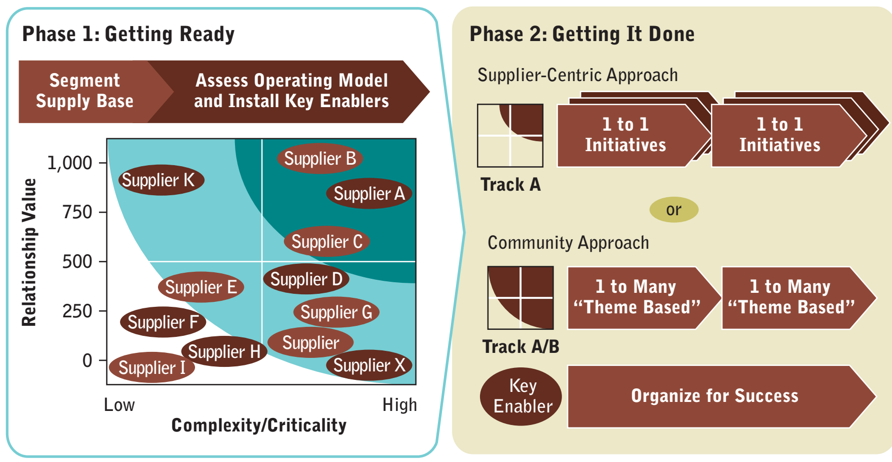
What does such a systematic process look like? As demonstrated in Exhibit 1, it has two phases. It is also best approached as part of a holistic effort at *Collaborative Value Creation* across the entire value chain. (See accompanying sidebar on Collaborative Value Creation.)

In the first phase of key supplier collaboration, the buyer prepares by analyzing its suppliers and operations. Because companies should collaborate only with a select group of strategic suppliers, it's important to first segment the supply base to determine the best potential partners. As the figure shows, that segmentation asks which relationships are most valuable and which inputs most critical or complex. But an equally important part of getting ready is conducting an internal assessment of the current operating model.

Companies need to ask themselves if they are capable of engaging the supply base in a collaborative manner. Who will interface with the supplier? Are appropriate communication channels in place? Are there internal obstacles that would prevent the relationship from creating value?

EXHIBIT 1

The Key Supplier Collaboration Approach



Once these questions are answered, the second phase implements the collaborative relationship. Depending on objectives, the buyer may engage the supplier on a one-to-one basis (the *supplier-centric approach*) or use a *community approach* around a theme. The supplier-centric approach draws on a deep understanding of the mutual importance and value of the relationship. The buyer proceeds by first analyzing the relationship, then developing objectives and strategy, and finally engaging the supplier to develop objectives for mutual value generation. Conversely, the community approach targets several suppliers at the same time. For example, a buyer may work with transportation suppliers to reduce carbon footprint by addressing truck idle time and back haul opportunities.

Creating Mutual Strategic Value

Companies have found that successful key supplier collaboration programs yield benefits including:

• **Growth:** Innovation is often the key to growth, and the flow of innovation to both products and processes can improve when a company's key suppliers are intimately involved. Growth also comes from improving the value proposition for existing customers.

• **Risk Management:** Supply constraint scenarios can pose risks, but mitigation powered by collaborative supplier relationships can secure continuity of critical supplies. In fact, it can even turn those risks into opportunities to gain advantage over competitors.

• **Value Chain Optimization:** All companies have different advantages and core competencies. When suppliers and buyers build trust through collaboration, they may find that they can line up their respective advantages to reduce redundancy.

• **Structural Capabilities:** Key supplier collaboration can improve other dimensions of competitive advantage, such as cost, agility, responsiveness, scalability, or corporate social responsibility.

By taking a holistic approach, the partners have created value that is both mutual—accruing to both buyers and suppliers—and strategic—making an impact in the areas most critical to long-term success.

Collaborative Value Creation

All businesses work as both customers and suppliers; all businesses are simultaneously competitors and potential alliance partners. So as value chains undergo rapid changes—including spreading across numerous geographies and markets—effective relationship management becomes increasingly important. In other words, partners become more important in generating value.

Opportunities exist to reach out both tactically and strategically, with both suppliers and customers:

• Most businesses are familiar with supplier relationship management (SRM), in which a company seeks to maximize the value contributed by its suppliers.

• A more strategic approach is key supplier collaboration.

• Think of customer relationship management (CRM) not as technology, but as the downstream equivalent of SRM, maximizing the value of the customer landscape.

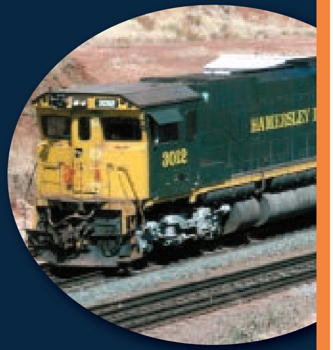
• Key customer collaboration similarly applies a more strategic perspective to CRM.

• All of these efforts are linked to key partner management, the company's core principles for managing relationships with the parties it is closest to.

Implementing these linked approaches helps companies create more value by collaborating more effectively along the entire value chain.

Third-Party Logistics
SPECIAL REPORT

A SPECIAL SUPPLEMENT TO:
SUPPLYCHAIN MANAGEMENT REVIEW



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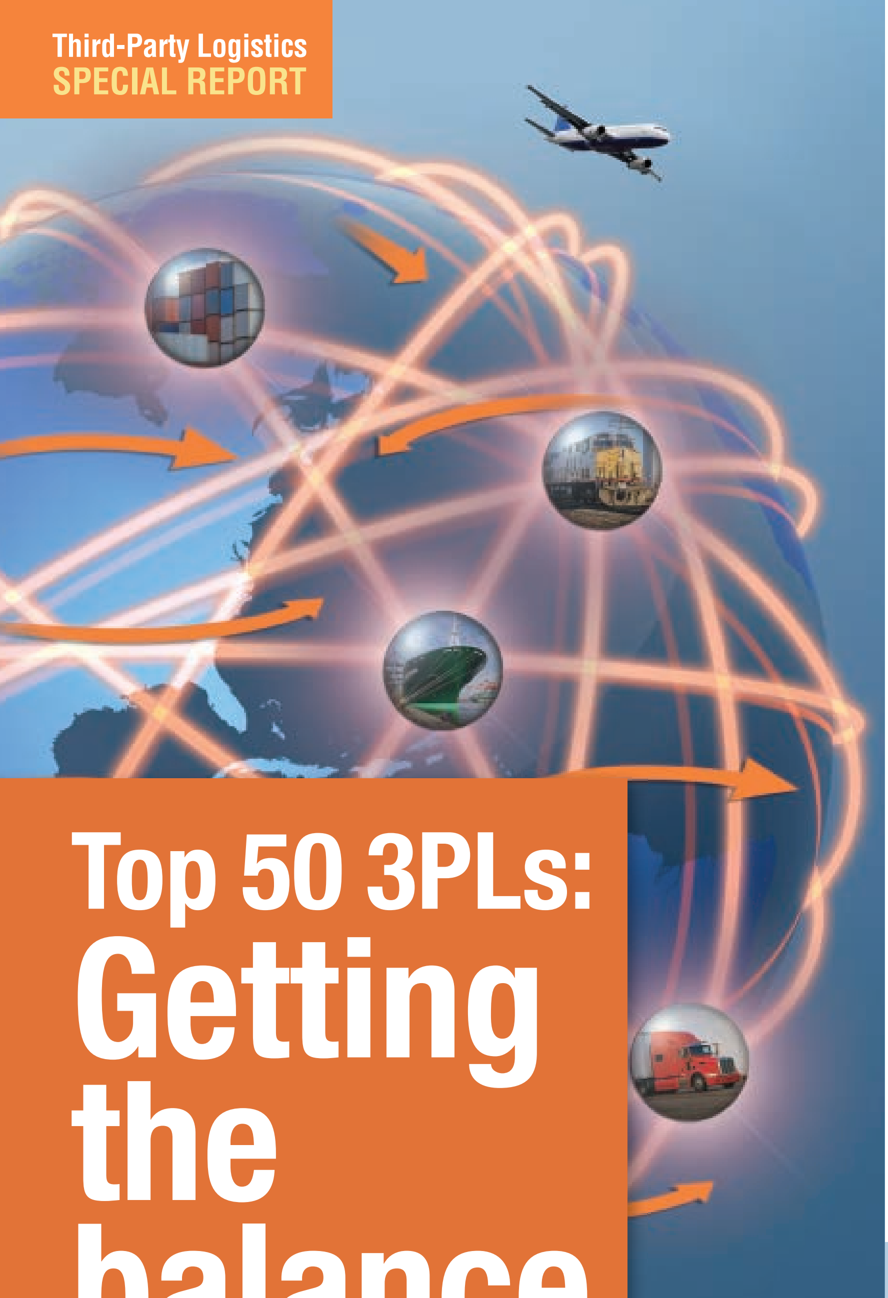

Top 50 3PLs: Getting the balance right

Establishing close relationships with "key logistics service providers" has long been a precedent with shippers the world over; however, this top priority may have faced its sternest test during the last recession. By most accounts, however, the worst is behind us, and those who are left standing—on both the shipper and service provider side—are gathered in a tight circle.

In fact, that circle could indeed become even tighter. The Institute for Supply Management's (ISM) Semiannual Economic Forecast points to continued growth throughout the rest of the year. Researchers

Continued on page 46S

According to all reports, the third-party logistics industry is surging again, but experts agree that growth will reach a plateau in the coming years due to a number of looming economic uncertainties. Here's an overview of how the market is currently shaping up.

By Patrick Burnson, Executive Editor

also suggest now that a global recovery is moving along, shippers are looking to profit from the economic rebound by engaging the most reliable third party logistics providers (3PLs) to help them stretch their supply chains into existing and emerging markets.

ISM's forecast coincides with the release of Armstrong & Associates' market analysis showing that the international transportation management 3PL segment led with a 30.1 percent gross revenue (turnover) increase over the course of 2010. According to the consultancy's chairman Richard Armstrong, third-party logistics providers are growing at multiples of Gross Domestic Product, and should be able to sustain this pace through 2011.

"The main takeaway here is that 3PLs are taking advantage of ongoing economic globalization," says Armstrong.

Revenues and profitability increased in all four 3PL segments in 2010, according to Armstrong's findings. Gross revenue increases ranged from 12.9 percent to 30.1 percent and were up 19.4 percent overall. Net revenues (gross revenue minus purchased transportation) were up 13.2 percent. According to Armstrong, net revenues are a better indicator of true business improvement because fuel related costs have minimal impact. Overall, net income increased 23.4 percent in 2010 over 2009 levels.

Armstrong's report notes that the international transportation management segment of the 3PL market led with a 30.1 percent gross revenue (turnover) and net revenue (gross margin) increases. Dedicated contract carriage followed at 13.1 percent. Overall, 3PL U.S. gross revenues jumped 18.9 percent in 2010 to $127.3 billion slightly exceeding the 2008 result. The compound annual growth rate (CAGR) for third-party logistics net revenue from 1995 through 2010 was 12.7 percent.

"When we look back, 2009 was the only negative year since we began tracking results in 1995," says Armstrong. "From 2009 to 2010, the increase in 3PL net revenue was 4.7 times the rate of U.S. GDP growth."

One driving factor of 3PL growth was world trade volumes, which increased 12.4 percent in 2010. Armstrong cites a recent report from the International Monetary Fund suggesting that freight integrators are mirroring the success of major multinationals. "Shippers are continuing to go global," says Armstrong, "and the larger 3PLs are expanding at a rate to meet this demand."

"Risk mitigation is a major concern now, and having more than one or two 3PLs working for you can be a real hedge."

—Adrian Gonzalez, Adelante SCM Corp.

Encouraging reflections

"Mirror as metaphor" is more than poetic license for Adrian Gonzalez, president of Adelante SCM Corp. He is another prominent logistics and supply chain analyst who sees encouraging reflections that the 3PL market is on the rebound.

"The numbers are very encouraging," says Gonzalez, "but we must remember just how bad a year it was for everyone in 2009. Nor do I feel that globalization is the only reason for this improvement. A lot of domestic and cross-border activity is also driving this growth."

Gonzalez says that when a shipper decides to penetrate a new market, it's not always best to go with the same 3PL one might use for North America, however. "The best provider in one country could very well be the worst in another," he says. "And you will find that most major companies would rather not put all of their eggs in one basket anyway. Risk mitigation is a major concern now, and having more than one or two 3PLs working for you can be a real hedge."

Gonzalez adds that outsourcing overseas does not necessarily mean a diminution of domestic targets. He says that manufacturers can have it both ways without "cannibalizing" their operations and those of their 3PLs. "U.S. companies are going to want 3PLs in places where they have assets and domain expertise," he says. "They'll be looking to stay close to points of consumption and production, working with logistics partners for regional advantages."

Like Armstrong, Gonzalez says this does not mean smaller "niche" players will be out of the game, however. He says that there is room for a few specialists to compete in the global marketplace—especially 3PLs focused on auto parts, pharmaceuticals, and anything related to the cold chain. At the same time, though, both men say the barriers to entry are getting higher all the time.

"This is a capital intensive business," says Armstrong, "with requirements for sophisticated supply

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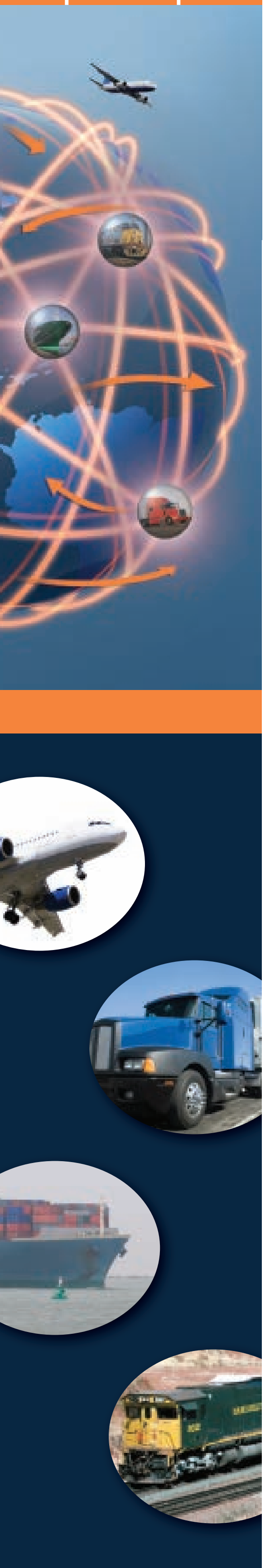
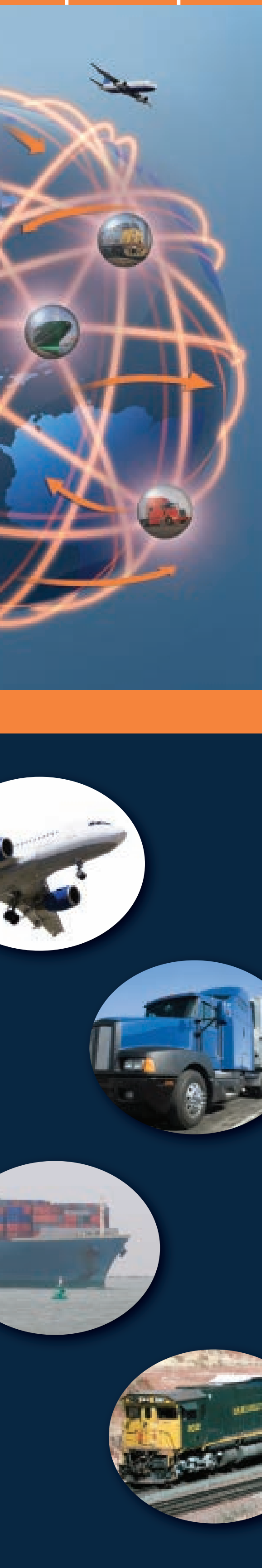


A&A's Top 50 Global 3PLs • May 2011

Rank	Third-Party Logistics Provider	2010 Gross Logistics Revenue (USD Millions)*
1	DHL Supply Chain & Global Forwarding	30,486
2	Kuehne + Nagel	19,476
3	DB Schenker Logistics	18,999
4	Nippon Express Co., Ltd.	18,450
5	C.H. Robinson Worldwide, Inc.	9,274
6	CEVA Logistics	9,091
7	UPS Supply Chain Solutions	8,923
8	DSV A/S	7,587
9	Panalpina World Transport (Holding) Ltd.	6,887
10	GLOVIS Co., Ltd.	6,303
11	Sinotrans Ltd.	6,286
12	Bolloré/SDV Logistics	6,163
13	Expeditors International of Washington, Inc.	5,968
14	Geodis	5,578
15	Toll Holdings Limited	5,303
16	Agility	5,266
17	DACHSER GmbH & Co. KG	5,045
18	Hellmann Worldwide Logistics GmbH & Co. KG	4,687
19	UTi Worldwide Inc.	4,550
20	GEFCO	4,449
21	Yusen Logistics Co., Ltd.	3,814
22	Norbert Dentressangle Group	3,769
23	Caterpillar Logistics Services, Inc.	3,465
24	Wincanton	3,408
25	GENCO ATC	3,096
26	Pantos Logistics Co., Ltd.	2,972
27	Kintetsu World Express, Inc.	2,969
28	Damco International A/S	2,700
29	IMPERIAL Logistics	2,467
30	Penske Logistics	2,433
31	Sankyu Inc.	2,146
32	Fiege Logistics AG	2,085
33	Hub Group, Inc.	1,833
34	Logwin AG	1,801
35	Ryder Supply Chain Solutions	1,735
36	Nissin Corporation/Nissin Group	1,666
37	BDP International	1,600
38	Menlo Worldwide Logistics	1,478
39	Kerry Logistics Network Ltd	1,400
40	APL Logistics	1,260
41	Arvato Logistics Services	1,215
42	J.B. Hunt DCS & ICS	1,198
43	BLG Logistics Group AG & Co. KG	1,195
44	OHL	1,170
45	VersaCold Logistics Services	1,116
46	Landstar	1,036
47	Greatwide Logistics Services, LLC	1,022
48	Werner Enterprises Dedicated & Logistics	980
49	NFI	936
50	Transplace	900

*Revenues are company reported or Armstrong & Associates, Inc. estimates and have been converted to USD using the average 2010 exchange rate in order to make non-currency related growth comparisons.



chain visibility. That means IT at the front end and back end of every enterprise. A new company would have real trouble competing in this marketplace."

Yet even at the current pace of maturation, Armstrong maintains that 3PLs have room to expand beyond current penetration levels: "Right now, it's at 20 percent of all shippers," he says. "We see it moving to 40 or 45 percent before leveling off."

Transitional phase

A recent paper called *Global 3PL & Logistics Outsourcing Strategy,* produced by researchers for London-based Eyefortransport (EFT), comes to many of the same positive conclusions. Katherine O'Reilly, EFT's executive director, says the industry "is much changed" and still in transition.

"Looking at the impact of the worldwide econom-

A&A's Top 30 U.S. Domestic 3PLs • May 2011

Rank	Third-Party Logistics Provider	2010 Gross Logistics Revenue (USD Millions)*
1	C.H. Robinson Worldwide, Inc.	9,274
2	UPS Supply Chain Solutions	8,923
3	Expeditors International of Washington, Inc.	5,968
4	UTi Worldwide Inc.	4,550
5	Exel (DHL Supply Chain - Americas)	4,200
6	DB Schenker Americas	4,072
7	Kuehne + Nagel, Inc. (The Americas)	3,831
8	Caterpillar Logistics Services, Inc.	3,465
9	GENCO ATC	3,096
10	CEVA Logistics (The Americas)	2,756
11	Penske Logistics	2,433
12	Panalpina, Inc. (The Americas)	2,204
13	Hub Group, Inc.	1,833
14	Ryder Supply Chain Solutions	1,735
15	BDP International	1,600
16	Menlo Worldwide Logistics	1,478
17	APL Logistics	1,260
18	J.B. Hunt DCS & ICS	1,198
19	OHL	1,170
20	Landstar	1,036
21	Greatwide Logistics Services, LLC	1,022
22	Werner Enterprises Dedicated & Logistics	980
23	NFI	936
24	Transplace	900
25	Yusen Logistics Co., Ltd. (The Americas)	877
26	Agility (The Americas)	840
27	FedEx Trade Networks/FedEx Supply Chain Services	783
28	Phoenix International Freight Services, Ltd.	764
29	Americold Logistics, Inc.	761
30	syncreon	750

*Revenues are company reported or Armstrong & Associates, Inc. estimates and have been converted to USD using the average 2010 exchange rate in order to make non-currency related growth comparisons.

ic situation, a notable number of total respondents (43 percent) expected their company's growth in 2010-2011 to be as strong as previously predicted, though 50 percent anticipate a slower rate of growth than predicted," she says. "These results again show great contrast when compared to those from last year, where a much lower number anticipated strong growth and a higher number expected revenues to decline."

When survey respondents were asked to predict a timescale for the global economy to return to pre-crisis levels, results were more negative than last year, says O'Reilly. The majority of respondents this year (58 percent) do not anticipate this scenario until 2012 or later, while only 16 percent of respondents last year anticipated recovery taking this long.

"Expectations for the shape of the economic rebound were only marginally more positive than last year, with a larger number of respondents expecting a V-shaped recovery as opposed to a W-shaped or L-shaped recovery," she says.

What is the future of 3PL services?

The main themes from the recent Eyefortransport survey and report *Global 3PL & Logistics Outsourcing Strategy* will be discussed and debated among 3PL CEOs and senior supply chain executives at the 3PL Summit & Chief Supply Chain Officer Forum in Atlanta, June 21-23, 2011. One of the event's prominent participants will be Kate Vitasek, faculty member at the Center for Executive Education at the University of Tennessee and founder of Supply Chain Vision, a market consultancy. In a recent interview with *LM*, Vitasek shared her thoughts on the current and future 3PL markets.

***Logistics Management* (*LM*): Will 3PLs be more reliant on intermodal options in the coming year as a hedge on energy costs?**

Kate Vitasek: Yes, as the price of energy increases and the cost differences between intermodal and long-haul truck increase, the use of intermodal will definitely continue to grow as a choice by both shippers and their 3PLs. According to a report released last month by the Intermodal Association of North America, intermodal freight volumes in the first quarter of 2011 were up 10 percent year-over-year, about three times the rate of growth in the U.S. trucking industry.

With the base price of intermodal being 10 percent to 15 percent below truckload (TL) and the fuel surcharge half as much for intermodal, shippers and their 3PLs are getting smarter, using analytics in their planning, to figure out how to leverage these cost advantages in their networks better. Intermodal not only helps to contains costs, but helps 3PLs and their clients meet sustainability goals, especially in carbon emissions reductions.

***LM:* Will shippers have fewer modal choices as a consequence?**

Vitasek: Not really. 3PLs will continue to offer all of the modal choices based on cost and service times. However, as the cost advantage of intermodal options improves in a global competitive marketplace, shippers will look for distribution alternatives, including collaboration, to meet customer delivery needs at reduced freight transport costs.

***LM:* What key competitive advantage do "mega" 3PLs have?**

Vitasek: Those "mega" 3PLs, which include service providers like DHL, UPS, and FedEx, have the resources to operate on a global scale providing pickup through delivery services. This simplifies the end-to-end process and acts as a single point of contact for the shipper and a clear competitive advantage versus dealing with 4PLs and clusters of individual logistics related firms.

The "mega" network of shippers and carriers of the top tier 3PLs is also emerging as an opportunity to gain shipping efficiencies through multi-client optimization. For example, a large, well-designed network of carriers and shippers enable efficient continuous move, backhaul, pooling, and intermodal—all of which yield a cost advantage if applied right. The optimization technologies are now capable of supporting these models.

***LM:* How do upstart players capture share?**

Vitasek: There is an emergent role for innovative players in the 3PL marketplace to offer higher-value services, tailored to individual and collective clients needs. A fascinating example is the recent advent of Integrated Delivery Networks (IDNs) in the health care supply chain and the 3PLs that can provide the highly specialized, time-sensitive management of these goods. Canada may be ahead of the U.S. in exploiting this real collaboration among hospitals, clinics, and other health care providers, but IDNs with specialized 3PLs are rapidly catching on here. And the cost savings are obvious and sorely needed.

***LM:* What should shippers be looking for when contracting over the long run?**

Vitasek: Shippers and 3PLs should invest in taking their contracting relationships to the next level, what we call "Vested Outsourcing." This involves creating a win-win working relationship focused on a clear understanding of the desired outcomes of both parties, mutual trust and respect between them, incentives for innovation on the part of the 3PL, and pricing that offers the 3PL with reasonable profits and the shipper with a clear sense of value.

—Conducted by Patrick Burnson

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> "The main takeaway here is that 3PLs are taking advantage of ongoing economic globalization."
>
> —*Richard Armstrong, Armstrong & Associates*

The EFT survey also looked at the measures being taken by 3PLs to combat the continually challenging global economic conditions. The most popular responses were reducing costs through internal efficiencies (81 percent), concentrating on core markets (51 percent), diversifying product offering (49 percent), being very selective with new customer accounts (46 percent), ceasing to work on existing unprofitable accounts (44 percent), asking contractors for lower prices (41 percent), and looking for strategic mergers and acquisitions (38 percent).

"The results were broadly similar to those seen last year, although this year saw notably fewer respondents cutting jobs or asking contractors for lower prices, and slightly fewer reducing expansion plans," O'Reilly says.

Respondents representing 3PLs were also asked to identify the geographical regions that provide them with the greatest opportunities, with China (59 percent) and India (43 percent) being the most common responses. The most notable change here was the large reduction in 3PLs seeing opportunities in Eastern Europe, and the notable increase in opportunities seen in North America.

"Our survey asked 3PLs what they think shippers are looking for when choosing a new 3PL," O'Reilly adds. "The majority of 3PLs thought lowest price and best quality service were the factors of most importance to their customers, with slightly more importance being placed on lowest price than best quality service."

Shippers were then asked to identify what they are looking for when choosing a new 3PL, with results showing a marked difference. While 3PLs thought most importance would be placed on lowest price, shippers actually placed most importance on best quality service. In fact, 58 percent of responding shippers said they consider service most important, as opposed to 18 percent for lowest price.

EFT also examined whether shippers have recently switched 3PLs or are currently planning to switch to a different 3PL. Results, says O'Reilly, "proved interesting," with 47 percent of shippers having changed or planning to change 3PLs over the past 12 months. Of these, 31 percent were changing as a result of service while 16 percent were changing due to cost; however, of those not changing 3PL, a greater number (34 percent) reported not doing so because of cost as compared to those not doing so because of service (19 percent).

Wild ride for lead logistics providers

Transport Intelligence, another London-based think tank, has come up with similar findings in its recent *Contract Logistics* report. But it says that the U.S. market is more difficult to assess.

The U.S. debt and budget problems are depressing demand and undermining confidence, yet there are clear signs that 3PLs are continuing to grow both in the domestic sector and for international traffic. Canada and Mexico are strong economic performers and are likely to expand across all logistics sectors in 2011.

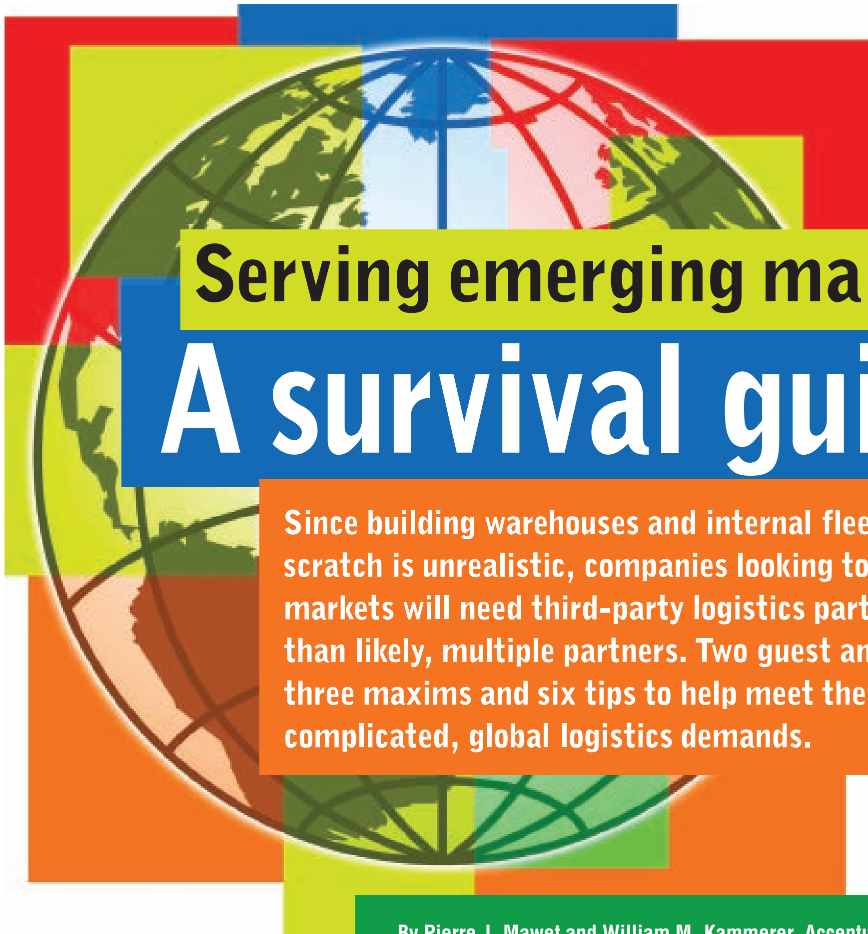
"Therefore global trends suggest demand is capable of supporting the sort of growth seen in the global logistics market over the past six months," says Cathy Roberson, Ti's senior North American analyst in Atlanta. "As ever, the joker in the pack is oil prices. These are presently high despite moderate demand in western markets."

Roberson says that even if a restrained recovery in consumer spending takes place in U.S., the oil price might increase to levels capable of suppressing demand for transport.

Yet Roberson says that there are a surprising number of good opportunities available for acquisitive companies, not only in emerging markets such as the Middle East, but also in the developed world. Like other analysts we spoke with for this report, she agrees that there are still large targets that may come on to the market.

"Take a look at private equity owned CEVA, and a number of aggressive Asia Pacific businesses with the cash and the will to buy them, such as Toll," says Roberson. "This industry is clearly on the move, and it's going to be a wild ride."

—Patrick Burnson is Executive Editor of Logistics Management



Serving emerging markets: A survival guide

Since building warehouses and internal fleets from scratch is unrealistic, companies looking to reach new markets will need third-party logistics partners—more than likely, multiple partners. Two guest analysts share three maxims and six tips to help meet these often complicated, global logistics demands.

By Pierre J. Mawet and William M. Kammerer, Accenture

For several decades, the business relationship between mature economies and developing countries was mostly "one-way." Materials, components, and finished goods were produced "over there" and shipped "here." However, today's reality is different.

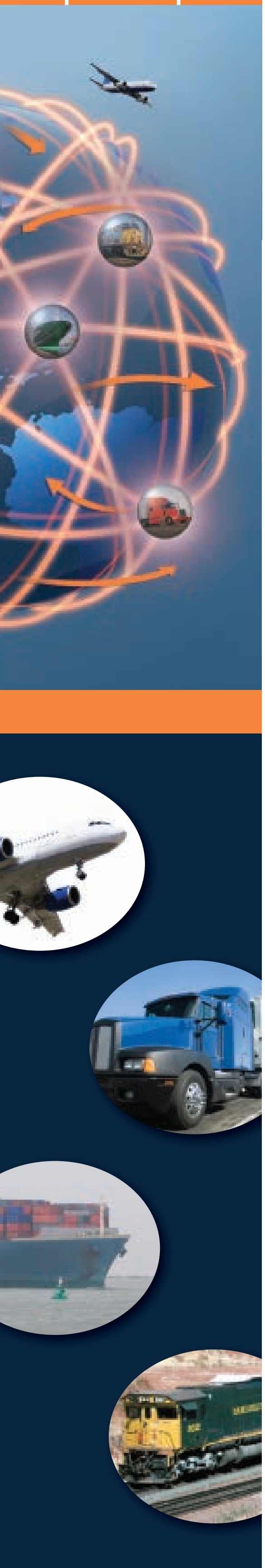
Many "low cost" countries in Asia, South America, and Eastern Europe have come into their own as consumers, so their involvement with mature economies is increasingly bi-directional. Consider the results of a survey conducted by Accenture and the National Association of Manufacturers: Among large companies (revenue exceeding $10 billion), North America's share of market is projected to drop by more than 5 percent between now and 2013, while Asia's should rise by the same amount over the same period.

For global shippers, the implications of this shift are dramatic. From an opportunity standpoint, emerging markets are clearly the growth markets. But from an operations standpoint, things are murkier, with potentially new capabilities needed to ensure security; assess and mitigate risk; track and manage assets; surmount infrastructure limitations; analyze the impact of rising labor rates; interact with regulators and customs officials; and leverage broadly varying tax and regulatory policies.

Now, let's examine three supply chain maxims for companies seeking to meet the logistical demands of a new marketplace.

1. Risk assessments and tradeoff analyses should be a top priority. In emerging markets, higher levels of political, economic, financial, and operational risk are a certainty, at least in the short-to-medium term. Take infrastructure: Poor roads outside of central cities; insufficiently developed ports; and less-available, less-secure warehouses are commonplace.

Another risk is legislative. In emerging markets, for example, companies must often deal with more corruption, less-orthodox and less-codified business rules, and more nod-and-wink agreements. At the same time, there are fewer protections. In mature economies, companies are generally confident that laws and regulations will protect them. However, in emerging markets, there is less chance that authorities can or will insulate companies from dubious practices. It's important to keep in mind that things companies count on



"here" cannot be counted on "there."

Perhaps most important, companies focused on emerging markets will find that more is riding on their ability to assess risk and analyze tradeoffs. Take Brazil—a particularly fast-growing market. Is it preferable to build capacity in Brazil to serve the local market or to build in nearby Colombia? After all, building in Colombia is less expensive than building in Brazil, but shipping into Brazil is more expensive than manufacturing in Brazil for in-country sales and consumption.

On the other hand, if your efforts to tap the Brazilian market are unsuccessful, your physical assets in Brazil cannot be redirected to other countries. Unlike Brazil, however, Colombia allows foreign production assets to also serve other Latin American countries or even the United States. Thus the tradeoff is balancing higher operating expenses to serve the Brazilian market (and potentially others) from Colombia versus the higher capital investment, higher risk but lower operating expenses associated with developing Brazilian facilities.

2. New capabilities invariably will be needed. There may be little similarity between the capabilities needed to move goods and materials across developed markets or from low-cost countries into developed markets and the qualifications required to move goods and materials from developed countries into or around emerging markets.

The most fundamental difference is that, in the latter scenario, the challenge is more than just moving the item. When dealing with less-sophisticated markets, for example, a company's primary medium for receiving item requests could be as "traditional" as faxes or even delivery via post.

As a result, it may be necessary for a company to reassess and revise its most basic order management capabilities. In fact, many rudimentary structures and protections that companies are used to in the U.S. and the European Union (safety standards, hours of service, "responsible care" standards, security measures, etc.) are often weak or non-existent in emerging markets.

Along the same lines, the level of supply chain execution that many companies take for granted depends heavily on access to reliable, accurate, end-to-end data. However, many emerging markets are populated mostly by less-sophisticated logistics services (truckers, consolidators, stevedores) that can neither provide nor leverage in-depth supply chain information.

Moreover, because building warehouses and internal fleets from scratch is probably unrealistic, companies will need partners—more than likely, multiple partners. This will require coordination, guidance, and training by the organization that engages them that in turn means acquiring a fairly deep understanding of local laws, customs, and capabilities, as well as some command of the language. Marshalling a fleet of 100 trucks could require separate relationships with numerous, low-tech companies, each of which provides only a handful of trucks.

Reverse logistics may need to be reinvented in much the same way. There may be established processes in the U.S. and Europe for handling returns, but this is not the case in places like India, where such capabilities will probably have to be developed internally or with the help of an external partner.

In emerging markets, for example, companies must often deal with more corruption, less-orthodox and less-codified business rules, and more nod-and-wink agreements.

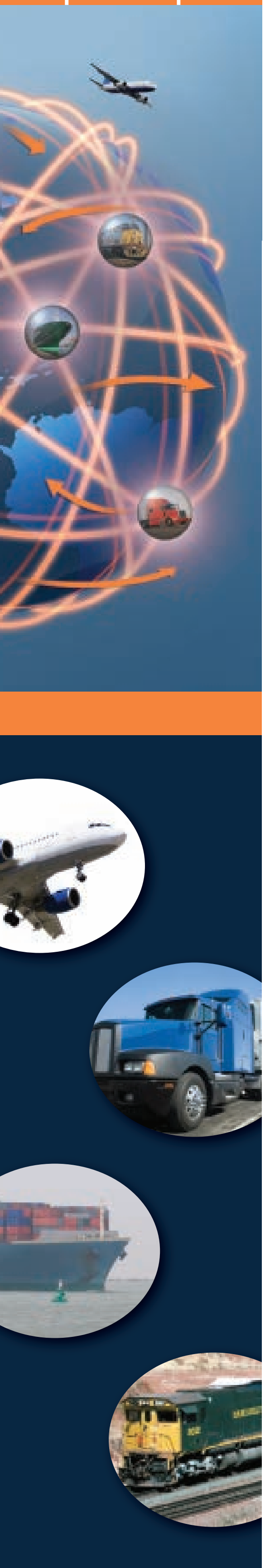
However, the latter is unlikely to be a simple turnkey operation that will process returns orders, handle distribution, and coordinate shipping. After all, reverse logistics can be a somewhat fledgling science even in developed countries. In some emerging regions, reverse logistics is barely on the radar screen.

The net effect is that establishing the capabilities you need to serve emerging markets is certain to be more complicated, expensive, convoluted, time consuming and training intensive than you think. Begin by resetting your expectations.

3. Finding the right local partner(s) is key. In recent years, consolidation has been rampant in third party logistics (3PL) market. This could make it somewhat easier to engage a mega-provider with insights and capabilities tuned to a specific market such as Brazil or India. In areas where these services operate, it would be the service provider's job to marshal and coordinate local providers to fill in the gaps.

However, there are many places where Tier One logistics providers don't yet operate; and even if they do work in a particular region, it may still be necessary to work directly with a local services provider. The essential goal (however elusive) is "integrated fulfillment"—whether coordinated by a major 3PL or by you.

Throughout the developing world, smaller, privately owned logistics companies are still the rule: fewer assets, fewer routes, less sophistication, and typically higher prices. And although some governments (China, for example) may demand that you use a certain percentage of local services, many of those



same rulemakers also encourage their smaller outfits to partner with the heavy hitters. These countries believe such partnerships are good for development and that they encourage investment in trucks and facilities.

But even if the use of local partners isn't mandatory, these local entities may still be important to help you navigate legal hurdles, negotiate customs, access local infrastructure, and understand and meet customers' expectations.

For example, local partners often help their clients access alternative transportation modes: Because most mature economies have extensive road systems and myriad transportation assets, we may be inclined to think that 48-foot and 53-foot trailers are the default asset type everywhere. Not true. In most emerging countries, road arteries may not be very advanced and thus smaller vehicles are preferable. But because these may be outside the scope of a shipper's expertise, working with a local partner becomes critical.

Following are some other observations about working with local third party providers:

• **Price comparisons will be difficult.** Pricing rates as well as structures will vary considerably among providers, not just among countries. As you shop, expect to compare apples to oranges. Moreover, the "price" may not be equal to the total cost, as we note below.

• **Added costs are inevitable.** Local service providers help you deal with local complexities and customs; but all that assistance (fees, taxes, last-minute add-ons) will inevitably show up on an invoice. Great care will be needed to understand what your costs should be—i.e., what additional fees are legitimate and which ones are inappropriate. One reason for astute invoice audits is that significant legal penalties may be assessed if a company is found to have knowingly supported improper practices—for example, agreeing to pay a bill that includes under-the-table arrangements.

• **Your contract is not a guarantee.** The existence of a contract does not mean that un-discussed or un-itemized fees won't show up on an invoice. In some cases, your relationship with a global 3PL may help you avoid these problems, but even that is not a guaranteed hedge against surprises.

• **Understand the tax and regulatory implications for doing business in a particular country or market.** These may be particularly complicated when dealing with a local services provider. New legislation in emerging markets is generally added to protect the local economy—not your company. Understanding these regulations in advance could save you a great deal of frustration and time. Also look to leverage Free Trade Zones, because many emerging markets are developing these to stimulate commercial activity within their countries.

• **Be diligent about due diligence.** Make sure the third-party logistics provider that says it can provide a complete service can actually provide that service, and that it is not just assuming it will "find a way" when the time comes. Even the Tier One 3PLs haven't achieved perfection in every market, so don't presume that because they are terrific in the U.S. and EU, they will perform similarly everywhere else.

Many emerging markets are populated mostly by less-sophisticated logistics services (truckers, consolidators, stevedores) that can neither provide nor leverage in-depth supply chain information.

• **Don't conclude that lower fuel prices are the norm in an emerging market.** Some emerging economies (Russia, China, Vietnam) do enjoy relatively low fuel prices. But, as we've found, the exact opposite may be true in other countries, such as Brazil and South Korea. And as noted previously, it may be an apples-to-oranges comparison if trucking is a less-predominant mode of transportation in a given country or region.

In net, when it comes to partnering, the bottom line is twofold. First, one or several local partners will almost certainly be needed to help manage in local markets. Second, a great deal of research will be needed before reaching a decision about who the optimal partner (or combination of partners) may be.

The logistical characteristics of emerging markets are very different from those in more mature economies—more different than most companies might expect. What's more, even companies that acknowledge these difference may not be aware of how difficult, time consuming, and expensive it will be to build, acquire, and coordinate the capabilities needed to operate effectively in emerging markets.

In all likelihood, it will be more complicated, more time consuming, and more expensive than you think. Patience, savvy risk assessment, comprehensive due diligence, and training are only some of the essential prerequisites.

About the Authors

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CASE STUDY

Samaritan's Feet: The Trials & Triumphs of a Global Non-Profit

Third-party logistics, transportation, and technology partnerships in action for the *greater good*.

By Christopher Norek, Brian Gibson, and Manny Ohonme

The supply chain management themes we've heard for years—improve operations, get lean, and reduce costs to improve profits—mainly target for-profit companies. Less attention has been paid to the supply chain challenges faced by non-profit organizations, and even less to those non-profits focusing on humanitarian aid. Like their counterparts in the private sector, non-profits must continuously improve their supply chain operations to control costs. Yet their ultimate goal is not to increase profits, but to ensure that the greatest portion of donations and resources go toward helping those in need.

Samaritan's Feet is one such example. It is estimated that more than 300 million people wake up each day with no shoes to wear. Children, in particular, are at the greatest risk of contracting these infections, diseases and parasites from lack of footwear. While drugs can be used to treat patients (if any drugs are available), the real opportunity lies in the prevention of these problems. This is the mission of Samaritan's Feet (SF).

SF is a non-profit organization that was started by Nigerian-born Manny Ohonme, co-author of this article. When he was nine years old, Manny began seeing the world differently after a stranger from Wisconsin gave him his very first pair of tennis shoes at a basketball camp in Lagos, Nigeria. That first pair of shoes was the inspiration that led him to a basketball scholarship at the University of North Dakota–Lake Region and in 2003 to the founding of Samaritan's Feet.

SF today joins forces with its global community of more than 80,000 volunteers around the world, committed to making a difference in the lives of children. Ohonme and his team set out to accomplish a monumental task globally that started as a dream and, despite many stumbling blocks, has already turned into reality for more than 3 million impoverished children in over 60 nations worldwide.

Supply chain issues and challenges

SF's mission is to protect people from harm's way by providing them with much-needed shoes. The goal is both clear and ambitious: to put 10 million pairs of shoes on the feet of 10 million children in the next 10 years. While the mission and goals are simple enough, the task of moving shoes across global supply chains to people in need is anything but. In fulfilling its mission, the organization encounters many logistics and supply chain challenges. Some of these are unique to the non-profit world, while others transcend organization type to impact for-profit companies and

non-profit humanitarian aid organizations alike.

In addition to the typical issues of language barriers, cultural differences, and regulatory red tape, SF encounters supply chain challenges related to product, warehousing, inventory, transportation, and third party services. This article addresses each of these supply chain challenges along with the solutions that Samaritan's Feet has applied and the lessons learned.

Product: All donations are not created equal

The Challenges. Donations are the lifeblood of non-profit organizations. Monetary gifts are particularly beneficial because they are readily transferable to the locations of greatest need with limited effort or minimal additional cost. In SF's case, monetary donations can be used to direct-source shoes from vendors near demand points, thereby avoiding unnecessary transportation expenses. Also, these cash donations give SF leverage to procure shoes at discounted prices, which often means that the organization can buy more product for its money.

Bulk donations of new shoes also are beneficial and processing the receipts is relatively straightforward. However, these donations are not always well-aligned with demand from the standpoint of time or geography. Hence, SF may incur inventory-carrying costs to store bulk donations until they are needed, and then transportation costs to move the goods to demand locations.

Though donors have the best of intentions, some footwear does do not fit SF's mission. The organization focuses primarily on distributing new athletic shoes. It also distributes school shoes, sandals, and EVA foam shoes. Donations of other types of footwear (dress shoes, high heels, boots, for example) bring logistical and disposition challenges. SF needs to find users for these items; merely discarding them is not an option.

The Solutions. A simple solution to the donation dilemma would be to accept only cash contributions and purchase new shoes with this money. Yet to do so exclusively would reduce total donations and de-personalize user experience and the SF mission. It would also preclude individuals and groups from directly engaging with SF and the connection to people in need. So Samaritan's Feet actively encourages interested groups to conduct shoe drives and provides a step-by-step process for running a successful campaign. To assist in the effort, SF will assign to the fundraising group an "ambassador" who understands the organization's donation needs and supply chain constraints.

Many of the 80,000 global volunteers assist with the time-consuming activities of sorting and processing donations at the SF warehouse in Charlotte, N.C., and other locations around the world. For those shoes that do not fit the desired profile, SF seeks out organizations that can use them in their assistance programs.

The Lessons Learned. Just as for-profit companies benefit from collaborating with suppliers, SF has learned that it can build stronger relationships with donors that go beyond contributions. The following opportunities have been identified:

- Engage donors in the distribution process to improve supply chain efficiencies. The more donors are involved in the process, the more likely they will be to support and participate in supply chain improvement efforts.
- Enlist key supply chain leaders and volunteers from logistics, retail, and manufacturing with specific resources and expertise to drive projects, tasks or entire operations.
- Pursue new opportunities with donors and donations that don't fit the SF profile. For example, have them send worn out shoes to a recycler who then pays SF for the recovered materials.

Warehousing: Creating a responsive distribution network

The Challenges. Unlike many non-profit agencies that have a local mission and limited scope of operations, SF has a global vision that has rapidly evolved. While the organization has been able to respond to needs around the globe, the process has not always been a model of long-range supply chain planning and strategic network design. In reality, the network has been cobbled together as best as possible to meet immediate needs.

Complicating matters, to gain access to large-scale donations, SF must defer to the stipulations of its donor organizations. This means taking donations wherever and whenever they are made available—regardless of any inconvenience or

incremental cost. Thus, it is essential for SF to build flexibility and agility into its distribution network. Failure to do so could result in donor frustration and fewer partnering opportunities in the future.

Warehousing is key to creating a responsive network. Like all growing organizations, Samaritan's Feet needs affordable and strategically located facilities to promote operational efficiency. Moreover, these facilities need to be relatively clean and secure to protect shoes against damage and theft. That's a hard enough combination to find in the United States—and a virtual impossibility in many developing countries.

The Solutions. SF has been working feverishly to keep pace with its storage needs for several years now. The receipt of 1.44 million pairs of shoes in 2009 quickly stretched SF's original Charlotte, N.C., distribution facility beyond its capacity. Rapid expansion was an absolute necessity and the organization acted quickly. It established primary storage facilities in the United States, Africa, and South America as well as temporary facilities on an as-needed basis.

SF relies on partnering and creative solutions to address its growing storage needs. Rather than purchasing or leasing dedicated facilities, it often chooses to partner with other organizations to share capacity in suitable facilities. The organization also leverages the partner's relationships and knowledge of warehousing options in particular countries.

If appropriate space isn't readily available, SF must become a bit more creative. In some cases, the organization will seek out a partner with a secure compound to hold the product. If SF can safely and securely do so, it will purchase a used seaworthy container, ship it with product from origin, and drop it in a secure compound.

The Lessons Learned. Agility is not the exclusive domain of for-profit supply chains. SF needed to establish flexible capacity and develop creative solutions to enhance distribution network efficiency. Relevant opportunities identified include:

• Avoid owning and leasing facilities whenever possible. This helps to scale global capacity up or down as dictated by major donations, special projects, and demand.

• Use alternate sources of labor to keep warehouse wage expenses manageable. Going forward, SF will increasingly utilize volunteers and interns in their facilities.

• Strategically align with companies that have available capacity to donate and the capabilities (network contacts, board members, and so forth) to support SF's network.

Inventory: Visibility into geography and nature of demand

The Challenges. Even though Samaritan's Feet is a non-profit and relatively young, it experiences the same visibility headaches of a multinational for-profit company. With seven distribution facilities on three continents and a willingness to bring shoes to any location in need, SF faces a huge task in maintaining effective inventory oversight. It cannot be demand-driven and needs-responsive without adequate and up-to-date knowledge of inventory levels across its network.

Adding to the complexity of inventory visibility is the product variation of the shoes distributed. Inventory information by size, gender, and style must be captured and monitored at the distribution locations. SF needs this information to effectively replenish depleted inventories while avoiding unnecessary movement of shoes that may already be in strong supply at a particular location.

A final inventory visibility problem relates to SF's willingness to mobilize the inventory and serve remote regions of the world. This has led to the wide range of permanent and temporary storage facilities in the SF network. While SF's permanent distribution operations can leverage inventory management technologies and processes, other facilities are relatively primitive and unable to benefit from standard operating procedures.

The Solutions. SF recognized that a multiple facility, complex inventory scenario is best solved with a robust warehouse management system (WMS). Given the variety of facilities in the network and the organization's desire to limit its investment in technology, SF felt that


You don’t have to have super powers
to manage today’s LTL rates...
...just a super partner

the best solution would be a web-based WMS—that is, a Software-as-Service (SaaS) model. After considering the options, SF implemented RedPrairie's Smart Turn WMS solution to maintain visibility across its network. This solution actually simplifies the process even in remote locations

The on-demand application enables SF to have WMS capabilities in all facilities regardless of infrastructure type and sophistication. Another benefit of a SaaS tool is that there is no infrastructure to install, maintain, or remove when locations are added, eliminated, or moved. Ultimately, SF was able to establish a critical combination of inventory agility, accuracy, and insight for its network.

The Lessons Learned. Just as for-profit companies benefit greatly from demand visibility so does SF. The organization has an acute need for a single view of inventory worldwide to be able to balance its product mix. To better respond to immediate needs and future projects, SF must:

• Identify and train regional coordinators in inventory management. Even with automation, there is a significant human component involved in tracking and managing inventory. Regular oversight and inventory updates at the regional and country levels also limits inventory shrinkage.

• Fully capitalize on the ability of the web-based WMS to collect and manage data remotely. Simplified processes help shorten the learning curve of training and reporting of good data. Making reporting less cumbersome and less complicated will help ensure regular and accurate updating.

• Leverage available mobile technology (smart phones, tablets with a simple mobile WMS application) rather than PCs or even costly notebook computers for inventory tracking and management. Mobile applications enable SF to get instant updates from any warehouse location in the world as well as the ability to report on a move from anywhere.

Transportation: Securing capacity and low costs

The Challenges. SF's largest expense outside of shoe procurement and travel is freight transportation. Like all shippers, it must overcome capacity constraints, rising rates, and in-transit product safety issues. In addition, SF encounters transportation flow challenges as their destination points may be remote and the routes unconventional to say the least.

Throughout the recession, available transportation capacity had shrunk. Some of this was due to carrier bankruptcies; in other cases, carriers reduced capacity to maintain rates and counter the effects of lower demand. The net result has been the removal of excess capacity from the system, capacity that SF previously sourced as donated backhaul transportation.

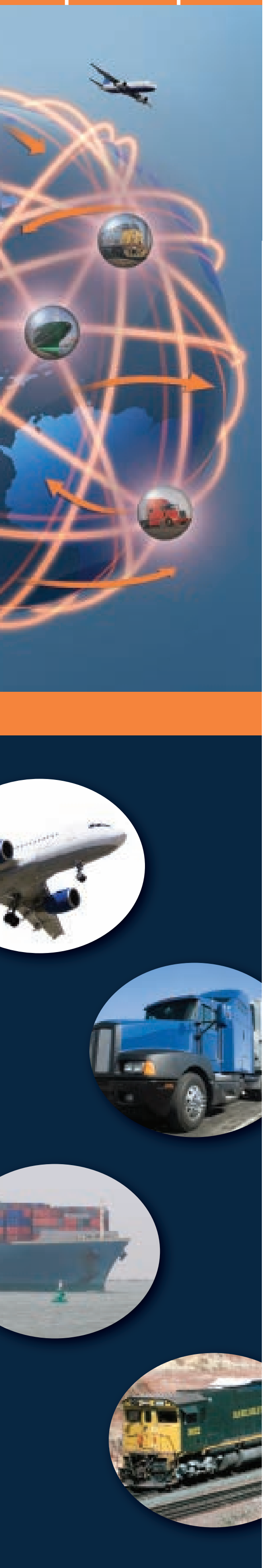
Combine delivery to some of the most troubled parts of the world with a product that is coveted by thieves and the real magnitude of the transportation challenge becomes crystal clear. Getting the product to the destination port is in many instances the easy part of the trip. The real headaches begin at the destination port during the entry process and persist on to the final leg of delivery.

The Solutions. Samaritan's Feet has taken a multi-pronged approach to overcoming transportation obstacles. First, it brought in knowledgeable transportation experts to manage freight flows and develop creative solutions to its freight predicaments. Unlike many non-profits, SF now has on staff a full-time director of logistics and supply chain. Supply chain experts also serve as members of the organization's Board of Directors and Board of Advisors.

Because SF doesn't have consistent volume, it is difficult to lock in needed capacity and low rates with transportation contracts. Fortunately, the organization's freight flows on low-demand backhaul routes in some regions of the world. So occasionally this presents opportunities for SF to seek partnerships with carriers and intermodal companies to move freight at reduced backhaul rates. Ideally, the freight will move as a donated service from the carriers, though this is rarely the case.

To minimize the risk of product loss, SF closely monitors freight flows for potential problems and works to avoid political hotspots. Likewise, it seeks to limit dwell time at ports where the athletic shoes become prime targets for theft. SF seeks to partner with people who have a strong track record of quickly clearing goods through customs.

The Lessons Learned. With global shipping capacity decreasing and rates increasing, a not-for



profit has to be very creative in transportation arrangements. Some opportunities are to:

• Increase the use of intermodal (piggyback) where available to counter the capacity crunch and rate increases of over-the-road truckload.

• Seek in-kind donation of transportation from moving companies like North American Van Lines who have shared backhaul capacity as well as providing deep discounts to move last-minute shipments or donations.

• Partner with third party transportation management companies and use their rate umbrella to secure the best rates.

• Seek additional backhaul opportunities to international locations that are primarily exporting to (rather than importing from) the United States.

3PL Partners: Never too many cooks in the kitchen?

The Challenges. It's hard to say no to offers of help when you do not have an abundance of in-house supply chain expertise or resources. A relatively young non-profit like SF doesn't have the financial wherewithal to staff and manage facilities in every region in which it is trying to help people. Thus, the assistance provided by 3PLs is both appreciated and essential. Third parties possess the capabilities, infrastructure, and knowledge needed for operational efficiency in regions where SF has a limited presence.

Problems can arise, however, when the pool of service providers grows rapidly and the supply chain network becomes fragmented and dysfunctional. Yet while SF feels that there can never be "too many cooks in the kitchen," this situation at times had made the organization vulnerable to certain supply chain problems. These include the following: simple processes became difficult, cumbersome, and inconsistent across regions; communication challenges arise, especially when dealing across cultures; and maintaining a global view of inventory becomes more difficult. In short, SF needs to be ever vigilant that the presence of multiple third parties never impedes its mission of serving people in need.

The Solutions. Intelligent partnering is the key to success for non-profits like Samaritan's Feet. The organization learned the hard way that not every offer of help should be immediately accepted. The capabilities of potential partners must be vetted, their market expertise verified, and their fit within the existing network assessed. This qualifying process needs to take place before any working relationship is established.

The Lessons Learned. SF has to be proactive in identifying requirements and partners, particularly in areas where proven capabilities are weak or absent. Some opportunity areas that should be pursued include:

• For each project, clearly map out which resources are needed (people, transportation capacity, storage capacity, etc.), the quantity of resources needed, and the required timeframe.

• Do capability and capacity checks of 3PLs to be used in each country before engaging them. This would include conducting reference checks on the providers to ensure that they have the capabilities they claim to have.

• Continue to reach out to other non-profits around the world. Compare and contrast operating footprints and expertise to better identify partnership opportunities.

• Become familiar with variances in customs processes across countries.

In its brief lifespan, Samaritan's Feet has encountered significant supply chain challenges on the way to becoming a truly global operation. The ability to identify and execute innovative solutions to meet these challenges has helped the organization mature and expand its services to more people in need in more locations of the world. The good news is that SF is quickly moving toward its goal of putting 10 million pairs of shoes on the feet of 10 million people in 10 years—the 10/10/10 goal. Solid supply chain management is a critical part of that effort.

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Authors' note: *Readers interested in helping with Samaritan's Feet are invited to contact Manny Ohonme at manny@samaritansfeet.org or call toll free 1.866.833.SHOE (7463). To learn more about Samaritan's Feet, visit www.samaritansfeet.org.*


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SPECIAL REPORT

A SPECIAL SUPPLEMENT TO
SUPPLYCHAIN MANAGEMENT REVIEW

Capturing *the* Potential *of* Education

Capturing *the* Potential *of* Education

Executive education programs today are focusing on the "hot" supply chain topics. Here's a look at what's available and how you can take advantage of these offerings.

By Bridget McCrea, Contributing Editor

Whether they want to get back to the basics, increase their firms' global presence, or more tightly intertwine their companies' end-to-end supply chain, today's supply chain professionals are turning to universities, professionals associations, and consulting firms for the education required to achieve those goals.

Education providers are answering the call, combining new course offerings with convenient delivery methods to reach all corners of the supply chain profession. In this supplement, we'll look at what's new and "hot" in executive education in the supply chain space, look at what several schools are doing to make sure that they're meeting student needs, and give you insights about what's coming around the next corner.

Back to Basics, Please

With the national economy slowly improving and companies in recovery mode after a few tough years, more attention is being paid to the supply chain. Organizations are examining how well the supply chain is working, the role it plays in a firm's overall success, and any related deficiencies or gaps that need attention. "There's definitely a focus right now on getting 'back to the basics' with supply chain-related education," says Don Ratliff, executive director for Georgia Tech's Supply Chain and Logistics Institute in Atlanta.

"Companies want to make sure that their supply chain and logistics people understand basic inventory, transportation, warehousing and supply chain strategy," Ratliff continues. "There's a lot less interest in the 'gee whiz' stuff that firms were asking for just a few years ago."

Credit the economic downturn with stoking that grassroots mentality, which is driving companies to develop leaner supply chains, for example. "We're still not quite past the economic downturn," says Ratliff, "so the focus is still on making sure a firm has the basic blocking and tackling down; lean falls under that umbrella."

Ratliff's team at Georgia Tech also is fielding a high number of company-specific queries right now. Most of the questions concern supply chain challenges that the firm is grappling with, with an eye on solving them through "live" continuing education (as opposed to online message boards or other virtual means). "In some cases," says Ratliff, "you really need to be able to sit down and talk these issues out face-to-face in order to get them solved."

Companies Speak Up

At the University of Tennessee's Global Supply Chain Institute in Knoxville, executive education programs are being adapted to meet the needs of the companies like Coca Cola, Procter and Gamble, Honeywell, and Amazon. "These firms meet on campus a couple of times a year," says J. Paul Dittmann,

the institute's executive director. "Through those interactions, we hear a lot in terms of what they're looking for in their supply chain education."

One area that's getting a lot of attention these days is the global supply chain and how it's being supported through executive education offerings. "Most supply chains are global in nature," says Dittmann. "The question is, how many good educational programs are available to executives that need a strong learning component that's focused [specifically] on supply chain?"

The pickings are slim, according to Dittmann, whose group recently introduced a global supply chain executive MBA program to help fill that gap. And while multiple universities offer executive MBA programs, he says that this new offering was developed around the need to "carve out a niche in the global supply chain arena."

In developing the new program, the University of Tennessee once again turned to the 30 or so global supply chain executives active in the school's Global Supply Chain Institute, all of which had the opportunity to give their input into the program's design. "Using that input, we put together a supply chain curriculum with a strong global focus," says Dittmann.

The 12-month global program includes residencies in Knoxville as well as in Paris, Budapest, Singapore, and Rio de Janiero. "Students will spend five, one-week residencies on campuses around the globe, and receive instruction from international faculty," says Dittmann, who is bullish on the program's potential for attracting students. "We think there will be big demand for this."

Penn State University's Smeal College of Business is also seeing higher demand for global supply chain education, according to Skip Grenoble, executive director for the Center for Supply Chain Research in University Park. "Global opportunities for [companies] are definitely on the upswing and will continue to increase," says Grenoble.

To accommodate that trend both in terms of individual courses and for custom programs, the center this year will offer courses in Belgium, Prague, Saudi Arabia, Singapore and Shanghai. The phenomenon works both ways in that Penn State is also hosting more international supply chain executives who come to the U.S. to learn the ropes.

"We also have a group of wholesale and retail junior executives from South Africa who are potential managers, and who are set to come through our program in a few months," adds Grenoble. "We're seeing more and more of that kind of international representation in our courses."

Hands-On Action Learning

Whereas in the past companies were satisfied with the coursework provided by the school or organization they were working with, today those same firms are rolling up their sleeves and taking a more hands-on approach to executive education. This type of "action learning," is catching on, particularly among firms that are looking for custom programming options.

"There's definitely a desire to build project work into the courses," says Grenoble, whose school offers a two-week basic learning program that includes a short break followed by a 3-1/2 day program on transformation. Students start on their project work during the first week, continue working on it during the break and then come back to report the results of their efforts.

Grenoble says interdisciplinary content is also in high demand. To answer the call, he says the Center for Supply Chain Research is broadening its content offerings to deliberately include speakers and/or instructors who can discuss non-supply chain disciplinary areas.

"More and more we're using faculty from other disciplines for the supply chain courses," says Grenoble. "Right now, our programs are being led by finance, accounting, management, organization, international business and industrial engineering experts."

Don Klock, professor of supply chain management at Rutgers Business School in Newark, is a big proponent of blending supply chain management programs with marketing science. "We're serious about

linking the instruction to both customers and consumers," says Klock, whose team comprises over 30 professors, some of whom are supply chain experts, while others are marketing gurus.

"We work very hard at achieving that integration," states Klock, "and linking the overall supply chain with the end users." The school also focuses on cultivating professionals who will be able to run an end-to-end supply chain, and not just one or two links in that chain. Klock explains: "We try to bump up their skills by offering certificates in project management, manufacturing or sustainability, for example, to make sure they walk away with a broad-based supply chain education."

Continuous Professional Development

A supply chain professional is a unique animal who is hard to replace or replicate. "It's not as if an executive from some other totally unrelated field can just come into a supply chain position and be successful; that's highly unlikely," says Tennessee's Dittmann. "Supply chains are amazingly complex, and they are getting more complicated all the time."

And yet, today's supply chain professionals—particularly those that bring the right mix of experience, education and business savvy—are handling the challenge quite well. To further enhance that value, Dittmann says the supply chain manager of the future will have to be more adept at "speaking the language of the boardroom executives." Concepts like return on net assets, economic value-added, and working cash flow, for example, will have to be mastered in order to create the most well-rounded supply chain executives.

"Our students need to learn the language of the executive suite in order to have the right influence in the corporations where they work," remarks Dittmann, who sees supply chain management as a lifelong career that requires continuous professional development. "There's no question about that."

Some of that development may be delivered online, where distance education is picking up steam and being used to complement traditional, classroom instruction. Expect that trend to continue, says Grenoble, who sees the cost effectiveness of online course delivery as one of its biggest selling points. "Over time," he comments, "distance education will become more important, particularly for those executives who aren't necessarily on the fast track, but who need the continuing education."

Calling the United States the "best at supply chain logistics," Ratliff also sees more distance education ahead for the space, in particular for those students that can't travel halfway around the world to attend an American university and other programs in person. "We get calls from all over the world, asking us to provide supply chain education," says Ratliff. "I expect we'll see a gradual increase in the use of electronic media to fulfill those needs."

Bridget McCrea is a freelance writer specializing in logistics and supply chain management. She can be reached at bridgetmc@earthlink.net.

UNIVERSITIES AND EDUCATIONAL INSTITUTIONS

Arizona State University

W.P. Carey School of Business
480-965-7579
www.wpcarey.asu.edu/exec

Upcoming offerings at the W.P. Carey School include:

• Small Business Leadership Academy. Begins August 31, 2011

• Professional Certificate in Supply Chain Management. Begins September 5, 2011

Auburn University

334-844-4000
www.auburn.edu

Auburn's School of Business offers an undergraduate major I supply chain management. Focus includes transportation, logistics and operations management.

Brigham Young University

Marriott School
http://marriottschool.byu.edu

University offers a BS in Global Supply Chain Management. Coursework is designed to prepare students for managerial positions in manufacturing and service industries in the areas of purchasing, operations, logistics, customer service and supply chain management.

Central Michigan University

989-772-5586
http://cmichlogistics.com

In addition to its full-time program, CMU offers a Supply Chain MBA degree in these options: (1) part-time program of one or two courses per term for working professionals; (2) Executive MBA program for mid- and upper-level managers; (3) distance learning program; and (4) Accelerated MBA for individuals with supply chain experience and superior academic credentials.

Cranfield University

School of Management
44-011-1234-758102
www.cranfieldmsc.biz/log

University offers an MSc in Logistics and Supply Chain Management. Two modes of study are offered: Full time programs (11 months) and Executive (part-time) programs, which are 2-year modular programs.

Georgia Institute of Technology

Executive Masters in International Logistics (EMIL)
404-385-7306
http://www.emil.gatech.edu/

The Executive Master's in International Logistics & Supply Chain Strategy program prepares executives to face key global logistics and supply chain issues by teaching them to design creative logistics solutions while expanding their network of international government, industry and academic contacts. This 18-month program keeps employees on the job while teaching them practical techniques for decreasing logistics costs and improving supply chain efficiencies. Participants experience real-world results by learning best practices from world-leading experts in EMIL's five two-week residences (both in-person and distance learning) at key locations around the globe.

Georgia Institute of Technology

Supply Chain and Logistics Institute (SCL)
404-894-2343
www.pe.gatech.edu/scl-scmr

The Georgia Tech Supply Chain & Logistics Institute offers a comprehensive curriculum in Lean Supply Chain Operations, Warehousing and Transportation. Courses are taught by world-renown Georgia Tech Faculty in the Global Learning Center in Atlanta. Dates for the 2011 Lean Supply Chain Series as well as the 2011 Supply Chain Management Series courses are listed on the SCL website. The Institute also runs industry outreach program and global research centers.

Golden Gate University

Edward S. Ageno School of Business
415-442-6500
www.ggu.edu

Golden Gate University offers undergraduate and graduate certifications in operations and supply chain management.

Indiana University

Kelley School of Business
877-785-4713
www.kd.iu.edu

Kelley Direct at Indiana University offers an MS in Global Supply Chain Management. This online graduate program can be completed in 15 months.

INSEAD

+33 (0)1 6072 9350
www.insead.edu/scmr

INSEAD's Supply Chain Management program is a multidisciplinary executive education program designed to help attendees conceive innovative strategies, deploy solutions to exploit global efficiencies, enhance value with dynamic optimization. Program will be held Nov. 7-11 in Fontainebleau, France.

Massachusetts Institute of Technology (MIT)

Center for Transportation and Logistics
617-258-7267
http://ctl.mit.edu/

Every January and June, CTL delivers its late-breaking supply chain and logistics education and research to executives via "Supply Chain Management: Driving Strategic Advantage." This intensive five-day course features a comprehensive array of management simulations and case studies, interactive lectures and discussion sessions, and presentations by distinguished lecturers.

CTL also regularly partners with organizations to provide customized executive education experiences to individual enterprises and consortia. Custom courses give organizations the opportunity to direct intensive efforts at specific issues crucial to company goals, including business continuity strategy, scenario planning and competitive alignment.

Michigan State University

Broad College of Business
517-355-8377
www.bus.msu.edu/supplychain/

MSU offers an undergraduate major in supply chain management, two MS programs and two PhD programs in SCM. Also offers an MBA with supply chain concentration. Executive education programs include a range of open enrollment seminars; customized logistics seminars for organizations; the Logistics in Supply Chain Management Annual Seminar; and the Annual Purchasing and Supply Chain Management Executive Seminar.

North Carolina State University

Poole College of Management
919-515-5560
www.poole.ncsu.edu

The Poole College of Management at N.C. State University offers undergraduate studies with a concentration in Operations & Supply Chain. The school also offers executive education programs including the Supply Chain Management Initiative and related programs. In addition, its Supply Chain Resource Cooperative also provides a wealth of educational resources.

Northeastern University

College of Business Administration
866-890-0347 x3510
www.cba.neu.edu

Northeastern offers an MBA degree with supply chain concentration, plus a Certificate program in SCM. Also offers an online MBA degree program with an emphasis in Operations and Supply Chain Management (via five specialized, elective courses).

Northwestern University

Kellogg School of Management
847-467-7020
www.kellogg.northwestern.edu/execed

Northwestern offers the Supply Chain Management--Strategy and Planning for Effective Operations program. Check the website for specific dates.

The Ohio State University

Fisher College of Business
614-292-0331
http://fisher.osu.edu/centers/scm

Fisher College of Business offers undergraduate, masters and Ph.D. programs in logistics. Fisher College also offers a weeklong executive education program in supply chain management. The program is based on the eight essential business processes that comprise the Global Supply Chain Forum (GSCF) Supply Chain Management framework. It also includes a session on the GSCF partnership model that is being used by major corporations to structure relationships with key customers and suppliers. Visit website for more information. Upcoming sessions include:

October 10-14, 2011, Cranfield, England
Oct 31–Nov 4, 2011, Columbus, OH

Penn State University

Smeal College of Business
814-865-3435
www.smeal.psu.edu/psep

Upcoming supply chain executive education programs include:

Applying Lean Principles Across the Supply Chain
October 31-November 4, 2011

Designing and Leading Competitive Supply Chains
September 18-23, 2011

Essentials of Supply Chain Management
October 3-7, 2011

Processes and Tools for Supply Chain Success
November 14-18, 2011

Achieving Supply Chain Transformation
September 12-16, 2011

Developing World-Class Supply Chain Collaboration
October 10-13, 2011

Global Supply Chain Strategies
September 26-29, 2011

Rutgers University

Rutgers Business School
973-353-5226
www.business.rutgers.edu/scmms

The Department of Supply Chain Management and Marketing Sciences (SCMMS) at Rutgers Business School offers a range of academic programs including a PhD in SCMMS, a MBA Concentration in Supply Chain Management, and an undergraduate major

in SCMMS. Rutgers also offers executive education programs based on current topics and trends. Also offered is a Supply Chain Management Certification Program for business professionals.

Stanford University

Graduate School of Business
650-724-6301
www.gsb.stanford.edu/exed

The Graduate School of Business is offering a new program "Strategies and Leadership in Supply Chains." Program is designed for executives who have strategic responsibilities for SCM, manufacturing, operations, logistics, distribution or procurement.

Syracuse University

Whitman School of Management
315-443-3751
www.whitman.syr.edu/scm

The Whitman School offers B.S., MBA, and PhD programs in Supply Chain Management. Focus areas: demand management, inventory control, risk sharing, supply chain planning, information flows, transportation, production management and global b-to-b marketing.
Six Sigma training also offered.

Texas A&M University

Mays Business School
979-845-1616 www.business.tamu.edu

The Mays Business School offers a Supply Chain Management major as part of its BBA in Information & Operations Management.

The World Academy

908-354-7746
www.theworldacademy.com

The Academy provides training programs and seminars in all phases of export/import logistics, hazardous materials (HAZMAT), letters of credit, communications, harmonized tariff schedules and INCO terms.

University of Arkansas

Sam M. Walton College of Business
479-575-6142
www.waltoncollege.uark.edu

The Marketing and Logistics Department at Walton College offers a B.S. in Business Administration (Transportation and Logistics Major) and a B.S. in International Business (Logistics Concentration). Also operates the SCM Research Center and RFID Research Center.

University of Denver

303-871-4702
www.du.edu/transportation

The ITI (International Transportation Management) Executive Masters Program from the University of Denver offers a rigorous curriculum and a hands-on approach for developing advanced management skills for transportation and supply chain professionals. This is an 18-month program with five, one-week Denver residencies and a travel seminar to an internal location. Applications are being accepted for classes beginning in September 2011.

University of Maryland

R.H. Smith College of Business
301-405-2189
www.rhsmith.umd.edu

The R.H. Smith College of Business offers executive education programs through the Supply Chain Management Center.

University of Michigan

Ross School of Business
734-763-7804
http://execed.bus.umich.edu/

The Ross School offers a one-year Master in Supply Chain Management degree. Also offers an executive education course in Supply Chain Design and Execution for Global Markets.

University of San Diego

Supply Chain Management Institute
619-260-4600
www.sandiego.edu/scmi

Program emphasizes a community of learners, limits class size and incorporates company-related projects to give participants an educational experience relevant to their specific career objectives. Classes for this 36-unit program cover SCM and Logistics, Supply Chain Systems, Global SCM and World Class Supply Management. Offerings include a Master of Science in Supply Chain Management (MS-SCM) and a Graduate Certificate in Supply Chain Management (GC-SCM).

University of San Francisco

800-609-4196
www.usanfranonline.com/ism

USF offers an online interactive Master Certificate program for Supply Chain Management.

University of Tennessee

College of Business Administration
865-974-5001
http://supplychain.utk.edu

The school's Integrated Supply Chain Management Program helps participants develop a better understanding of the complexities and interrelationships among the supply chain areas of demand planning, customer relationship management, operations, logistics, lean management and resource/financial management. The program is composed of six, two-and-one-half day courses. Taught by UT's internationally renowned faculty, these courses consistently have been ranked among the best in the field. Courses are offered up to twice per year. The school also offers graduate and undergraduate degrees in supply chain management.

University of Wisconsin-Madison

Executive Education Center
608-441-7357
http://exed.wisc.edu/supplychain

Supply Chain Leadership
September 7-9, 2011

Supply Chain Optimization
October 17-18, 2011

Supply Chain Collaboration
December 1-2, 2011

Walden University

866-492-5336
www.waldenu.edu

The University offers online management programs including a PhD in Applied Management and Decision Science, an MBA, M.S. and B.S. in Information Systems and a B.S. in Business Administration.

PROFESSIONAL ASSOCIATIONS

APICS
800-444-2742
www.apics.org

APICS offers two certification programs, national and regional conferences, online events and self-study programs.

CSCMP (Council of Supply Chain Management Professionals)
630-574-0985
http://cscmp.org/

CSCMP's global conference brings together thousands of supply chain professionals from all over the world to exchange ideas and share knowledge. Also conducts local roundtables across the country and the globe, and offers a variety of supply chain Webinars. CSCMP's Online University offers members and potential members easy access to the latest in logistics and supply chain management. Upcoming events are listed on the organization's website.

ISM (Institute for Supply Management)
480-752-6276
http://www.ism.ws/

ISM offers certification programs, seminars, professional development services and online courses for the supply management professional. Features an annual Conference and Educational Exhibit. Also provides in-depth research on supply management topics through affiliation with CAPS Research.

NITL (National Industrial Transportation League)
703-524-5011
http://www.nitl.org/

The League represents shippers in their dealings with various regulatory bodies. Provides educational forums, annual conferences and industry exhibitions through an annual Transcom event.

SIG (Sourcing Interests Group)
530- 582-8600
http://www.sourcinginterests.org

SIG provides summits, global regional conferences and web-based learning to enable members to network and build relationships.

Supply Chain Council
202-962-0440
http://www.supply-chain.org/

Through the Supply Chain World conference, the Council provides a forum for supply chain and business executives to identify opportunities to improve financial and supply chain performance. Presents a benchmarking database by which companies can compare their supply chain performance to others; also offers training in the SCOR model.

TRB (Transportation Research Board)
202-334-2000
http://www.trb.org

TRB is one of six major divisions of the National Research Council. This agency offers conferences, workshops, research and e-sessions to the transportation community.

VICS
(609) 620-4590
www.vics.org

Organization provides online education, workshops and a 3-day certification program. Collaborative Planning, Forecasting and Replenishment (CPFR®) is an initiative that highlights the importance of collaboration and the benefits of a demand driven supply chain. An Introduction to CPFR e-Education is designed to introduce students to CPFR concepts and demonstrate the benefits and synergy of CPFR with other company initiatives such as category management and sales and operations planning.

WERC (Warehousing Education & Research Council)
630-990-0001
https://www.werc.org

WERC is a professional organization focused on warehouse management and its role in the supply chain. WERC offers seminar, conference sessions, e-learning opportunities and webcasts.

PRIVATE FIRMS

Accenture
Supply Chain Academy
www.supplychainacademy.com

The Supply Chain Academy offers over 400 online courses across many of the functional areas of the supply chain. Classes are delivered via online self-study, virtual classroom sessions or through instructor-led delivery.

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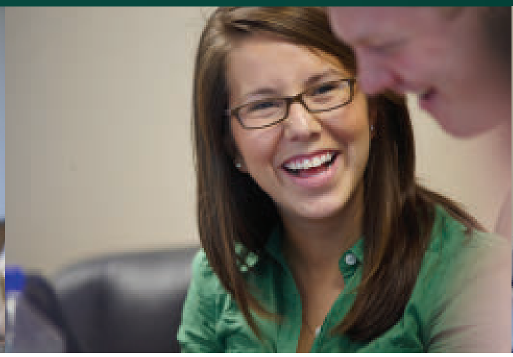


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- West Michigan Supply Chain Management Certificate Series - January 12-December 6, 2012

800-356-5705
http://broad.msu.edu/edp/open