A CAHNERS PUBLICATION

Purchasing

THE MAGAZINE OF TOTAL SUPPLY CHAIN MANAGEMENT

SUPPLY MANAGEMENT IN 2010

Experts see big future for e-procurement

BY: ANNE MILLEN PORTER

PURCHASING Magazine asked management experts to create a vision for what the future might look like when companies use e-procurement capabilities to enhance their strategic management of competitive supply networks. For people focusing on traditional buying tasks, the picture looks grim indeed. For people pursuing quantum leaps in supply "web" effectiveness, the picture couldn't be more appealing.

Management consultants offer different visions of how the collision of e-procurement with strategic supply management might change business relationships in the coming decade. Amid the diversity, however, three dominant themes emerge –

• If they wish to remain in the field of supply management, traditional buyers and purchasing agents should be pursuing radical job re-training.

• Without sound strategies and big changes in behavior, companies rushing to e-procurement will find themselves making sub-optimal sourcing and supply management decisions, only faster than ever before.

• What's being done today in e-procurement barely scratches the surface of what will occur in the next 10 years.

Ten trends in business

To understand the management consultants' perspective on e-procurement in context of strategic supply management, it's necessary to see big business trends through their eyes. Ten significant predictions-

• **Businesses continue to buy more and build less** making supply management a key driver of profitability.

• **Businesses and their supply webs become increasingly virtual,** assembling to meet market needs, disassembling when needs have been met

• **Globalization** of the economy forces businesses to be more competitive

• **Consumers keep getting smarter, demanding more.** They become highly sensitive to product costs, delivery speeds, rapidity of innovation and service levels. They demand mass customization—ability to determine specific features of the products they buy. The result is that supply webs become intensively "customer facing".

• **Technology becomes cheaper, bandwidth gets bigger** making advanced software accessible to more and smaller businesses.

• **Companies use technology to standardize decision processes** and to link all decision-making to profitability measures. This makes it increasingly difficult for people to make maverick business decisions that fail to consider the impact on the business entity's profits.

• **Companies continue to pursue lower permanent staffing levels.** Rising competitive pressures ensure that companies continue with critical review of staffing levels, demanding improved and different skill sets.

• **Availability of data–as distinguished from information–explodes,** making it necessary for companies to impose strict disciplines around data acquisition, management and decision support.

• **Internet-based technologies collapse physical distances,** accelerating the transition to a truly global economy.

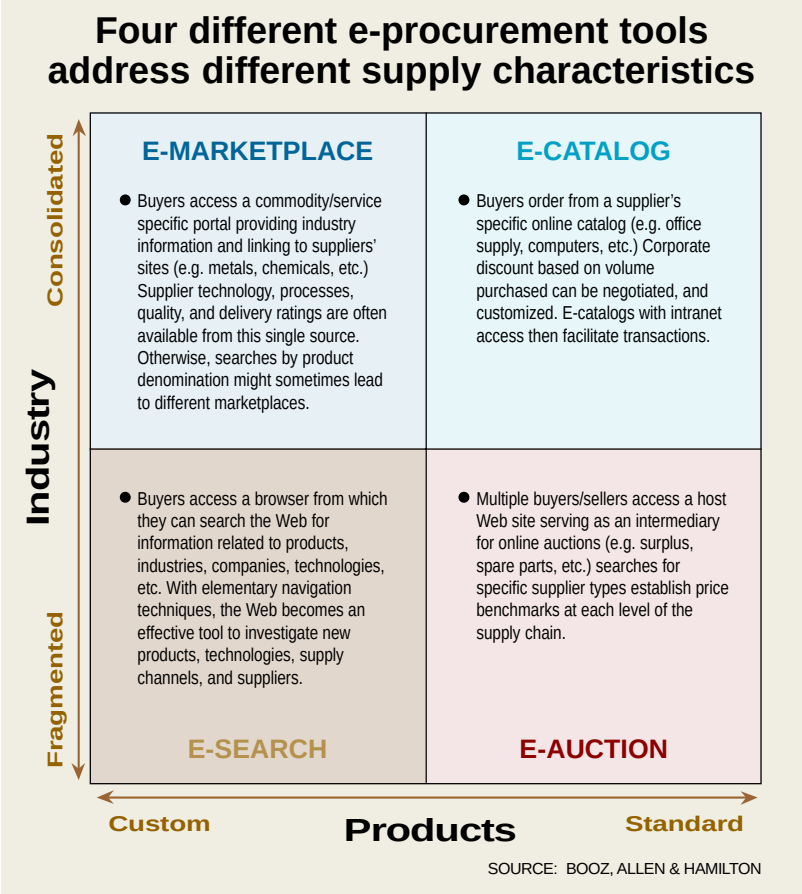
The new supply strategists

Extrapolate to the year 2010 the twin vectors of strategic supply management and e-procurement, and you won't find

many professionals with a title like "buyer" or "purchasing agent," the experts say. The reason is that most of the activities that occur in traditional buying processes—requisitioning, research, qualification, shopping, quoting, PO writing, releasing, supplier performance tracking, certification, expediting, "fire fighting", even negotiating—will be eliminated, automated, transferred to internal customers, or outsourced to suppliers.

Says Christopher Sawchuk, director, e-procurement solutions, with Answer-Think Consulting Group in Miami, Fla.: "Today, operational support still dominates the daily activities of purchasing folks, but that will change over the next decade. Much of what purchasing does today will go away in the future."

Starting with low value-added activities such as requisitioning, ordering and scheduling, Sawchuk thinks firms will automate aggressively. "Over time, e-procurement packages will be customized with increasingly complex business rules, requiring human intervention on an exceptions-only basis."



A second wave of purchasing process automation is currently under way, according to Sawchuk. This second wave tackles more complex processes such as supplier selection, compliance and performance tracking, even negotiations. "In the future, as decision support is built and expanded, these activities will be handled through advanced trading communities."

While acknowledging his prediction is radical, Sawchuk says, "As long as you understand the business rules for making decisions, there's no reason you can't automate. Whey can't two computer systems–with built-in rules–talk to each other?"

For buys that still require such activities, Sawchuk believes companies will use intelligent software to locate suppliers on the Web, execute bidding, and to negotiate and finalize basic deals. "Systems," he says, "will negotiate with systems for basic contract elements. I don't know when this will happen, but I can certainly see a time when software performs more cognitive tasks."

Anticipating resistance to this notion, Sawchuk argues that, "To compete, supply webs are going to have to become much faster. They'll have to remove people from their processes and make processes less sequential, more simultaneous. We're going to get to the point where the friction of information flow goes to zero. The only constraint then will be the time it takes to move goods physically."

Beyond supplier selection and negotiating, Sawchuk also sees much greater automation in areas of compliance (for example, supplier-performance measures, control and risk management and decision support. "I think we're going to see automated cost modeling based on information received electronically. Machines will track the profitability of production lines. Machines will talk to machines."

Even in the realms of supplier development and relationships, Sawchuk sees encroachment by e-procurement tools. "Relationships with major suppliers will remain important, but they'll use new methods of communication–for example virtual meetings and virtual plan tours–especially as broadband becomes more prevalent."

In place of traditional buyers and purchasing managers, Sawchuk sees "procurement information architects" determining what information the company needs, who will have access to the information and, more important, how the information will be used in decision-making. "These won't be IT people", he says. "Rather, procurement information architects will be people who understand the kinds of information that are needed to make good decisions. They'll be highly informed about their businesses and industries, especially in terms of customer demand. Any they'll develop rules to govern how the company does business with suppliers."

To a certain extent, Glenn Ramsdell, a partner at McKinsey & Co. in San Francisco disagrees with Sawchuk's

predictions. "Much of this is still in the realm of strategic sourcing and value added," he says. "Certain supply management tasks will never be automated although they will be facilitated by e-procurement. My view is that transactions will become more fully automated and that elements of world-class sourcing strategies, such as supplier development and management, collaborative development, and "should-cost" analyses will become much more widely adopted. There will be a flood of data. Decision support tools will emerge to enable strategic sourcing professionals to make much better decisions on what to buy, from whom, and at what total cost."

Steve Trecha, President of Integrated Strategies in East Lansing, Mich., predicts the eventual transformation of the purchasing function. According to Trecha, purchasing will be responsible for strategic supply chain design and execution, focusing on integrating core business strategies with supplier and customer alignment. "In ten years' time," he says, "business needs will dictate buy-sell relationships that operate systematically, predictably and profitably. New mirror-image buyer and seller supply chain roles will be created. These will replace the traditional buyer-supply management and sales-marketing representative roles. Corporations will require, from both the buy and sell sides, two kinds of roles: Virtual supply chain strategists and virtual supply chain enablers."

The strategists, Trecha says, will be responsible for designing the highest profitability supply chain infrastructures, aligning appropriate cross-functional and cross-business resources, processes and technologies. The strategists will define global supply chain capabilities, establish standard decision processes and rules. They will be responsible for designing information-based performance measures and continuous-improvement targets based on core business strategies and market conditions. They will also be functional leaders in selecting and implementing appropriate technology applications to automate according to the buy-sell relationship being pursued. Buy-sell relationships will be universally categorized, fully defined and appropriately enabled by the correct e-commerce technologies **(see graphic at left).** The strategists will work from highly analytical, cross-functional perspectives. They'll think about supply in terms of function and value (what needs to be accomplished at what targeted profitability), rather than specifications and price. The virtual supply chain strategists will operate collaboratively, representing both the sell and buy sides of relationships.

"Virtual supply chain strategists will conduct global supply chain capability investigations and profitability modeling review," Trecha says. "They'll know which suppliers (or buying organizations) can provide (or buy) which products and services in terms of functionality required and measured contribution to financial performance. They'll build supply chains capable of satisfying these functions at highest financial return and customer satisfaction levels needed to achieve and sustain the relationship."

Trecha classifies current buying practices as "incredibly inefficient" because most buying decisions and criteria are continually recreated and can vary based on a particular business function's specific desires. For example, marketing may prefer features, while manufacturing prefers standardization. "Supply managers can become

Buy/sell relationship continuum and use of the Internet

Relationship stage	Relationship characteristics	Internet enablers
1. TRADITIONAL BUY/SELL	• Bid/buy • Blanket orders • Competitive price • Standard leadtimes • Multiple back-up suppliers	• Online catalogs • Simple order entry
2. SIMPLE LEVERAGE	• Best price - one year • Brand preferences • Simple availability • Simple quoted leadtimes • Emergency response	• Source selection tools • Auction houses
3. TRANSACTIONS and LOGISTICS	• Supplier managed and inventory release programs • Freight management • Purchase consolidation and cost savings	• Inventory availability • Transportation routing and real-time material tracking • Advanced order entry
4. OPERATIONS and DESIGN	• Operations, design and planning integration • Operations/problem solvers–hands-on collaboration • Continuous-improvement initiatives	• E-commerce across design, planning, ordering, acknowledgement, receipt, and payment • Real-time performance measurement tools • Decision support, including profitability measurement

SOURCE: INTEGRATED STRATEGIES

To understand how the Internet can best enable a supply chain strategy, Steve Trecha of Integrated Strategies suggests all buy/sell relationship types and results be targeted to operate predictably. Depending on the purchase type, market characteristics, importance of the purchase to product/service success, etc., buyers and sellers can target one of four relationships and incorporate Internet technology accordingly.

more influential when they build knowledge-based, analytically supported decision rules for buying goods and services and then place these rules in the hands of internal customers and the supply base." The idea, Trecha notes, is to create decision rules that drive consistency and predictability in the supply chain. "High costs," he says, "are almost exclusively the result of unpredictability, such as poor planning, limited manufacturability, missed commitments and inconsistent quality."

"In ten years' time, business needs will dictate buy-sell relationships that operate systematically, predictably, and profitably."

-Steve Trecha, Integrated Strategies

Once supply infrastructures are built, Trecha believes companies will use "virtual supply chain enablers" to resolve problems that might arise and, more important, to drive continuous improvements and predictability in the supply chain. These enablers are people who execute the supply chain management strategy. Trained as project managers and holding advanced business degrees and technical training, they'll employ a host of software tools and will operate out of virtual offices. "I see virtual supply enablers spending a great deal of time at supply facilities and customer sites and interacting with "internal change agents." These are people capturing continuous-improvement opportunities instead of being tasked with day-to-day shop floor operations. They won't be located in purchasing departments. Rather, they'll be placed where they provide the greatest value. They might be part of R&D or manufacturing. They might even be on the supplier's payroll."

The financial control achieved traditionally by funneling buying decisions through a purchasing department will be replaced by business-savvy integrated information systems, Trecha says. "The time will come when it will be impossible for end users to buy things that do not, in a predefined manner, contribute to the profitability of the company. There will be technology tools that allow people to predict the profitability enhancement expected for each dollar the company spends. There will be strict financial and budget monitoring systems that prohibit unnecessary expenditures and ensure that dollars spent are returning real value. This is what budgeting systems are supposed to do," Trecha argues, "yet they continue to be viewed as cost controls rather than profitability enablers."

Supply management, then e-procurement

In general, supply management consultants express a high degree of enthusiasm for e-procurement. "Internet frenzy notwithstanding, e-commerce is not just a fad," says McKinsey's Ramsdell. "Business-to-business e-commerce, in particular, is already big business and growing fast, projected by several independent studies to top a trillion U.S. dollars annually by 2003–dwarfing the more highly publicized business-to-consumer e-commerce by a factor of ten."

They also emphasize the idea that early adopters–or better yet "close followers"–of e-procurement technologies are likely to reap greater benefits in terms of raw competitive advantage (not to mention the big perks being offered by dot.coms desperate to sign buyers). As Ramsdell sees it: "To seize opportunities in e-procurement, it's important that companies move fast because most suppliers and competitors are looking for ways to use e-commerce tools to their own advantage."

Urgency aside, however, the dominant message from supply management experts is that e-procurement–without sound supply chain strategies, behavioral changes, and defined, systematically executed decision support–will simply represent a much faster way of making the same old mistakes. As Trecha of Integrated Strategies puts it: "The Internet has the potential to help people make the same bad decisions only much faster. The Internet is an exciting and must-do enabler, yet the best supply chain must be built to achieve the real benefits of e-commerce technologies."

According to Trecha, there are typically three reasons that new business systems fail. First, they replicate old ways of doing business. Second, functional people are not deeply involved in system design–systems projects become IT initiatives with functionality being defined by non-users. And third, users lack training and follow-up. "Apply these to e-procurement and you have a good chance of failing to achieve the full benefits of the technology," Trecha contends. "You'll also end up with a group of people using new systems to more efficiently accomplish the same limited results."

"High costs are almost exclusively the result of unpredictability, such as poor planning, limited manufacturability, missed commitments and inconsistent quality."

-Steve Trecha, Integrated Strategies

Supply managers, Trecha argues, don't simply need to work faster. Rather, "they need the behavioral and analytical assessment pieces to make the Internet a tool that improves their effectiveness. Buyers and suppliers need to improve how business is conducted as well as how decisions are made. The technology and processes already exist. The difficult shift will be in personal behaviors. Twenty-five years ago we used regular mail, 20 years ago we telephoned, 10-15 years ago we used EDI

and faxes, today we e-mail and e-conference using the Internet. We've continued to tackle efficiencies in communication, but even bigger opportunities are available in overall business effectiveness," he notes.

McKinsey's Ramsdell agrees: "Techniques for e-procurement and supply management offering the greatest returns for a company's core expenses will challenge the company to face strategic reconstruction of fundamental business processes and legacy systems."

Supply managers, Ramsdell says, are being inundated with technology pitches from dot.com companies, and frequently the response is to sic these software sales reps on IT. "But e-procurement isn't a technology buy," Ramsdell says. "Rather, it's a strategy decision. Companies need to think about how they want e-procurement to affect their relationships with suppliers. They need to understand how to organize and staff their supply management organizations. They need to understand which e-procurement tools will be best suited for different types of buys. All of this needs to happen before a company opens talks with software or service providers."

Turning back the clock

Arguable, e-procurement systems that improve supply management efficiency while failing to improve effectiveness might not be inherently bad. The real danger, according to the experts, is that the undisciplined deployment of e-procurement may actually reverse substantial progress that's been made toward strategic supply management over the past two decades.

Expanding availability of market price data provides a good case in point. The experts note that online auctions and other electronic trading communities make it much easier for companies to accomplish the difficult task of establishing market-clearing prices for goods and services. Taken out of context, however, without accounting for the cost benefits of driving predictability in the supply base, they say such data could easily be used to undermine rather than reinforce established strategic supply relationships. People outside a supply management could use such data to challenge their compliance with corporate supply agreements. People inside a supply management organization might use it to beat up suppliers, closing the door to real value creation opportunities. "There are as many dangers here as potential benefits," says Trecha of Integrated Strategies. "Although appropriate in some buying situations, pure price decisions frequently lead to higher costs through unpredictable performance."

"The Internet has the potential to help people make the same bad decisions only much faster. The Internet is an exciting and must-do enabler, yet the best supply chain must be built to achieve the real benefits of e-commerce technologies."

-Steve Trecha, Integrated Strategies

The lure of data–for the sake of data–may also lead to misplaced emphasis, the experts warn. For example, while it might seem exciting to establish real-time supplier performance tracking, Timothy Laseter, vice president with Booz, Allen & Hamilton in New York reminds supply managers that, "The big challenge is not to know sooner that problems are occurring, rather, it's to prevent those problems from occurring at all."

Hard-won standardization and control over corporate spending through leveraged supplier contracts is also at risk for companies that move without careful planning into e-procurement. For example, McKinsey's Ramsdell points out that many supply-related databases on the Web are not targeted at supply managers. "Some sellers are trying to use technology to reopen the back door," he says. "I know of one dot.com that's touting itself as an online database for product specifications and performance parameters. It offers a library of information targeted at engineers and designers and makes money by generating sales leads for suppliers."

This is not an isolated example, Ramsdell notes. "There are plenty of sell-side Web sites explicitly targeting industries where purchasing has less control over corporate spending. They see the Internet as an opportunity to increase maverick buying."

"Affinity" selling–aimed mostly at small or medium-sized businesses–is another e-business concept that could muddle buying decisions. For example, the buyer for a very small company may encounter a deal for free electricity (the loss leader) if they buy X, Y and Z services through a particular Web site. With strict supply management discipline, the experts say such bundling of buys could reap huge benefits for small-volume buyers. They warn, however, that the seller's underlying aim is to develop customer "loyalty" by raising switching costs and making it difficult to compare one supplier to another.

Online auctions are another potential harmful-if-misused e-procurement concept. The problem, say the experts, is that the approach may confer no particular competitive advantage (it doesn't necessarily make you better than your competitors) while encouraging behavior that runs contrary to the goal of building highly predictable, continuously improving supply webs.

Says Laseter of Booz, Allen & Hamilton: "Pure online auctions create an electronic Darwinian rivalry. They're not cooperative and there's risk in this becoming the dominant model for e-procurement." While auctions ensure competitive pricing, Laseter says "game theory" suggests that people don't always behave rationally in bidding situations. "There's a term called

'winner's curse' where the winner of an auction may feel badly about the outcome because they know they either paid too much or extracted too little from the deal." Done well, Laseter says, online auctioning will streamline the exchange of information and broaden the scope of bids to include more suppliers. "Still," he says, "this puts the emphasis back on price and ignores the value creation in figuring out how to make a part better."

McKinsey's Ramsdell points out that the real problem with auctions, as with any other e-procurement tool, lies in their misapplication. "Many companies have experienced 20% or more savings from their own auction tools. These tools are easy to design and deploy. The real issue comes back to the fit of the tool with the sourcing strategy. To which commodities should we apply the tool? How often should auctions be conducted? What types of auctions make sense? Companies that successfully use the online auction tool answer these questions first."

"Twenty-five years ago we used regular mail, 20 years ago we telephoned, 10-15 years ago we used EDI and faxes, today we e-mail and e-conference using the Internet. We've continued to tackle efficiencies in communication, but even bigger opportunities are available in overall business effectiveness."

-Steve Trecha, Integrated Strategies

Yet another e-procurement concept–buying groups–actually encourages buyers to sever their direct relationships with suppliers upon the sometimes mistaken assumption that volume is the only path to lower prices, some experts note. "Many suppliers make higher margins on lower-volume purchases, and will be hesitant to extend preferred pricing to these segments unless the buying consortium has a high degree of leverage with the supplier," Ramsdell says. "Often, says Trecha of Integrated Strategies, "small-volume buyers can achieve very favorable deals by offering predictability to suppliers, by becoming better profitability targets. From the supplier's perspective, this is frequently more attractive than the large-volume unpredictable group."

The revolution in store

While e-procurement may threaten the livelihoods of traditional buyers and may harbor dangers for undisciplined supply management organizations, its potential for creating quantum leaps in supply web effectiveness is certainly very large, the experts say. And this potential will grow larger–and become more apparent–as certain changes begin to occur in the industry for business-to-business e-commerce.

Consolidation is one important change to watch for, the experts say. For example, a vast industry shakeout is expected over the next several years as Internet-based trading communities struggle to establish the market liquidity—the critical mass of participating buyers and sellers—that will consistently yield better deals than traditional means of soliciting business.

"Very quickly," says McKinsey's Ramsdell, "we're going to go from thousands of net markets to dozens, so companies need to choose carefully. This is not a time for striking long-term deals." A good approach, he says, is to put just one toe in the water. "Reserve a portion of the spot buy for particular commodities. Test the capabilities for different online intermediaries. Track their performance."

The experts also expect the dot.coms to dramatically shift their value propositions over the coming decade. Says AnswerThink's Sawchuk: "Right now, the big names in e-procurement are focusing on automation of requisitioning, approval and ordering processes. But procurement has about 12 other processes that it manages. We haven't seen many software companies focusing on these other processes, but that's going to change very soon as companies demand more comprehensive global sourcing solutions."

"Although appropriate in some buying situations, pure price decisions frequently lead to higher costs through unpredictable performance."

-Steve Trecha, Integrated Strategies

Over time, the experts expect dot.coms to offer technology solutions that–

- Alleviate market fragmentation.
- Allow people to see and manage suppliers across vast geographical spaces.
- Allow multiple companies–with disparate legacy information systems–to link up and move data in real time, at very low cost.
- Allow companies to turn data into information for decision support.
- Create virtual spaces where people can meet, share ideas, make deals, negotiate contracts, manage risks, conduct value analysis and value engineering, and collaborate, in real time, on the design of new products and manufacturing processes.
- Lower cost structures (costs of buying, costs of selling) leading to lower prices without lowering profitability.
- Provide better delivery channels for goods and services.

This shift in emphasis will be driving, in part, by increased buy-side participation in shaping the future of e-procurement. As supply management organizations awake to the possibilities in e-procurement, they're expected to exert more influence on the types of products and services being offered by the dot.coms.

"Ultimately," says Trecha of Integrated Strategies, "the customer will define how business relationships op-

erate. E-business technology has introduced a whole new way of thinking. Now buy-side users are circling back, saying 'I like what you've shown me, but here's what I really want to do.' Now that buying groups are becoming responsive to e-procurement, they'll begin to influence what's being offered by the dot.coms." An example, according to Trecha: "Customers won't want separate buying systems for different commodity types. They'll want one system they can apply to anything they buy."

Another important development, according to Sawchuk, will be the rise of application software providers (ASPs). These are hosted applications–virtual spaces–where people from all over the world can meet and work collaboratively, using software on a subscription-type basis. "This will give small and mid-size companies access to the most advanced software and allow them to stay current with software innovations. Bandwidth is the only thing really holding this back," Sawchuk says.

"I think over time," says McKinsey's Ramsdell, "we'll see transaction fees competed down almost to zero. This will force the dot.coms to seek other sources of revenue by offering additional services such as supplier qualification and certification, financial guarantees of supplier performance or payment performance by customers, electronic payments, and logistics and delivery services."

Laseter of Booz, Allen & Hamilton says the dot.coms that survive will add value by offering supply management expertise as opposed to simple purchasing leverage. "I think that, ultimately, companies are going to outsource large pieces of their procurement work. There's value in identifying world-class suppliers and understanding the levers that lower costs. E-procurement providers will create huge benefits in this area especially for small and mid-size companies that can't necessarily develop this expertise on their own."

Particular areas where the experts expect dot.coms to succeed are markets with high degrees of fragmentation (MRO, for example). Says Ramsdell "In many markets there is fragmentation between buyers and sellers. By 2010 we're going to see online intermediaries that fix this fragmentation on either the demand or the supply side. These intermediaries will add value by driving toward standards for the coding of products and services, allowing machines to talk to machines. Auto makers and other large OEMs might be able to mandate such standardization, but smaller buyers will need intermediaries to do this for them."

"Ultimately the customer will define how business relationships operate. E-business technology has introduced a whole new way of thinking. Now buy-side users are circling back, saying 'I like what you've shown me, but here's what I really want to do.' Now that buying groups are becoming responsive to e-procurement, they'll begin to influence what's being offered by the dot.coms."

-Steve Trecha, Integrated Strategies

Ultimately, the experts say, different e-procurement models will evolve to satisfy different aspects of corporate spending. Laseter of Booz, Allen & Hamilton breaks it down into four types of buys driven by two dimensions: Standard vs. custom products and consolidated vs. fragmented industries.

"Where there are consolidated industries (few big players) and standard products, we're going to see catalogs and other tools that drive standardization. Where there's a consolidated industry selling custom products, we're going to see vertical portals or trading communities. Where a fragmented industry is delivering highly customized products, we're going to see e-business dedicated to supplier research and design. They'll expand the reach of buying organizations, allowing them to look globally for supply. Where there are standard products in fragmented industries, we'll see use of tools like e-auctions. The risk is low and, where demand is fragmented, these tools will allow buying companies to take advantage of marginal capacity. They'll get the best prices from those who are most anxious to play."

It all comes down, Laseter says, to striking the right balance in supplier relationships between cooperation and competition. "Supply strategists need to know where the levers for value creation reside. If you're buying office supplies, you'll want to lower transaction costs and get rid of inventory so you'll use e-catalogs and progress to direct desktop ordering. If you're looking for standard parts, valves for example, you might run an e-auction, latching on to some excess inventory somewhere in the system. If you're buying a highly engineered machined casting, you probably have opportunities to optimize your supplier's production process by collaborating to improve the design."

"The impact of e-procurement will be huge," says McKinsey's Ramsdell. "We are just in the very early stages of supply chains being ripped apart and rebundled in far more efficient ways."

The important thing, Laseter adds, is that the Internet craze is unleashing a massive level of creativity and entrepreneurial activity in the economy. "In general," he says, "this has to be good. It will shake up industries and force them to improve. It creates an impetus to get better. People will apply themselves to getting better. There may be growing pains, but there's no long-term down-size in my view."

Success is the only option!

Supply Chain

Strategic Sourcing

Logistics

Materials Management

Order Fulfillment

Six-Sigma

Initiative Management

Qualifications

- Consultants average more than 20 years experience
- Web-Based strategic sourcing tools
- “Concept to Reality” approach
- Hands-on implementation
- Worked with more than 200 firms across multiple industries
- Developed more than 250 supply chain and logistics strategies
- Integrate core supply chain with core business strategy

Integrated STRATEGIES INCORPORATED

Strategy Center
5000 Marsh Road, Suite 1
Okemos, Michigan 48864
517-381-4800 • (Fax) 517-381-4807

MICHIGAN QUALITY COUNCIL
Quality Leadership Navigator Recognition

www.sourcing.com