

Agile Supply-Chain Management

By Rick Dove, Senior Fellow, Agility Forum, dove@well.com, Paradigm Shift International: 505-586-1536.

What does that mean? Do you want to manage an Agile supply chain -- or do you want to manage your supply chain Agily? Is there a difference? Does it matter? Either one is probably better than what's happening now.

A few years ago we all looked downstream to the customer and focused on "the voice", now we're all looking upstream to the supplier and focusing on "the partnership". Whether you're looking downstream or upstream or both ways now, you also have to look to the future; and know that the future will have something different in store for you.

For sure, if you're in one of those companies with an arrogance problem, you need to learn about "the voice"; but when you catch up with the world, don't mistake that corrective action for a strategy. Your competitors will simply change the rules with some innovation and you'll be listening to your own "But you said . . ." echoes in an empty room. Nobody ever told Chrysler they wanted a minivan.

"Out-of-box thinking isn't automatically better, nor is it necessarily synchronized with the corporate preparedness to switch.

Lean operating practices are the dominate driver to highly integrated, down-sized supply chains; promising both cost savings and closer, more productive working relationships. When the total focus is on the static steady-state operating case, however, we see where too-Lean becomes too-fragile.

Ryder has 60% of GM's hauling business and 40% of Chrysler's; and sales at both companies were impacted when the Teamsters struck Ryder in September '95. A known dynamic of the supply-chain environment, yet one that wasn't covered in the business practice design. Ford wasn't hurt noticeably by the Ryder strike; but in that same September they shut six plants down when one supplier couldn't deliver a power-steering-systems component.

Last fall wasn't just bad in the auto industry. Presaging the recent shakeup at Apple Computer, an October '95 Business Week article noted that the part shortages plaguing all PC makers were hitting Apple the hardest because "many of its components are custom-designed and sourced from one supplier." Christmas demand was booming but remained unfilled because Apple lacked critical parts. Apple blamed its sales people, saying they "sandbagged" forecasts on purpose to get over-quota bonuses. What a whine that is! Blame the business practice that had no room to adapt to a typical supply-chain dynamic. Now-ex-president Spindler was quoted: "I resent this idea that we have systemic problems." Well, even if he can't see the inability to increase capacity when demand soars as systemic, a commission structure that encourages low-ball forecasts happens by design as well.

Supply-chain business practices must be designed for the dynamics of the operating environment, not for some steady-state idyllic set of conditions that can't be maintained. Only a decade ago we all talked second sources as a minimum, even 3-2-1 practices that gave half the business to a lead supplier and kept two others hot with sustaining quantities. Better to figure out how to make that cost

effective than to abandon it for single-point failures that have no choice but to happen. The marketplace doesn't forgive stumbles like it used to: "I want it now - If you don't have it - I'll get it somewhere else."

Look at your existing or planned supply-chain management practices and identify the real types of unpredictable change that can ruin a good quarter, alter market-share permanently, or miss a market opportunity completely. Reactive change proficiency brings corporate viability, proactive change proficiency enables market leadership.

Intel's in the microprocessor business. Each

Change Proficiency - the competency in which an adaptive transformation occurs (e.g. how fast can we recover from a failed supplier situation).

Change Proficiency Metric - measured performance item(s) that assign a comparative competency values to change-proficiency: Time, Cost, Robustness, Scope.

Change Proficiency Issue - the item that the metric will be applied to (e.g. formation of partnership).

Change Proficiency Measure - Time is measured in units of time, cost in units of money, robustness in predictability and expectation shortfall, and scope in lost opportunities and market innovations.

new product model costs \$1 billion to develop and each new plant costs \$1 billion to build; and they just make a small component in the "real" product - the computer system. Two years ago they were just a supplier to the OEMs in the computer business. That's history. Their "Intel Inside" marketing campaign is like Ford, Toyota, and Mercedes putting a "Delco Inside" sticker on each car they sell.

Intel didn't stop with that: they decided the OEM's weren't growing the market fast enough, so they started building entire motherboards. That whole market just got turned upside down - if you sell computers and you want to hit the Christmas sales season with the latest Intel chip you don't have time to design your own motherboard anymore, so now what used to be a computer maker is only a computer sales channel -- Intel is the computer maker..... But that could never happen in the auto market.

The auto industry is bringing its suppliers closer and closer, getting the supplier more involved in design, even co-locating the supplier's manufacturing activity on the premises. Volkswagen has even started to use the supplier to assemble the vehicle. Some real out-of-box thinking going on here; but too much of it is looking at a static box. There better be something more to your

strategy than lower costs and shorter cycles. Be careful what you ask for, you may get your wish.

From the comic strips recently Snoopy laid three panels of doghouse philosophy on us: "Secrets of Life: Always look ahead -- Also, always look back over your shoulder -- Make sure you can still see your supper dish."

Out-of-box thinking isn't automatically better, nor is it necessarily synchronized with the corporate preparedness to switch to something radically different. Decision makers focused on realigning existing supply relationships with the accelerating business environment are generally unwilling to risk the current income stream on unproved concepts. A new supply-chain management practice should focus initially on delivering immediate "supper-dish" benefits, while enabling advanced capabilities for more gradual exploitation.

The accelerating pace of change in the business environment is fueling an interest in technological support for supply-chain management, with the expectation that electronic inter-enterprise connectivity can speed the flow and increase the accuracy of information exchanges, reducing both time-dependent and mistake-induced costs in multi-tier procurement and design activities. Lockheed/Martin, Rockwell, and Texas Instruments are building an open infrastructure for supply-chain management called AIMSNet. In order to focus the design requirements, change-proficiency issues were identified for three different modes of operation, with the high leverage items short-listed. The accompanying table is similar to the one they are working with.

Agility is about change-proficiency. Organizations of interacting

can accommodate a variety of different kinds of change adequately. Identifying the change issues explicitly is what leads to a solid list of requirements against which any design can be measured.

Agility is about change proficiency - it's not about trust-based relationships, virtual enterprise, or electronic commerce - those may be tactics or strategies or enablers to improve change proficiency in today's business environment, but when they are replaced with the approaches of the 2010's you can be sure that those replacements will be justified on their support for even greater adaptability. Focus on the issues, don't mistake a strategy for an objective.

The table uses change proficiency tools (the eight change domains) as a means for exploring the different types of change that must be accommodated. Supply-chain management is just one of many business practices that are becoming more change proficient today - and each has a progression of maturity levels that differentiate one company's competency from another's.

One Company's Supply Chain Agility Issues			
(Change Proficiency Metrics: Time[T], Cost[C], Robustness[R], Scope[S] ----- x: Initial Focus o: Future Interest)			
Change Types	Virtual Enterprise Partnering	Production Outsourcing	Component Supplier Networks
Creation / Deletion	o Finding potential partners [T] x Forming partnership [TR] o Dissolving partnership [C] x Forming IPPD team [TR]	x Finding potential outsources [TC] x Developing requirements spec [T] x Contract agreement [T] x Forming IPPD team [RS]	x Finding potential suppliers [TC] o Qualifying potential suppliers [TR] x Contract agreement [T] x Forming IPPD team [TRS]
Augmentation (Improvement)	o Formation speed [C] o Operating response [T]	o Faster interaction response [T] o Improve core competency [R]	x Faster interaction response [T] x Cost reduction [T]
Migration	o Closer strategic integration [R]	o Integrated communications [R] o More outsourced design [S]	x Integrated communications [R] o More commercial production [CS]
Addition / Subtraction (Capability)	o Integrating new partner with unique capability into existing team [TR]	o Finding suitable outsource [TCR] o Adding necessary capability to meet customer requirement [TRS]	o Integrating additional supplier [TR]
Correction (Recovery)	o Contract dysfunction/obsolescence [TR] o Partner no longer viable [TC]	o Outsource insolvency [T] o Outsource delivery failure [T] o Customer relationship terminated [T]	o Supplier ceases to exist [T] o Qualification revoked [T]
Variation (Performance)	o Incorporate urgent ECO [R] o Key partner resources diverted [T]	o Incorporate urgent ECO [T] o Custom job configuration [TC]	o Incorporate urgent ECO [T] o Custom job configuration [TCRS]
Expansion / Contraction (Capacity)	o Increase/decrease magnitude of partnership activity [T]	x Increase/decrease production qty [T]	x Increase/decrease production qty [T] o Add 2nd sources to network [T]
Reconfiguration	o Change partner responsibilities [R]	x Switch insource/outsources for optimal core competency [TCRS] o Switch customer assignment [R]	o Switch between defense and commercial production [RS] o Change supplier responsibilities [T]

elements (supply-chains are one example) are said to be Agile if they