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"Integrating Suppliers Into The 'Extended Enterprise'"

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The term "extended enterprise" was coined in 1992 to describe Chrysler's concept of a multi-tiered supplier-base that operates like a single company. The supplier-base includes any company that participates in any DCX process phase from raw material purchase to delivery to the final consumer. The Procurement and Supply organization was created in the early 1980s by merging the procurement and supply functions. It now has 3,000 employees and purchased \$84 billion in 1999. The process team for Procurement and Supply includes executives who are responsible for both quality and cost. They share a common office and their bonuses are based on meeting both criteria. DCX has both platform teams, e.g., Jeeps, trucks, small cars, large cars, mini-vans, and process teams, e.g., marketing, manufacturing, engineering, procurement and supply. The chief of a platform team also heads a process team. For example, the manager in charge of Procurement and Supply is also in charge of the Jeep platform. One of DCX's most recent innovations is EasyMap®. This allows DCX to identify all suppliers for every component that DCX out-sources. Steve illustrated its use in identifying thirty-five suppliers for a single component (roller lifter) for the Jeep Cherokee. Some fourth or fifth-tier suppliers didn't even know they were suppliers to DCX.

Procurement and Supply interfaces with three core processes; product creation, volume production, and customer connection. Procurement and Supply is currently undertaking six initiatives to contribute to these three core processes; supplier relations, commodity strategy, cost management supply concept, supplier development, and technology leverage. These six initiatives help to balance cost, quality, cycle-time and technology for each of the three core processes..

Supplier Relations: DCX tries to establish long-term relationships with suppliers that will lead to win-win-win outcomes for DCX, suppliers and customers. Each year, all first-tier suppliers are asked to rate their relationship with DCX on a 1-5 scale as well as rate their relationships with other suppliers. These suppliers rate DCX higher than of all of their other customers.

Commodity Strategy: Chrysler and Daimler jointly develop five year plans for what suppliers to involve in all major components for cars that aren't even on the drawing board yet. These early commitments assure that suppliers will be involved from the very start of designing a new car.

Cost Management. All first-tier suppliers are involved in SCORE (Supplier Cost Reduction Effort). This system has produced 13,000 suggestions for continuous cost improvement, of which 75% have been implemented, and resulted in \$2.8 billion in savings. DCX also practices target costing. They determine first what a car must cost to be competitive in the market, then work backwards to determine required profit, variable costs, transportation, warranty. The residual is material costs, which is Procurement and Supply's responsibility. All first-tier suppliers are asked to sign up to meet these target costs.

Centralized Supply Concept: Vehicle orders are tracked from sale to delivery. Procurement and Supply tracks material flows and releases from inbound logistics, the production line, outbound logistics, and finally to the dealer.

Supply Development: Suppliers are rated on training needs. Training includes continuous process

improvement, lean production methods, value engineering, and value analysis.

Technology Leveraging: Daimler is a technology leader, but Chrysler is a technology follower. Chrysler depends on its suppliers for technology development. Chrysler wants to keep R&D costs low by relying on their suppliers for new technology. The latter spend nearly twice as much on R&D/sales as does Chrysler. This minimizes duplication of effort. Suppliers usually agree to transfer technology to Chrysler without licensing fees.

Extended Enterprise and Product Creation: DCX integrates the extended enterprise into the product creation process. It has created a matrix structure in which platform managers also lead at least one function. There are five platforms and eight functions. The Procurement and Supply umbrella extends throughout all phases of the product creation process. Its efforts have contributed to reducing the product creation cycle to twenty-three months.

Steve discussed future opportunities for the extended enterprise. EasyMap© is one of the most recent initiatives. Supply-chains are very complex and no one knows them entirely. EasyMap© was used to track one component and discovered that it crossed the Mexican border eight times and another crossed the Canadian border twelve times. One of the crossings was to inspect a product. EasyMap© leads to elimination of unnecessary moves and travel time. Some products share the same supply-chain. EasyMap© permits economizing where this occurs. Procurement and Supply plans to do similar mappings for all of its components.

Total Cost of Ownership is another recent initiative. Suppliers are assessed on cost drivers for materials, overhead, warranty, and assembly for savings opportunities. Future sourcing decisions are based on supplier measurables such as cost, quality, delivery, and technology. Suppliers that are high on all criteria are rewarded. Corrective action is taken when weaknesses have been identified.

Electronic Integration: The goal is to electronically link all suppliers. One-hundred percent of all production suppliers and fifty percent of non-production suppliers are now linked. Eighty-one percent of all DCX suppliers rated DCX as best in communication practices. The company wants to develop a capacity data-base in which a supplier's current capacity can be assessed for bottlenecks to figure out where best to source components.

E-Commerce Strategy: DCX has joined with Ford and General Motors to create a new company to carry out on-line auctions with suppliers. DCX's assessment of opportunities is that the greatest return from supply-chain optimization will be in the product creation process, especially as it relates to quality and cycle time reduction.

To achieve its goal of complete electronic integration, DCX requires that all first-tier suppliers are CATIA capable. About fifty percent are CATIA capable now. All suppliers are assessed on electronic capability. All first-tier suppliers are being encouraged to do the same with their own suppliers. When suppliers were polled about their current manufacturing initiatives, cost, quality, just-in-time, and EDI were weighted higher than CATIA. The entire supply-chain is being assessed for electronic integration opportunities.

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Last modified Sunday, 07-Oct-2001 21:52:39 EDT