

Denso's purchasers smooth wrinkles in supply chain

The opportunity: The purchasing department at Denso Manufacturing Tennessee, manages the supply of components and materials to serve the manufacturer of more than \$2 billion in annual sales to the automotive industry. Steve Davis manages a 10-member team at Denso's Maryville that is tasked with optimizing the organization's supply chain.

The concept: Denso Manufacturing's purchasing department utilizes sophisticated cost analyses of components and processes to strengthen the overall supply chain. In addition, it applies risk management principles to avoid interruptions to the supply of product.

Davis is applying business principles he learned while attending the University of Tennessee's Professional MBA program, including the Theory of Constraints, which is a method for identifying and overcoming key bottlenecks and constraints that inhibit an organization's ability to achieve its goal.

The company: Denso Manufacturing operates four manufacturing facilities in Maryville and is one of the largest operations globally for Denso Corp. The Japanese company is one of the world's largest suppliers of advanced automotive technology, systems and components with operations in 32 countries and regions.

Founded in 1988, Denso Manufacturing Tennessee produces electronic products, instrument clusters, starters and alternators. The company employs more than 2,500 people.

The challenge: Free flow within the supply chain that includes more than 1,500 suppliers of indirect products and more than 200 suppliers of direct materials and components. The challenge is finding the bottlenecks and eliminating them before they disrupt the supply chain.

The purchasing management plays a key role in sourcing more than \$400 million per year from U.S. suppliers. Davis says a competent purchasing management team is critical to the success of the company and the supply chain.

The solution: One solution based on the Theory of Constraints focuses on eliminating bottlenecks in processes. The resulting improvements in efficiency, Davis says, has directly increased production and reduced unit costs.

One common example of this occurs when production associates are waiting for parts. The time to complete their job function is actually faster than the process feeding them the parts, thus creating a bottleneck. In this scenario, it may be beneficial to invest in resolving the bottleneck (add equipment, add personnel, etc.) to increase efficiency and output. Another option may be to utilize the production associates for other jobs, which also produces greater efficiencies of resources.

Davis says he also uses his understanding of manufacturing costs to help suppliers be more competitive. Since businesses are competing in a global environment, this enables them to gain business and grow their sales, he says.

Denso recently worked with a Madisonville manufacturer of plastic molded parts. Using analysis tools and management principles, the purchasing department worked with the supplier to determine a mutually beneficial cost. As a result, the company will supply several components that will be used in Denso assembly of instrument panels for vehicles, further supporting the local economy. ■

This Case Study is provided by the University of Tennessee College of Business Administration. For more information, contact Cindy Raines at craines1@utk.edu.