

Executive Commentary:

Designing Lean Supply Chains for the Real World

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Manufacturers have always searched for efficiency strategies that help reduce costs, improve output, establish competitive position, and increase market share. Lean manufacturing is one of the most important initiatives currently being espoused across multiple vertical industries. This shift towards results-oriented, output-focused production systems is causing many to explore new supply chain design and optimization strategies for their corporations.

So What Does It Mean to Be Lean? In lean production, the value of a product is defined solely by the customer. The product must **meet the customer's needs at both a specific time and price**. Identifying the value in lean production means understanding all the activities required to produce a specific

product, and then to optimize the whole process from the view of the customer. And according to the customer, the right product needs to be on the right shelf at the right price. This is achieved with perfect order fulfillment.

Designing the Customer-Focused Supply Chain for Perfect Order Fulfillment

There are five basic issues to address when designing a lean supply chain:

1. The forecast is never right.
2. Supply is always uncertain.
3. Seasonality and compressed product lifecycles add another layer of complexity.
4. Customer service levels must be achieved with even the tightest budget.
5. Consumer pricing pressures make internal margins even more critical to success.

Let's examine each issue keeping in mind that in lean terms, unnecessary inventory is waste, and waste is not acceptable.

The forecast is never right.

The reality of manufacturing is that demand is uncertain, and unless you work at the circus, no one has a crystal ball. Building to

true demand still encompasses covering a 30-day or 60-day supplier lead time. Understanding that demand is a moving target, inventory levels need to be designed for variability and inventory locations need to be designed for rework options. Since these decisions aren't intuitive with today's complex multi-routed supply chains, look for supply chain design and optimization applications that understand the realities of your supply chain.

Supply is always uncertain.

Even with the best procurement department, suppliers will fail to deliver on-time and in-full. This, however, is a reality that can be modeled. One of the key elements of lean manufacturing is the concept of no-waiting. No machine should ever sit idle when there is demand, and no material should ever sit on the dock. Using a supply chain design that understands that 80 percent of the time, the supplier delivers in two weeks, and 15 percent of the time delivers in three weeks, and 5 percent of the time delivers in four weeks allows you to balance the chain and keep it flowing.

Seasonality and compressed product lifecycles add another layer of complexity.

Can you say “kick it up another notch”? Each product has its own introduction period when demand is high and inventories are less expensive. As the product matures and the demand stabilizes, steady-state manufacturing efficiencies kick in. And finally, as the product reaches end-of-life and prepares for retirement, demand slows to a trickle and inventory costs can skyrocket because of obsolescence risks. Mapping precise inventory targets throughout product lifecycles with time-phased templates is another way to eliminate waste from the supply chain. Fine-tuning the supply chain to map real-world scenarios closes the giant gap between the forecast and the plant floor.

Customer service levels must be achieved within even the tightest operating budget.

With the Great Inventory Trainwreck of 2001 behind us, corporations are acutely aware of the risks of building beyond the forecast. As the pendulum swings back, more and more corporations are capping their inventory budgets in order to correct the problem. Understanding these real-world limitations, you still need to design your supply chains to serve your best customers. Look for solutions that allow you to model sophisticated scenarios to serve multiple customer tiers.

Higher service levels lead to better product positioning on the shelves and in-store promotions to satisfy the customer, but also increase inventory turns to keep product moving through the chain.

Running lean doesn't mean running with zero inventory. Running lean means running with as little inventory as possible, and this is where Optiant PowerChain™ steps in. There is a backwards ripple effect when you reallocate safety stock targets that impacts capacity utilization, batching, and procurement.

Consumer pricing pressures make internal margins even more critical to success.

Lean environments understand that consumers have the final word on price, and corporations realize that true price elasticity can only be realized with internal margins. Supply chain design and optimization applications have historically added 2 to 4 points to products' net margins. And since these gains are already on top of continuous improvements in inventory-related costs and customer service levels, the results are truly dramatic.

Continuous Improvement Starts with the Best Supply Chain Design

The transition to a lean environment does not occur overnight. A continuous improvement mentali-

ty is necessary to reach your company's goals. Continuous improvement principles result in astonishing performance improvements. Supply chain design and optimization is a critical component that redefines the “best” in best-in-class.

How Optiant's PowerChain™ Fits the Bill

Supply chain design and optimization underscores the value of lean manufacturing in achieving true customer service. If the customer doesn't get what they want, when they want it, at the quality and price they expect, they will go somewhere else to get it. Optiant PowerChain offers a data-driven approach to determining the most strategic inventory placements in order to achieve desired customer service levels. Working in conjunction with existing man-

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ufacturing best practices, PowerChain ensures that you have the right inventory in the right places to meet customer demand and achieve the end-goal of Lean: perfect order fulfillment.



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