SUPPLY CHAIN EDGE

Case Study

Meeting Demand More Quickly and Completely: SCE Helps a Supplier Boost Customer Responsiveness in a Time-Sensitive Industry

Company Profile

The client is a product manufacturer supplying the construction market. Number three in market share in its industry, the client sells through multiple distributors across the United States (four of which stock the client's products at their own warehouses). Due to the highly seasonal nature of its end customers' business, the client's success is based primarily on operational flexibility and responsiveness—the ability to provide the proper "mix" of products in the hands of construction distributors/construction sites quickly when needed is the primary competitive differentiator in this market.

The Business Challenge

Construction companies' work is often driven by the weather: When conditions are favorable, they mobilize to get as much done, as quickly as possible, before the weather turns. That means companies supplying them must be equally nimble, able to have product at the ready to accommodate surges in demand.

However, while it recognized this obvious key to success, SCE's client often fell short of what its customers needed. On average, the company's overall SKU fill rate had dropped below 90 percent while customer order fill rate (FPY) had dropped to below 50%; and, the company typically required more than six days for 100% order completion. The preponderance of SKU fill rate issues were with "A" item shortages resulting from the lack of a "pull" system for linking the daily/weekly SKU order demand to the production schedule.

Making matters worse were the challenges of being third in its market as the client's top two competitors are much larger and can make far greater investments in inventory. They also have multiple warehouses that give them an advantage in providing product on short notice. This means the client could ill afford to continue lagging in customer responsiveness.

Company executives knew they had to act to change the organization's current trajectory. They therefore set ambitious goals to boost the company's average customer order fill rate to 85% and to cut its time to complete an order in half—to three days. To help it achieve those goals, the company hired SCE to identify the process issues causing the current problems from order receipt to order shipment, determine the barriers prohibiting fill rate improvement, and recommend actions for eliminating those barriers.

How Supply Chain Edge Helped

SCE began its work by conducting an initial assessment of the client's operations across both production and order fulfillment. Although SCE discovered a variety of shortcomings in both areas, difficulties tended to be concentrated in production scheduling, dropping "unclean" Wave orders to the DC, back order management, and the DC/WMS/RF order fulfillment processes.

For instance, SCE identified several broad categories containing more than 55 specific barriers, gaps or obstacles to best practice order fulfillment performance:

1. Orders took too long to process: Open orders averaged 150 to 200 daily, and more than 20 percent of line items required more than one shipment to fill completely.
2. There was simply not enough inventory on hand to satisfy orders: The client was averaging an Order Fill Rate FPY of less than 50 percent and a Line Item fill rate of less than 90 percent. Furthermore, orders that were not "clean" were being dropped (Wave) to the DC transportation clerk who was tasked with managing/tracking/processing the back orders through a complicated system of spreadsheets and emails.
3. The less than 50% FPY on customer orders was being exacerbated by a dysfunctional "MRP SKU Reservation" system: The system allowed available stock to be allocated/committed to new orders when there were back orders waiting for the stock.
4. The Event Warehouse Location error rate was an unacceptably high 31%: Part of this problem being that the WMS cycle counting was so cumbersome (manual versus RF) that the manual counting/editing process had been abandoned for more than a year.
5. Picking/staging took too long to initiate shipments because of numerous WMS RF process and methodology issues: Typically, there was a two- to four-day backlog.
6. Shipments took too long to arrive to the customer: Orders typically were staged on the dock 16-24 hours before the carrier picked up, and time to deliver after pick up averaged well over three days.

Further SCE analysis revealed some of the principal drivers of these issues, one of the biggest of which were process shortcomings. SCE found that inefficient or outdated order management, transportation and warehousing processes, as well as a lack of proper business rules, made it difficult for the client to not only complete orders, but also to more accurately forecast and meet demand.

This last point was especially relevant: Because the client builds to stock and inventory levels based on recent sales history and forecasted demand using a "wheel" system for actual production planning, determining the inventory levels (and periodic adjustments to those levels) is crucial to having the right product available when customer requests are received.

SCE also discovered the client's transportation function was making it difficult to fulfill orders. At the time of SCE's assessment, the client used three primary freight carriers, and a total of five to 10 each month on average, to handle its shipments—10 percent of which were less-than-truckload, and the majority of which were full truckload (but frequently involved multiple stops). Unfortunately, these

carriers were neither of the highest quality nor consistently reliable, which caused shipment delays and errors.

At the highest level, the client lacked both ownership of the broader supply chain function and a proper set of metrics that enabled decision makers to measure variability in performance and identify relevant interventions.

Based on the findings of its assessment, SCE concluded the client could address these shortcomings—and, in the process, take major strides toward achieving its goals—by embracing three broad initiatives: implementing a disciplined and formal Sales, Inventory and Operations Planning (SIOP) Process to synchronize inventory with demand; more fully leveraging the client's existing ERP/WMS systems (especially its Transportation Management System functionality), as well as outsourcing the carrier selection process to streamline/improve shipping performance and costs; and developing a more formal supply chain function, including people and processes, to provide vital, active "Dashboard" oversight of supply chain activities.

SCE also developed a 16-week project plan designed to help the client build or strengthen the capabilities key to executing these initiatives.

Results and Benefits

Taking SCE's recommendations to heart, the client has begun working with SCE to implement them. And those efforts already are bearing fruit. For instance, through training, new processes, and new business rules, the client has significantly reduced the time to process an incoming order, the backlog of incoming orders, and the number of customer backorders. By establishing a functional wave planning and stock reservation process, the client has improved fill rate. Coupling a new warehouse slot location/layout utilizing LP functionality and improved pick/pack process with the implementation of a number of best practices has enabled the client to streamline warehouse operations and reduce backlogs. By rationalizing and consolidating carriers and improving its daily carrier selection process, the client has significantly reduced shipping delays as well as freight costs.

All told, the client has significantly "moved the needle" on order fulfillment and is well on its way to achieving the goals it set for this effort.

Meeting demand is critical to all successful businesses. It's even more critical, not to mention difficult, when that demand is urgent and unpredictable. With SCE's help, this client now has the operational prowess to be much more responsive to its customers' needs—and is better positioned to compete with the bigger players in its market.

Results Achieved with SCE

Incoming Orders	< 50% first pass yield	99% first pass yield	Kaizen Event
Order Backlog	150-200 open orders daily avg (50 incoming avg)	Order backlog now equals incoming order rate	Kaizen Event
Backorders	> 20% of line items take > 1 shipment to fill 100%	Backorders now < 3% of total orders	Business Rules regarding number of days to fill orders
Inventory Management	< 50% avg order fill rate and < 90% line item fill rate	96% order fill rate and 98% line item fill rate	Facilitate establishment of Wave Planning and Reservation system
Carriers	Unable to attract quality /reliable asset-based carriers	Agreements executed with best-in-class asset- based carriers	Discussions with carriers that led to execution of a win-win relationships
Operating Metrics	Nothing in place to measure variability and improvements	Dashboard in place - Senior Leadership has complete visibility	Developed and/or improved all supply chain metrics - designed dashboard
Picking & Staging Shipments	2-4 day backlog due to process problems and business rules	Picking and staging shipments now <1 day backlog	Establishing improved layout, processes and business rules
Transportation Time	> 3+ days avg to deliver after pick up	< 2 days avg to deliver after pick up	Consolidating carriers and improving selection process
Transportation Cost	Not billing actual cost to customers	Freight as a Profit Center model in place	Created updated charge database
Inventory Accuracy	31% error rate at most recent physical inventory event	Inventory accuracy now at 99% and Daily Cycle Counting implemented	Establishing daily cycle count program in 2 phases
Warehouse Management	Interruptions, inefficiencies, outdated processes	Implemented One Piece Flow	Establishing best practices (pick queues, locations, transfers, pallet breaks, etc)
Business Rules	Perpetuate and enable exceptions and work-arounds	Limited and strict guidelines	Developing new Business Rules
Dynamic Cycle Time	6+ days avg to get product to the customer	3 days Dynamic Cycle Time	Kaizen Event; Distribution and Transportation improvements
Transportation Business Plan	Nothing in place	Business Plan established/executed	Developed business plan with buy-in from internal team
Supply Chain Management	No owner and outdated practices/ processes	Director on staff and updated processes and policies	Used SCE network to "source" executive level supply chain Director
Demand Planning	Inventory not synchronized with demand	Establish rigorous SIOP process - inventory and demand aligned	Developed and executed robust SIOP process

About Supply Chain Edge

Supply Chain Edge is a team of seasoned supply chain specialists who are highly skilled in identifying, quantifying, and capitalizing on opportunities that drive performance improvements in key areas such as business growth, earnings per share, return on capital, margins, cash-to-cash cycle times, and customer service.

Supply Chain Edge is unique in two important ways: Our extensive experience in numerous supply chain initiatives with dozens of companies enables us to bring best practices used by other enterprises to every project while working collaboratively with a client's existing internal talent. And, we don't simply advise clients what they should do, but instead, help them execute more effectively and efficiently to realize tangible, quantifiable financial gain.

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