



CASE STUDY

Lean Process & Supply Chain

Chemical Company

■ PROBLEM / CHALLENGE

Our Client is a private equity owned carve-out from a global crop science company. Their products are chemicals used in herbicide and pesticide applications. Certain aspects of the carve-out created significant customer service and supply chain problems manifesting in 68% on-time-in-full (OTIF) and customer inquiries taking weeks to resolve. The result was sudden customer defections and the need for a business operations turnaround.

■ Virtual Supply Chain Model

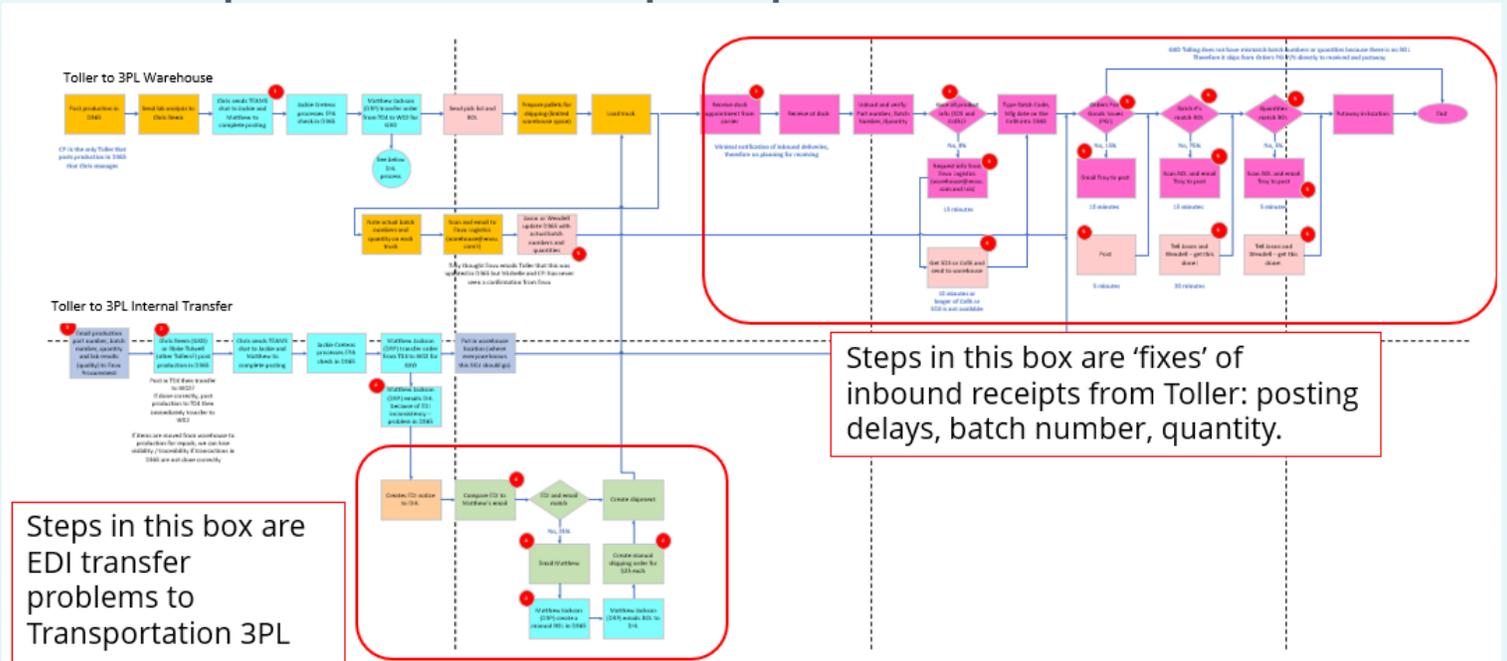
The Client operates a virtual supply chain. They own the formulas and brands but outsource production to 15 'Tollers', warehousing to 9 third-party-logistics (3PL) warehouses and transportation to a trucking 3PL. This asset-lite model can generate high return on assets but is also very complex.

■ VALUE STREAM MAP FINDINGS

- **Lack of Aligned and Actionable Performance Metrics**
 - The two key functions we worked with, Customer Service and Logistics, did not have a scorecard to track performance.
- **14,000 hours of wasted labor in logistics functions**
 - Our initial current state process flow mapping of the warehousing operation between our Client and its 3PLs quantified over 14,000 hours of non-value-added work identifying and correcting lot numbers.
- **Lack of standard work and SOPs in Customer Service**
 - The Customer Service function had large turnover of customer service reps (CSRs) in the transition from the Global company and our Client after the carve-out.
 - New employees did not know how to use the ERP and other software tools.
 - Each CSR had their own way of entering orders and responding to customers.
- **Large inventory discrepancies**
 - The Client owned the raw materials + packaging at Tollers and finished goods at 3PLs
 - A recent reconciliation resulted in a multi-million dollar write-off due to inaccuracies between Tollers, 3PLs and the Client.

ACTIONS

- Developed a value stream map and quantified non-value-added work.



Issue	Area	Idea/Solution	Annualized Benefit
Reserving batch numbers and QTY based on total company FEFO	Order Fulfillment	Only allow reservation and hard allocation of batch numbers and quantity received in the warehouse	~10,000 hours wasted per year
D365 work doesn't match the order Picking block due to location, QA or EPA hold. System allows orders to be reserved and created that are available but not in location 1000 (the only non-block location in D365)	Order Fulfillment	Proactive review of the order versus the reservation prior to release	3093 hours wasted per year
	Order Fulfillment	Make D365 only allow allocation or reservation from virtual location 1000 which is only non-hold location in D365	343 hours wasted per year

- Created visual work instructions for Customer Service, 3PLs, Tollers, and WH

Step 1

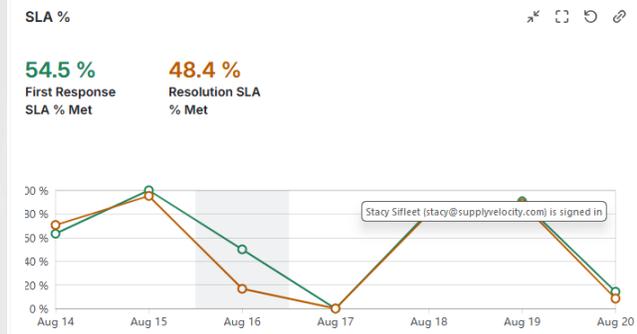
Go to Inventory Transfer Order and click "New"

The screenshot shows the Dynamics.com web interface for 'Inventory Transfer Order'. The 'New' button is highlighted in a yellow box. The interface includes a navigation bar with 'Finance and Operations' and 'US01', and a main area with 'Transfer order', 'Ship', 'Receive', and 'Options' buttons. The 'New' button is located in the top navigation bar.

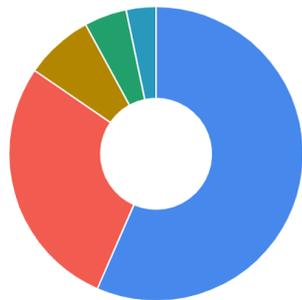
CREATED KPIs for CUSTOMER SERVICE AND LOGISTICS TEAMS

Objectives/metrics

- % of first response to customer within 16 hours
- Number of open vs. Closed customer inquiries or issues for the week
- All orders received with available inventory the day prior before midnight are released to the WH before noon the next day
- Lines released to the warehouse per labor hour



Issue Type (Past 7 Days)



Priority
Total Issues: 214

Priority	Count
No Issue	121
General	60
Complaint	16
Shipping	10
Billing	7

Objectives/metrics

- Aged Orders by \$ Value of Orders
- # of outbound orders needing to be fixed
- % of inbound transfer orders needing to be fixed
- Inventory Accuracy by \$ (% discrepancy)
- Defective shipments (qty over/under / defective / wrong item):

FOCAL IMPROVEMENT AREAS

- **Warehouse Operations**
 - Mapped the current state of Client and 3PL transactions
 - Used map to create Action Register to track elimination of all 14,000 hours of wasted labor
- **Created Standard Work and SOPs**
 - Customer Service and Logistics
 - 3PLs and Tollers on using Client systems
- **Inventory**
 - Created process to integrate 3PL and Toller cycle counting directly into Client inventory system
 - Changed supply chain design to Tollers purchasing raw materials and packaging
- **Performance Measures**
 - Created performance metrics for Customer Service and Logistics team
 - Facilitated action items to improve poor performance

QUANTIFIED RESULTS

- **OTIF increased from 68% to 84% in two months**
- **Burned down \$22 million backlog to less than \$10 million in two months**
- **Changed customer inquiry response time from weeks to hours**
- **Eliminated 14,000 hours of non-value-added work in Logistics**

Reference: Cary Daniels, Interim
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