The Supply Chain Company®

Optimizing Transportation Processes at DHL

As the world's largest express and logistics provider, DHL strives daily to meet its customer requirements by optimizing schedules, loads and processes within its current business constraints. This entails finding the most cost-efficient solutions for determining servicing locations, maximizing transportation costs and identifying consolidation opportunities. DHL needed to gain a better understanding of how to assimilate these elements quickly to provide solutions for the myriad customer projects it undertakes annually. It also needed more flexibility and agility in controlling its vast network of operations. DHL identified i2 Supply Chain Strategist™ and i2 Transportation Modeler™ as the clear choice to provide these capabilities and address these challenges.

Achieving Greater Visibility and Control

DHL found that when approaching a new project, it was necessary to develop a blueprint, or control report, to effectively mimic the business operation as it exists. i2 solutions enable DHL to replicate customers' current operations using data and processes unique to them, and to then craft transportation and logistics solutions based on the results of the input.

"Once the scope of the project has been developed, the i2 solutions process the data and create control reports that define the baseline and 'what-if' scenarios," said Lucas Vaquero, who manages the global logistics process at DHL. "Once the baseline is established, it serves as the platform for future scenarios, which in turn lead to developing the appropriate solutions."

DHL then runs scenarios within this "baseline," applying specific parameters to determine the best approach.

"The control reports generated by i2 solutions help us understand not only the assumptions, but also the gaps in information we need to know in order to develop a desirable solution," Vaquero said. "We input all of the business rules, orders, constraints, demand requirements, costs, and individual processes to determine the impact on the overall scenario."

Challenges

- Optimize delivery schedules
- Determine servicing locations for the demand regions
- Optimize workflows and load times

Solutions

- Created baseline reports that mimic real-world environments
- Improved ability to create scenarios based on realistic platforms
- Optimized loads, schedules, processes

Results

- Enabled transportation cost savings for a variety of customers worldwide
- Improved optimization exercises and communication of results
- Created the ability to replicate and evaluate current business scenarios and to understand the impact that different variables have on proposed transportation solutions

Company Description

Founded in San Francisco in 1969, **DHL** (a Deutsche Post World Net brand) has expanded to become the global market leader of the international express and logistics industry. DHL offers unparalleled expertise in express, air and ocean freight, overland transport, contract logistics solutions as well as international mail services in an ever developing and complex marketplace. Today, the DHL network includes over 300,000 employees and has adapted to meet the changing needs of its customers both at the global and local level in over 220 countries.

i2's Contribution

DHL leverages i2 Supply Chain Strategist and i2 Transportation Modeler to solve problems ranging from evaluating the impact of different ship dates for a manufacturing customer, to determining hauling savings for a retail customer, to identifying consolidation opportunities for a consumer goods sector.

"We have to continually evaluate transportation costs, warehouse costs, and service levels," Vaquero said. "Supply Chain Strategist can show us the impact in service levels and transportation and warehouse costs, as well as how we can improve the service levels."

"For a consumer goods sector in Mexico that has 13,000 shipments, 18,000 lanes, and 1,500 locations, Transportation Modeler helped us to define the baseline and identify consolidation opportunities. In this particular case, we found 7 percent savings directly attributed to better optimization, better use of vehicles and stops per vehicle. We found that once you create a baseline and let i2 Transportation Modeler apply specific business rules, the biggest savings occurred."

–Lucas Vaquero, Transportation and Logistics, DHL-Exel Supply Chain

DHL's Results

The analysis and realistic decision-making provided by i2 Supply Chain Strategist and i2 Transportation Modeler allows DHL to produce the optimal solutions required of their vast customer base.

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The company has also leveraged i2 Transportation Modeler to cut transportation costs substantially for other manufacturing, retail and consumer goods customers worldwide. For one prominent retail customer based in the United States, DHL was able to leverage the solution across multiple variables, including delivery, fleet, and location parameters, to realize an approximately 15 percent savings.

The company also uses i2 Transportation Modeler and i2 Supply Chain Strategist to create tactical solutions, compare cost scenarios, and determine how changes impact service levels.

"i2 solutions help us to determine the network design at a strategic level. For example, let's say the customer wants to evaluate the feasibility of transportation costs of having either three or four distribution centers," said Vaquero. "Adding another distribution center will decrease the demand to be managed at each DC. That also changes the specific cost per pound as the product mix changes. i2 Supply Chain Strategist takes these elements and determines the optimal solution for the number of distribution centers, and then that information is used by i2 Transportation Modeler to determine if the transportation costs of the proposal are correct."

This case study is based on a web seminar presented by DHL and i2 entitled "Optimizing Transportation Processes at DHL."

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