CASE STUDY

AI-Optimized Regional Distribution

Client	Industry	Solution
Regional E-commerce Fulfillment Company in Portland, Oregon	E-commerce Regional Distribution	Basic Inventory Optimization Simple Route Planning AI

Challenge

Portland e-commerce company with 3 warehouses serving Pacific Northwest experienced 2.8-day average shipping times, 15% of orders requiring multiple shipments, $2.4M annual shipping costs, difficulty predicting which products to stock at each location, and customer complaints about delivery delays during peak seasons.

AI Consulting Approach

• Order Pattern Analysis: AI consultants analyzed 12 months of order and shipping data to identify optimization opportunities using practical, implementable solutions.

• Basic Predictive Modeling: Simple algorithms predicting product demand by location and optimizing inventory placement.

AI Solution

• Smart Inventory Suggestions: Basic machine learning recommending which products to stock at each warehouse based on regional demand patterns

• Order Routing Optimization: Simple algorithms selecting the best warehouse for each order considering inventory and shipping distance

• Shipping Method Selection: Basic cost-benefit analysis automatically choosing between shipping options

• Demand Forecasting: Simple seasonal predictions helping with inventory planning and capacity management

Implementation (16 weeks total)

- Data Analysis (3 weeks)
- System Setup (6 weeks)
- AI Development (5 weeks)
- Testing Training (2 weeks)

Key Results

Delivery Improvement:
- 1.9-day average shipping (vs. 2.8), 82% reduction in split shipments, better inventory availability across all locations

Cost Optimization:
- $980K annual shipping savings, 35% reduction in expedited shipping, improved warehouse space utilization

Customer Satisfaction:
- 40% fewer delivery complaints, more consistent delivery times, improved order accuracy, 165% consulting ROI

Technologies:
- Basic machine learning
- simple optimization algorithms
- inventory management integration
- shipping API connections