

Business Engineering – Master of Science Engineering

Beyond the Hub: Data Analytics as the Guide for Routing in Supply Chain

Distribution Network Decisions under Data Analytics



Distribution Network Routing

The strategic dilemma of centralizing versus decentralizing distribution networks is a critical decision for contemporary supply chain management. Choosing the most effective global shipment strategy is a critical challenge for any industry.

This thesis confronts this question through a detailed case study, addressing the challenges and potential impacts on operational efficiency in the distribution network.

Data Analytics and Modelling

The approach presented in this paper leverages the raw data supplied by the company and employs a rigorous methodology to define an optimal solution space using a mathematical model. This model is designed to generate the most efficient outcomes by carefully analyzing the provided datasets.

A compromise between two extremes

The model scrutinizes various plausible scenarios of the distribution network, identifying distinct vulnerabilities and suggesting that a hybrid distribution model, which incorporates lane-specific solutions, is the most advantageous. This hybrid approach is presented as the optimal strategy for balancing cost-efficiency across the network.

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