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Distribution Network Design and Optimization of a FMCG MNC of Bangladesh

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Abstract

Supply chain network design is a powerful modeling approach proven to deliver significant reduction in costs and improvements in service levels by better aligning supply chain strategies. There are many literatures available on supply chain network optimization, and numerous studies exist on supply chain functions of location, production, inventory, and transportation including integrated network. This research is focused on the cost optimization technique to optimize the network. This study has determined the optimization of the distribution network to increase the overall profitability of the company based on the total service time and total distribution cost. By the coordination of three different methods and using three different tools, a suitable and significant model has been developed which is consistent with the real life application. In this research work, a structured and optimum network for distribution has been generated where the performance has been increased to supply the product on time to fulfill the growing demand. The developed network shows 15.5 times better performance with a performance rate of 3.5953×10^5 . Cost optimization solution has been done by both significance and performance evaluation methods to make a robust ground for the optimized network.

Keywords

Distribution Network, Network Design, Network Optimization, Supplier, Manufacturer, Distributor, Retailer.