

## ABSTRACT

Logistics is one of the key success factors in the competitive market of today. An efficient logistics network leads to transportation cost saving. Chokchai Electric Company has been trying to improve transportation costs by redesigning logistics network configuration through a distribution warehouse model in order to achieve total logistics cost saving goal.

The purpose of this research is to enhance knowledge and awareness of applying the distribution warehouse model to reduce total logistics costs. This research presents the results from the data analysis and identifies the problem that was the direct long-haul shipping. The transportation cost structure such as distances, fuel costs, car rental cost, and overnight charge costs were increased by long-haul traveling per shipment. This research identified the cost saving opportunity by implementation of redesign logistics network configuration through a distribution warehouse. There were eight logistics network configurations which had a distribution warehouse in each network configuration and a number of customers in the Southern region such as Songkhla, Nakhon Sithammarat, Surat Thani, Phuket, Krabi, Ranong, Trang, and Chumphon.

After testing the benefits of the eight scenarios, a distribution warehouse at Nakhon Sithammarat province that was provided the lowest cost was selected as comparison with the cost of AS-IS scenario. The result of the comparison was measured and analyzed in terms of the total logistics cost savings per year. Finally, the new design of logistics network configuration through a distribution warehouse was able to save 198,260 baht per year or 21% of total logistics cost saving from the AS-IS scenario.

At the end of the research, the researcher provided guidelines and recommendations for implementation of distribution warehouse model in order to make a decision as a strategic tool for the selection of the appropriate location for the new designates of logistics network configuration through a distribution warehouse. This strategy was able to reduce the total logistics cost and increase profit of the company.