

ABSTRACT

Inventory centralization is a distribution system that centralizes inventory in one place and distribution to other locations, well known as a distribution center (DC) system. Conceptually, inventory centralization allows each store to keep inventory only at safety stock level, most inventory being kept at a DC. By implementing a DC distribution system, the researcher expects a reduction in total distribution cost, which is composed of average aggregated inventory level, transportation cost, and inventory administration cost.

This research examines the impact of changing a distribution system from a direct distribution system (from supplier direct to each store) to a DC distribution system, in the Paisarn Group Co. Ltd., which is a multi location electronic retail company. The aim is to reduce the total distribution cost by implementing a real case. The research statistically compares a three-month period of implementing DC distribution with the same period of the previous year in order to eliminate the seasonal nature of the product sales volume.

By observing the total distribution cost, which consists of the average aggregated stock level, transportation cost, and inventory management and administration cost after the company has implemented a DC distribution system, the results comparing with and without DC show that a DC system can reduce the total distribution cost, as expected. However, the results of the impact on transportation cost are surprising as weighted sales volume transportation cost is reduced by a DC distribution system which is opposite to what was expected when the research began.