INVENTORY MANAGEMENT FOR MULTI ECHELON MULTI DEMAND CLASSES PRODUCT WITH LOST SALES AND BACKORDER CONSIDERATION
(CASE STUDY: PT. GOLD COIN INDONESIA)
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Abstract

The focus of this research is about single product inventory control with multi echelon distribution system and multi demand classes. One of the problems is high inventory cost that is caused by high inventory level to fulfill demand at different class and targeted fillrate. Order fulfillment process with demand classes study case for this research is conducted at PT. Gold Coin Indonesia.

The objective of this research is a better policy of order fulfillment process with shortage behavior consideration and minimized total inventory cost. The policy proposed is rationing policy with end customer’s demand at retailer and retailer’s demand at warehouse consideration. Then simulation is used to compare total inventory cost and fillrate of each retailer between rationing policy and first come first served regulation.

Based on the calculation reserve stock for each class are known, 4 batches for class 1 and 18 batches for class 2 with reorder point of 22 batches. Based on this result rationing policy is better than first come first served regulation since it able to have lower total inventory cost.

Keywords : inventory, rationing policy, simulation
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