Abstract

The focus of this research is problems that occur at inventory management for single product order fulfillment with several demand classes. One of the problems is the service level differences at each class, which is the possibility of lost sales and backorder. Order fulfillment process with customer classes study case for this research is conducted at PT. Semen Gresik.

The objective of the research is to determine the policy to solve class order fulfillment based on targeted service level using shortage behavior and minimized supply total cost. The policy proposed is rationing policy, compared to the policy of first come first served. The process is conducted by finding ROP and reserve stock for each demand class, then simulation is used. Same stage used at first come first served policy, where calculation of EOQ and ROP is conducted, and then simulation is used.

Based on simulation and rationing policy calculation, reserve stock for each class valued 57 batches for class 2, 3 batches for class 1 with reorder point of 60 batches. Based on this result, rationing policy is better than first come first served policy since it is able to produce inventory value and with lower revenue lost sales.

Keywords: inventory, Rationing policy, simulation.
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