

Optimum Inventory Policy on Batch Process and Assemble System

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Abstract

In recent years, the impact of globalization and technical merchandises change very fast, therefore modular becomes the best method to produce. Modular means combined two modules which are Make To Stock and Make To Order, but it is complex and is limited by resources that will cause inventory management to become more and more complicated.

In the two phases of the inventory system which is consists of material on first stage and products on second stage, the quantity of inventory have dependent relationship. In other words, the manufacturing of products at the second stage needs the inventoried materials at the first stage. After that, we will consider batch to order and batch order, because first one will affect inventory to be decreased and other one will increase inventory a lot. The quantity of inventory will be dramatic influence. Accordinging to quantity of order strategy (EOQ、multiple、Power-of-Two Policy) and two decision strategies (sequential strategy and coordinated strategy) are discussed when searching for the best inventory policy based on the minimum total cost of the two-echelon inventory system. Finally we can see that coordinated strategy improves total cost of inventory system in different conditions and get amount of cost between minimum the two stages.

Keywords: Two-level inventory system ; batch to order ; (s, Q) inventory policy

