

# **A Study on Different Inventory Record Inaccuracy Factors in Two-echelon Systems**

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## **Abstract**

Inventory management plays an important role for enterprises to manage the supply chain well. Up to now, many researchers have devoted themselves to maintain accuracy in inventory count in the field of inventory management.

In practice, different inaccuracy factors usually cause the problem of incorrect inventory record. It makes the expected inventory can not satisfy the practical condition, so that enterprises usually spend more the total inventory cost. To conquer this problem, this research proposes two models to study the influences of different inaccuracy factors on the incorrect inventory record problem.

The decision strategies are discussed with Two-echelon periodic-review (R, S) inventory system, when searching for the best inventory policy based on the minimum total cost of the two-echelon inventory system. Further more, their corresponding optimal inventory level is solved by an algorithm. The objective is to evaluate the effect of system related costs and to evaluate the influence of inventory record inaccuracy of the system. An intensive numerical study is conducted and the performance of the two models is compared and analyzed. Through our experiments, we find out that the inventory record inaccuracy factors indeed damage the performances of each point in a supply chain. Therefore, it is important for enterprises to avoid the inventory record inaccuracy factors in practice.

**Keywords:** Two-echelon Inventory System Periodic-Review (R, S) Inventory

## System Inventory Record Inaccuracy Simulation