

# Computing replenishment cycle policy parameters for a perishable item with non-stationary stochastic demand under service level constraints

In session , stream Inventory Management.

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## Abstract

Inventory management of perishable products is one of the key challenges in food industry. The decision maker has to determine the timing and production quantity of each replenishment, in order to minimise expected costs, guarantee a service level and avoid excessive waste. We formulate a mixed-integer linear programming model to compute optimal replenishment cycle policy parameters for an item with a fixed lifetime of any length and a stochastic erratic demand under service level constraints. The model keeps track of the ages of the items in stock and uses a FIFO policy.

## Keywords

- Production and Inventory Systems
- Supply Chain Management
- Mathematical Programming