

Optimizing Inventory and Pricing Decisions for a Periodic-Review System with Batch Ordering

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Abstract

This paper examines inventory policies and pricing decisions in a periodic review system with infinite planning horizon. Order quantities are required to be a non-negative integer multiple of certain basic batch Q . Inventories are managed based on an (r, Q) policy. Pricing decision is determined at the beginning of the planning horizon and selected from a given price list. A fixed and proportional ordering cost occurs for each ordering. Holding and shortage cost depends on the ending inventory level at the end of each period. With the objective of maximizing the long-run average profit, this paper investigates the operating characteristics of the (r, Q) -p system, and further develop a computing procedure identifying the optimal (r, Q) -p decisions.