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On the single resource capacity problem for multi-item inventory systems. (English)

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Oper. Res. 38, No. 4, 686-693 (1990).

Summary: We study multi-item inventory systems under a single resource capacity constraint. In contrast to most previous approaches, we treat the capacity as a decision variable, and not as given data. This is consistent with many practical cases where additional capacities/resources can be acquired/rented at some cost/profit. Two solution procedures are developed for deriving an optimal policy within the class of policies that has a fixed cycle for all items with phasing of orders within the cycle. These solution procedures can be applied to various types of cost functions, as illustrated by an example.

MSC:

90B05 Inventory, storage, reservoirs

Cited in 11 Documents

Keywords:

multi-item inventory systems; single resource capacity constraint; optimal policy

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