

Optimal Replenishment Policy under Supplier-Retailer's Partial Credit Financing in a Supply Chain

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Abstract

Trade credit is an increasingly important payment behavior in real business transactions. To reduce non-payment risks, a supplier/retailer frequently offers partial trade credit to its credit risk downstream member who must pay a portion of the purchase amount at the time of placing an order and then receives a permissible delay on the rest of the outstanding amount. This paper develops an EPQ model to investigate the retailer's inventory system as a cost minimization problem under the condition of two echelon partial trade credit financing in a supply chain. An easy to use criterion has been provided to find the optimal replenishment strategies. Numerical examples are presented to illustrate the theoretical results. Comprehensive sensitivity analysis has been performed on different parameters.

Keywords

EPQ, Partial Trade credit, Supply Chain.