An Inventory Allocation Model Using Price Protection and Product Return Subsidies for Supply Chains under Declining Price Environments

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Abstract

Price protection is a credit given to distributors for unsold inventory when product prices decline during the planning horizon. Product return subsidies are given to distributors when products are returned by the distributors to the manufacturer. Both these subsidies are often implemented in the personal computer industry where the different members of the supply chain are exposed to risks associated with the rapid decline of product prices. This study investigates the interplay that occurs between these subsidies and other supply chain decisions when they are considered under a multi-period and multi-echelon setting under a declining price environment.