Vendor financing and its impact on vendor's optimal policies

Description

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Description This research aims to elucidate how vendor financing impacts the business strategy of the vendor and to shed light on the resulting optimal inventory and dividend policies. We consider a vendor employing a Make-to-Stock inventory policy and selling to a particular set of buyers facing product demand. The vendor is constrained by a fixed amount of capital available for purchasing inventory and incurs a variety of costs. Since the buyers are also financially constrained, the vendor offers financing to the buyers in the form of trade credits, and receives the corresponding incremental orders, which would not be placed with the vendor in the absence of vendor financing. This thesis makes two primary contributions: (1) the suboptimal supply chain policies that arise from implementing vendor financing are explored; and (2) a stochastic optimization model and the attendant objective function from the perspective of the vendor are formulated and solved for optimal financial and inventory policies, simultaneously. The objective function maximizes the expected discounted dividends generated by the vendor, given its initial inventory and capital, subject to capital constraints. This is compared and contrasted with the case wherein the vendor utilizes an inventory policy, but no vendor financing and cases wherein the vendor uses vendor financing but has less available access to external funds. Analyses and insights are provided thereafter.

Note M.S.

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