

Optimal order size to take advantage of a one-time discount offer with allowed backorders

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In this paper, we develop an inventory model for determining the optimal ordering policies for a buyer who operates an inventory policy based on an EOQ-type model with planned backorders when the supplier offers a temporary fixed-percentage discount and has specified a minimum quantity of additional units to purchase. A distinguishing feature of the model is that both fixed and linear backorder costs are included, whereas previous works include only the linear backordering cost. A numerical study is performed to provide insight into the behavior of the model. © 2009 Elsevier Inc. All rights reserved.

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