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A simple integrated production policy of an imperfect item for vendor and buyer

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Abstract

This article develops a simple approach for determining an optimal integrated vendor–buyer inventory policy for an item with imperfect quality. The objective is to minimize the total joint annual costs incurred by the vendor and the buyer. This model is assumed to produce a certain number of defective items during the production process. Items of poor quality detected in the screening process of a lot are sold at a discounted price. The expected annual integrated total cost function is derived and a solution procedure is proposed to determine the optimal policy. Finally, a numerical example is also given to illustrate the solution procedure presented in this article.

Keywords:

Inventory | economic order quantity | imperfect quality

Acknowledgments

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