An algorithm to compute the integrated production policy of an imperfect item for vendor and buyer

Shy-Der Lin

Department of Applied Mathematics and Business Administration
Chung Yuan Christian University
Chung Li
Taiwan, R. O. C.

Kun-Jen Chung*

College of Business
Chung Yuan Christian University
Chung Li
Taiwan, R.O.C.

Abstract

Goyal *et al.,,* [Production Planning and Control 14 (2003) 596-602] develop 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 $E(n,Q)$ incurred by the vendor and the buyer. To locate the optimal n of $E(n,Q)$, Goyal *et. al.,* (2003) need the convexity of $E(n,Q)$ with respect to n to justify the process of finding the optimal n. However, in fact, the total joint annual cost $E(n,Q)$ is not necessarily convex with respect to n. The main purpose of this paper is to present an algorithm free of using the convexity with respect to n to improve Goyal *et. al.*, (2003).

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