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An integrated single-vendor single-buyer inventory system with shortage derived algebraically

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Abstract

In previous modellings of the integrated vendor–buyer system for the shortage is the not-allowed case, a new approach to find the buyer's economic order quantity (EOQ) and the vendor's optimal number of deliveries, using some slight algebraic developments, appeared. This paper extends the mentioned algebraic approach to the integrated vendor–buyer system for the shortage case. The theoretical result obtained here reveals that the integrated total cost with shortage is lower than the integrated total cost without shortage.

Keywords:

integrated inventory system | single-vendor single-buyer | shortage

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