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ANALYSIS OF TWO ECHELON INVENTORY SYSTEM WITH JOINT ORDERING POLICY

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ABSTRACT

Inventory is essential for the efficient running of any business. Single location inventory system is considered by many researchers. This paper deals with two echelon inventory system with handling two products having joint ordering policy. The demand for the products follows independent poison distributions at retailer and distributor node. The items are supplied to the retailers from the distribution center (DC) administrated with exponential lead time having parameter μ (>0). The joint probability disruption of the inventory levels of two products at retailer and the supplier are obtained in the steady state case. Various system performance measures are derived and the long run total expected inventory cost rate is calculated. Several instances of numerical examples, which provide insight into the behavior of the system, are presented.

KEYWORDS: Continuous Review Inventory System, Two-Echelon, Joint Ordering Policy