Two Commodity Continuous Review Inventory System with Coordinated Reorder Policy

N. Anbazhagan

Madurai Kamaraj University

India

G. Arivarignan [*]

Madurai Kamaraj University

India

Abstract

This paper considers a two commodity inventory system under continuous review. The maximum storage capacity for the i-th commodity is $S_i(i = 1, 2)$. The demand points for each commodity are assumed to form independent Poisson processes with parameters λ_1 and λ_2 respectively. The reorder level is fixed as $s_i(i = 1, 2)$ for the ith commodity $(i = 1, 2)$ and the ordering policy is to place order for $Q_i(= S_i - s_i)$ items for the i-th commodity when both inventory levels are less than or equal to their respective reorder levels. The limiting probability distribution for the joint inventory levels is computed. Various operational characteristics, expression for the long run total expected cost rate is derived. The results are illustrated with numerical examples.