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Efficient Determination of Service Levels and Optimal Control Policies for Inventory Items Which Experience Lumpy Demands

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Abstract

This paper presents a computer program for the determination of the item availability and the fraction of demand satisfied without backorder and other quantities of interest for inventory systems in which items experience lumpy demands. A continuous review (s, S) inventory policy is used to control such items and the nature of customer demands is approximated by a discrete stuttering Poisson distribution. A regression model is also presented for estimating the optimal values of s and S. The effectiveness of the computer program is illustrated by using a numerical example.

Keywords: Inventory Control, Service Levels, Lumpy Demands.