The Stochastic Economic Lot Scheduling Problem: Heavy Traffic Analysis of Dynamic Cyclic Policies (Classic Reprint)

By David Maxwell Markowitz

Forgotten Books, United States, 2015. Paperback. Book Condition: New. 229 x 152 mm. Language: English . Brand New Book ***** Print on Demand *****.Excerpt from The Stochastic Economic Lot Scheduling Problem: Heavy Traffic Analysis of Dynamic Cyclic Policies We consider two queueing control problems that are stochastic versions of the economic lot scheduling problem: a single server processes N customer classes, and completed units enter a finished goods inventory that services exogenous customer demand. Unsatisfied demand is backordered, and each class has its own general service time distribution, renewal demand process, and holding and backordering cost rates. In the first problem, a setup cost is incurred when the server switches class, and the objective is to minimize the long run expected average costs of holding and backordering inventory and incurring setups. The setup cost is replaced by a setup time in the second problem, where the objective is to minimize average holding and backordering costs. In both problems we restrict ourselves to a class of dynamic cyclic policies, where idle periods and lot sizes are state-dependent, but the N classes must be served in a fixed sequence. Under standard heavy traffic conditions, these scheduling problems are approximated by diffusion control...

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