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Obtaining Decision Variables through a Simple Approach in Deterministic Inventory Control Models

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Abstract

Inventory is maintained for smooth and efficient running of business affairs. If producer has no stock of goods at all then on receiving a sale order he has to place first order for purchase of raw materials, wait for their receipt and after receipt begin the production. Thus, the customer will have to wait for long time for delivery of goods and may turn to other suppliers, this result in heavy loss of business. So it becomes necessary to maintain an inventory. This topic is taught to undergraduate students of third year in the subject of Statistics under Applied Statistics paper as prescribed by University of Mumbai. In this paper researchers have made an attempt to find the optimum run size q0 (Economic Order Quantity) such that the total cost per unit of time is minimum using simple arithmetic in place of differential calculus using their experience and expertise. Other decision variables like optimum time interval between start of two production run (t0), minimum total cost per unit of time, minimum total relevant cost over time T are calculated using relationship with optimum run size q0.

Keywords: Inventory, Optimum Run Size, Deterministic Models, Calculus, Arithmetic

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