Optimal Replenishment Policy for New Products under Multigenerational Criterion

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Abstract

There are various products in the market whose substitutes enters the market at regular interval of time. This is well captured in case of multigeneration of products. When different generation of products enters into the market because of multigenerational effect, the task of inventory manager to manage its inventory at optimum level becomes very crucial. This paper develops a mathematical model which discusses the optimal replenishment policy for new products under the effect of multigeneration of products. Here, the concept of credit period given by supplier to retailer is also incorporated and the retailer maintains its stock using optimal replenishment policy under the effect of credit period given by supplier to retailer. To validate the model, a numerical example with sensitivity analysis can also been performed.

Keywords: New Product, Multigerneration, Credit Period, Optimal Replenishment