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Deterioration Control Decision Support System for the Retailer during Availability of Trade Credit and Shortages(Article)(Open Access)

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Abstract

The deterioration rate is a significant aspect of perishable goods. Since perishable items will always deteriorate, there are effective methods for reducing the rate of deterioration. Furthermore, in the existing inventory control literature, the deterioration rate is often viewed as an exogenous component. Keeping this problem in mind, this article develops the perishable inventory control system from the retailer's perspective in which: (i) the deterioration rate is a controllable factor and suggests a new fresh quality technology (FQT) indicator, (ii) demand is determined by the perishable product's quality, that is controlled by its rate of deterioration, (iii) the credit duration is predefined, and (iv) shortages are expected. The key goal is to