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# Inventory and credit decisions for time-varying deteriorating items with up-stream and down-stream trade credit financing by discounted cash flow analysis

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**Highlights:**

- The retailer receives up-stream trade credit while grants down-stream trade credit.
- Trade credit increases not only sales but also opportunity cost and default risk.
- Deterioration rates go up constantly and reach to 100% close to expiration dates.
- Discount cash-flow analysis is used to calculate opportunity cost and total profit.
- Proposed model with trade credit includes many previous models as special cases.