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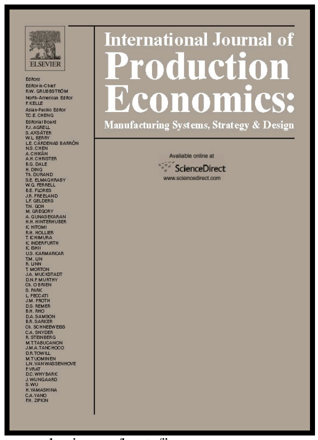

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Abstract

Getting loans from banks are almost impossible after 2008 global financial crisis. As a result, about 80% of companies in United Kingdom and United States offer their products on various short-term, free-interest loans (i.e., trade credit) to customers. Numerous researchers and academicians apply discounted cash flow (DCF) analysis merely to compute the interest earned and charged during credit period but not to the revenue and other costs which are considerably larger than the interest earned and charged. For a rigorous analysis, the DCF on all relevant costs is applied. In addition, many products deteriorate continuously and cannot be sold after their maximum lifetimes or expiration dates. However, very few researchers and investigators have implemented the product lifetime expectance into their models. In this paper, a supplier-retailer-customer chain system is developed in which the retailer gets an upstream full trade credit from the supplier whereas offers a downstream partial trade credit to credit-risk

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