

Effect of Combining Return Policy and Early Order Commitment on Supply Chain Performance

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Abstract : Return policy (RP) is a strategy for supply chain coordination, whereby the retailer returns the unsold products to the manufacturer or the manufacturer offers a credit on unsold products to the retailer at the end of selling season. Early order commitment (EOC) is another efficient mechanism for channel coordination wherein the retailer commits to purchasing from the manufacturer a fixed order quantity a few periods in advance of the regular delivery lead time. This paper studies the coordination issue of a two-level supply chain with one retailer and one manufacturer through combining two mentioned contracts. The main purpose of this paper is to present an analytical model to show that how the contract which is created by combining RP and EOC can improve supply chain performance. Numerical analyses show that the supply chain coordination through mentioned contract in compare with EOC mechanism, can improve supply chain performance under certain ranges of model parameters. Furthermore, some numerical analyses are done to determine the best buyback price in order to achieve maximum cost saving in the supply chain. Finally, a revenue sharing scheme is presented in order to achieve a win-win condition in the supply chain.

Keywords : supply chain coordination, early order commitment, return policy, revenue sharing

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