

The Promotion Effects for a Supply Chain System with a Dominant Retailer

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Abstract : In this study, we investigate a two-echelon supply chain with two suppliers and three retailers among which one retailer dominates other retailers. A price competition demand function is used to model this dominant retailer, which is leading market. The promotion strategies and negotiation schemes are integrated to form decision-making models under different scenarios. These models are then formulated into different mathematical programming models. The decision variables such as promotional costs, retailer prices, wholesale price, and order quantity are included in these models. At last, the distributions of promotion costs under different cost allocation strategies are discussed. Finally, an empirical example used to validate our models. The results from this empirical example show that the profit model will create the largest profit for the supply chain but with different profit-sharing results. At the same time, the more risk a member can take, the more profits are distributed to that member in the utility model.

Keywords : supply chain, price promotion, mathematical models, dominant retailer

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