

Supply Chain Coordination under Return and Buyback

Policies

Student : Pei-Yu Pai

Advisor : Dr. Chi-Yang Tsai

Institute of Industrial Engineering and Management
Yuan-Ze University

ABSTRACT

Nowadays, there are many type of product can let customers choose, but customers maybe not satisfied with product's color, size or function, and don't want to buy the product , so many retailers propose return policy to let customers return the product when they are dissatisfied with product, but more and more return rate will make retailer's profit down, and retailers will reduce order quantity to manufacturers, so manufacturers present buyback policy that retailers have more will to order products and share risk with retailer.

Decentralize supply chain usually be used between manufacturer and retailer, but the overall profit is not greatest, and centralize supply chain can do that.

This research assumes a manufacturer and a retailer in a single-period supply chain with return and buyback polices. First, we discuss the different decentralize supply chain with centralize supply chain on manufacturer and retailer's optimal decision making, and we can find the optimal decision making on centralize supply chain can get maximum of overall profit, but it can't separate their profit effectively, so this research proposes tree contract, membership pricing, profit share and retail fixed markup on decentralize supply chain, to coordinate the supply chain and let manufacturer and retailer's profit are increase, and changing one parameter to show what effect for manufacturer and retailer's profit or the distribution value in each contract. Finally, this research show what different from this three contracts and suggests enterprises what time they can use for each contract.

Keyword: return policy 、 buyback policy 、 supply chain coordination