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Revenue dependent revenue sharing contract with buy back

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In a typical revenue sharing contract, the revenue among the participants is shared according to the prior fixed fractions. These contracts are called revenue independent contracts in which the sharing percentages are fixed and are independent of the total revenue generated. This paper investigates a revenue dependent revenue sharing contract for coordinating a supply chain of one manufacturer and one retailer with opportunity for the retailer to return a specific percentage of the unsold goods at buyback price. The manufacturer being stackelberg leader offers the contract to the retailer who faces stochastic and market-state dependent demand. Under contract terms, the retailer has to order before the start of the selling season on the basis of the forecasted demand. It is assumed that the retailer has better idea about market demand due to market proximity. The manufacturer allocates and produces quantity on the basis of order quantity from the retailer keeping in mind pre-decided buyback percentage. The developed contract is a single period and for short life cycle products. The extra units are salvaged by retailer and there is no shortage cost as well for retailer except the opportunity loss. This paper also investigates the effect of demand variability as well as conditions for coordination using proposed contract. The efficiency of the contract is determined by comparison with centralized system.

Biography

Muhammad Shafiq is a PhD Candidate at Asian Institute of Technology, Thailand. He is 28 years old and doing the research in order to complete his doctoral research. He submitted two research papers in well reputed journal which are in the process of publishing.

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