

**A ONE-MANUFACTURER-TWO-RETAILER SUPPLY CHAIN IN A PRICE-SENSITIVE AND STOCK-STIMULATING UNCERTAIN DEMAND MARKET WITH DEMAND LEAKAGE**

**Kuo-Hsien Wang (Corresponding Author)**

Department of Business Administration, Takming University of Sciences and Technology  
Taipei, TAIWAN

**Yuan-Chih Huang**

Department of Business Administration, Takming University of Sciences and Technology, Taipei  
TAIWAN

**Che-Tsung Tung**

Department of International Trade, Takming University of Sciences and Technology  
Taipei, TAIWAN

**ABSTRACT**

We address a decentralized supply chain in which a manufacturer supplies an item to two retailers who compete with each other in an uncertain demand market, considering the effects of price sensitivity, demand stimulation and demand leakage. The objective is to coordinate the chain and reach Pareto improvement through negotiating the two wholesale prices and setting the two buyback prices, from which we find a range for each negotiated wholesale price but only one buyback price for each retailer to achieve our goal. The conflict of interests between the manufacturer and each retailer and the price and inventory competitions between both retailers are confirmed. We also learn that the demand-stimulating effect favors the chain profit, but the demand-leaking effect prompts the high priced retailer to negotiate a cheaper wholesale price and the manufacturer to negotiate an expensive wholesale price with the low priced retailer. Many managerial insights are obtained by the numerical examples.

**Keywords:** Newsvendor; Demand leakage; Demand stimulation; Price competition; Inventory competition.