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Price Promotions and Inventory Decisions

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Abstract : This paper examines the relationship between the number of price promotions that a firm should conduct per year and the level of safety stocks that the firm should maintain. Price promotions result in temporary sales increases, which affect the operations function through (1) an increase in the quantities demanded and (2) an increase in safety stocks required to maintain the desired service level. We propose a modeling framework where both price promotions and improved service levels, operationalized through higher safety stocks, can affect sales. We treat the annual number of promotions as a decision variable. We identify market conditions where the operations function, through improved safety stocks, can complement price promotions or even play the leading role in sales increases.

Keywords : price promotions, safety stocks, marketing/operations interface, mathematical model
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