Coordinating manufacturer and retailer using a novel robust discount scheme

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Abstract: Buffer management (BM) is an inventory management methodology introduced by theory of constraints (TOC). In this practice, the retailer passes his demands to the vendor in 'almost a daily manner' and has a 'dynamic inventory buffer' that reflects the change in demand patterns allowing the vendor the opportunity to replenish his inventory and obtain some market information. In this paper, we consider a supply chain consisting of a manufacturer and a retailer for which both are implementing the BM. We discuss how the vendor and the retailer can take advantage of demand information created by BM, through a process of bargaining, to coordinate their supply chain and increase their profitability. To do so, we have simulated the