

The Impact of Inventory Inaccuracy on the Performance of a Retail Supply Chain

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Abstract. Inventory inaccuracy is a main issue in businesses dealing with physical assets. The aim of this paper is to examine the relationship between inventory inaccuracy and performance in a retail supply chain. We simulate a three echelon supply chain with one product in which end-customer demand is exchanged between the echelons. In the base model, without alignment of physical inventory and information system inventory, inventory information becomes inaccurate due to low process quality, theft, and items becoming unsaleable. In a modified model, these factors that cause inventory inaccuracy are still present, but physical inventory and information system inventory are aligned at the end of each period. The results indicate that an elimination of inventory inaccuracy can reduce supply chain costs as well as the out-of-stock level. Automatic identification technology that is becoming available offers the potential to achieve inventory accuracy.