Supply chain modeling using the Supply Chain Simulator (SCS)

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Simulators in academic institutions have been found to be an excellent tool. Here we demonstrate how to use the Supply Chain Simulator (SCS) to aid in teaching. More specifically we show how the SCS can be used to teach students the answer to the following question: how to supply multiple retailers from a single manufacturer. This is accomplished through a series of exercises. We first look at the ordering method for a specific facility (retailer or warehouse). Then we compare two alternative solutions: in the first one, the manufacturer supplies each retailer directly, in the second one, the manufacturer supplies a forward warehouse, which supplies the multiple retailers. Through this exercise we explain the use of a forward warehouse is a type of inventory pooling. Using Inventory Position ordering method with a base stock ordering policy for retailers and Echelon Inventory Position ordering method with a base stock ordering policy for warehouses, we see that the pooling alternative is more efficient/cheaper than the direct one.