

## **Abstract**

In this paper, we evaluate the behavior of fuzzy estimations of demand instead of demand forecasts based on exponential smoothing in a two-stage, single-item, multi-period supply chain. A system dynamics model with fuzzy estimations of demand has been constructed for supply chain simulation. Fuzzy numbers are used to model fuzzy demand estimations. With a numerical example, we show that the bullwhip effect and the amplification of the inventory variance (*NSamp*) can be effectively reduced.