

عنوان مقاله:

On the Bullwhip Effect Measure in Supply Chains with VAR (1) Demand Process

محل انتشار:

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نویسندگان:

S.K. Chaharsooghi - is with the Department of Industrial Engineering, Tarbiat Modares University, Tehran, Iran

A. Sadeghi - is with the Department of Industrial Engineering, Islamic Azad University of Qazvin, Iran

خلاصه مقاله:

In this paper, a two-echelon supply chain, which includes two products based on the following considerations, has been studied and the bullwhip effect is quantified. Providing a measure for bullwhip effect that enables us to analyze and reduce this phenomenon in supply chains with two products is the basic purpose of this paper. Demand of products is presented by the first order vector autoregressive time series and ordering system is established according to order up to policy. Moreover, lead-time demand forecasting is based on moving average method because this forecasting method is used widely in real world. Based on these assumptions, a general equation for bullwhip effect measure is derived and there is a discussion about nonexistence of an explicit expression for bullwhip effect measure according to the present approach on the bullwhip effect measure. However, bullwhip effect equation is presented for some limited cases. Finally, bullwhip effect in a two-product supply chain is analyzed by a numerical example.

کلمات کلیدی:

Supply Chain, Bullwhip Effect, VAR (1), OUT Ordering Policy, Moving Average, Forecasting

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