

Impact of correlation coefficient of supplier's lead time on variance of upstream member's order quantity

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Abstract:

In this paper, we scrutinize and quantify the variance in order quantity in newly proposed environment where both demand and lead time are following AR(1) process. The previous paper, nowhere scrutinize the case where lead time, in complimentary to being stochastic, can also follow AR (1) process; which is the imperative concept and very close to real life business problem, in sense that lead time of current period is dependent on previous period lead time. The splendor of our work is that we proposed new generalize equation for variance of order quantity. The essence of this paper lies in analyzing and carrying out inference regarding the impact on variance for different combination of correlation coefficient of demand and lead time.