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THE INTER-DEPENDENT REDUCTIONS OF ORDERING COST AND LEAD TIME IN CONTINUOUS REVIEW INVENTORY MODEL WHEN THE RECEIVING QUANTITY IS DIFFERENT FROM THE ORDERED QUANTITY

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Abstract. This paper investigates the inventory model with order quantity, backorder price discount and lead time as decision variables. We assume that the lead time and ordering cost reductions are inter-dependent in the continuous review inventory model when the receiving quantity is different from the ordered quantity. The lead time demand is assumed follows a normal distribution. The solution procedure is developed to find the optimal solution. Two numerical examples are given to illustrate the results. Furthermore, the sensitivity analysis is also included numerically to describe the effects of changes in the model parameters on the expected annual cost.

Key words. *Inventory, continuous review, backorder price discount, lead time*