**Component ordering optimal decision based on simulation of single product**

**Abstract:** The problem of the optimal component ordering of dealers who sell only one product is studied.In the case of market demand for product uncertainty,this paper presents a discrete stochastic optimization model for the order size of single product component based on the best expectations of the dealer's profit ,proves the existence and uniqueness of the optimal solution using the marginal analysis method,gives the formula and method of optimal order quantity.The article uses the market demand satisfaction rate as a stochastic constraint on the model,discusses the optimal component ordering of the dealer in the case of random constraints and the absence of random constraints.Finally, the conclusion of this paper is proved by experimental simulation.

**Key Words:** Component ordering decision,Simulation,Marginal analysis

1. Introduction

With the current market environment increasingly complex, dynamic and uncertain, the product life cycle is generally shortened,