Abstract

This paper proposes the procedure to find out the total average cost in terms of crisp values for $M^{X_{(m,N)}}/M/1/BD/MV$ with fuzzy parameters. In which arrival rate, service rate, batch size, setup, vacation, breakdown, repair rates, and the start up, build up, holding, setup, dormant, breakdown costs and cost for busy and vacation periods are all considered as trapezoidal fuzzy numbers. As ranking technique is a systematic procedure and plays a vital role in decision making under fuzzy environment, Robust ranking technique is applied for the $M^{X_{(m,N)}}/M/1/BD/MV$ model with fuzzy parameters. Numerical example is also presented to elucidate the validity of the proposed system.

References

Analysis of Total Average Cost for $M_{(m,N)}^{X/M/1/BD/MV}$ with Fuzzy Parameters using Robust Ranking Technique

Iuwernijhoff, Boston.

**Index Terms**

Computer Science  
Fuzzy Systems

**Keywords**

Bi-Level Threshold policy  
buildup period  
Dormant period  
Breakdown  
Multiple vacations  
Fuzzy sets (Normal convex)  
Trapezoidal fuzzy number  
Membership function  
and Fuzzy ranking.