

Equilibrium balking strategies in the single server Markovian queue with catastrophes

Olga Boudali, Antonis Economou

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We consider a Markovian queue subject to Poisson generated catastrophes. Whenever a catastrophe occurs, all customers are forced to abandon the system, the server is rendered inoperative and an exponential repair time is set on. We assume that the arriving customers decide whether to join the system or balk, based on a natural reward-cost structure. We study the balking behavior of the customers and derive the corresponding Nash equilibrium strategies.

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