Optimization of Overflow Policies in Multi-Skill Call Centers

We examine how overflow policies in a multi-skill call center should be designed to accommodate performance measures that depend on waiting time percentiles such as service level. This is done using a discrete Markovian approximation of the waiting time of the first customers waiting in line. A Markov decision chain is used to determine the optimal policy. This policy outperforms considerably the ones used most often in practice, which use a fixed threshold. The present method can be used also for other call-center models and other situations where performance is based on actual waiting times and customers are treated in a FCFS order.

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