International Journal of Information and Management Sciences
Volume 23, Number 4, pp. 395-407, 2012

Solving Integer Programming Problems with a Variable Number of Switching Costs, Balking and Feedback

D. Arivudainambi and V. Poongothai
Anna University

Abstract

We consider a retail service facility with cross trained servers who can perform operations in both front room and back room depending on the length of the queue. Two essential models for service facility are discussed in this paper. The models are represented as a Markovian decision problem and solved using mixed integer programming techniques. Exact solution procedures are developed to solve the models and numerical study is conducted to see the impact of various parameters on performance.

Keywords: Optimization, integer programming, feedback, switching costs, cross trained.