

Workforce planning and routing in multi-skill call centers

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Abstract

Having cross-trained agents in a multi-skill call center can be advantageous for several reasons. It gives more flexibility when planning the workforce, and it gives the possibility to use skill-based routing. Using an approximation method for call centers with overflow routing, we show how an optimal configuration can be obtained under the assumption that cross-trained agents are less efficient than specialized agents. This assumption is satisfied in most call center operations. Without the assumption it is best to have as many cross-trained agents as possible, to profit from the economies of scale. Under the assumption there is a trade-off between efficiency and economies of scale.