

Abstract

Our research problem focusses on planning surgery durations. We propose a newsvendor model minimizing OR inefficiency defined as overutilization (e.g. overtime) and underutilization (e.g. low OR utilization). Based on insights from health care operations management, medical decision making, behavioral operations management, as well as empirical observations, we derive hypotheses that surgeons' behavior deviates from rational behavior. To investigate this, we undertake an experimental study where experienced surgeons were asked to plan surgeries with uncertain durations. We discover systematic deviations from optimal decision making and offer behavioral explanations for the observed biases. Our research provides new insights to tackle a major problem in hospitals, i.e. low operating room utilization going along with staff overtime.