

Title: Market User Interface Design

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Abstract

Despite the pervasiveness of electronic markets in our lives, only little is known about the role of user interfaces (UIs) in promoting good performance in market domains. How does the way we display market information to end-users, and the set of choices we offer, influence economic efficiency? In this paper, we introduce a new research agenda on ``market user interface design.'' We take the domain of 3G bandwidth allocation as an illustrative example, and consider the design space of UIs in terms of varying the number of choices offered, fixed vs. changing market prices, and situation-dependent choice sets. The UI design induces a Markov decision process, the solution to which provides a gold standard against which user behavior is studied. We provide a systematic, empirical study of the effect of different UI levers on user behavior and market performance, along with considerations of behavioral factors including loss aversion, incomplete search, and position effects. Finally, we fit a quantal-best response model to users' actions and evaluate an optimized market user interface.