NYU Stern School of Business
Department of Information, Operations & Management Sciences
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TOPIC: Repricing Algorithms in E-Commerce
SPEAKER: Dana Popescu (INSEAD)
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ABSTRACT

In this paper we explore models of repricing automation---that is, of price adjustments implemented by an algorithm in response to changes in demand, inventory, or competitors' prices. Our setting is a typical online multi-seller platform (e.g., Amazon, eBay), where competing firms sell products differentiated by a single quality dimension (e.g., seller reputation) and where quality is proxied by an observable metric (e.g., rating score). We study the performance of different repricing algorithms as compared with equilibrium prices and also analyze the robustness of those algorithms. In particular, we investigate the possible ``gaming'' of the automated price response by a strategic seller with perfect knowledge of its competitor's repricing scheme. Our analysis affirms the reasonableness of the simple structure exhibited by most repricing rules observed in practice yet also identifies their downsides.

BIO

Dana Popescu is an Assistant Professor of Technology and Operations Management at INSEAD. She holds a Ph.D. in Operations Management from New York University's Leonard N. Stern School of Business.

Dana's current research falls at the interface of operations, marketing and economics and is aimed towards understanding the impact of product and market characteristics on the operations and pricing decisions of a firm. Her research interests include revenue and pricing management, assessment and learning of demand uncertainty and supply chain contracting. On the applied side, she explores new models of pricing and capacity allocation for television and online advertising.