

Berk Idem

Presentation Title

Optimal Marketplace Design

Abstract

Online marketplaces that provide a venue to trade goods and services conveniently, such as Airbnb, Etsy and Uber, have seen a rapid growth in the last decade. When these marketplaces decide the rules of trade, their goal is to maximize their own profit; not the profit of the sellers or welfare of the consumers. We employ mechanism design approach to characterize the optimal rules of a marketplace that maximizes profit in an environment where agents arrive with endowments of a good. In the optimal marketplace, agents are ranked according to their virtual values from top to bottom and according to their virtual costs from bottom to top. Then, we use an algorithm to find the optimal allocation rule. The agents' virtual values and costs also provide a simple interpretation as virtual demand and supply. We study the welfare effects by comparing the welfare created by the platform to that of a decentralized market, and conclude that the marketplaces do not necessarily decrease the welfare. Lastly, we study a model where agents can choose between a platform and a decentralized market. In this model, we construct some equilibria where agents are divided between the platform and the decentralized market as well as equilibria where all agents join either the platform or the decentralized market.

Keywords

Platforms; Marketplaces; Mechanism Design; Market Design; Revenue-Maximization

Affiliation

Penn State University