Study shows social welfare may fall in a more ethical market

August 25 2014

For "credence services" such as auto-repair, healthcare, and legal services, the benefit to the customers for the service is difficult to assess before and even after the service. A new study in a journal of the Institute for Operations Research and the Management Sciences (INFORMS) finds that in a credence services market, when more service providers care about the customer's well-being, society as whole may actually be worse off.

The study titled, "Signaling through Pricing by Service Providers with Social Preferences," is by Baojun Jiang (Washington University in St. Louis), Jian Ni (Johns Hopkins University) and Kannan Srinivasan (Carnegie Mellon University). This study appears in the Articles in Advance section of *Marketing Science*.

For example, when an auto mechanic tells a customer to make some repairs, the average customer is unable to discern the veracity of the recommendation. The risk of not doing repairs is unknown until a breakdown, if any, occurs. But if repairs are undertaken, their value may never be known.

The authors develop an analytical model to study such a credence service market with two types of service providers. One type is purely self-interested and focuses on maximizing its own profit. In contrast, the other type, the ethical provider, has social preferences and cares about the customer's well-being in addition to its own profit.

The prior common belief was that society as a whole would always be better off when service providers are ethical and have social preferences. The authors of the article show just the opposite.

Professor Jiang explains, "For a provider with social preferences, the optimal strategy that maximizes the combination of its profits and social satisfaction is to charge a uniform price and provide services to all consumers."

Consumers typically do not know for sure whether a service provider is purely profit-maximizing or has social preferences. So customers would actually be willing to accept a higher uniform price from a provider with social preferences than from a purely profit-maximizing provider. Why? Because the provider with social preferences will provide service to all consumers at the uniform price even if a customer's condition will impose a higher service cost than the price, since the provider also derives satisfaction servicing the customer. On the other hand, a purely profit-maximizing provider would offer service only to low-cost customers (those who make normal demands on the provider) and dump high-cost, demanding customers. So, the consumer who does not know his or her exact condition (i.e. high or low cost) would be more likely to accept a higher uniform price with the assurance of not being dumped.

Then again, the authors ask, how can society as a whole be worse off when more service providers have social preferences? As Professor Jiang explains further, when more providers have social preferences, their optimal uniform price increases, which gives the purely profit-maximizing provider more of an incentive to mimic that uniform price. When the profit-maximizing provider rejects high-cost customers for service, there is a social loss because the value of the service to these customers may still be higher than the provider's cost. In contrast, when a smaller fraction of providers have social preferences, the purely profit-maximizing provider will have less incentive to mimic the uniform pricing policy and will actually prefer charging different prices based on the customer's cost.

Since the consumer does not know his or her condition, the customer, out of concern that the provider may be lying, will sometimes reject service when the provider charges the high price.

The authors show that the customer's probabilistic rejection of the profit-maximizing provider's service may actually be better for the society as a whole than the profit-maximizing provider's definite dumping of high-cost customers. That is, when more providers have social preferences, fewer consumers may be served due to the profit-maximizing provider's dumping of high-cost customers. One lesson for policy makers and regulators is that passing laws requiring uniform pricing in a credence services market may not be socially desirable.

Provided by Institute for Operations Research and the Management Sciences