

Dynamic Pricing in the Presence of Social Intervention and Consumer Learning

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Abstract

With the booming growth of social media, product evaluation by key opinion leader (KOL) plays an increasingly important role in purchasing decisions of consumers. In particular, consumers may strategically delay purchases in anticipation of the KOL's evaluation, which may be influenced by firms through social intervention, especially for the product that is first introduced with uncertain quality. This paper examines how social intervention affects consumer learning and in turn the strategic interaction between a monopolistic firm and strategic consumers in a two-period model. Taking into account discount factors of the firm and consumers, we find that the firm always invests a suitable effort, instead of overexerting, to intervene in the KOL's evaluation, thereby, influencing product word-of-mouth (WOM). Nonetheless, social intervention may not invariably benefit the firm, even harm him in some cases. As for pricing policies, though commitment pricing has been deemed an optimal way to respond to strategic consumer behavior in some previous studies, we show that it is suboptimal relative to responsive pricing once profit discount is considered in the absence of social intervention. Driven by social intervention, responsive pricing and commitment pricing have their own strength. The firm favors the former if his preferred sales period and strategic consumers' preferred purchase period are incompatible, otherwise, the latter is adopted. Moreover, the incremental value of social intervention in the latter dominates that in the former, as such value relies more on intervention effort.

Keywords

Social media, Social intervention, Strategic consumers, Dynamic pricing, Game theory.

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Biographies

Yajie Ji is a joint Ph.D. student at Donghua University and the University of Windsor. Her research interests focus on supply chain management and operations management. She has published 7 papers in academic journals including *Systems Engineering-Theory & Practice*, *Chinese Journal of Management Science*, *Journal of Management Sciences in China*, and *RAIRO-Operations Research*.

Jianheng Zhou is a Professor and Doctoral Supervisor at Donghua University, recipient of the Shanghai Pujiang Talent Program, and former visiting scholar at the University of North Carolina. Her research centers on operations management and fashion/apparel supply chain optimization. She has led multiple national and provincial projects, including NSFC and Ministry of Education grants. Professor Zhou has published over 70 papers in top journals such as *EJOR*, *DSS*, *IJPE*, *IJPR*, and *JOR*, with more than 20 indexed in SCI/SSCI/EI, and contributed to five academic books. Her research has been applied in industry, with recent focus on fashion supply chains and digital economy reputation management.

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