

Departmental Research Seminar



Transparency of Behavior-Based Pricing By

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Abstract

Collection and usage of consumers' purchase history data for behavior-based pricing (BBP) is a prevalent practice for firms and a worldwide concern for consumers. Extant research has examined BBP under the assumption that consumers observe whether firms practice BBP. However, consumers are often unaware of how firms collect and use their data. In addition, advances in information technology have reduced firms' cost of implementing BBP, which would seem to benefit them. We find that when consumers do not observe whether a firm practices BBP, the cost of implementing BBP has a non-monotone impact on firm profit, consumer surplus, and social welfare. Thus, reduction in the cost of implementing BBP can be detrimental to firms and beneficial to consumers. In particular, when the cost is low, a firm cannot help practicing BBP even though BBP is a dominated strategy when consumers observe it. When the cost is moderate, the firm does not use BBP; however, it must distort its first-period price downward to convince consumers of its choice, which causes the profit without BBP to be lower than the profit with BBP. A high cost of implementing BBP serves as a commitment device that the firm will forfeit BBP, thereby improving firm profit. We also find that a firm's ability to offer personalized enhanced service may decrease its profit. Moreover, consumer advocates call for regulations that mandate that firms disclose collection and usage of consumer data. However, it is unclear how such regulations might affect firms and consumers. By comparing regimes in which consumers observe and do not observe whether a firm practices BBP, we find that transparency of BBP increases firm profit but decreases consumer surplus and social welfare. Therefore, commanding firms to disclose collection and usage of consumer data could lead to unintended consequences.

Dr Xi Li is an Assistant Professor of Marketing at the City University of Hong Kong. He received his PhD in Management from University of Toronto in 2017 and BE in Computer Science from Tsinghua University in 2011. His research examines how big data and advanced information technologies can be used to guide firms' daily business activities. His research has appeared in such journals as *Marketing Science* and *International Journal of Research in Marketing*.

All interested are welcome.

