

Platform Bias and Private Label Power: Interactions in Dual-Product Online Retail

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Abstract

In today's e-commerce landscape, platforms like Amazon and Walmart are not just marketplaces, they are also competitors and offer their own private label products alongside those from third-party manufacturers. This dual role raises concerns about platform bias, where the platform might favor its own products in search rankings or promotions. Real-world examples highlight the significance of this issue. Investigations have revealed that Amazon's search results often prioritize its own products, even when competitors have higher ratings or more reviews. For example, a study found that Amazon-branded products are ranked higher than similar products in search results, which gives them a competitive edge. Our study introduces a game-theoretic model to explore the dynamics between a retailer and a manufacturer when the retailer controls both product assortment and visibility. We examine how algorithmic favoritism can influence pricing strategies, market share distribution, and the overall willingness of manufacturers to engage in exclusive partnerships. Our model seeks to answer key questions: Under what conditions does platform bias benefit or harm retailer profitability? How does such bias affect a manufacturer's decision to enter exclusive agreements? What contractual mechanisms, like visibility guarantees, can encourage cooperation? Preliminary simulations suggest that moderate platform bias can enhance retailer profits without entirely marginalizing manufacturers. However, excessive bias may erode trust, which reduces participation. This research contributes to the broader discourse on platform governance, channel conflict, and digital supply chain coordination.

Keywords

Platform Bias, Game Theory, Retail Strategy, E-commerce.