

Transshipment with Overconfidence

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Abstract

This paper investigates how overconfidence affects the equilibrium of lateral transshipment systems. We find that overconfidence bias can exert a positive force on the decentralized transshipment system, in contrast to its consistent negative effect on a centralized system. Thus, contrary to intuition, overconfident newsvendors can be better off with a decentralized transshipment practice than a centralized one. Additionally, while conventional wisdom holds that coordinating transshipment prices exist to allow the decentralized system to achieve full coordination (first-best outcome), our analysis reveals that such coordination prices fail to exist when overconfidence bias is high. If this is the case, we show that newsvendors with a high (low) net profit margin benefit more from increased (decreased) transshipment prices. Our findings provide actionable insights on how overconfident newsvendors can design transshipment prices more effectively and suggest when to leverage decentralized transshipment practice depending on the newsvendors' overconfidence bias.

Keywords

Transshipment, Overconfidence, Equilibrium of lateral transshipment systems.