

Knowledge Decision of Food Waste and Loss Reduction in Supply Chain System: A Case Study of Kingdom of Saudi Arabia

Authors : Nadia Adnan, Muhammad Mohsin Raza, Latha Ravindran

Abstract : Based on the principles above, the study presents an economic model of food waste for consumers, intermediaries, and producers. We discriminate between purchasing and selling, purchases versus customers consumption, and gross output versus sales for each intermediary. To compensate for waste at each level of the supply chain, agents must charge higher sales prices. The research model can produce more accurate predictions about how actions (public regulations or private efforts) to reduce food waste impact markets, including indirect (cascading) effects. With a formal model, researchers demonstrate the uniqueness of these interaction effects and simulate an empirical model calibrated to market characteristics and waste rates in Saudi Arabia. Researchers demonstrate that the effects of waste reduction differ per commodity, depending on supply and demand elasticities, degree of openness to international commerce, and the beginning rates of food loss and waste at each level of the value chain. Because of the consequential effects related to the supply chain, initiatives to minimize food waste will be strengthened in some circumstances and partially countered in others.

Keywords : food loss, food waste, supply chain management, Saudi Arabia, food supply

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