THE DARK SIDE OF ASSORTMENT EXPANSION: INCREASED PRICE SENSITIVITY IN EXISTING CATEGORIES

ABSTRACT: Assortment planning is a central task for retailers. With consumer’s preferences diverging, many retailers expand the size of their assortment to generate incremental demand as well as revenue. We challenge this conventional wisdom by demonstrating that a retailer may face more sensitive demand for existing products when expanding its assortments. We exploit the state of Washington’s privatization of liquor sales in 2012 that generated exogenous variation in retailers’ assortments over time. We find that customers are on average more price sensitive when purchasing from other drink categories after a store started to carry liquor. To understand the differential changes in the price sensitivity across product categories depending on whether they are complements or substitutes to the new product category, we build a demand model that simultaneously estimates the degree of complementarity between products and the changes in price sensitivity upon assortment expansion. We find that the increase in the price sensitivity happens mostly in the categories that are complements to the new one, and that these changes cannot be rationalized by alternative explanations, e.g., correlated preferences across product categories and changes in error variances. Based on the demand estimates, we conduct counterfactual simulations and show that the observed prices are consistent with retailers’ (biased) belief that the price sensitivity does not vary with assortment, which results in significant profit loss.