Abstract

This study investigates how usage experience with various decision aids available in an online store contributes to purchase behavior evolution in a new Internet shopping environment. In the context of online grocery stores, we categorize four types of decision aids: those for: 1) nutritional needs, 2) brand preference, 3) economic needs, and 4) personalized shopping lists, and construct a Non-homogeneous Hidden Markov Model of store visit incidence and shopping trip spending, in which parameters vary over time across hidden states as driven by usage experience with different decision aids. This same model is also applied to study purchase incidence and quantity decisions in eight product categories. We find that consumers evolve through distinct states of purchase behaviors and exhibit stronger tendency to use habitual decision heuristics over time. While their average levels of price and promotion sensitivities increase first and then decrease, individual consumers show divergent patterns. Moreover, consumers’ usage experience with decision aids contributes to their behavior evolution, and the effects differ by the specific decision aids and behavioral state. In general, the impact of usage experience with decision aids on purchase behavior evolution appears to be stronger for higher-purchase-frequency and non-food categories. We demonstrate that targeted promotion activities based on our models can improve store-level and category-specific sales for an online retailer.

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Date: March 5, 2014 (Wed)  
Time: 12:00 – 1:30 pm  
Venue: Room 4047 (Lee Shau Kee Business Building)