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Effects of Personalized Recommendations Versus Aggregate Ratings on Post-Consumption Preference Responses

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Abstract

Online retailers use product ratings to signal quality and help consumers identify products for purchase. These ratings commonly take the form of either non-personalized, aggregate product ratings (i.e., the average rating a product received from a number of consumers such as “the average rating is 4.5/5 based on 100 reviews”), or personalized predicted preference ratings for a product (i.e., recommender-system-generated predictions for a consumer’s rating of a product such as “we think you’d rate this product 4.5/5”). Ratings in either format can provide decision aid to the consumer, but the two formats convey different types of product quality information and operate with different psychological mechanisms. Prior research has indicated that each recommendation type can significantly affect consumer’s post-experience preference ratings, constituting a judgmental bias, but has not compared the effects of these two common product-rating formats. Using a laboratory experiment, we show that aggregate ratings and personalized recommendations create similar biases on post-experience preference ratings when shown separately. Shown together, there is no cumulative increase in the effect. Instead, personalized recommendations tend to dominate. Our findings can help retailers determine how to use these different types of product ratings to most effectively serve their customers. Additionally, these results help to educate the consumer on how product-rating displays influence their stated preferences.

Keywords: Online product ratings, recommender systems, personalized ratings, aggregate ratings, recommendation bias, laboratory experiments