User Evaluation on Sentiment-based Recommendation Explanations

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OBJECTIVES

1. To investigate how review information could be exploited to generate explanations for multiple recommendations especially in high-investment product domains (i.e., digital camera and laptop).
2. To identify the exact effect of sentiment-based explanations on improving users’ decision effectiveness and system perceptions.
3. To investigate how users view information and compare products on the sentiment-based explanation interface.

HIGHLIGHTS

Sentiment-Based Tradeoff-Oriented Explanation Interface Design

- Developed a novel tradeoff-oriented explanation interface that particularly takes into account sentiment features as extracted from product reviews to generate recommendations and explanations in a category structure.

User Evaluation Through Online User Study and Eye-Tracking Experiment

- Online user study (in both before-after and counter-balancing setups) revealed that adding sentiment-based explanations can significantly increase users’ product knowledge, preference certainty, perceived information usefulness, perceived recommendation transparency and quality, and purchase intention in comparison with Preference-based organization interface.

- The lab controlled eye-tracking experiment indicated that incorporating sentiment features into the tradeoff-oriented explanations can significantly affect users’ eye-gaze pattern. Users were stimulated to not only notice bottom categories of products, but also more frequently compare products across categories.

SELECTED PUBLICATIONS