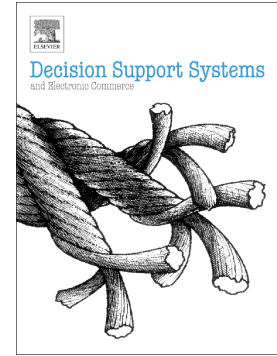


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Decision Support Systems

A Machine Learning Approach to Product Review Disambiguation Based on Function, Form and Behavior Classification

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Abstract

Online product reviews have been shown to be a viable source of information for helping customers make informed purchasing decisions. In many cases, users of online shopping platforms have the ability to rate products on a numerical scale, and also provide textual feedback pertaining to a purchased product. Beyond using online product review platforms as customer decision support systems, this information rich data source could also aid designers seeking to increase the chances of their products being successful in the market through a deeper understanding of market needs. However, the increasing size and complexity of products on the market makes manual analysis of such data challenging. Information obtained from such sources, if not mined correctly, risks misrepresenting a product's true success/failure (e.g., a customer leaves a one star rating because of the slow shipping service of a product, not necessarily that he/she dislikes the product). The objective of this paper is three fold: i) to propose a machine learning approach that disambiguates online customer review feedback by classifying them into one of three direct product

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