CONFIDENCE IN ORDINAL JUDGMENTS: ROLE OF CONSUMER METACOGNITION AND IMPLICATIONS FOR BAYESIAN UPDATING

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ABSTRACT

Consumers often make ordinal judgments regarding product performances based on product ranking information. Using a consumer metacognition theoretical framework, we examine how such product ranking information in different formats might influence consumer confidence in their ordinal judgments, and the extent to which they are consistent with the normative Bayesian model.

To reduce the uncertainty of product purchase decisions, consumers frequently resort to product rating information provided by third-party rating agents. Such rating agents and rating information are ubiquitous in the marketplace, ranging from stock rating by financial institutions, movie rating by film critics, product rating by consumer reports, product safety rating by government agencies to product ratings posted online in blogs by individual consumers. In this research, we attempt to examine how consumers might process such information about product rating and source accuracy, how the updating of their confidence in ordinal judgment might be influenced by the data format, and whether their updated judgments would be consistent with a normative Bayesian model or an averaging model.

In Study 1, we found support for our hypothesis that consumers would have updated judgments consistent with Bayesian predictions, for frequency data but not for percentage data. Study 2 showed that highlighting data distinctiveness enhances belief updating for percentage data, but does not make a difference in the case of frequency data. Finally, Study 3 showed that the results of Study 1 hold when the data are presented in consistent frames, but not in alternative frames.

Prior research has found apparently inconsistent results regarding whether people are intuitively Bayesian while updating beliefs for sequential data. These results can be explained by the data format used in a particular study. Based on the results of the present research, it is not surprising that studies finding support for an averaging model (e.g., Bar-Hillel 1980) used percentage data formats in their scenarios while studies claiming that humans can be intuitively Bayesian, used frequency formats (e.g., Gigerenzer and Hoffrage 1995). Our arguments, driven by a metacognitive framework, propose that consumers use different algorithms (e.g., averaging versus hypothesis-testing) for processing data in different formats (e.g., percentage versus frequency). In terms of practical implications, our findings would suggest that both marketers and regulators need to be careful about the appropriate data format to use. For instance, if consumers have unnecessarily heightened apprehensions regarding flying, use of percentage data to present negative outcomes might be a better approach as such an approach would lead to more conservative judgments, and hence reduce the biased perceptions. In contrast, if consumers have self-positivity bias for an outcome (e.g., drinking and driving), then use of frequency formats for presenting negative outcomes might be more appropriate, in order to ensure updated beliefs that are consistent with normative levels.

References Available on Request.