Modeling Attention in Choice

Arash Laghaie
Goethe Universität Frankfurt
Khai Chiong
University of Texas at Dallas
Narine Yegoryan
Humboldt University Berlin
Martin Meißner
Chair of Marketing, Zeppelin University

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Abstract

"Even though both experimental and market data show behavioural departures from standard rational choice theory, it still governs some of the most widely used decision making models in economics and marketing. These behavioural departures, if not accounted for, can negatively affect the inference gleaned from the data and consequently the marketing actions based on it. Different streams of research try to overcome this issue: marketing literature that suggests methods to improve the experimental data collection (e.g. Ding et al., 2005), psychology literature that provides process-based decision models as an alternative to classical economic models (e.g. Ruan et al., 2007), and economics literature that tries to model the choice behaviour with limited attention (e.g. Caplin et al, 2019). We believe that in order to achieve the goal of developing a comprehensive framework that facilitates better inference from choice data, we need to draw on all the aforementioned streams of literature. This special session will be a step in this direction. In the first presented paper, "Bridging between Hypothetical and Incentivized choice" by Arash Laghaie and Thomas Otter, a framework based on the dependent Poisson race model (DPRM) is developed, that by accounting for cognitive effort/attention, parsimoniously bridges between hypothetical and incentive-aligned discrete choice experiment data for the purpose of conserving on data collection effort and cost, however, in keeping with the goal of predicting to incentivized choices. Thus the framework contributes to the understanding of how incentives affect choice and gives rise to a procedure that is more feasible than but as externally valid as a full scale incentive-aligned experiment. The second paper, "Combining Choices and Response Times in the Field: A Drift-Diffusion Model of Mobile Advertisements", by Khai X. Chiong, Ryan Webb, Matt Shum, and Richard Chen, explores the usefulness of endogenous response time data. The authors adapt a sequential-sampling model --- previously-validated to jointly explain subjects' choices and response times in laboratory experiments -- to model users' responses to video advertisements on mobile devices in a field setting. They then use the model estimates to assess the effectiveness of manipulating attention towards an advertisement. Counterfactual simulations predict that requiring users to watch some portion of the ad -- as is the practice of some online platforms (e.g. YouTube) -- generate only modest increases in click-through rates and revenue. The third paper, "Lottery Rewards in Incentive-aligned Choice-based Conjoint Studies" by Narine Yegoryan, explores ways to improve incentive-aligned discrete choice experiments by ensuring truth-telling while retaining the feasibility of the experiment. In particular, she manipulates the realization probability and the level of ambiguity of the incentive to investigate its effect on the derived willingness-to-pay measures and the accuracy of out-of-sample predictions. The fourth paper, "Goal-Driven and Stimulus-Driven Attention in Multi-Attribute Choice: Insights from an Eye-Tracking Experiment" by Martin Meissner, Josua Oll, and Alexander Bassen, investigates the interaction of goal-driven (top-down) and stimulus-driven (bottom-up) attention in multi-attribute choice tasks. The authors manipulate bottom-up processes by changing the visual salience of stimuli and use eye tracking to measure attention. The empirical results suggest that bottom-up processes can prime top-down processes."

Keywords:

Track: