



Consideration and Product Portfolio Strategy

Minhua Long, Ph.D. Student, Iowa State University

Motivation: Consideration Models versus Choice Models

- Consumers often use fast and frugal screening strategies to form “considerations” [1] before carefully comparing to make a choice.
- Consideration models structurally differ from traditional choice models[2] in previous design applications.
- This research investigates the impact of consideration models to product design decisions and profitability predictions.

	Consideration models	Choice models
Preference structure	Capture non-compensatory screenings, i.e. good features cannot compensate for bad features	Capture compensatory trade-offs, i.e. good feature can compensate for bad features
Market share expectation	Expect market share only from the fraction of population who consider	Expect market share from the whole population

Hypothetical impacts

Consideration models can drive a product line towards diversity

Consideration models prevents ambitious share predictions

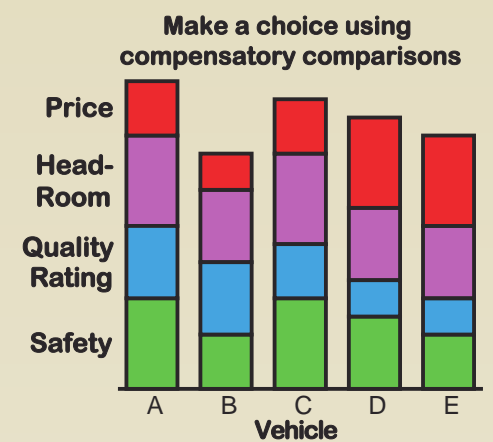
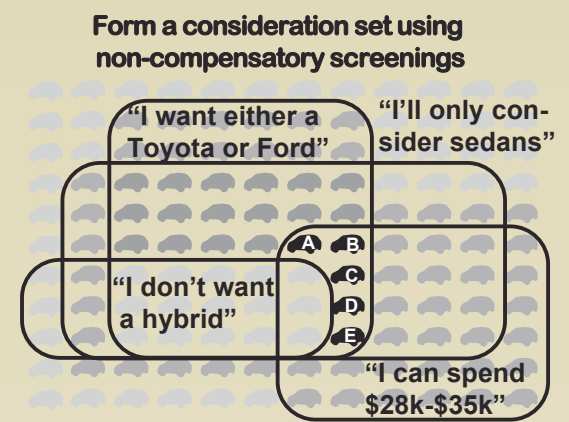


Figure 1. Non-compensatory consideration models versus compensatory choice models

Methodology: Synthetic Data Experiment

- Simulate data collection, model estimation, and design optimization.
- Tailor survey experiments according to different model assumptions.

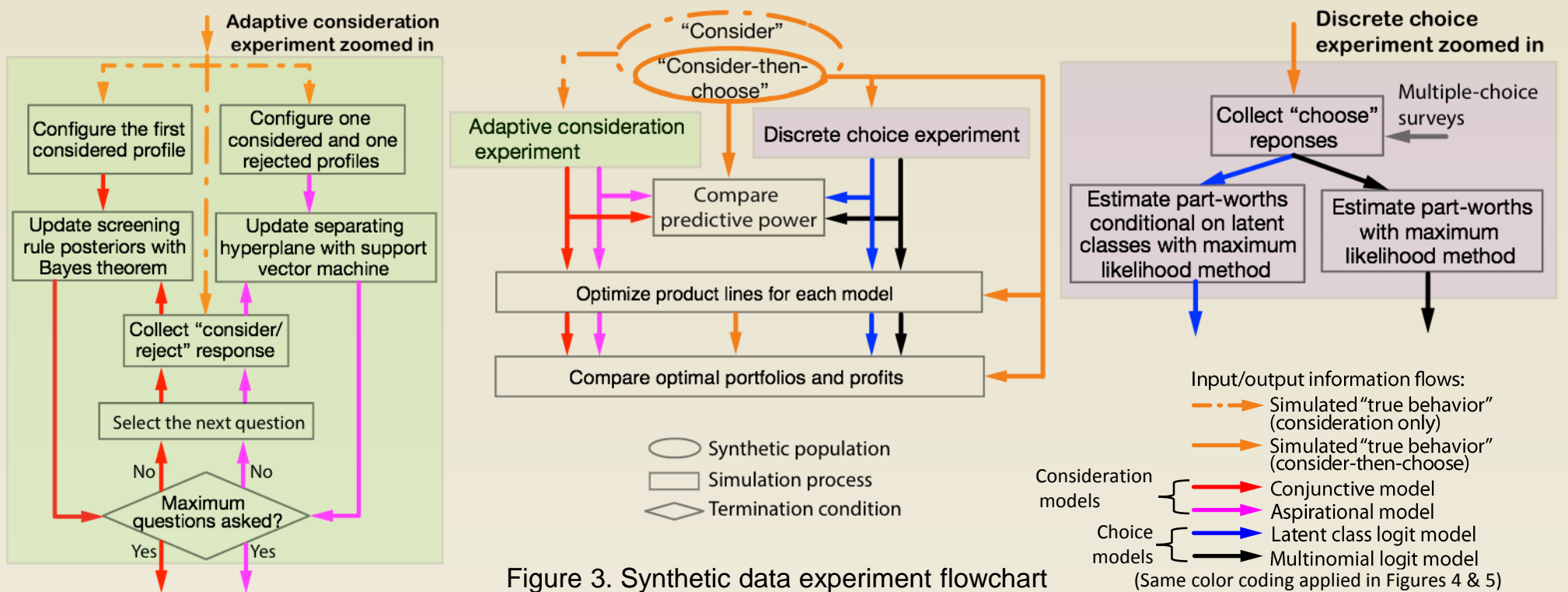


Figure 3. Synthetic data experiment flowchart

Results: Consideration Models Change Designs

- Consideration models suggest product lines with higher diversity on average in order to widely cover the consideration sets of the population (see Fig.4).
- Consideration models predicts profits with higher accuracy, since their market share predictions are closer to actual shares (see Fig.5).
- Conjunctive model prevents over-predicting profits, which is consistent with its conservative screening structure (see Fig.5).

References

- [1] Hauser, J., 2014, “Consideration-set Heuristics”, *Journal of Business Research*, 67(8), pp. 1688-1699.
 [2] Train, K.E., 2009, “Discrete Choice Methods with Simulation”, Cambridge university press.

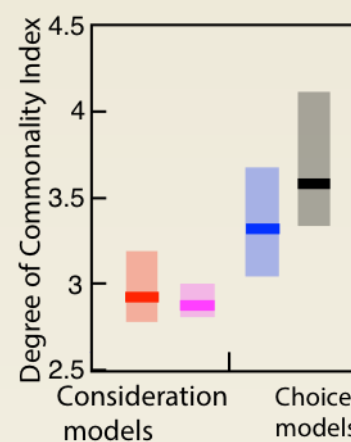


Figure 4. Product lines of consideration models have lower average degree of commonality index than choice models

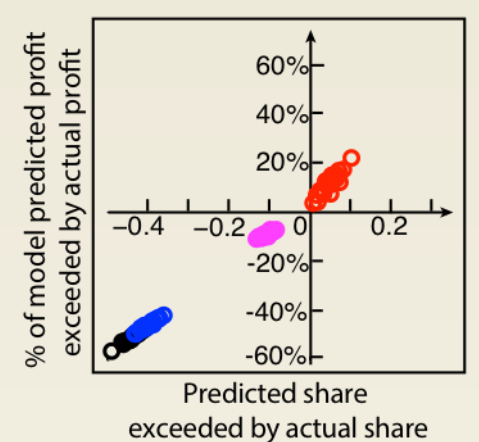


Figure 5. Conjunctive model designs achieve at least 30% profit higher than prediction, while other models achieve 40% lower than prediction