

Enhancements in the New Version of Paper

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Title: The impact of time urgency on consumer price sensitivity

Dear Professors,

This new revision focuses significantly on refining the methodology in the "Model" section. Below, we provide a detailed account of the updates made to strengthen the theoretical framework, modeling technique, and empirical analysis in the new version.

1. New Equations Added to the Model Section

In the new version, we have expanded the utility equation with further clarity on the interaction between price and urgency, as well as the impact of hotel attributes on consumer choice. Specifically, the interaction term $Price \times Urgency$ has been explicitly included in the new equation to directly demonstrate how time urgency amplifies the consumer's price sensitivity. This revision provides a clearer framework for measuring the effect of urgency on price sensitivity.

The new version also includes the choice probability equation for estimating the probability of a consumer choosing a particular hotel given their urgency status and hotel attributes. This equation highlights the competitive nature of consumer choices and allows us to calculate how much more (or less) likely a consumer is to choose a hotel under time urgency.

Additionally, we have added the log-likelihood function that describes the estimation process for the MNL model. This addition formalizes the process of maximizing the likelihood of observing the consumer choice data given the model parameters, providing clearer steps for empirically estimating the model's parameters.

To complement the log-likelihood function, we have also included the first-order condition for parameter estimation. This mathematical addition improves the methodological rigor of the paper by explaining the derivation of maximum likelihood

estimates for the parameters.

2. New Results Interpretation Section

In the new version, we added a new section titled “Results Interpretation” following the estimation results section. This section provides a detailed explanation of the empirical results from the model. Specifically, it explains how the coefficients related to time urgency impact consumer decision-making, clarifying the relationship between urgency and price sensitivity. By interpreting the coefficients of key variables, the section translates statistical results into actionable insights.

Furthermore, two new equations were introduced to enhance the model’s explanatory power and empirical rigor. These equations calculate the marginal effect of time urgency on price sensitivity, quantifying how much price sensitivity increases under time urgency by isolating the effect of urgency from other variables. By specifying this marginal effect, the equations allow for a clearer understanding of how urgency alone shifts consumer preferences, helping to illustrate how urgency influences consumer focus on price over other attributes.

To visually represent the effect of time urgency on consumer price sensitivity, we also added a new figure displaying the difference in behavior between urgent and non-urgent sessions. The figure is based on the results from the model equations and plots the utility changes as urgency levels vary. By visually demonstrating how price sensitivity intensifies under urgency, the figure complements the statistical interpretation, allowing for a more accessible understanding of the results.

3. Updated Estimation Results Table

In the new version, we also revised the estimation results table to ensure alignment with the theoretical model and to improve interpretability. The estimation results table now reflects the revised structure of the utility equation by incorporating additional parameters, particularly those related to time urgency and interaction effects. Specifically, the table includes specific rows for interaction terms, such as *Price*×*Urgency*, allowing us to present the marginal effect of urgency on price sensitivity independently. This update clarifies the empirical distinction between baseline price sensitivity and the amplified price sensitivity observed under time

urgency.

4. Structural Revisions

To improve clarity and focus, we separated the Model and Analysis sections in the new version. The Model section now exclusively deals with the theoretical underpinnings, the utility equations, and the specification of the consumer choice behavior model. This allows for a focused discussion of the model's structure, key variables, and expected relationships without mixing it with empirical analysis. The Analysis section follows separately, detailing the empirical methods, identification strategy, and estimation results. By isolating the model from the empirical methods and results, this structure enhances readability and provides a more organized flow of information.

We believe these changes contribute to a stronger, more logically organized presentation of the research. Thank you again for the opportunity to enhance our study.