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Buyers' Dynamic Click Behavior on Digital Sales Platforms with Complementarities

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Buyers' Dynamic Click Behavior on Digital Sales Platforms with Complementarities

TREO Talk Paper

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Abstract

With numerous options available on digital platforms, buying products is becoming an increasingly complex decision-making task. Many well-known digital sales platforms like Amazon, Uber, Etsy, or Airbnb try to offer products or services that best match the buyers' search criteria but Amazon for example often also lists products that can possibly complement the best match (Sloane, 2018). Buyers have access to product and price information, and they have to consider multiple factors in making their decisions on checking available options (Karimi et al., 2015). The buyer needs to know how the platform chooses which products or services to display. The buyers' decision might also be impacted by the way sellers of products are charged to display their products or services on the platform and by the order in which the products are displayed on the screen. Buyers have to keep track of the prices and deals offered related to the various products they have checked on the platform and also consider their opportunity cost of search. As the complexity and cost of the search process increases, there are searches that often end without success. Understanding better how buyers make click decisions dynamically can help platforms increase the success of product searches, buyer satisfaction and ultimately, profitability. In this study we focus on platforms which offer both primary products (products who best match the buyers' search criteria) and secondary products (products who complement the primary products) and they rank these products on a buyer's screen either by relevance or by click-through rate ((Hao et al., 2020). We aim to find answer to the following question: *To what extent do product values and product prices determine the order in which the buyer clicks through the primary and secondary products.* To answer this question, we create a dynamic model that predicts each step in a buyer's click strategy. The model incorporates rational decision-making as well as known behavioral biases. Under naturally occurring circumstances information, such as the value of a product to a buyer, is strictly private and unavailable. Therefore, we use lab experiments with human subjects to test our model. The model is able to predict a higher percentage of buyer click behavior than existing static search models. Unlike static search models our model predicts a non-zero percentage of clicks on more than two products and provides some guidance on the factors that can lead buyers to make that decision. This study contributes to the theory of shopping on digital platforms because it is a model of sequential search that incorporates rational decision making as well as known human behavioral biases to explain how buyers shop in sequence given the information they discover. As far as we know this is also the first dynamic model that incorporates product complementarities as part of the decision-making environment.

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