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CONSUMER BEHAVIOR ON AN ONLINE-TO-OFFLINE PLATFORM: AN EMPIRICAL INVESTIGATION OF THE AUTOMOTIVE REPAIR SERVICE MARKET

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ABSTRACT

This study uses a unique dataset from O2O platform business in the automotive repair services. The platform is a mobile-based service where consumers upload the information about their auto damage such as photos and written description, and the repair shops respond to such requests informing the price quote, location of the store, written comments, and contact information. Consumers can also to initiate communications with the business before the store visit through the mobile application or via phone calls.

The study serves three objectives. First, to investigate how the platform helps consumers receive services customized to their situations, we test the effect of consumer's automotive *damage severity* on their likeliness to contact the provider through the platform. We also test how *physical distance to the shop* affects consumer behavior and how its impact is moderated by consumer-specific situations. Lastly, as the open platform enables transparent and rapid delivery of information to consumers, we examine the effects of *quote price* and the responsive delivery of service quotes, i.e., *quote timeliness*. Below are sample hypotheses.

H_3: The effect of repair shop distance on consumers' probability of responding to a service quote weakens as the severity of damage increases.
H_4: Consumers are more likely to respond to a service quote with high price competitiveness (which has a lower price compared to the average of all quotes).
H_7: The effect of quote timeliness on consumers' probability of responding to a service quote weakens as the severity of damage increases.

Since our data include a binary outcome (i.e., responded to a quote or not), we formulate consumer behaviors using a logit model (e.g., Guadagni and Little 1983; Malhotra 1984; Train 2009). We applied maximum likelihood estimation method to estimate the parameters in our logit model.

$$u_{ij} = \beta_0 + \beta_1 \text{DemageSeverity}_i + \beta_2 \text{ShopDistance}_{ij} + \beta_3 \text{PriceDiff}_{ij} + \beta_4 \text{TimeElapsed}_{ij} + \beta_5 \text{NoPrevQuotes}_{ij} + \beta_6 \text{ShopClass}_{ij} + \beta_7 \text{ShopDistance}_{ij} \cdot \text{DemageSeverity}_i + \beta_8 \text{PriceDiff}_{ij} \cdot \text{DemageSeverity}_i + \beta_9 \text{TimeElapsed}_{ij} \cdot \text{DamageSeverity}_i + \varepsilon_{ij}.$$

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The research provides contributions to the academy and the practice. We fill the gap in literature by discussing the fundamental characteristics of businesses adopting both O2O and open platform models. We also take the first step to empirically test the impact of various types of store and consumer-specific information on consumer decisions, advancing the understanding of digital consumers. It is found that consumers' high involvement in the purchase situation motivates them to proactively utilize the digital platform to contact the service providers. Also, they preferred the timely quotes regardless of the involvement level, which implies that the digital consumers have tendency to make quick choices under all situations.

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