Abandoned Shopping Carts in Brick-and-Mortar Retail: Identifying Purchase Resignation

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Abstract:

Online shopping cart abandonment costs retailers billions annually, yet the extent of similar behavior in brick-and-mortar settings remains underexplored. Advances in tracking technologies now allow retailers to monitor in-store customer behavior, including time spent in the store, categories visited and purchased items, enabling the creation of clickstream-like data from physical movement patterns. This study proposes a modeling approach to predict purchase resignation – the phenomenon where customers with initial purchase intentions leave without purchasing – using natural language processing-inspired techniques. We employ a long short-term memory (LSTM) recurrent neural network, trained on entrance survey and tracking data to predict purchase intentions. These predictions are combined with observed purchase data to measure purchase resignation. Using data from a consumer electronics retailer spanning July 2022 to July 2023, our findings reveal that 68.68% of customers with purchase intentions ultimately engaged in purchase resignation.