

Statistical Review and A/B Testing for New York City TLC Project

Overview

The New York City Taxi and Limousine Commission (TLC) wants to determine the fare ride before the clients request a trip. In this part of the project, it was requested to determine if there is a relation between the fare amount and payment type.

Problem

Our problem states that depending on the fare amount, the user will likely pay with cash or credit card. This assumes that higher fare amount, the clients will pay with credit card.

Solution

We create an A/B testing to see if our hypothesis that users will pay with credit card when they're paying higher fare amount.

Details

Steps conducted in the A/B Testing:

1. Collected data from an experiment where the customers were randomly select and divided into two groups:
 - a. Customers who pay with credit card
 - b. Customers who pay with cash
2. Performed descriptive statistics to obtain the average total fare amount for each payment method available to the customer.
3. Conducted two-sample t-test to determine if there is a relationship between the fare amount and the payment type.

A/B Results:

There is a statistically significant difference in the average total fare between customers who use credit cards and customers who use cash. Customers who used credit cards showed a higher total amount compared to cash.

Next Steps

The New York City TLC can install signs that read "Credit card payments are preferred" in their cabs, and implement a protocol that requires cab drivers to verbally inform customers that credit card payments are preferred.

