

Statistical Review and A/B Testing for NYC TLC Project

Subtitle

Overview

The purpose of this project is to predict taxi cab fares before each ride. At this point this project's focus is to find ways to generate more revenue for NYC taxi cab drivers. This part of the project examines the relationship between total fare amount and payment type.

Problem

Taxi cab drivers receive varying amount of tips. While examining the relationship between total fare amount and payment type, this project seeks to discover if customers who pay in credit cards tend to pay larger total fare amount than customers who pay in cash.

Solution

The team ran an A/B test to analyze the relationship between credit card payment and total fare amount. The key business insight is that encouraging customers to pay with credit cards will likely generate more revenue for taxi drivers.

Details

Steps to conduct the A/B test

1. Collect sample data from an experiment in which customers are randomly selected and divided into two groups: Pays with Credit Card, Pays with Cash.
2. Compute descriptive statistics to better understand the average total fare amount for each payment type available.
3. Conducted a two-sample t-test to determine if there is a statistically significant difference in average total fare between customers who use credit cards and customers who use cash.

A/B Test 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 data team recommends that the NYC TLC encourages customers to pay with Credit Cards, and create strategies to promote credit card payments.

