BOOSTING REVENUE FOR DRIVERS

THROUGH PAYMENT TYPE

Agenda

- Problem Statement
- Research Objective
- Data Overview
- Method of approach
- Analysis and conclusions
- Hypothesis Testing
- Recommendations

Problem Statement

In the highly competitive taxi booking industry, maximizing revenue is critical for ensuring long-term sustainability and driver satisfaction.

To support this goal, we aim to leverage data-driven insights to **maximise income** streams for taxi drivers.

Specifically, our research investigates the impact of payment methods on fare pricing, focusing on the relationship between the type of payment and the fare amount.

Research Objective

Is there a connection between the total fare amount and the type of payment used?

Can we encourage customers to choose payment methods that lead to higher driver earnings, without compromising their experience?

Data Overview

For this analysis, we used the comprehensive dataset of NYC Taxi Trip dataset, used data cleaning and feature engineering techniques to focus solely on the key variables relevant for our investigation.

Relevant data columns used for this research:

- passenger_count (1 to 5)
- trip_distance (miles)
- payment_type (Card or Online)
- fare_amount
- duration (minutes)

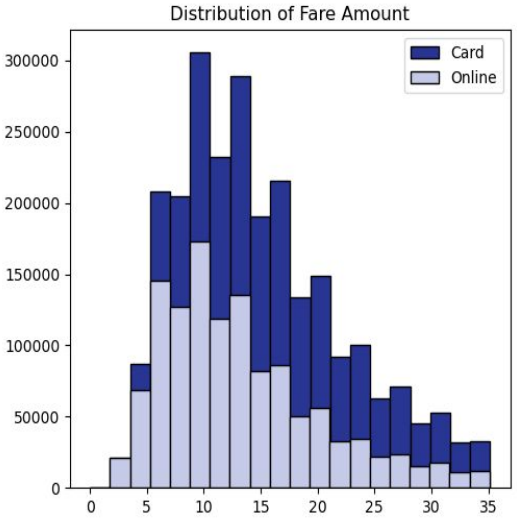
passenger_count	trip_distance	payment_type	fare_amount	duration
1	1.2	1	6.0	4.800000
1	1.2	1	7.0	7.416667
1	0.6	1	6.0	6.183333
1	0.8	1	5.5	4.850000
1	0.0	2	3.5	2.300000

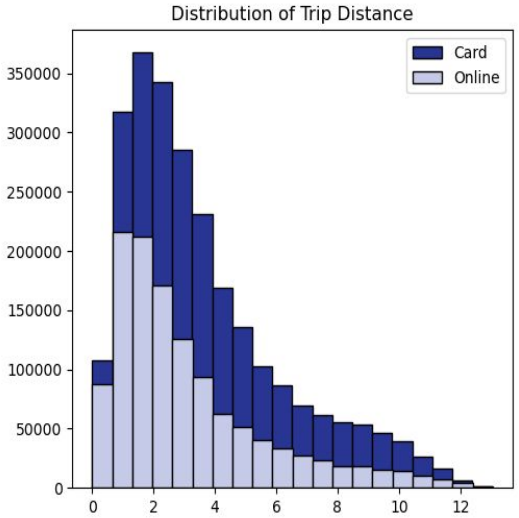
Method of Approach

Step	Description
Descriptive Analysis	Conducted statistical analysis to highlight key patterns in the data, with a focus on fare amounts and payment methods.
Hypothesis Testing	Performed a T-test to assess whether fare amounts significantly differ across payment types, testing the hypothesis that payment method influences fare pricing.

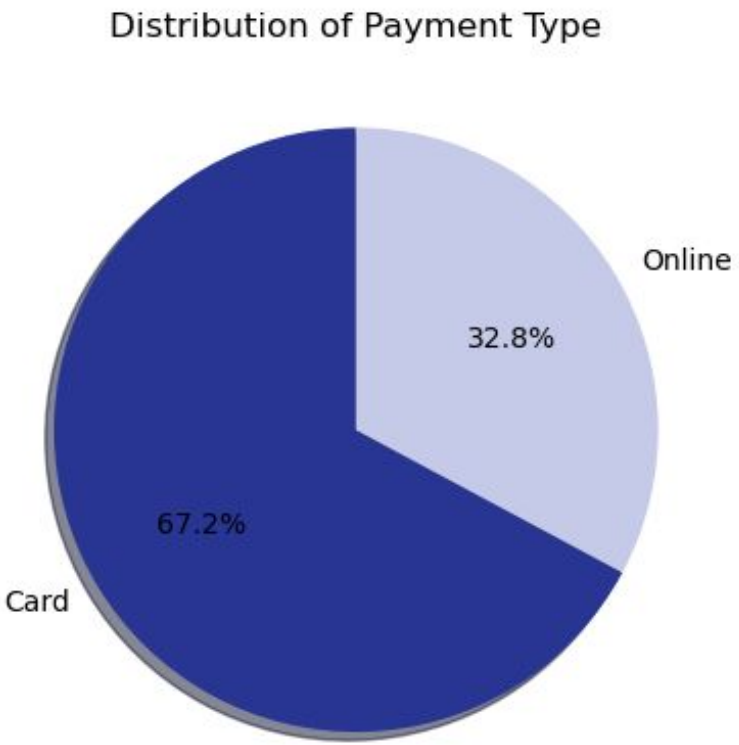
Journey Insights

- Customers who pay by card tend to have slightly higher average trip distances and fare amounts compared to those who use online payment methods.
- Suggests that customers are more likely to pay by card for longer trips with higher fare amounts.





	Payment Type	Mean	Standard Deviation
Fare amount	Card	14.99	7.19
	Online	13.29	6.90
Trip Distance	Card	3.63	2.60
	Online	3.13	2.51



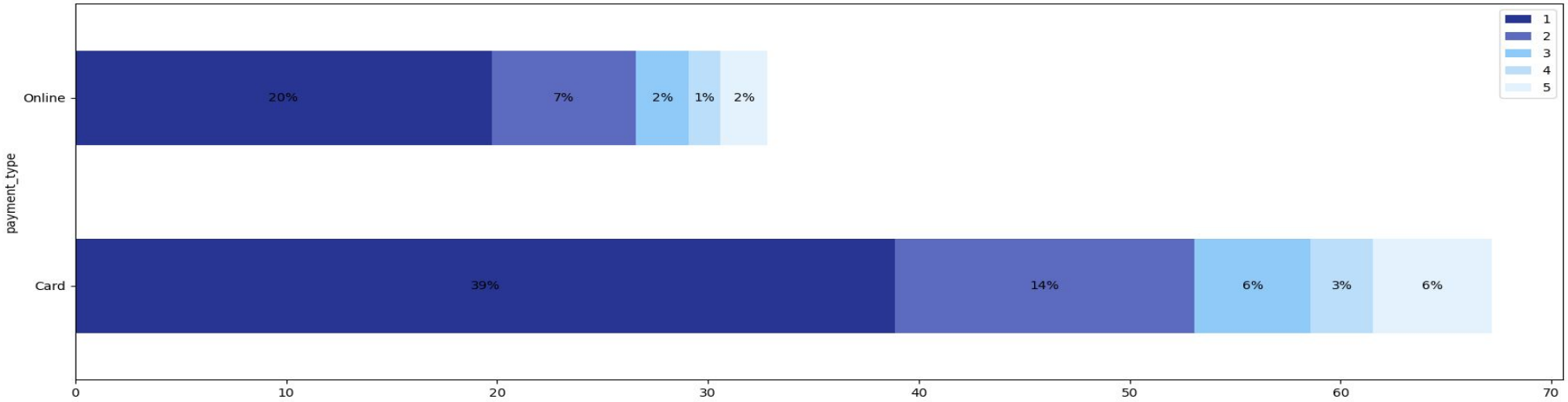
Preference of Payment Types

- The proportion of customers using card payments is significantly higher than those using online methods, with card transactions accounting for 67.2% of all payments, compared to 32.8% for online payments.

- This indicates a strong customer preference for card payments over online methods, potentially driven by factors such as convenience, perceived security or rewards associated with card usage.

Passenger Count Analysis

- Among card payments, rides with single passenger(passenger_count = 1) comprise the major proportion contributing **39%** of all card transactions.
- Similarly online payments are predominantly involved with single passenger portion, summing up of 20% of all online transactions.
- It is evident that increase in the passenger count is implying decrease in percentage, suggesting the larger groups are less likely to opt for either of the payment methods.



Hypothesis Testing

Null hypothesis: There is no difference in average fares between customers who use cards and online as payment method.

Alternate hypothesis: There is difference in average fares between customer who use cards and online as payment method.

With a T-statistic of 222.37 and a P-value of less than 0.05, we reject the null hypothesis, suggesting that there is indeed a significant difference in average fare between the two payment methods.

Recommendations

Encourage customers to pay by card may help capitalize on opportunities to increase driver earnings.

Introduce incentives like discounts and special offers to promote the use of card payments among customers.

Offer seamless and secure card payment options to enhance customer convenience and encourage wider adoption of this preferred method.

Thank you!