MAXIMIZING REVENUE FOR CAB DRIVERS THROUGH PAYMENT TYPE

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Problem Statement

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Since the taxi booking sector is becoming too fast, making an essential profit for longer success and driver happiness is also becoming hard.

Our goal is to maximize revenue for taxi drivers by focusing on whether the payment method has impact on fare pricing or not by focusing on the relationship between payment type and fare amount.

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Research Question

Is there a relationship between fare amount and payment type?

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Data Overview

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For this analysis, we used NYC Taxi Trip Records data. Here we use data cleaning and Exploratory data analysis to obtain the right data which we used for our investigation.

Important columns we used here are:

❖ Passenger_count(1-5)

❖ Payment_type(card or cash)

❖ Fare_amount

❖ Trip_distance(in miles)

❖ Duration(in minutes)

Duration	payment_type	fare_amount	trip_distance	passenger_count
4.800000	Card	6.0	1.20	1
7.416667	Card	7.0	1.20	1
6.183333	Card	6.0	0.60	1
4.850000	Card	5.5	0.80	1
0.883333	Cash	2.5	0.03	1

Methodology

- **Descriptive Analysis**

- **Hypothesis Testing**

We performed statistical analysis to summarize key aspects of data, focusing on fare amounts and payment types.

We conducted a T-test to evaluate the relationship between payment type and fare amount, testing the hypothesis that different payment methods influence fare amount.
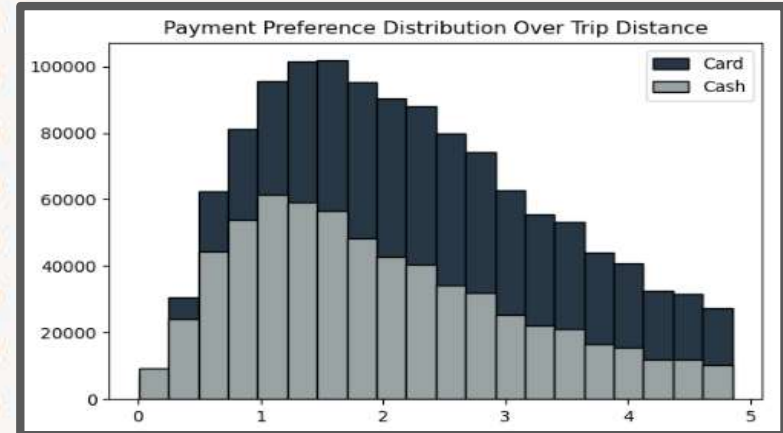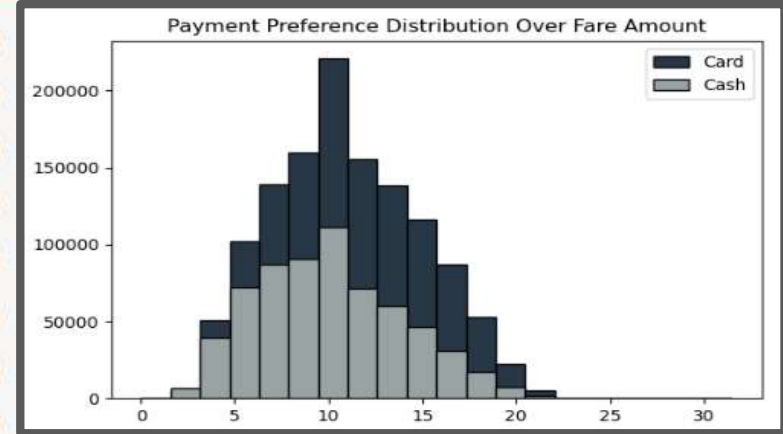
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Journey Insights

Journey Insights

❖ **Customers paying with a card tend to have higher fare amounts and trip distances than those who paid with cash.**

❖ **Indicated that customers prefer to pay more with a card when the trip distance is long and the fare is high.**


Payment Preference Distribution Over Fare Amount

Payment Preference Distribution Over Trip Distance

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Payment Preference

Payment Preferences

❖ **The proportion of customers paying with a card is slightly higher than those paying with cash.**

❖ **It indicates that customers are relying more on cards potentially due to security, convenience, and incentives offered for card transactions.**

Distribution OF Customer Payment Type Preference

Cash
33.8%

66.2%

Card
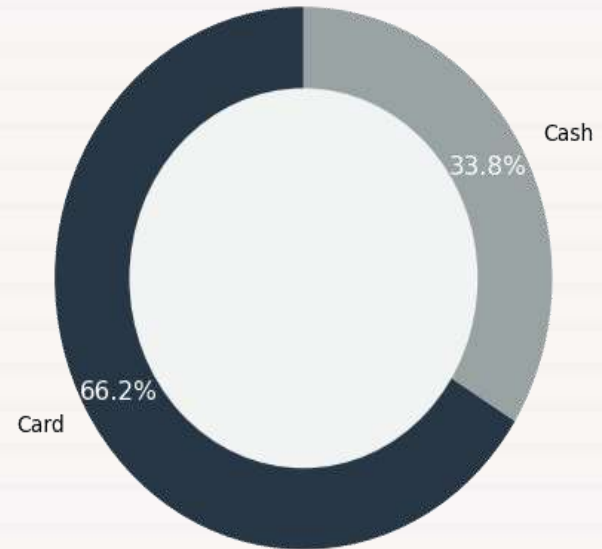
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Passenger Count Analysis

Passenger Count Analysis

❖ **There is a noticeable decrease as the passenger increases suggesting that the larger group is less likely to use taxis.**

❖ **Cash payments are predominately associated with single-passenger rides making up to 20% of cash transactions.**

Distribution OF Payment Preference Over Passenger_Count
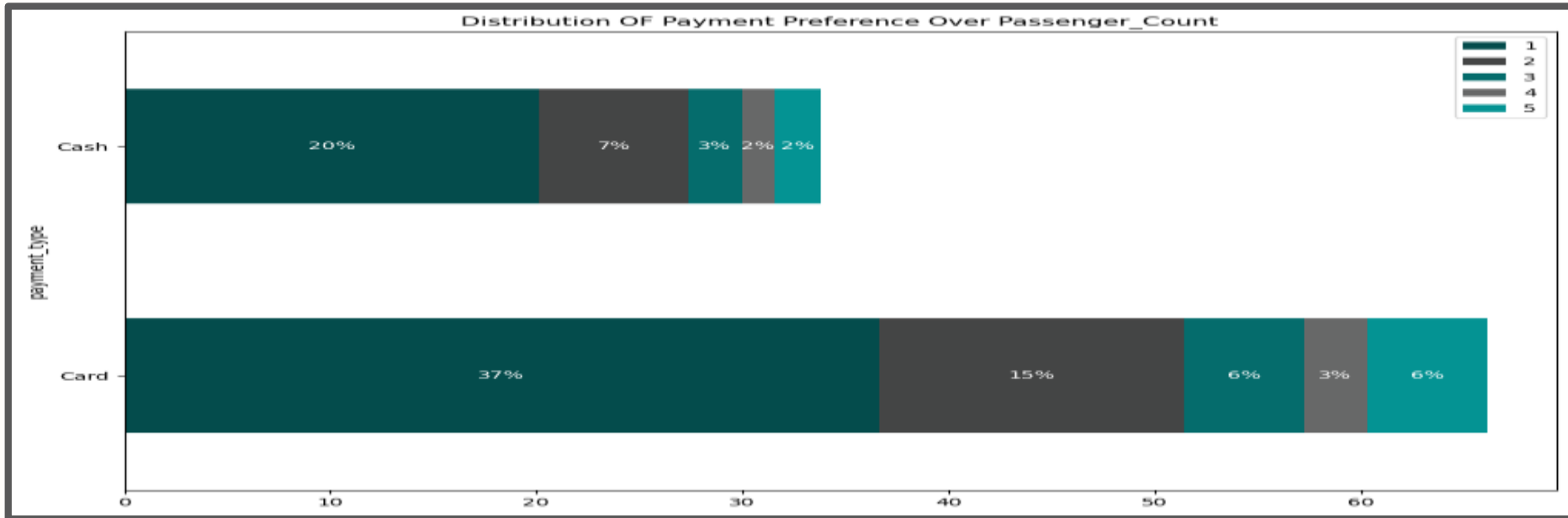
Hypothesis Testing

Null Hypothesis: There is no difference in average fare between customers who use credit cards and customers who use cash.

Alternate Hypothesis: There is a difference in average fare between customers who use credit cards and customers who use cash.

Result:

With a T-statistic of 165.5 and a P-value of less than 0.05, we are going to reject the null hypothesis.

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Reccomendations

Recommendations

Encourage customers to pay with credit cards to get potential revenue for cab drivers.

Implement strategies such as offering discounts and incentives for card transactions to attract customers more towards this payment type.

Provide seamless and secure card transactions to enhance customer convenience.