

Maximizing The Revenue of Taxi Drivers

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Agenda

- Problem Statement
- Data Overview
- Methodology
- Journey Insight
- Preference of Payment Type
- Passenger Count Analysis
- Hypotheses Testing
- Recommendations



Problem Statement

In today's time there is a lot of taxi booking companies whose main goal is to maximize their profits which is important for a long term success and Driver's happiness.

In this analysis we use data_driven insights to **maximize the revenue** of Taxi Driver's. In order to meet this need our research aims to find the relationship between payment type and fare amount that what is the impact on fare amount by different payment methods.



Data Overview

In this analysis we use the NYC Taxi Trip Dataset provided by the NYC Taxi and Limousine Commission (TLC). To maximizing the revenue of taxi drivers we use data cleaning, descriptive analysis and hypotheses testing and used only important columns for the overall research investigation.

Relevant Columns for the Research:

- Passenger_count: (1 to 5)
- Payment_type: (Card or Cash)
- Fare Amount:
- Trip_Distance: (miles)
- Duration:

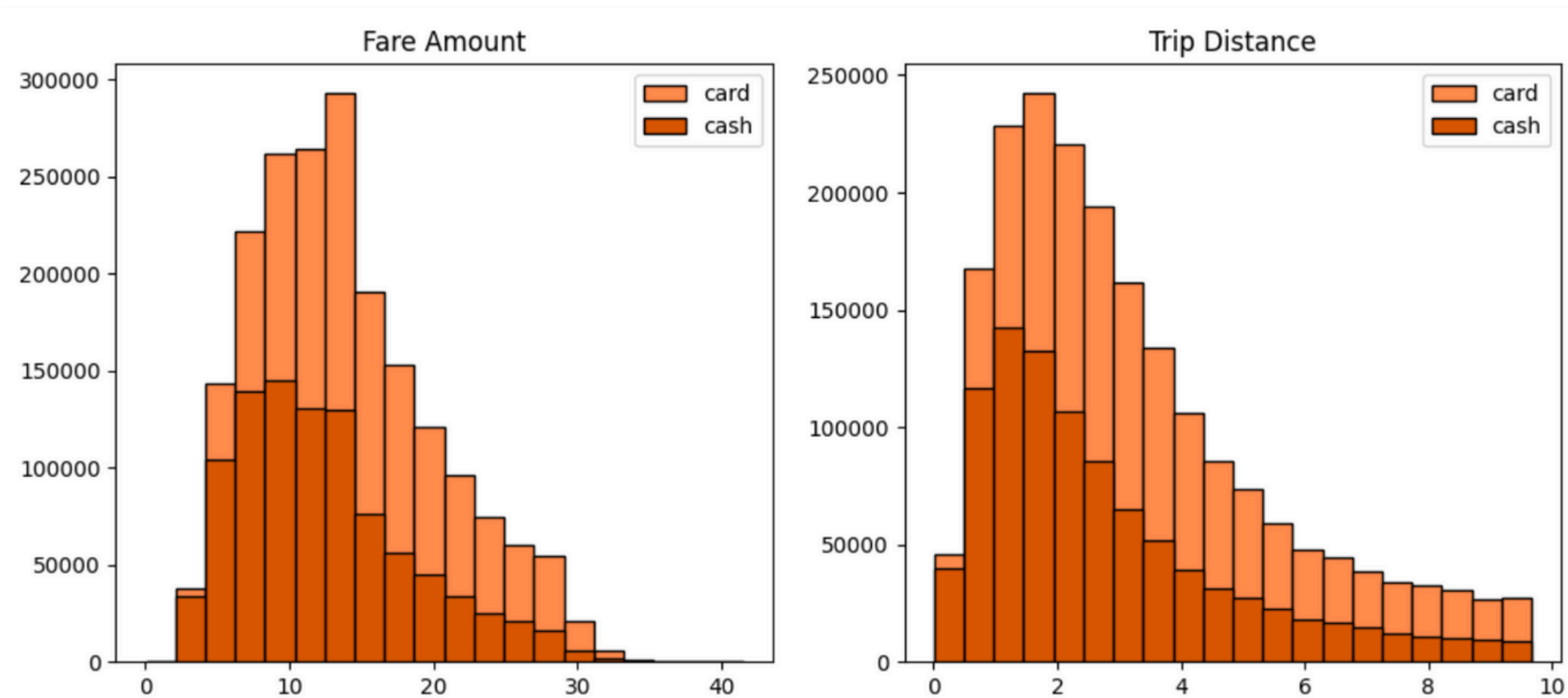
	passenger_count	payment_type	fare_amount	trip_distance	duration
0	1	card	6.0	1.20	4.80
1	1	card	7.0	1.20	7.42
2	1	card	6.0	0.60	6.18
3	1	card	5.5	0.80	4.85
5	1	cash	2.5	0.03	0.88

Metholodgy

Steps	Description	
Discriptive Analysis	Performed Statistical Analysis to summerize the key aspects of the data. Focusing on fare amount and payment types.	
Hypothesis Testing	Conducted a T-test to evaluate the relationship between payment type and fare amount. Testing the hypotheses that different payment methods influences the fare amount.	

Journey Insights

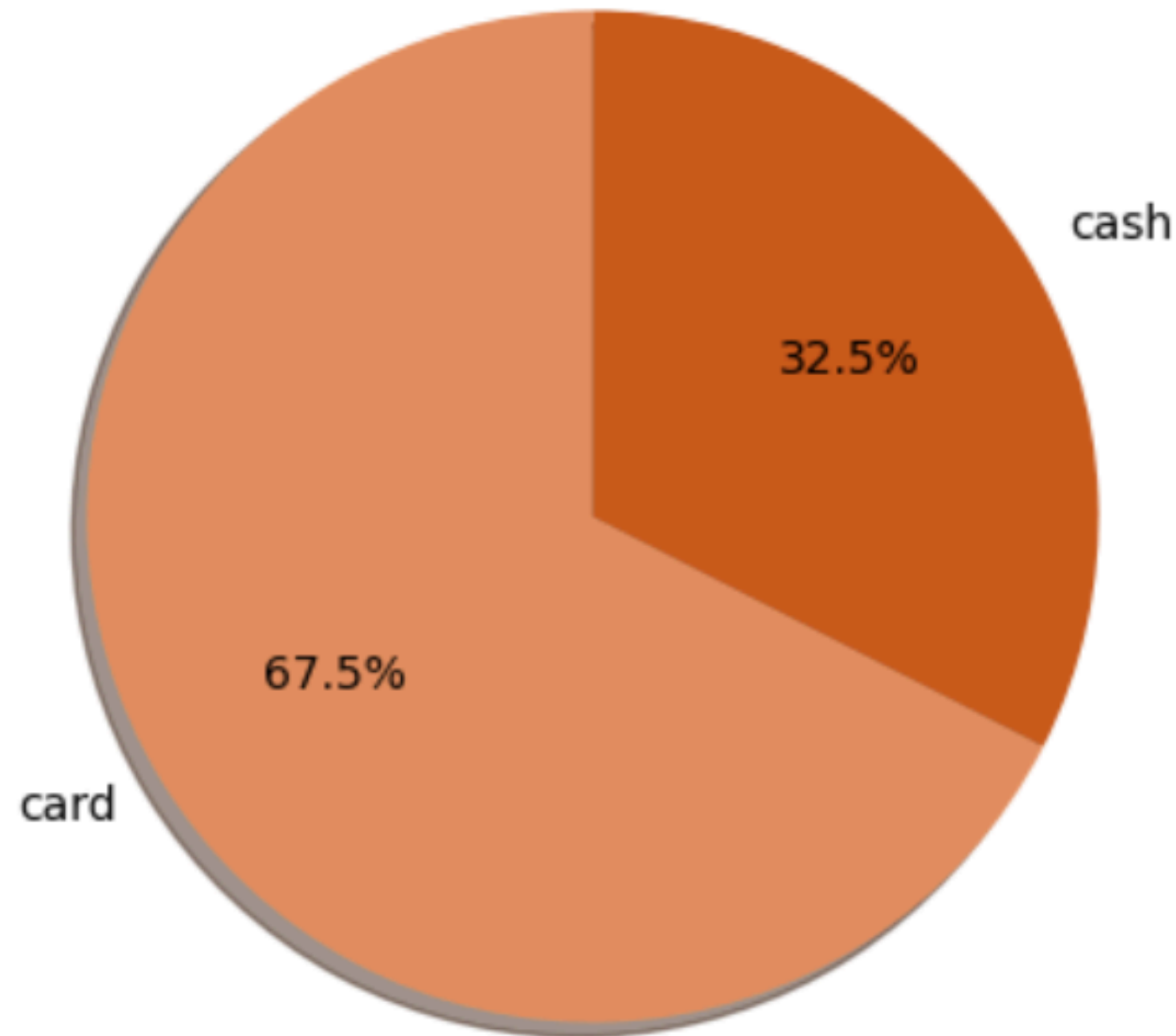
- Customers paying with card has a slightly higher average of fare amount and trip distance.
- Indicating that customers prefers to pay more with cards when they have high fare amount and long trip distance.



	Payment type	Mean	Std
Fare Amount	Card	13.87	6.31
	cash	12.31	6.00
Trip Distance	Card	3.23	2.18
	cash	2.78	2.08

Preference of payment type

The Proportion of Card and Cash users

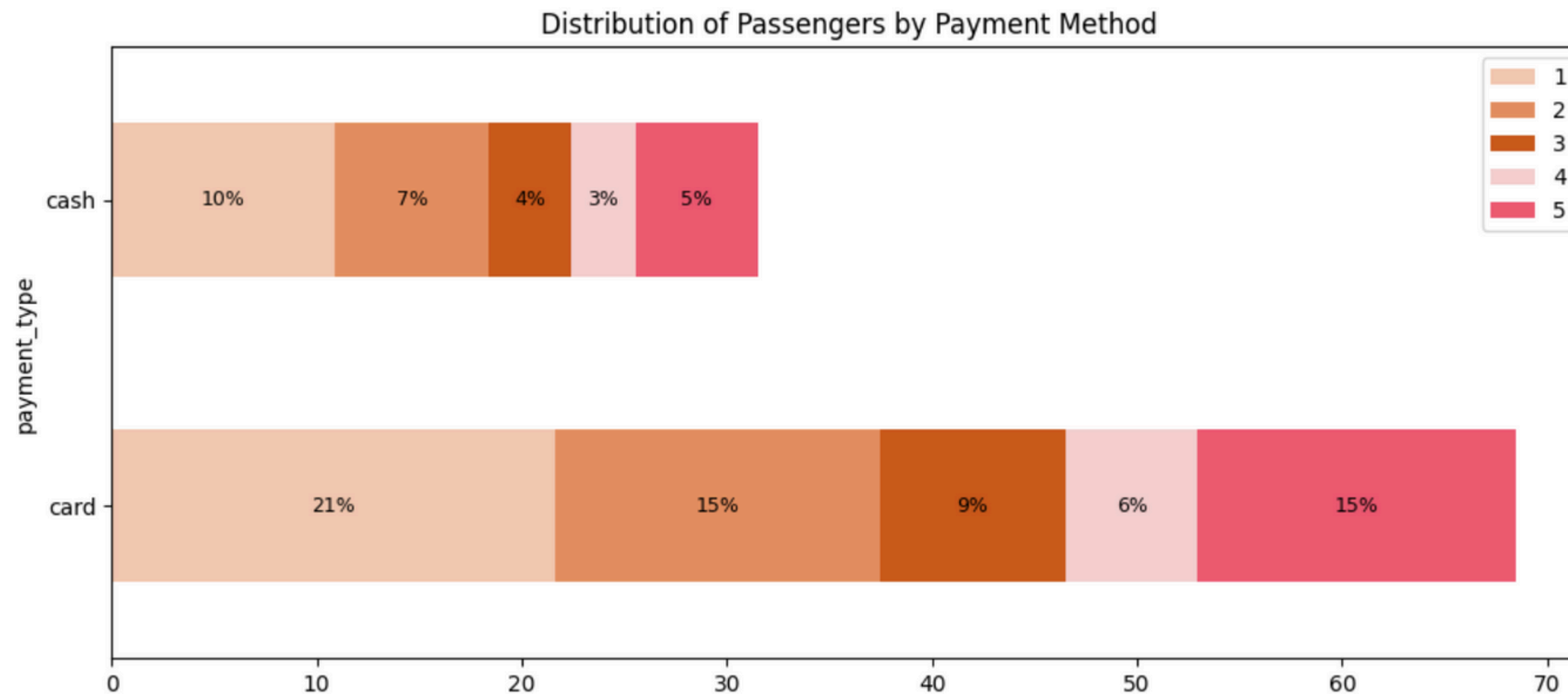


The Proportion of customers paying with cards is significantly higher than the cash. There is 67.5% transaction with cards of all transactions compared to the cash payments which is 32.5% only.

This indicates that most customers prefer to pay with cards rather than cash payments, potentially due to convenience, security, incentives offered on card payments etc.

Passenger Count Analysis

- Among all card payments, rides with single passenger count has the largest share which is 21% of all card transactions
- similarly cash payments with single passenger count also has largest proportion 10% then the other cash payments.
- there is a noticeable decrease in the transactions when the passenger count is increased. suggesting that larger groups are less likely to use taxis.
- These insights showing the importance of passenger count and payment methods . When analysing the transaction data, as they provide valueable information about customer preferences and bihaviour.



Hypotheses Testing

- **Null Hypotheses:** There is no difference in average fare between customers who used cards and cash payments.
- **alternate Hypotheses:** There is a difference in average fare between customers who used cards and cash payments.

with T-statistics of 206.4% and the P-value of less than 0.05% we rejected the null hypotheses. Suggesting that there is a significant difference between the average fare of customers using cards and cash payments methods.

Recommendations

- Encourage customers to pay with cards to capitalize on the potential to generating more revenues for taxi Drivers.
- Implement strategies such as offers, discounts, incentives on card transactions, to choose the payment method.
- provide the seamless secure card payment options for customer's convenience and encourage to adopt the preferred payment method.

