

Presented by Akash Kumar

MAXIMIZING REVENUE FOR DRIVERS

Through Payment Types

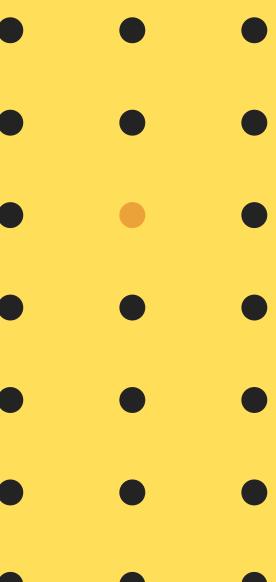
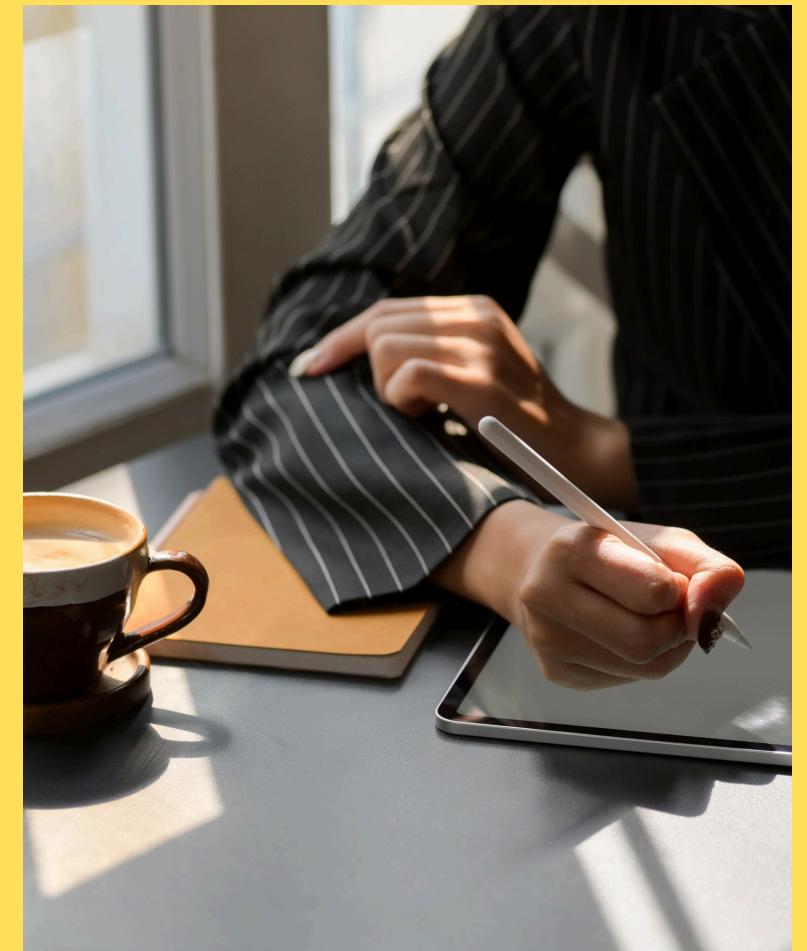
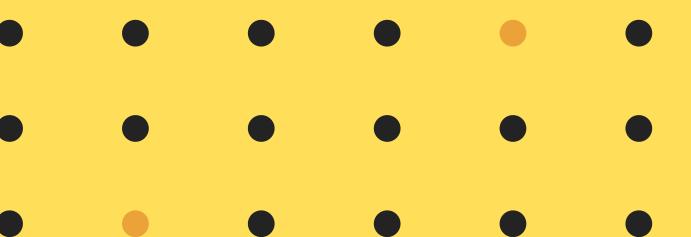


AGENDA

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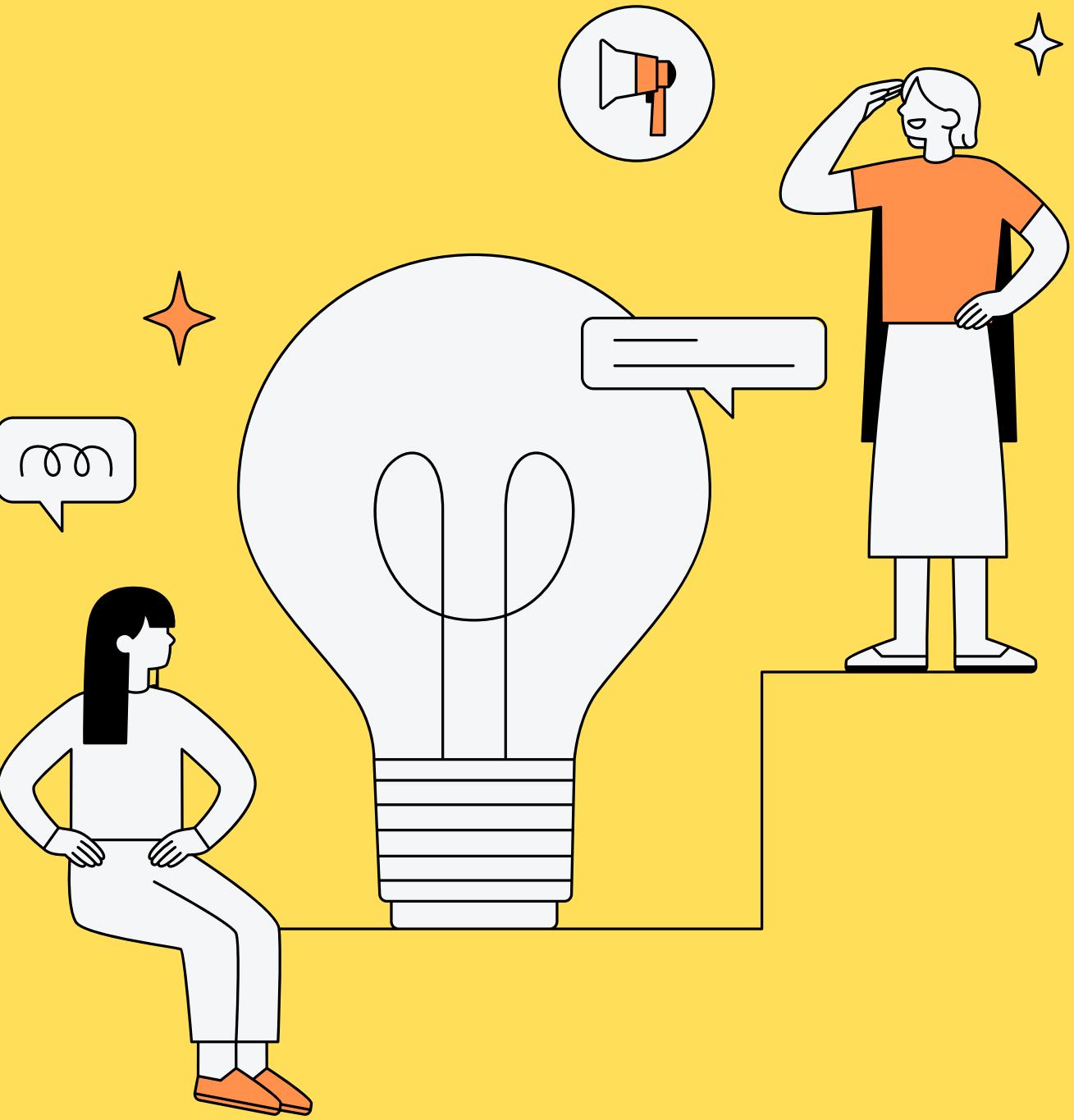
- 01** Problem Statement
- 02** Research Question
- 03** Data Overview
- 04** Methodology

- 05** Analysis and Findings
- 06** Hypothesis Testing
- 07** Recommendations



Problem Statement

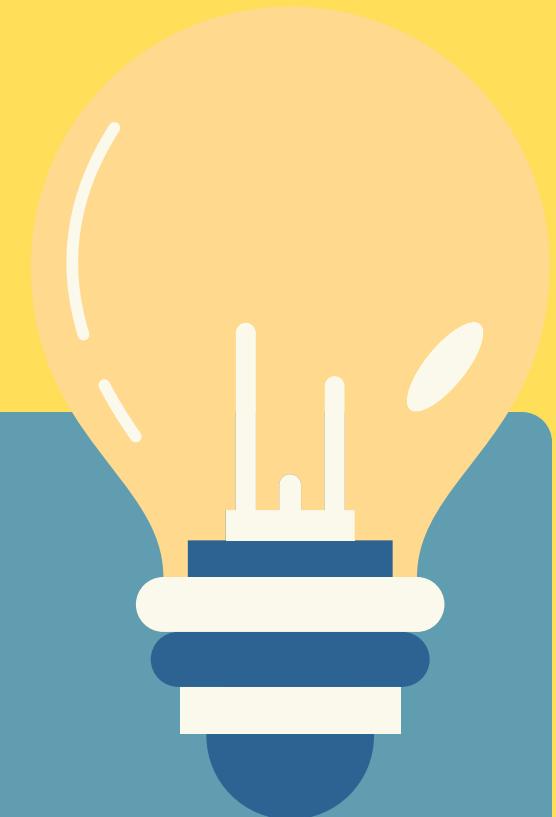
The taxi business moves fast, and earning good money is important to keep drivers happy and the business running smoothly. The goal is to use data to help drivers earn more. Specifically, the project is checking if the way customers pay (like cash and card affects how much they are charged for the ride. It's about understanding if payment methods make any difference in taxi fares.



Research Question

Is there a relationship between total fare amount and payment type?

Can we nudge customers towards payment methods that generate higher revenue for drivers, without negatively impacting customer experience?



Data Overview

For this analysis, we used a detailed dataset of NYC Taxi Trip records. We cleaned the data and focused on specific important columns needed for our study.

Relevant columns used for this research:

- passenger_count (1 to 5)
- payment_type (card or cash)
- fare_amount
- trip_distance (miles)
- duration (minutes)

	passenger_count	trip_distance	payment_type	fare_amount	duration
0	1	1.20	1	6.0	4.800000
1	1	1.20	1	7.0	7.416667
2	1	0.60	1	6.0	6.183333
3	1	0.80	1	5.5	4.850000
4	1	0.00	2	3.5	2.300000

Methodology

01.

Descriptive Analysis

Performed statistical analysis to summarize key aspects of the data, focusing on fare amounts and payment types

02.

Hypothesis Testing

Conducted a T-test to evaluate the relationship between payment type and fare amount, testing the hypothesis that different payment methods influence fare amounts.

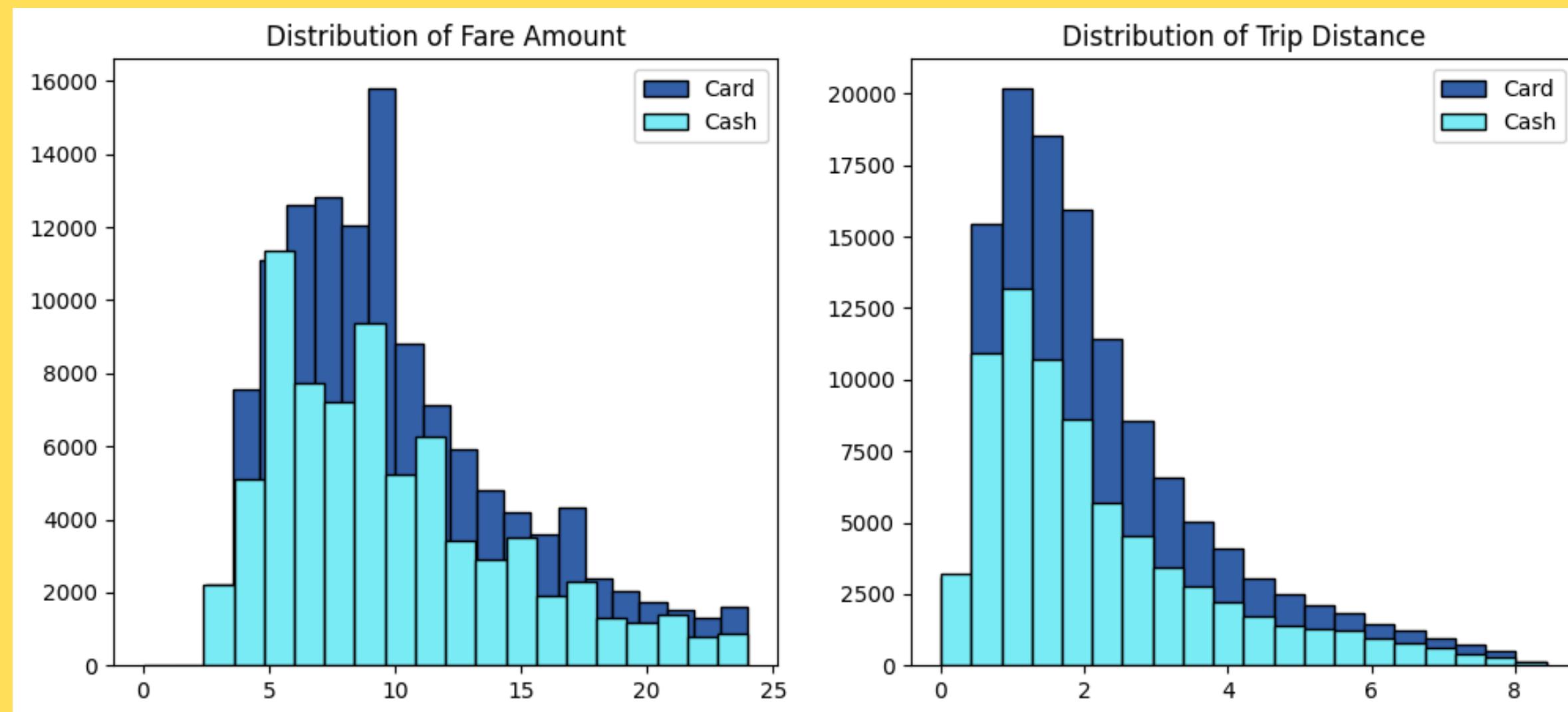
03.

Regression Analysis

Implemented linear regression to explore the relationship between trip duration (calculated from pickup and dropoff times) and fare amount.

Journey Insights

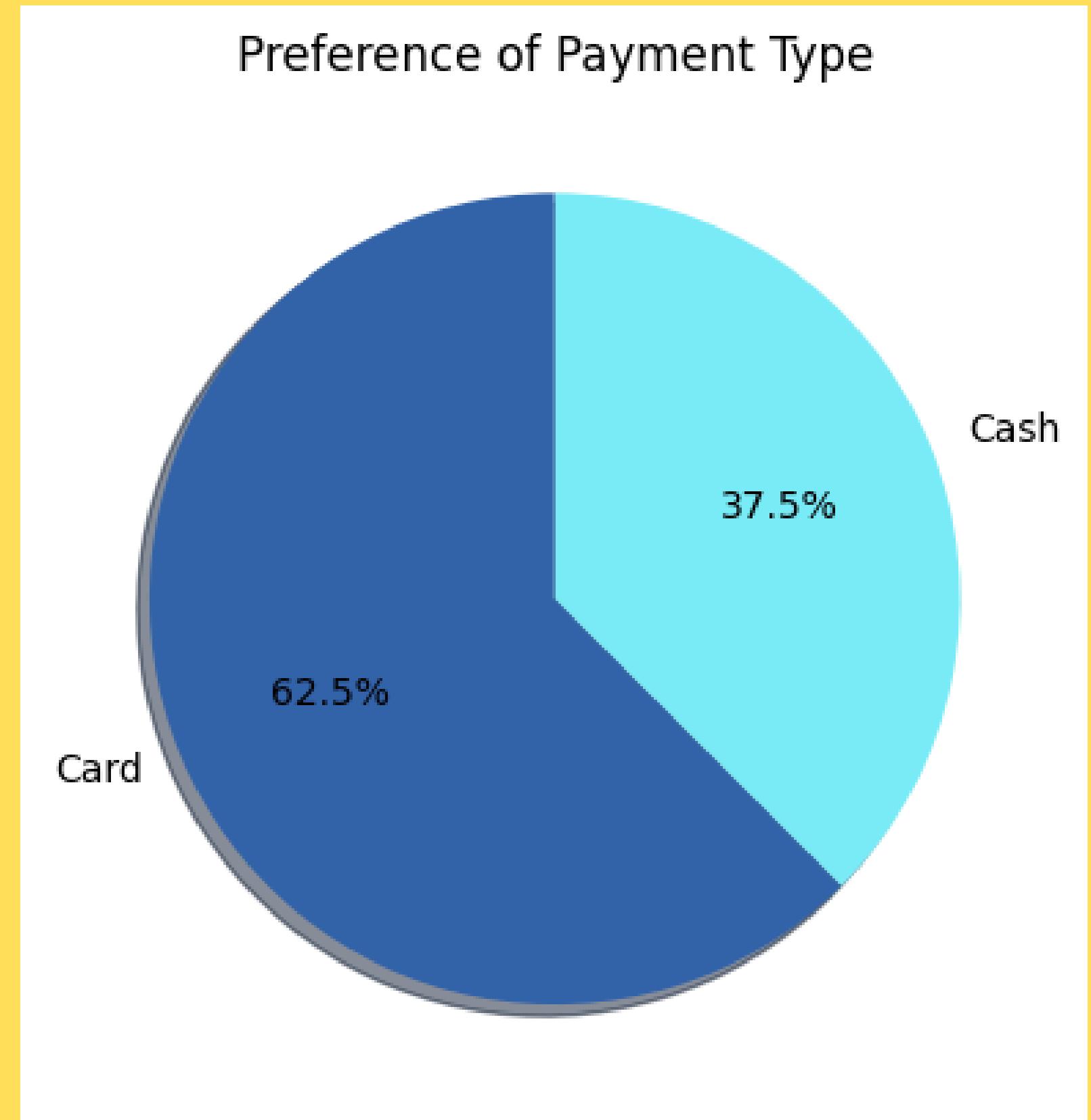
- Customers who pay with cards usually have slightly longer trips and higher fares compared to those who pay with cash.
- Analysis shows that customers prefer to pay with cards when the fare is high, and the trip distance is long.



Preference of Payment

Types

- More customers pay with cards than cash, with 67.5% of transactions made by card and only 32.5% by cash.
- This shows that customers strongly prefer paying with cards instead of cash, likely because it's more convenient, secure, or offers rewards.



Hypothesis Testing

Null hypothesis

There is no difference in average fare between customers who use credit cards and customers who use cash

Alternative hypothesis

There is a difference in average fare between customers who use credit cards and customers who use cash

Since the T-statistic is 10.4 and the P-value is less than 0.05, we reject the null hypothesis. This means there is a significant difference in the average fare between the two payment methods.

Recommendations

01.

Encourage customers to use credit cards, as it can help taxi drivers earn more money.

02.

Offer incentives or discounts for credit card payments to encourage customers to use this option.

03.

Make credit card payments easy and secure to improve customer convenience and encourage more people to use this payment method.



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Thank you very much!

