

Exploratory Data Analysis

Case Study for Cab Investment Firm

July 20, 2025

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Approach

EDA

EDA Summary

Recommendations



Executive Summary

Due to remarkable growth in the cab industry over the past few years and the emergence of multiple key players in the market, XYZ is planning to invest in the sector. As part of their Go-to-Market (G2M) strategy, they aim to thoroughly understand the market before making a final decision.

Provided four individual datasets covering the period from 1/31/2016 to 12/31/2018.

Objective: Provide insight to help XYZ firm in identifying the best cab company for investment.



Approach

Deduplication Validation

To identify duplicate entries in the dataset, we used code to capture all duplicate instances based on key columns. After running these checks, no duplicate observations were found in the dataset

Assumptions:

- Price Change Feature. This feature contains numerous outliers, reflecting either durations or rate values. A decision was made to retain these outliers in the dataset.
- **User Feature.** This feature represents the number of individuals taking a cab.
- Profit Feature. This new feature is calculated as:
 Profit = Price_charges Cost_of_trip.

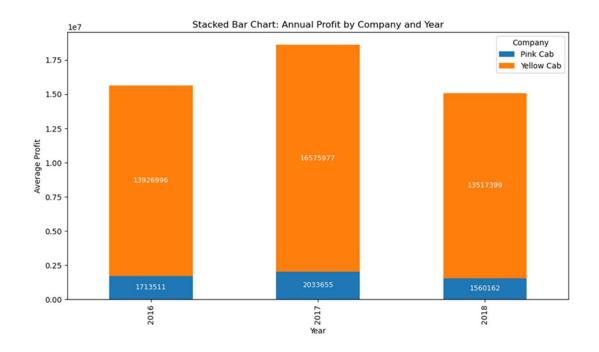


Exploratory Data Analysis (EDA)

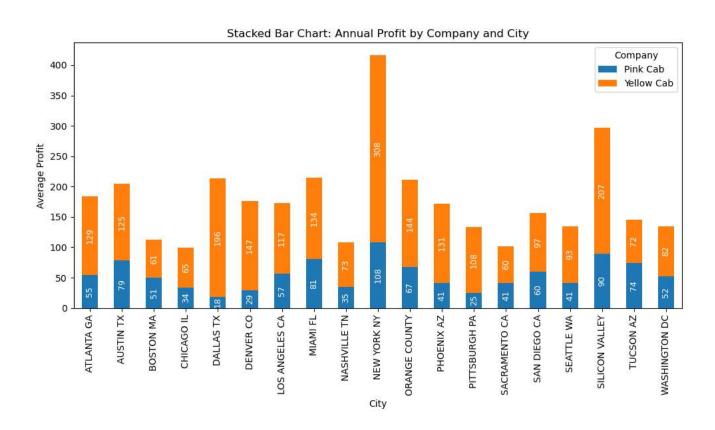




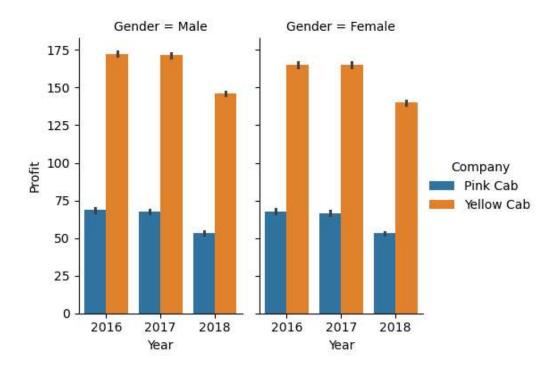
Yearly Profit Analysis



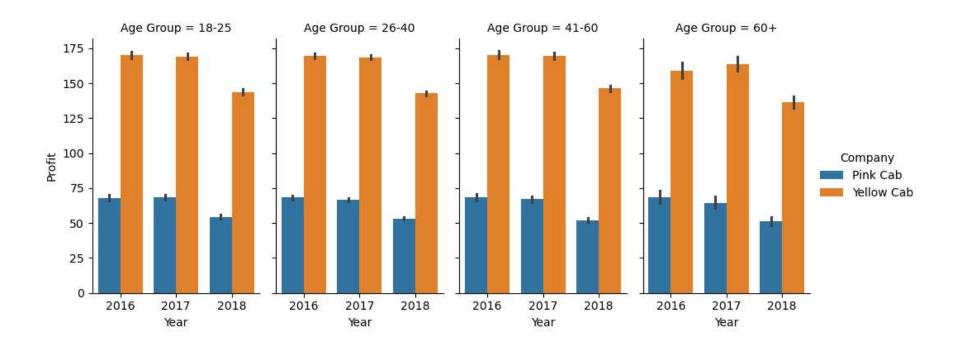
Profit Analysis By City



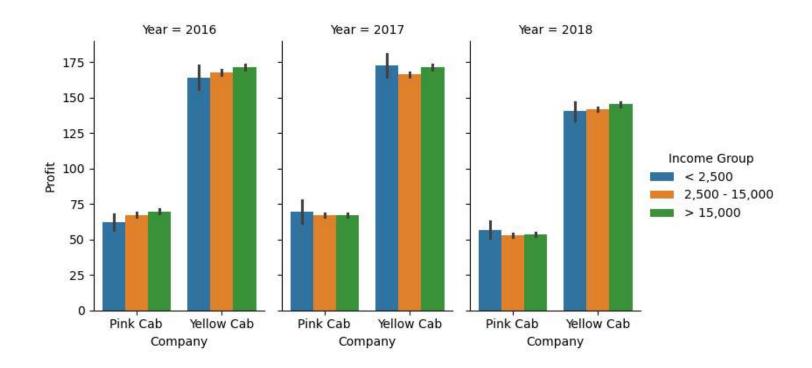
Profit Analysis by Gender



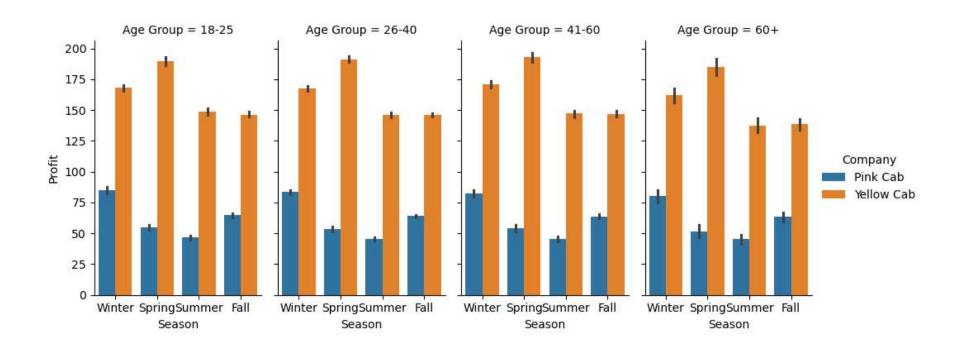
Profit Analysis By Age Group



Profit Analysis By Income Group



Profit Analysis By Age and Seasonal Effects



EDA Summary

We evaluated both cab companies and the findings are listed below:

Average Profit per KM: Yellow cab is more than two times the average profit of the Pink cab.

Various Cities: Across all markets, users are more likely to choose Yellow cab.

Gender: Both females and males request cabs for an equal amount of time. We notice both users request Yellow cab more often.

Income Reach: Both cabs are particularly popular among users with medium to high incomes.

Seasonal Effects: The Yellow cab displayed higher profits over all four seasons in all age groups.



Recommendations

Based on the points above, we recommend investment in the Yellow Cab company.





Thank You

