G2M Case Study

Virtual Internship

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Background –G2M (cab industry) case study

- XYZ is a private equity firm in US. Due to remarkable growth in the Cab Industry in last few years and multiple key players in the market, it is planning for an investment in Cab industry.

- Objective : Provide actionable insights to help XYZ firm in identifying the right company for making investment.

The analysis has been divided into four parts:

- Data Understanding

- Forecasting profit and number of rides for each cab type

- Finding the most profitable Cab company

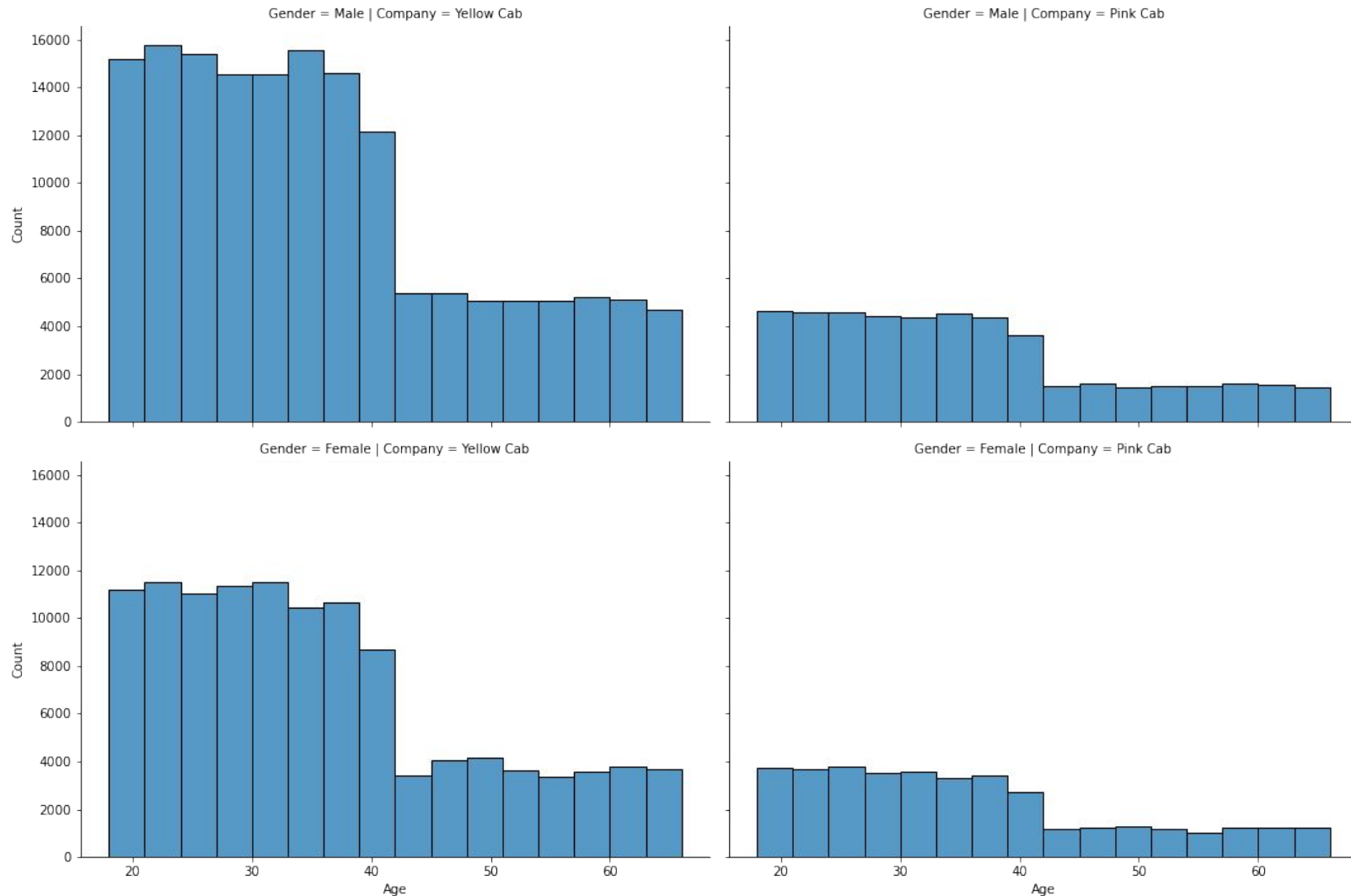- Recommendations for investment

Data Exploration

- 16 Features(including 3 derived features)
- Timeframe of the data: 01-02-2016 to 12-31-2018
- Total data points :359352

Assumptions:

- Profit of rides are calculated keeping other factors constant and only Price_Charged and Cost_of_Trip features used to calculate profit.

- Users feature of city dataset is treated as number of cab users in the city. we have assumed that this can be other cab users as wel l(including Yellow and Pink cab)

- There are no fixed costs in either company. Costs are only variable.

Cab_Data.csv   Customer_ID.csv   Transaction_ID.csv   City.csv   USholiday.csv

Final cab data
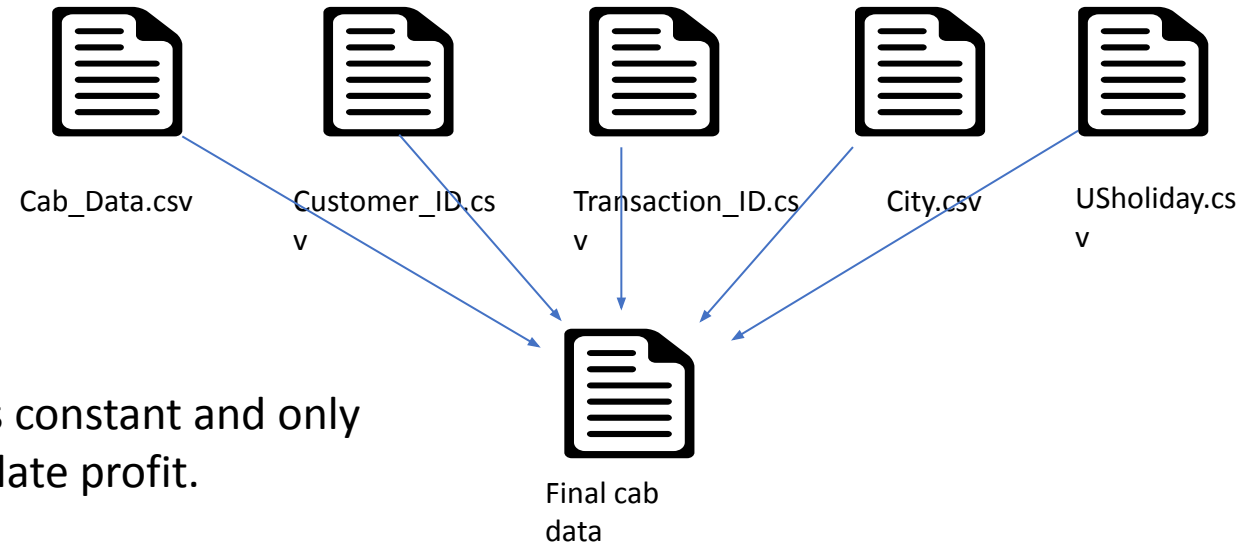
Customers Analysis

From this plot we can infer that the Age and Gender distribution for both Companies is comparable. For both companies, the majority of their users are between 18 and 40 years old, most of them men. The difference in gender is best observed in the Yellow Cab company.
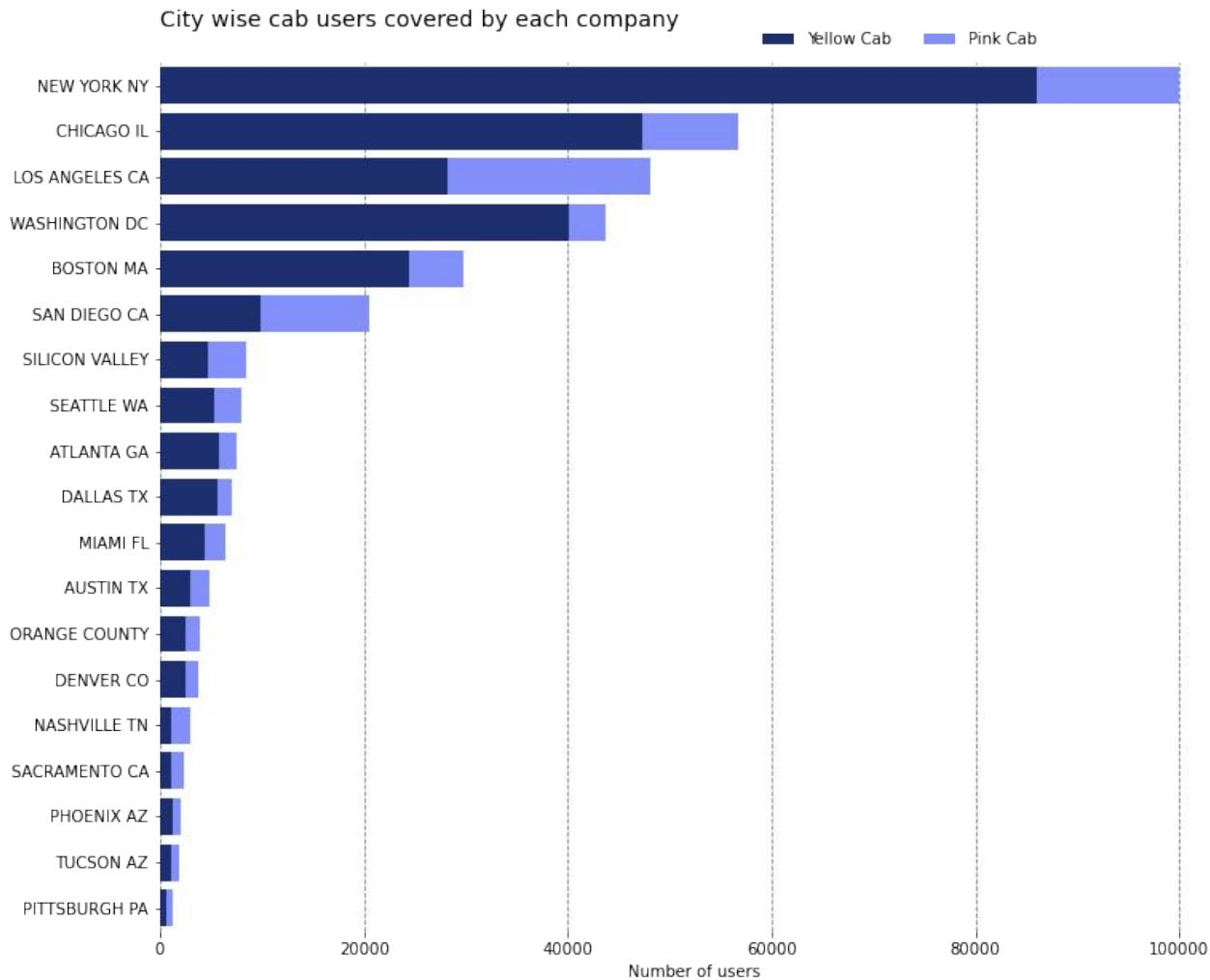
Customers Analysis

Number of users by their gender

For both companies the majority of their users are men.

Number of users by their payment mode
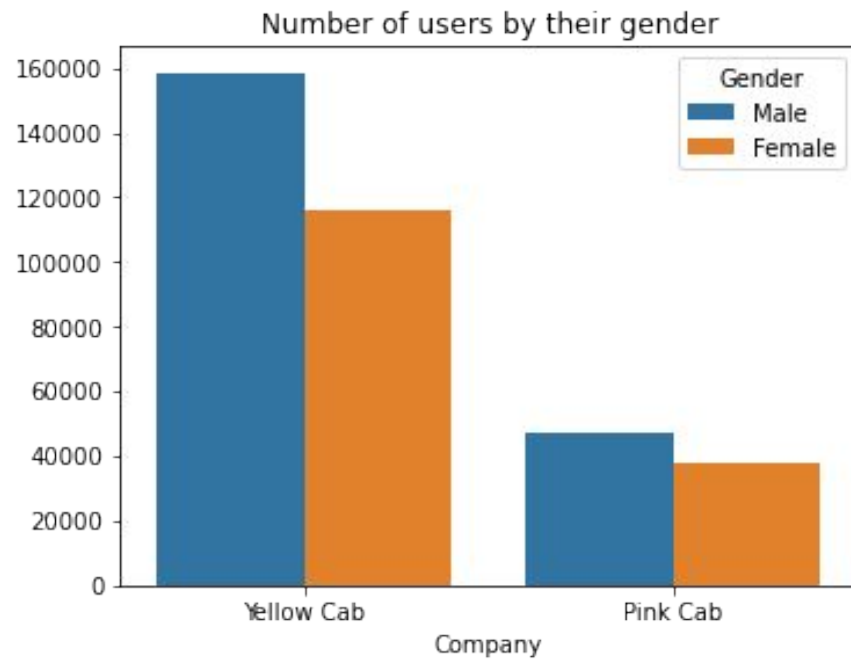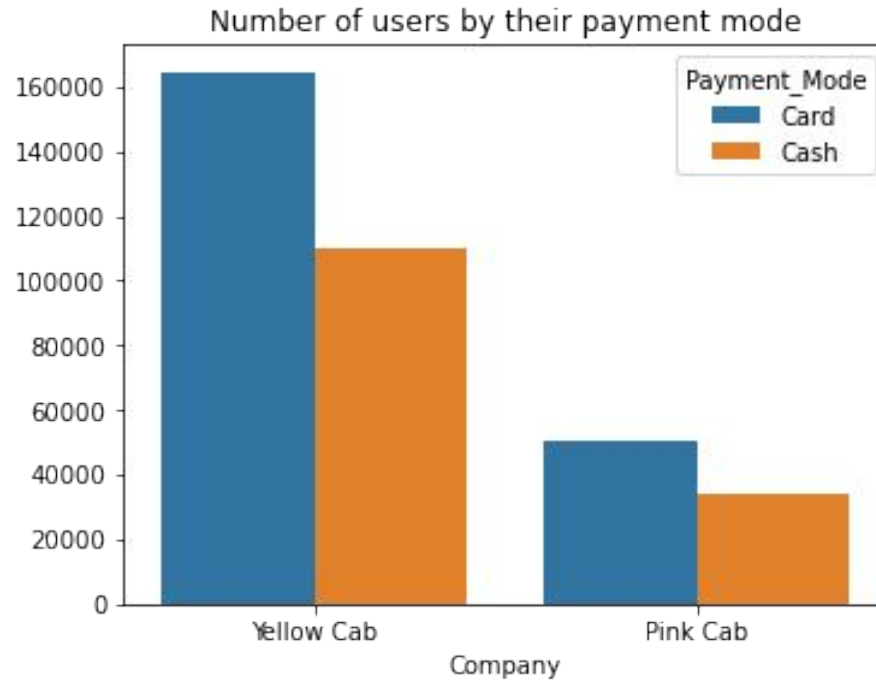
For both companies the payment mode most used is card.k

Customer Presence

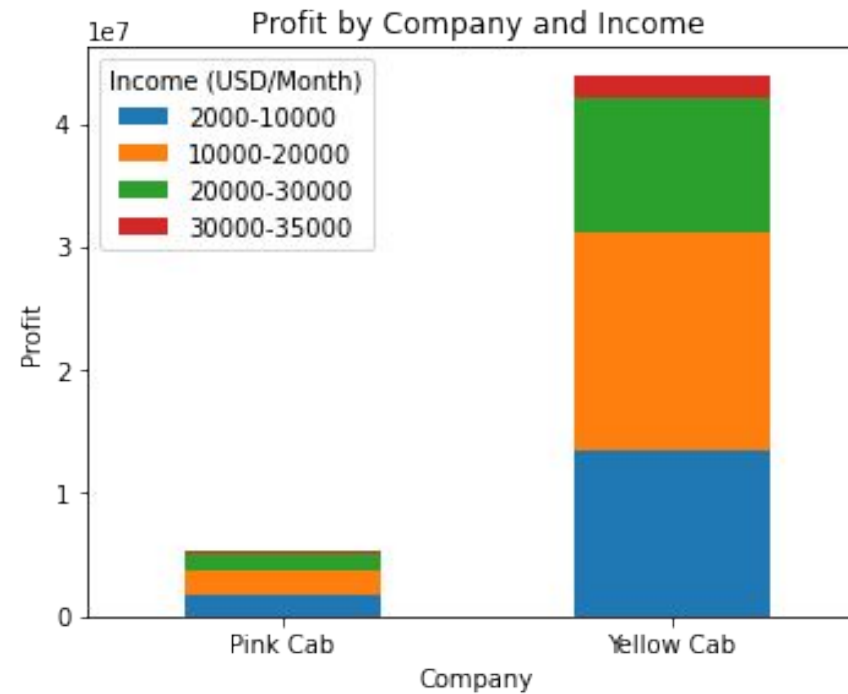
City wise cab users covered by each company

The Yellow cab company dominates the market over the Pink cab company. Only in Los Angeles a comparable amount of users is found between both companies.
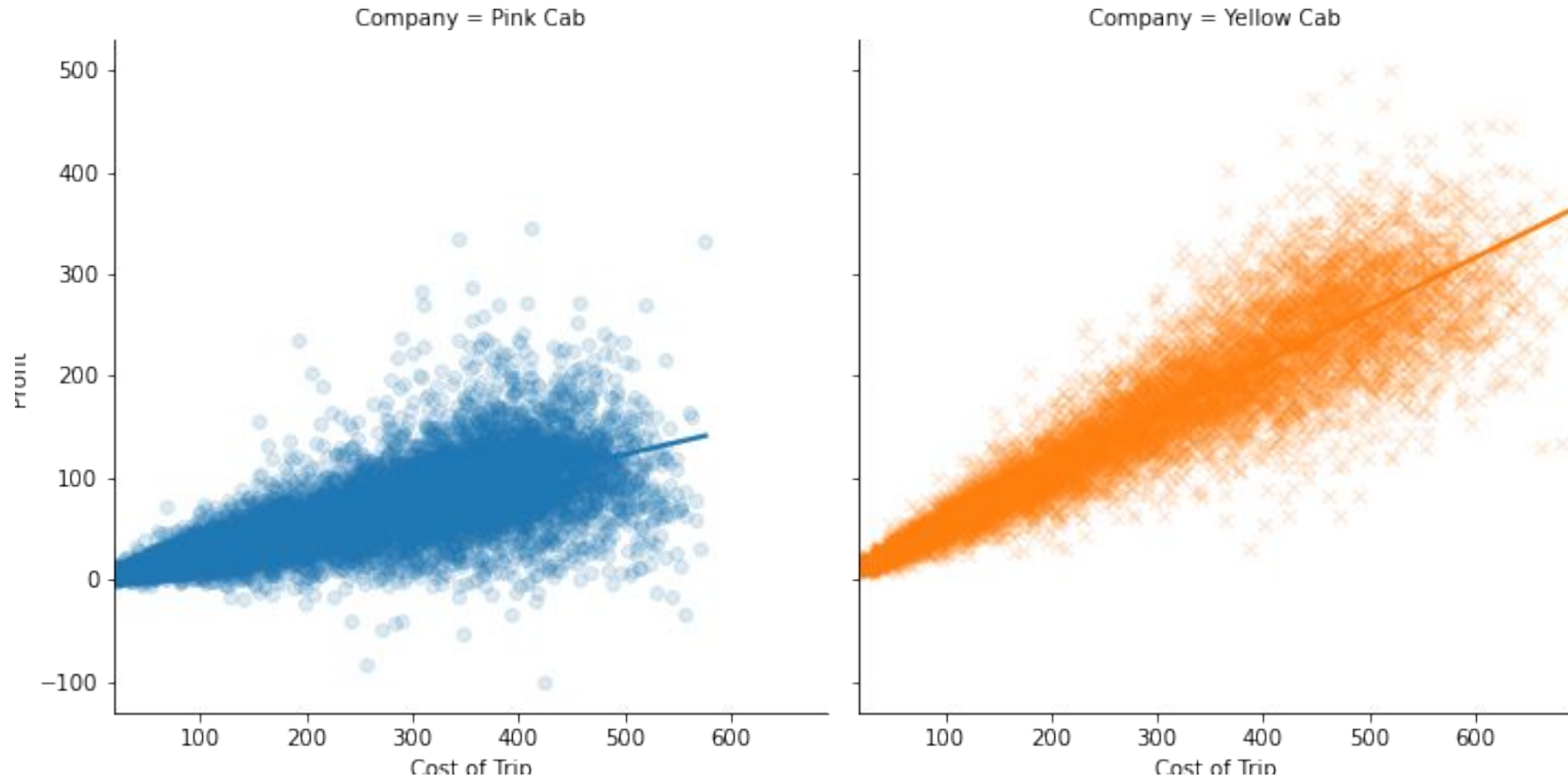
Profit Analysis
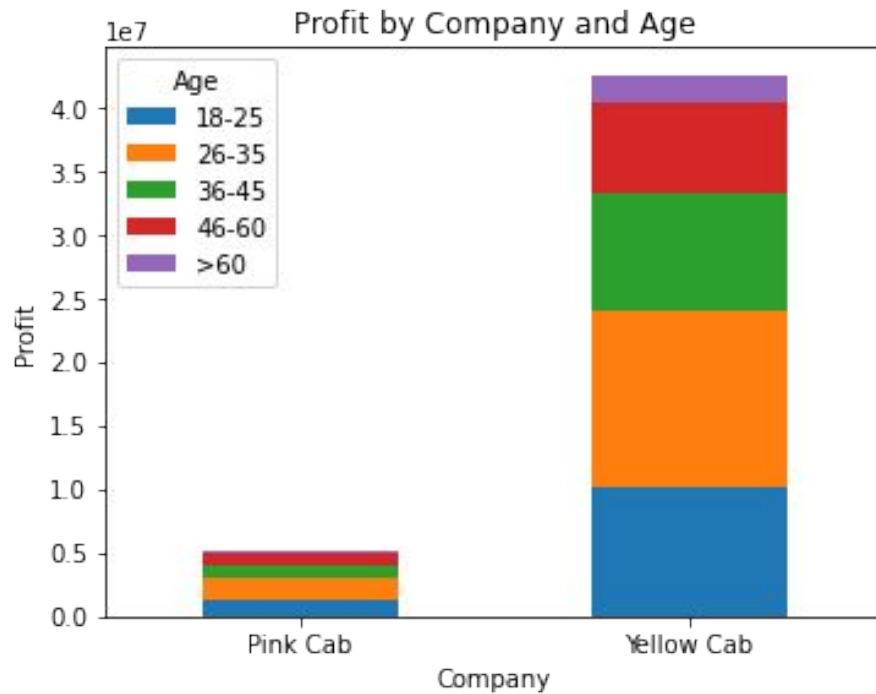
Young users and young adults contribute strongly to the profitability of both companies.

Middle and upper-middle class users contribute strongly to the profit of both companies.

Profit vs Cost Analysis

It is clear that Yellow cab perfome better than Pink cab. Yellow cab has higher profitability than Pink cab. Yellow cab can
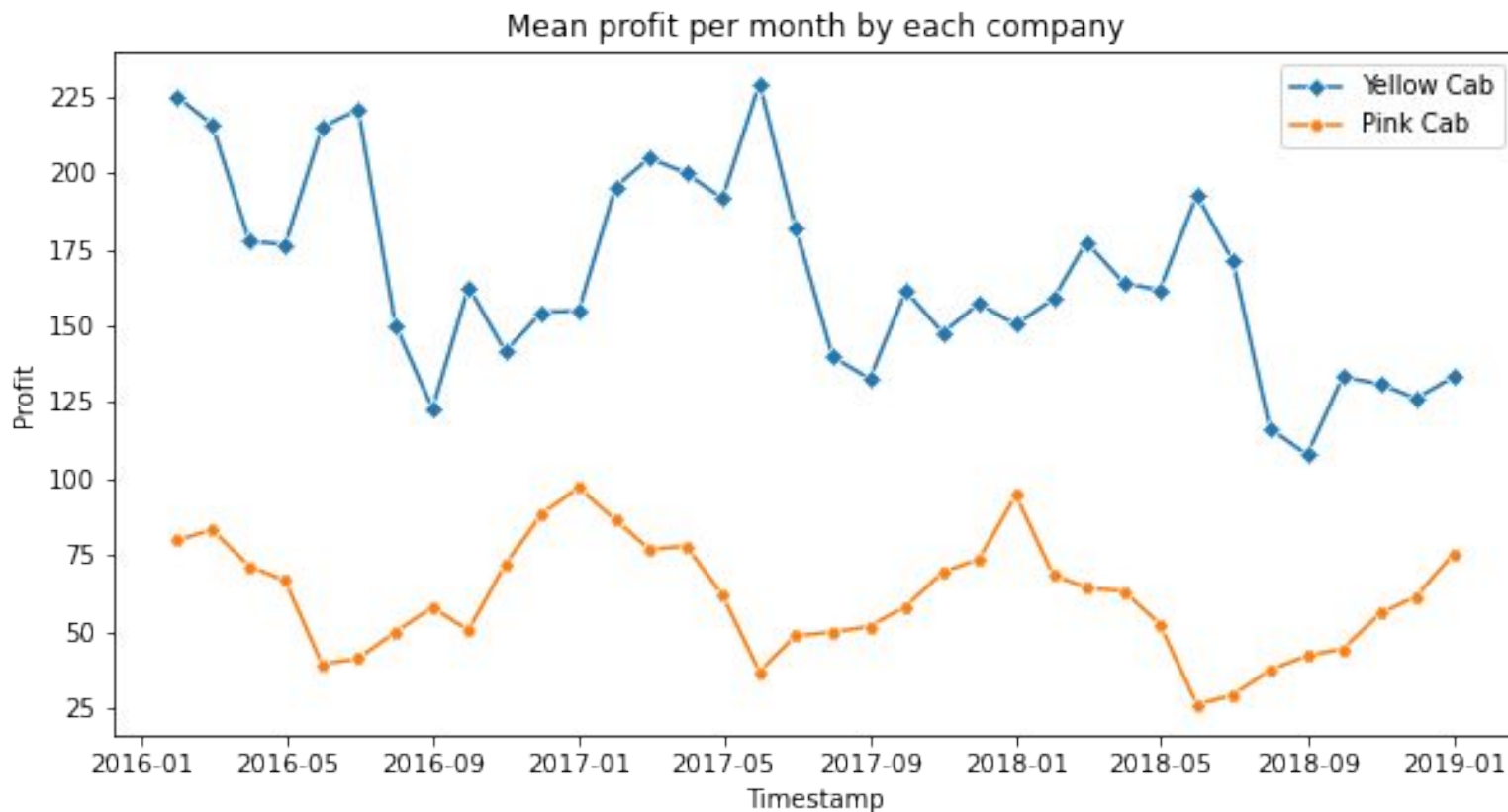
Profit Analysis

Mean profit per year by each company
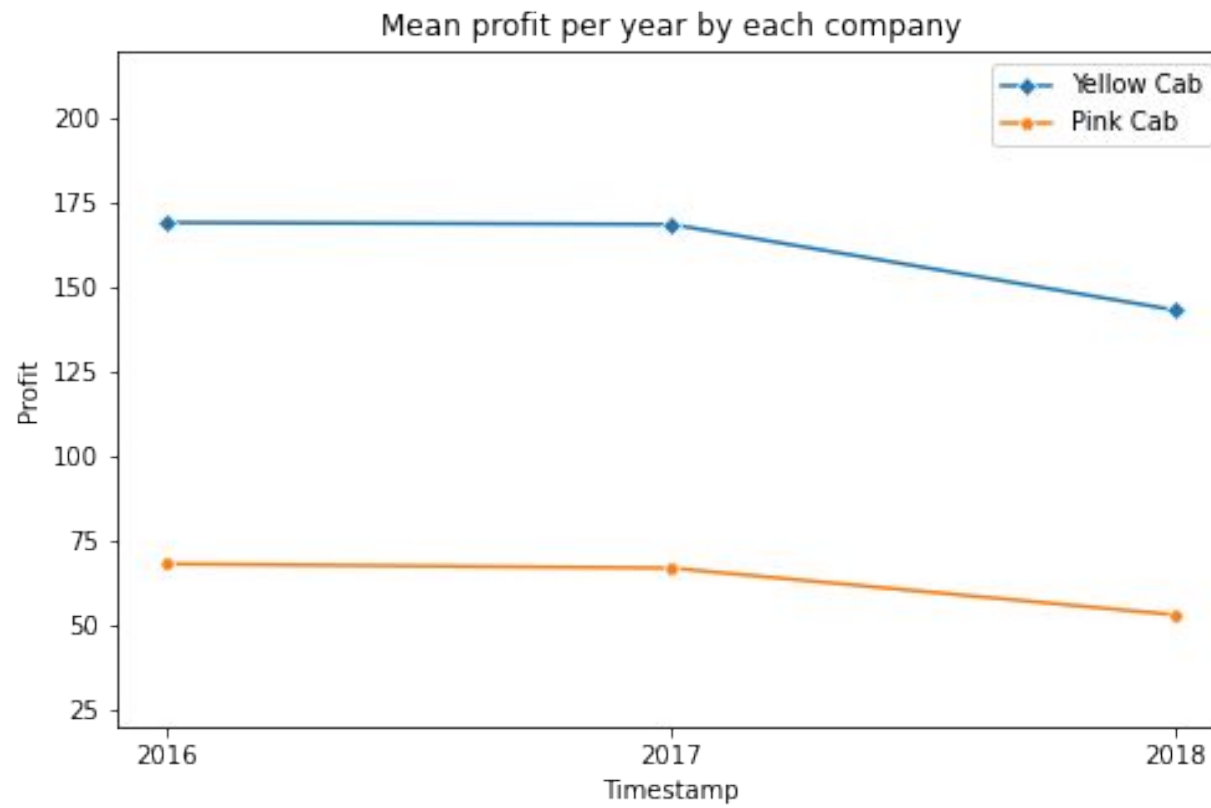
An analysis of the annual profit for each company shows a downward trend. This trend is much more marked for the Yellow Cab company.

The downward trend is consistent with a loss observed for both companies in 2017-2018.

Profit Analysis

Mean profit per month by each company

A clear seasonality is observed. The presence of of variations that occur monthly can be observed for both companies. In the case of the Yellow Cab company, a higher gain is observed around the month of May for each year. While their lowest profit is around the month of September. On the other hand, in the case of the Pink Cab company, a higher profit is observed around the month of January for each year. While their lowest profit is around the month of May.
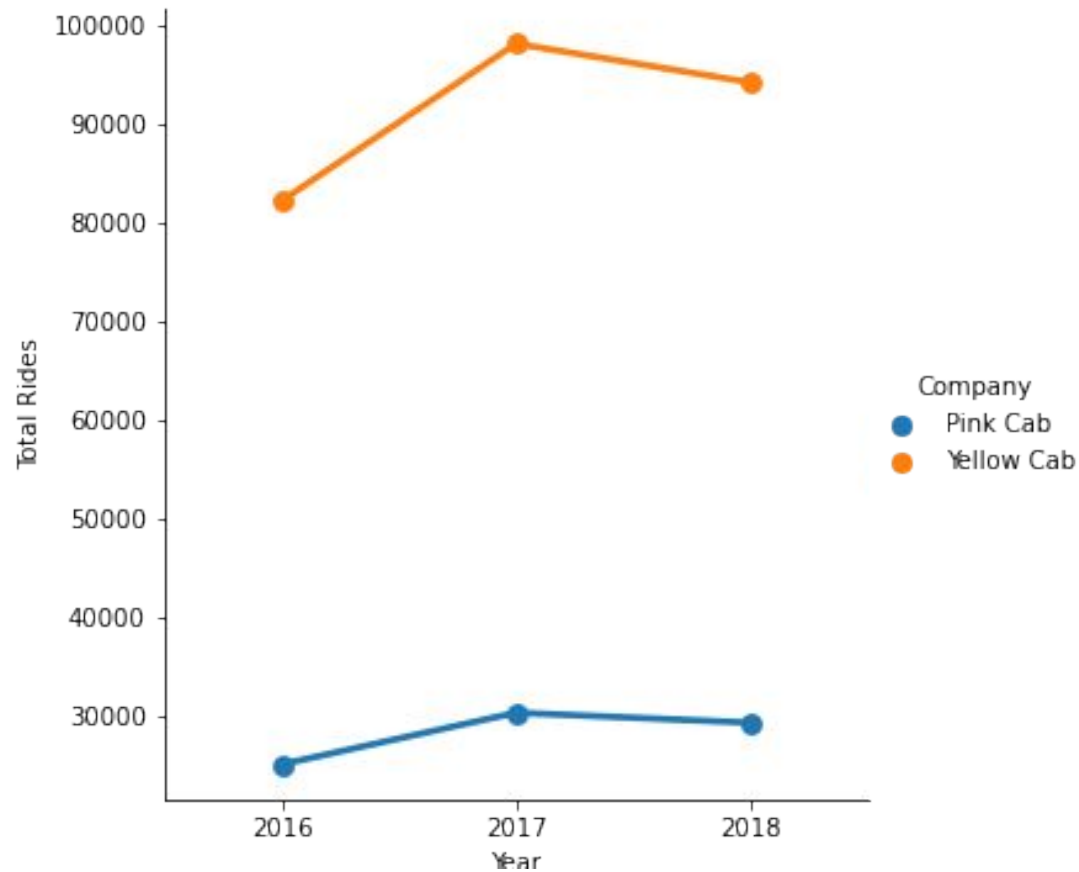
Yellow cab profit: Seasonal decompose
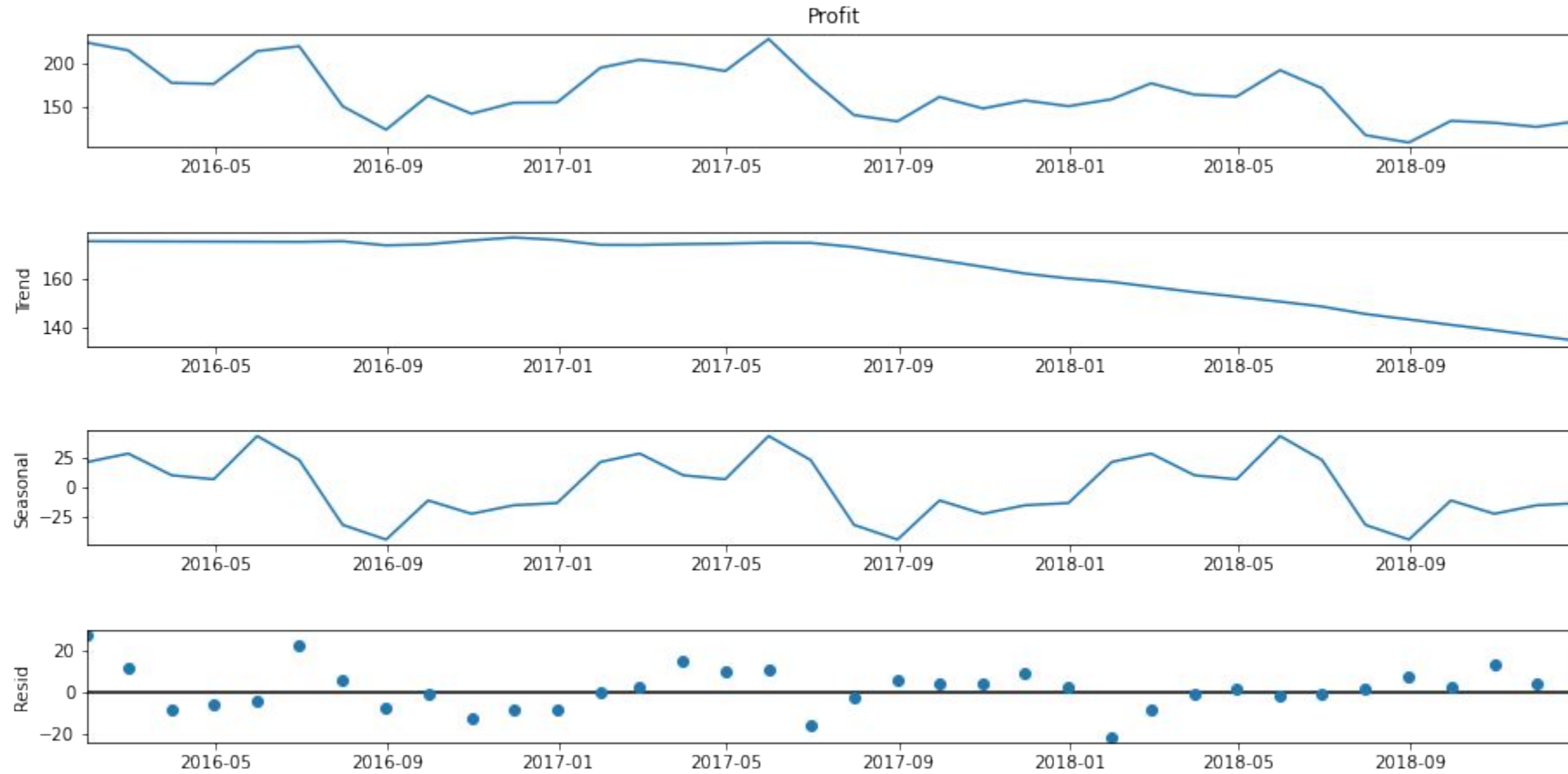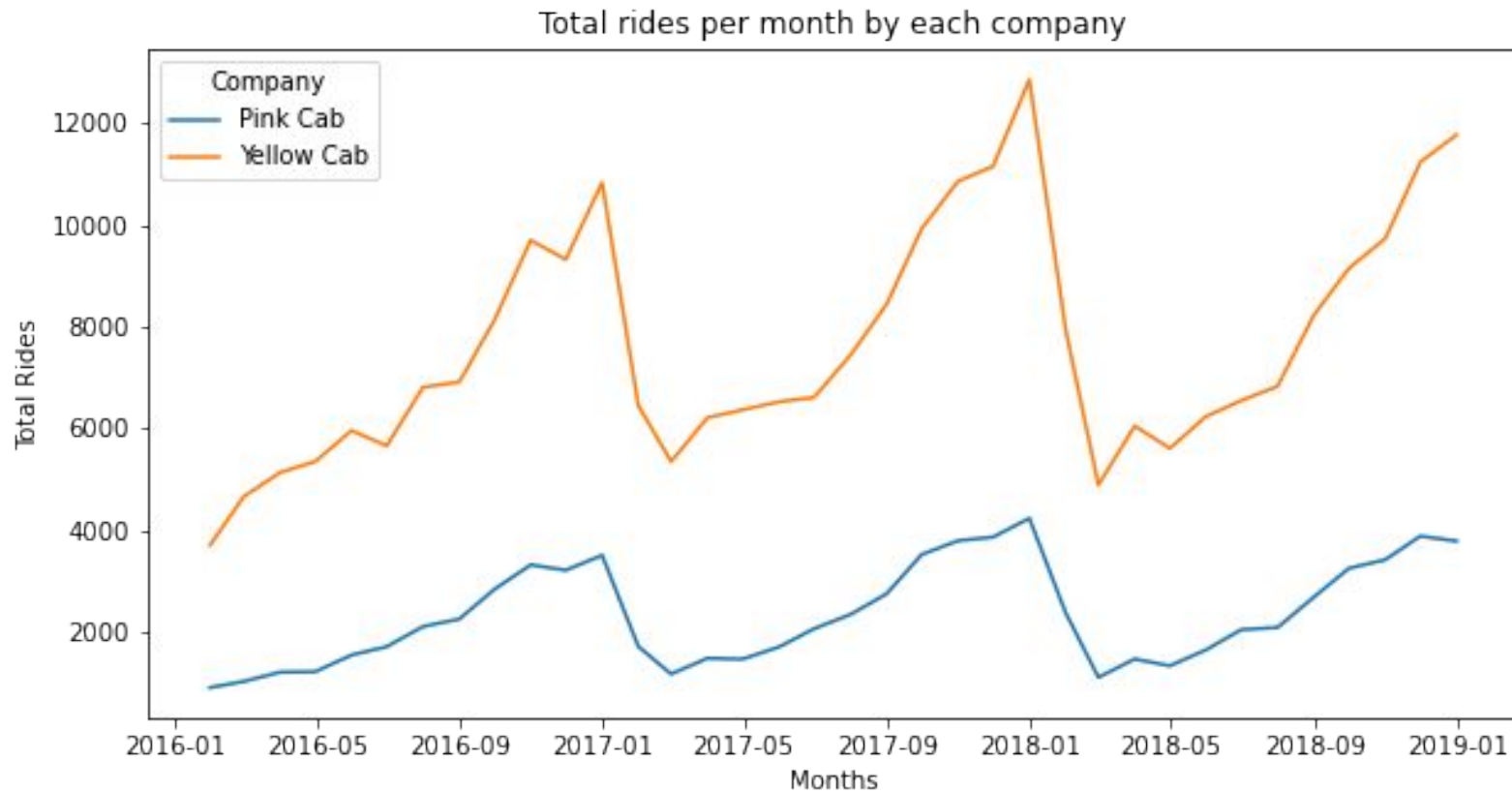
# Pink cab profit: Seasonal decompose
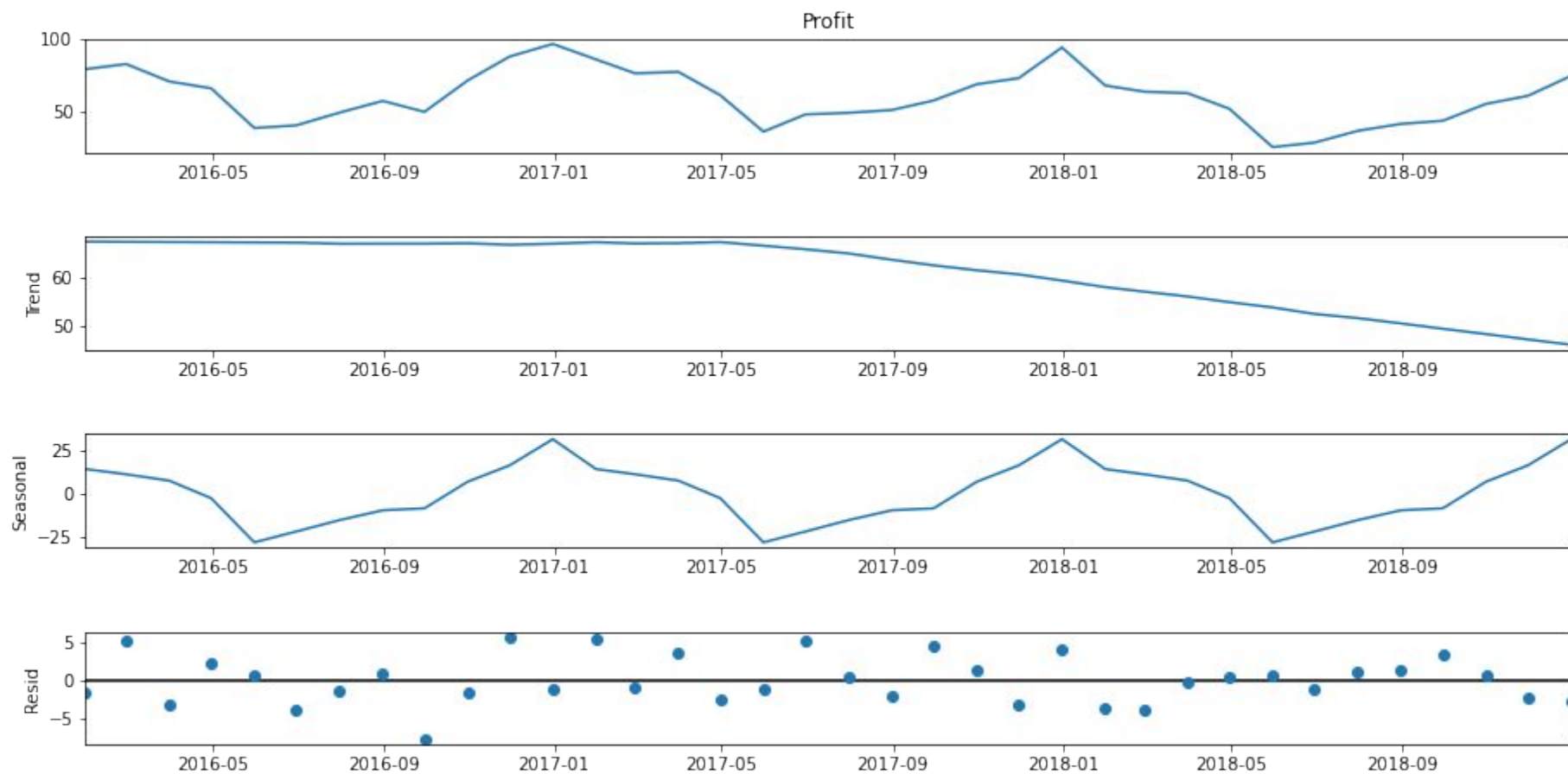
Rides Analysis

The Yellow Cab company has a higher number of trips than Pink Cab. In addition, there is a downward trend in the number of trips in both companies.
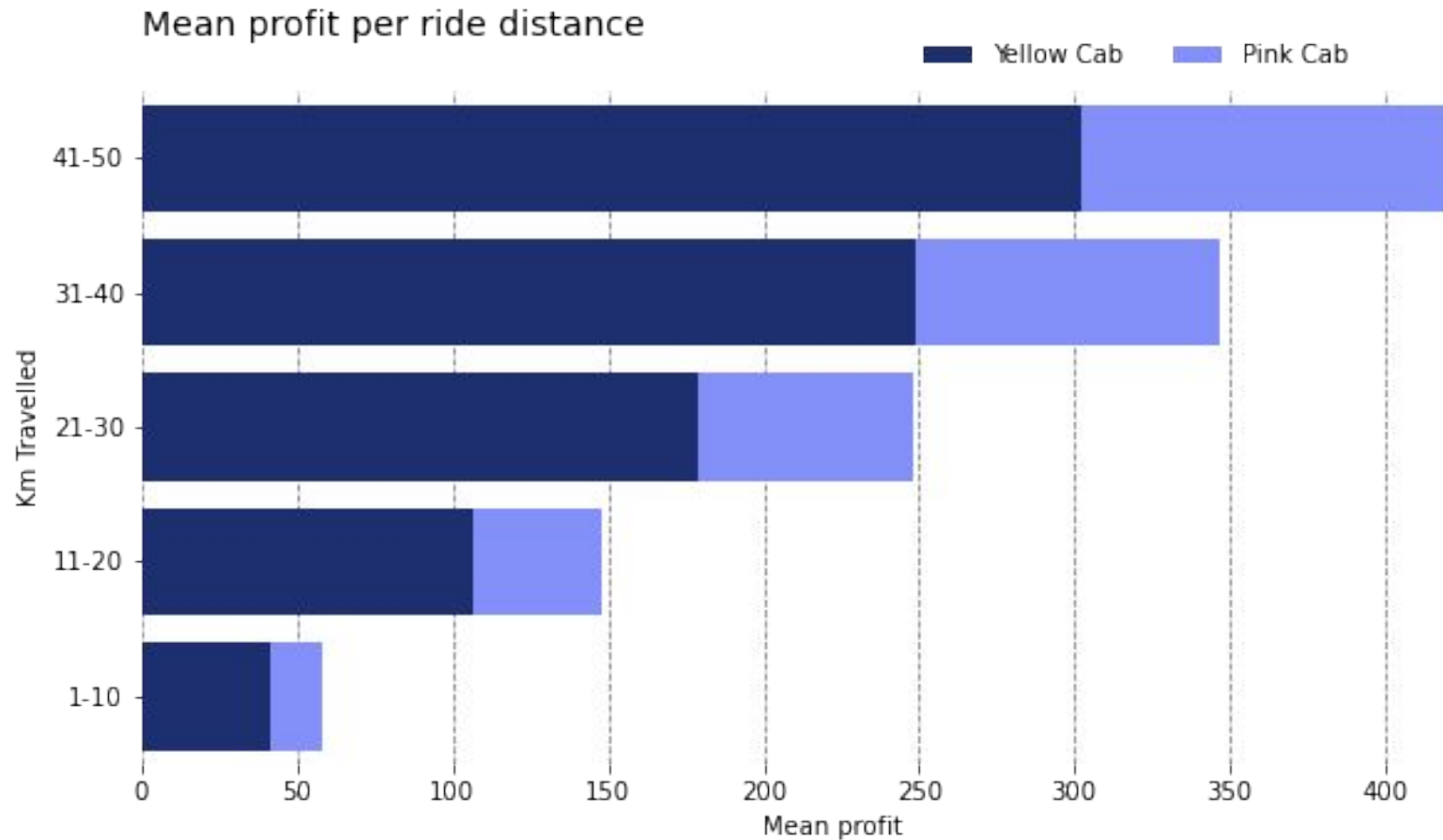
Rides Analysis

On a monthly analysis, the highest number of trips for both companies was recorded around the month of January of each year.

Rides Analysis

Customer analysis per ride distance
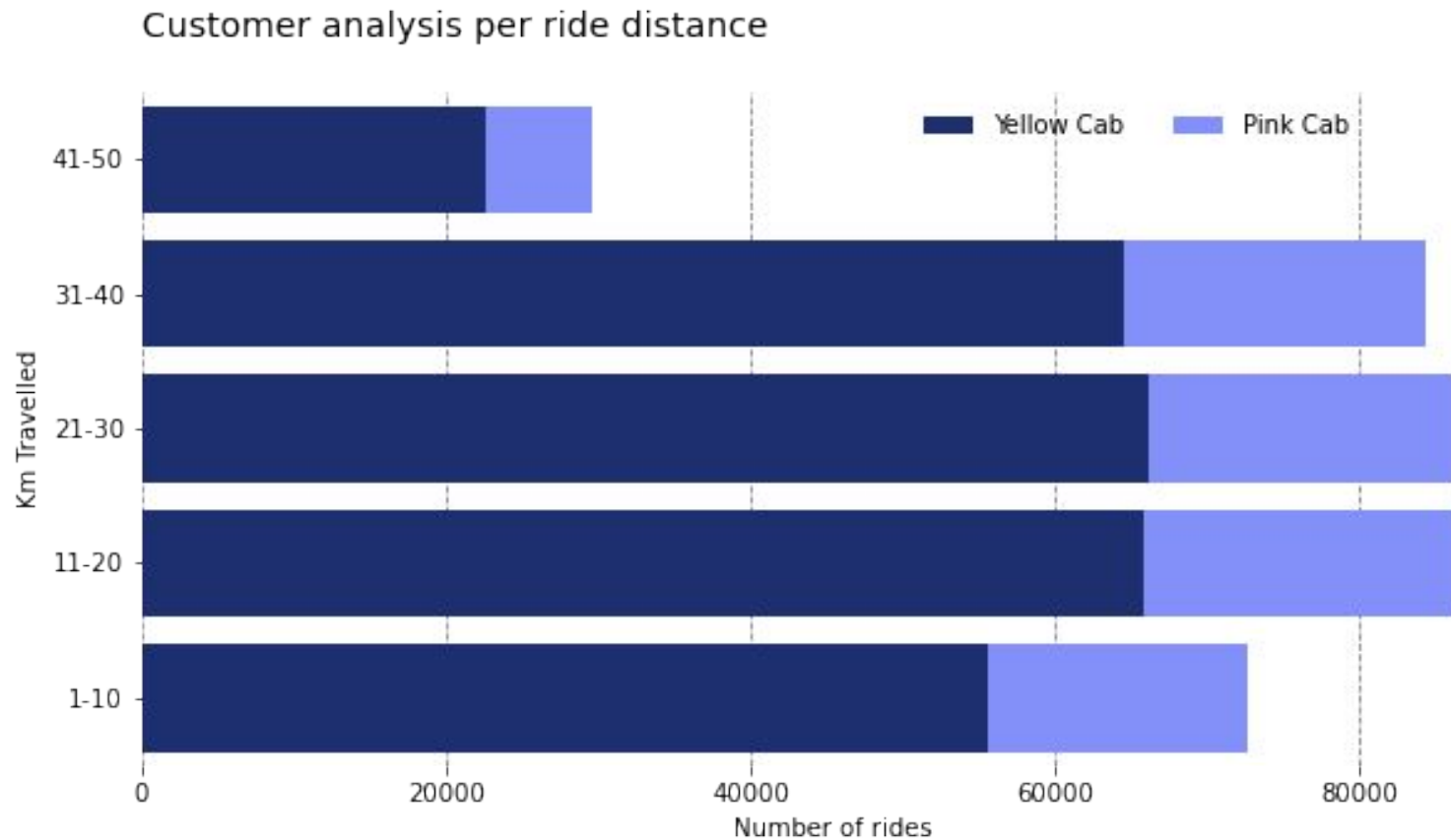
There is a clear predominance of medium-distance travel dominated by Yellow Cab

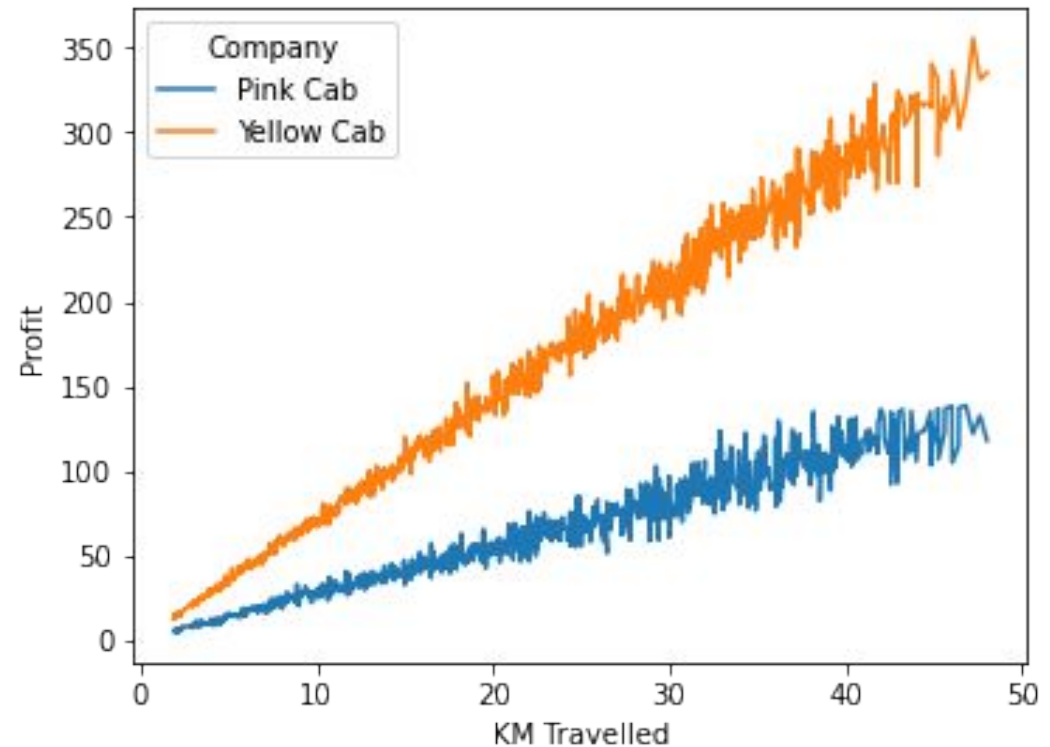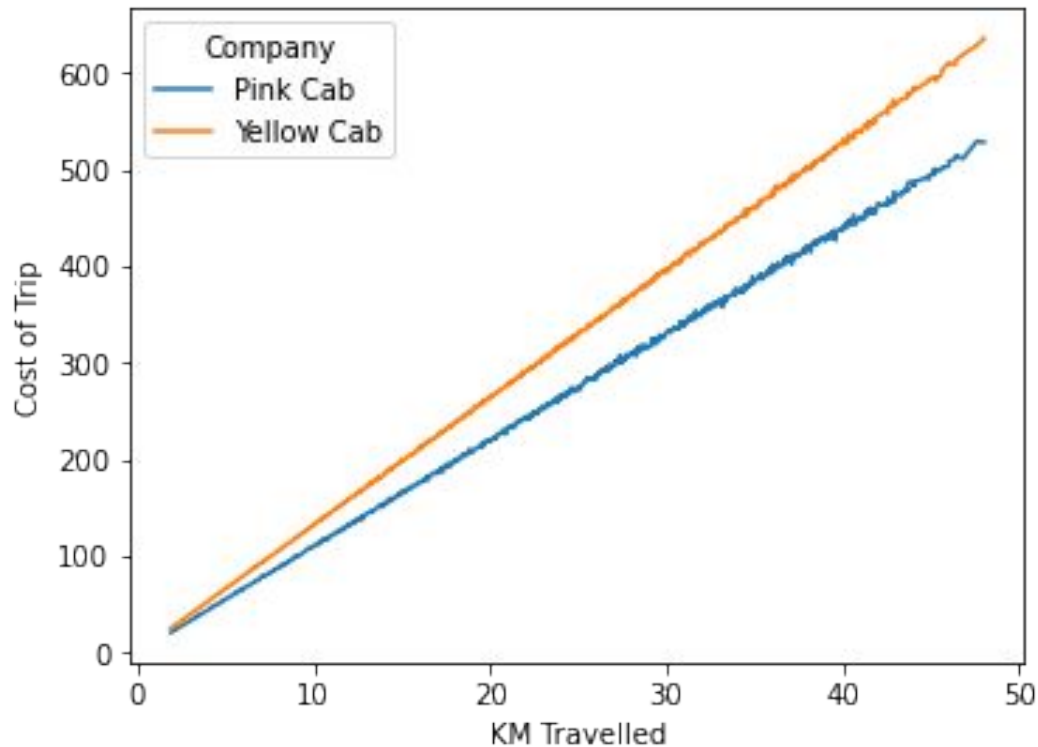# Rides Analysis

Mean profit per ride distance

Yellow Cab   Pink Cab

The majority of Yellow Cab's revenue comes from medium and long distance travel. Since this company has a large number of medium distance trips, it follows that it outperforms Pink Cab.

It is observed that the longer the distance traveled, the greater the profit for both cab companies.

Rides Analysis

Yellow cab cost of trip is slightly greater than cost of trip of Pink cab company.
Yellow cab profit per KM is greater than the profit per KM of the Pink cab.

Customers preference on holidays

Customer preference on holidays
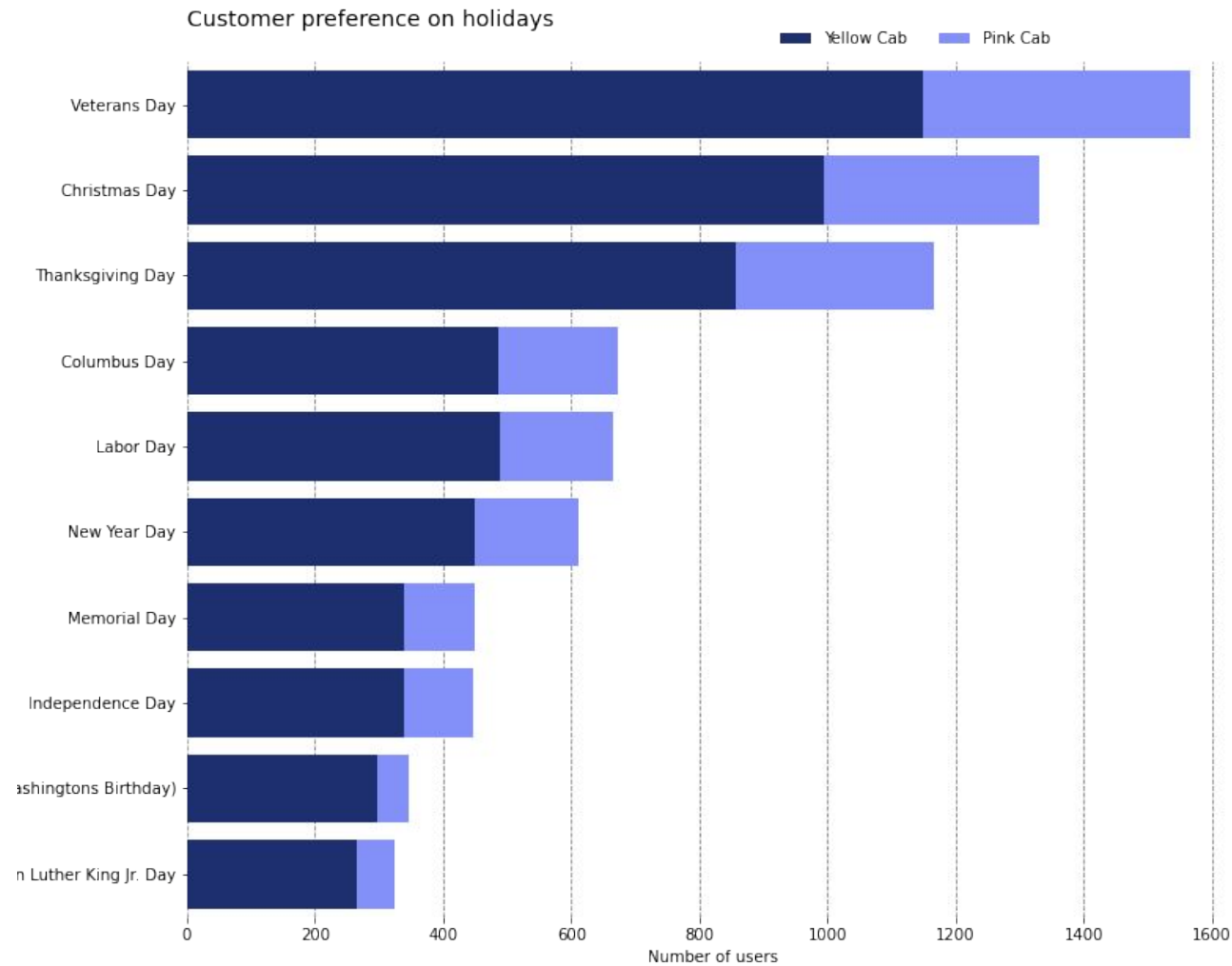
Yellow cab overperform Pink cab even on holidays

Customers prefer Yellow cab over Pink cab company

Recommendations

We have evaluated both the cab companies on following points and found Yellow cab better than Pink cab:

- **Customer Reach :** Yellow cab has higher customer reach in 25 cities while Pink cab has higher customer reach in 4 cities. We have also observed that Yellow cab is doing good in covering other cab users as compared to Pink cab.

- **Age wise Reach :** Yellow cab has customer in all age group and it's been observed that it's even popular in 60+ age group as equally as its in 18-25 age group.

- **Profit per Cost of Trip:** Yellow cab has higher profitability than Pink cab company. For the same cost of trip Yellow cab has greater profit. Yellow cab can recover its costs much faster than Pink cab.

- **Average Profit per KM:** Yellow cab profit per KM is greater than the profit per KM of the Pink cab.

- **Income wise Reach :**Both the cabs are very popular in high and medium income class but here also Yellow cab is performing better than Pink cab in offering their services to all the three income class group (low, medium and high)

- **Customer preference :** Overall, Yellow cab have more customers than Pink cab. This is even observed on holidays.

On the basis of above point , we will recommend Yellow cab for investment.

Thank You

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