Data Glacier

Your Deep Learning Partner

Exploratory Data Analysis

G2M insight for Cab Investment Firm

26-June-2021

Agenda

Problem Statement

Approach

EDA & Summary

Recommendations

Problem Statement

- XYZ is a private 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.

- XYZ is interested in using the actionable insights to help them identify the right company to make their investment from the multiple data sets that contains information on 2 cab companies.

Approach

EDA has been done using several steps:

- Examine the Datasets to find the best possible dataframe.

- Visualizing different insights to find out which company is better to invest.

- Forecasting the profits to make a prediction.

- Recommendations.

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Data Exploration

- There were four datasets: Cab_Data, City, Customer_ID, Transacition_ID.

- All files were in CSV format.

- Time Period: 31.01.2016 – 29-01-2019. Because of the analysis requirement the data of 2019 were cut off.

- Total Features: 21 (Including 7 derived features).

- Total Rows: 344953.

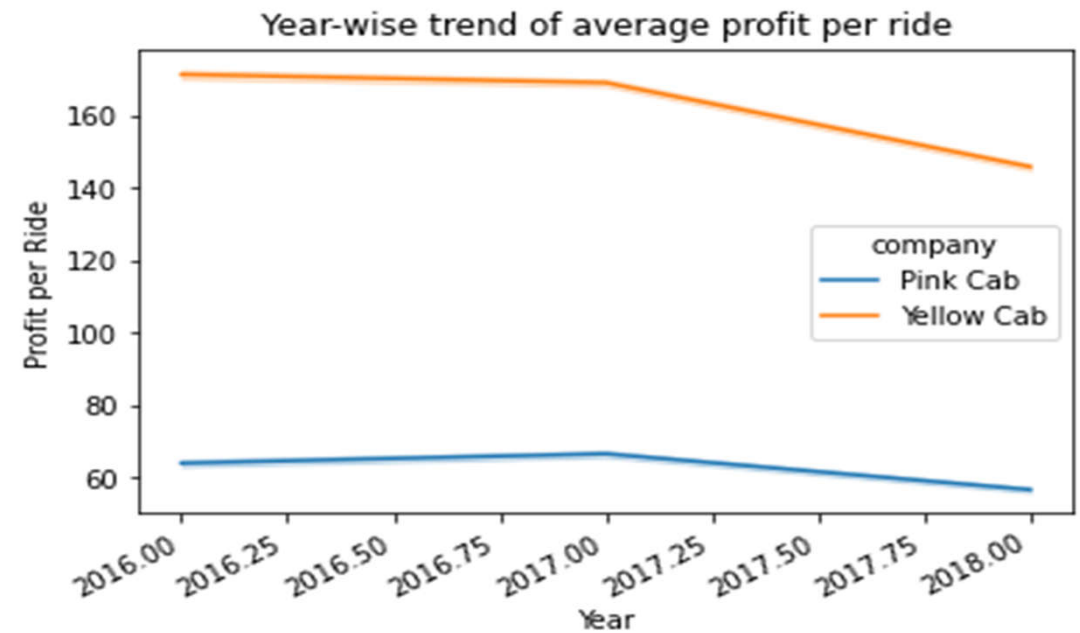# Profit Percentage

Total Profit Share
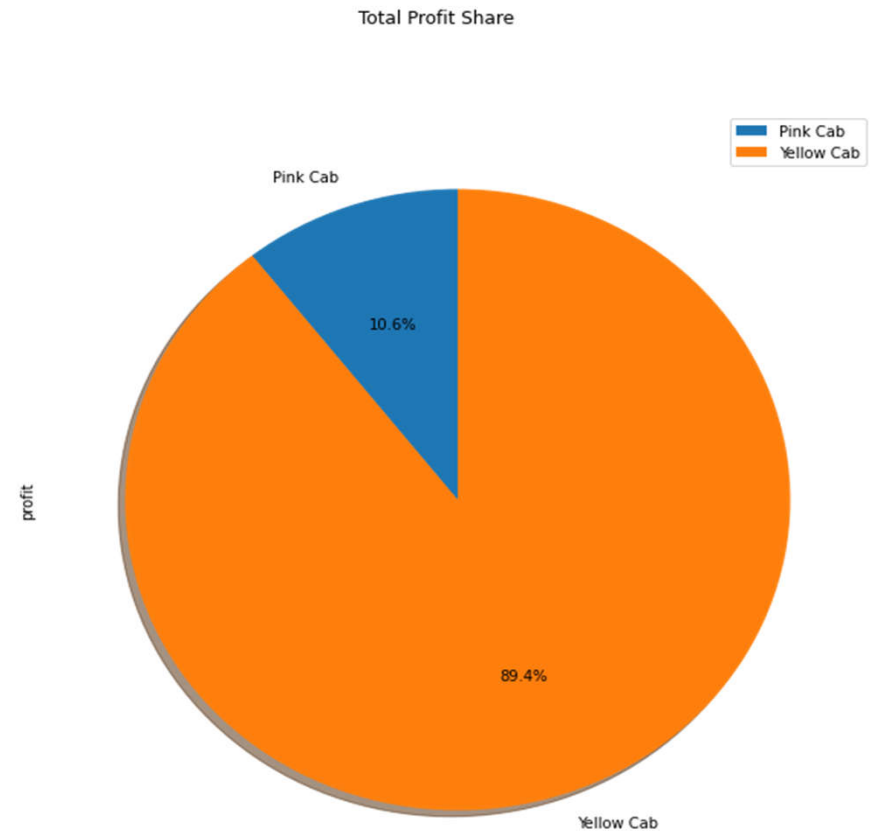
Clearly, Yellow Cab has the better Profit Percentage.

Number of Rides & Average Profit
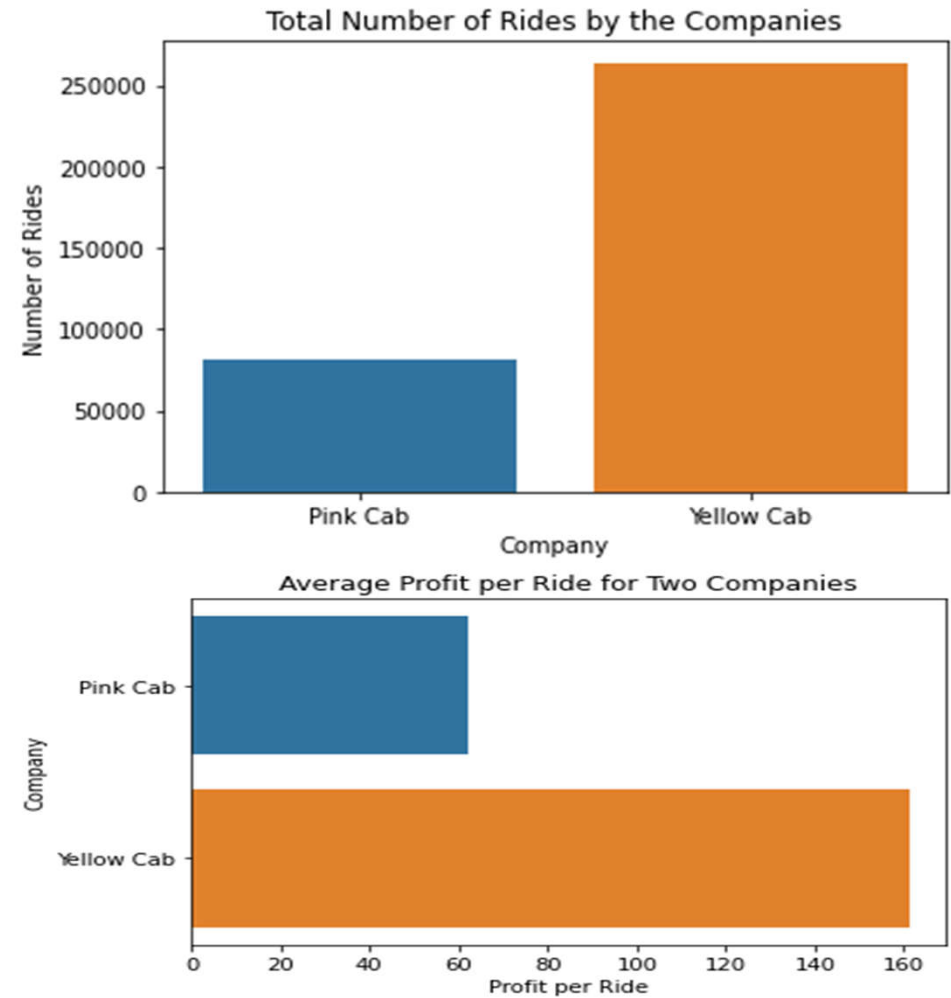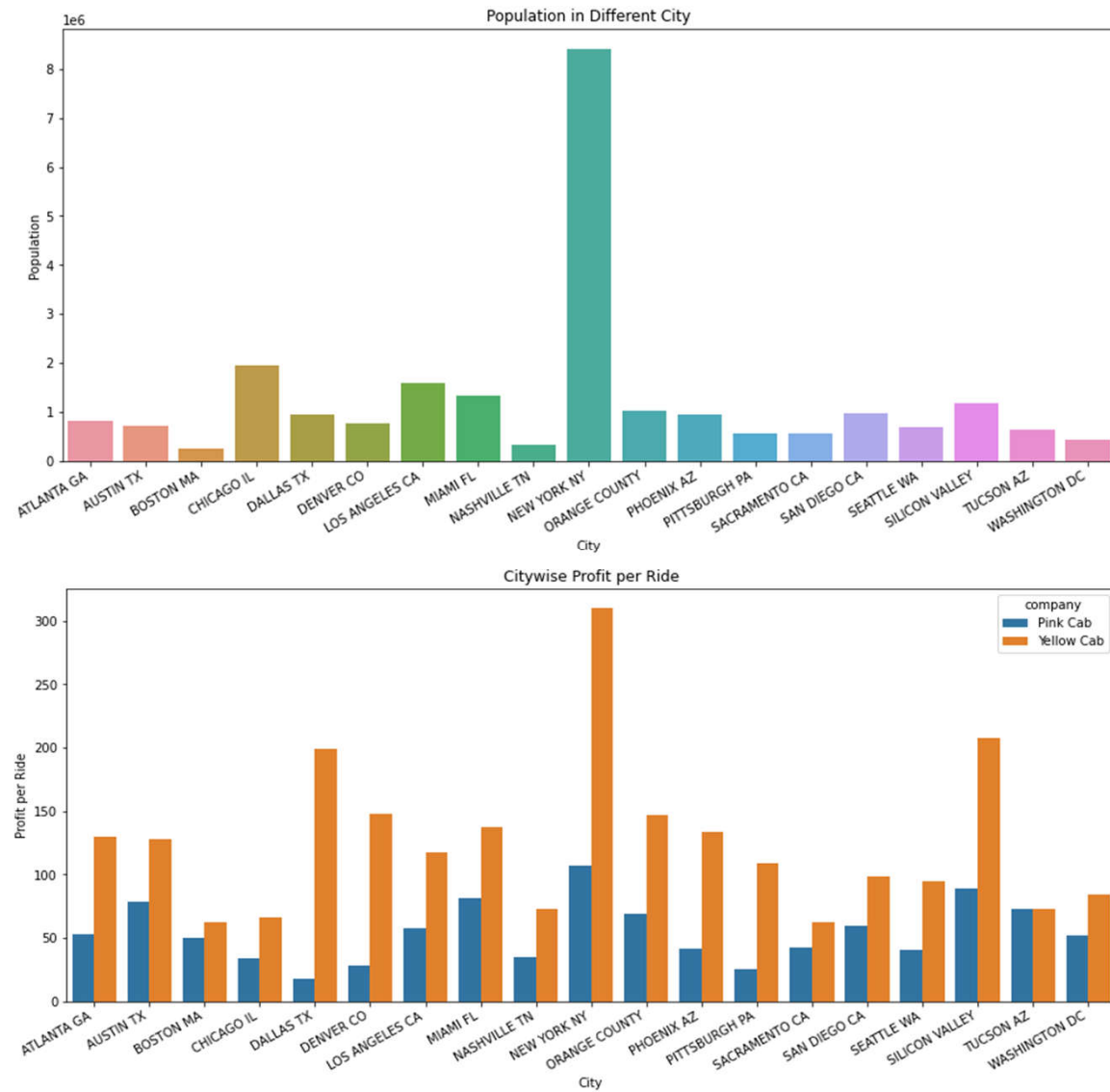

Yellow Cab is the superior company in terms of the rides and average profits.

Yearly Average Profit Trends

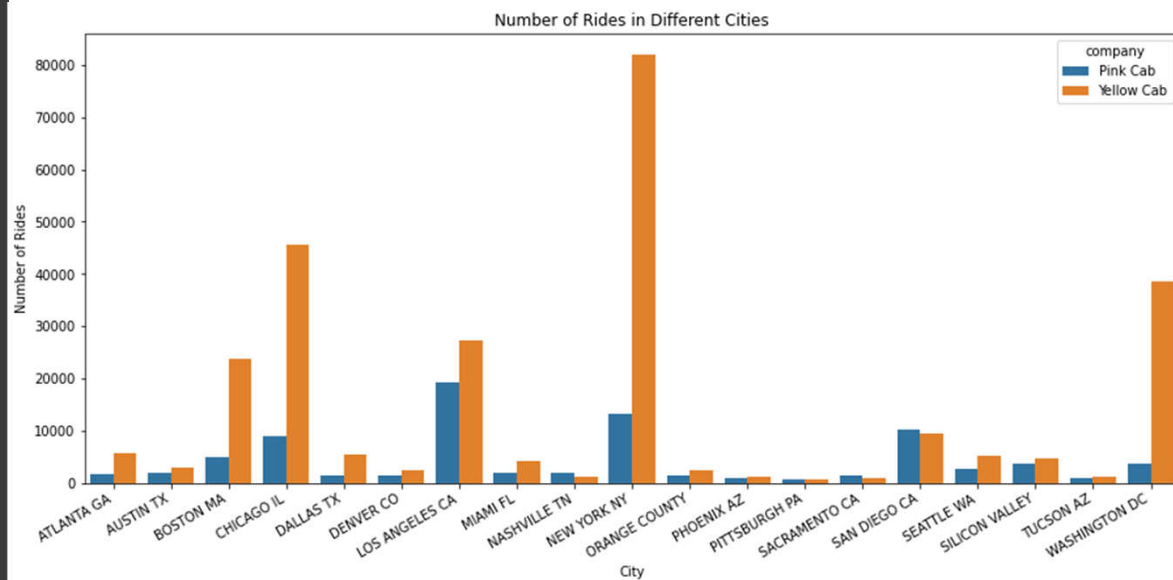Year-wise trend of average profit per ride

Yellow Cab has the high profit trend though the years.
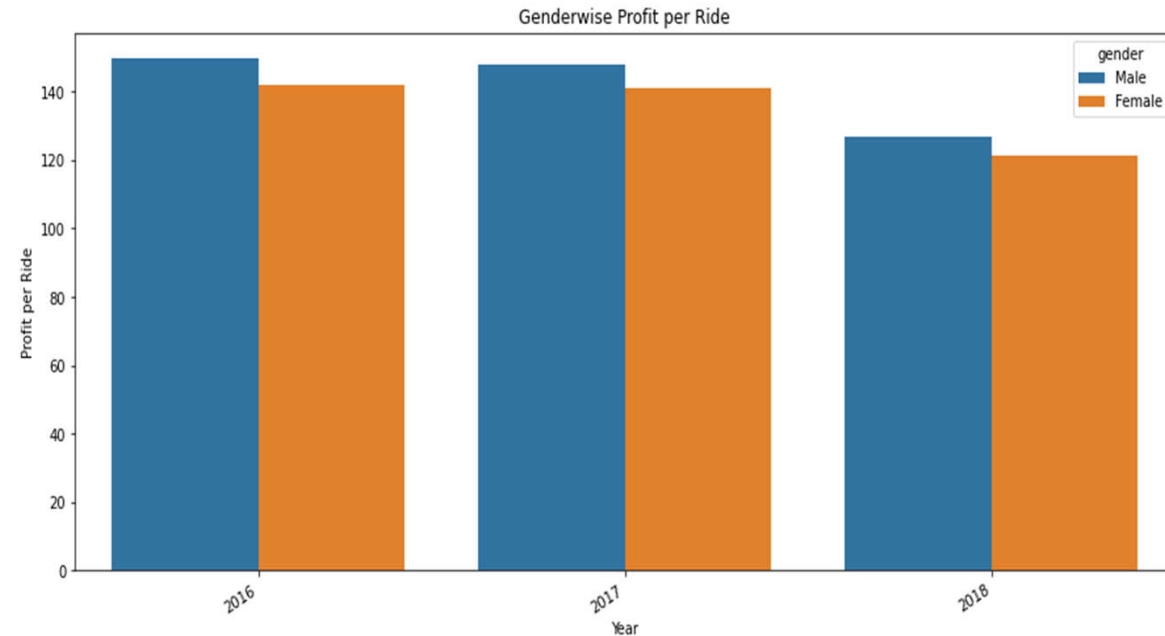
City-wise Average Profit

# City-wise Number of Rides

Although Yellow Cab has better income in all the city, the Pink Cab rides are superior in some of the lightly populated cities.

# Gender Effect on Profits

Genderwise Profit per Ride

The ratio of the male and female customer is almost same. It means both company may have the same male or female person as their customer.

Profit in terms of Gender

Yearly Profit per Ride depending on Gender
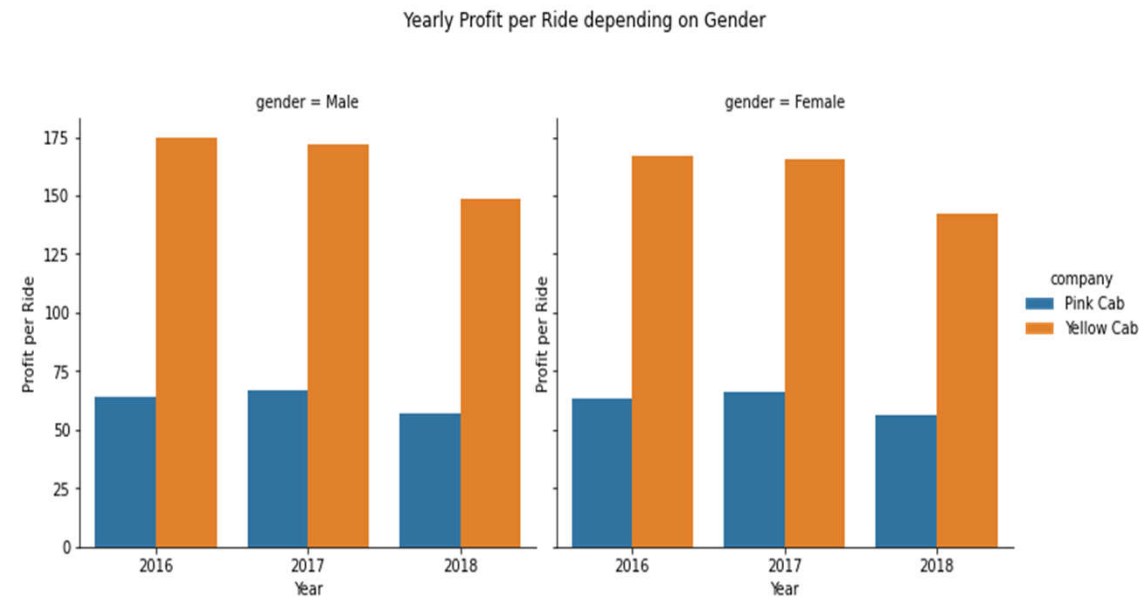
Gender is not creating that much effect on both companies through the years. It means both company may have the same male or female person as their customer.

Age Effect on the Profit

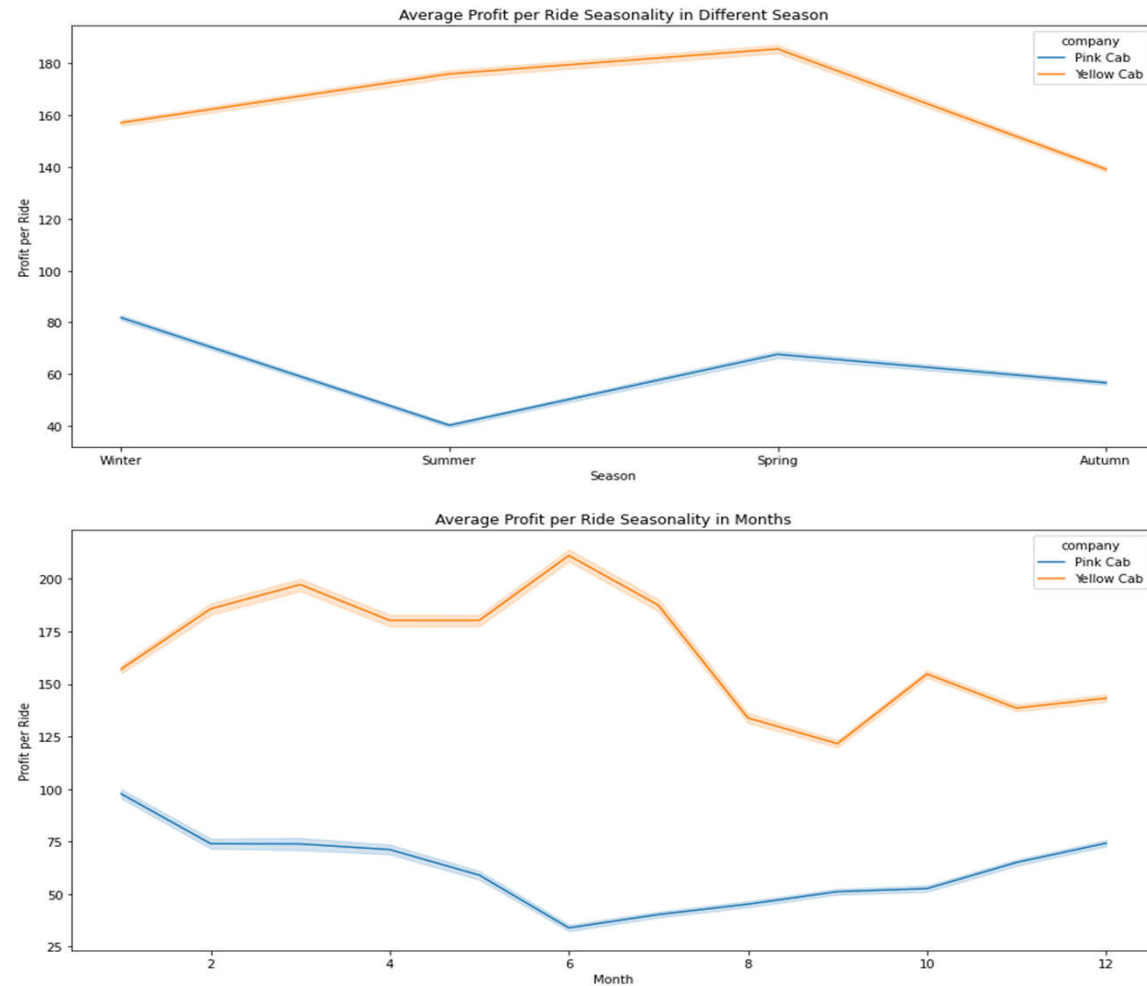Yearly Total Profit depending on Age Group
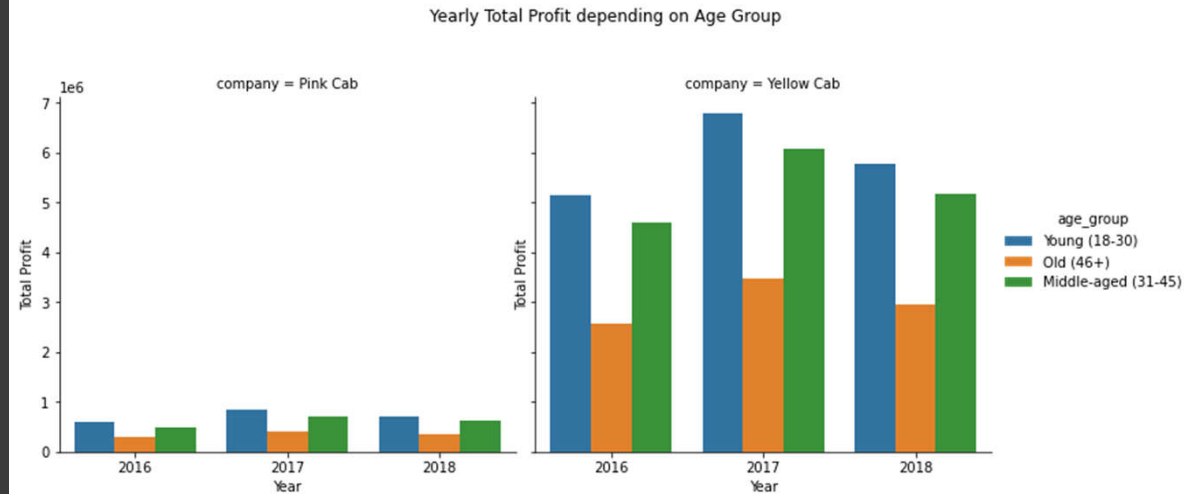
Young and Middle aged persons are the main customer for Yellow Cabs.

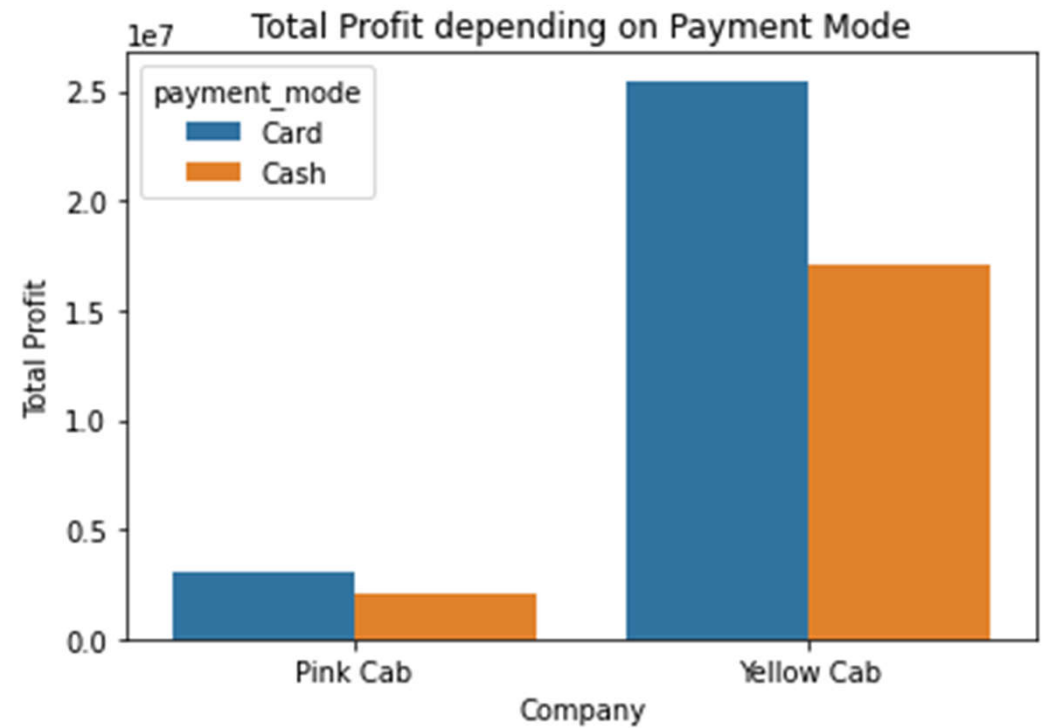# Seasonality Effect on the Profit (Days)
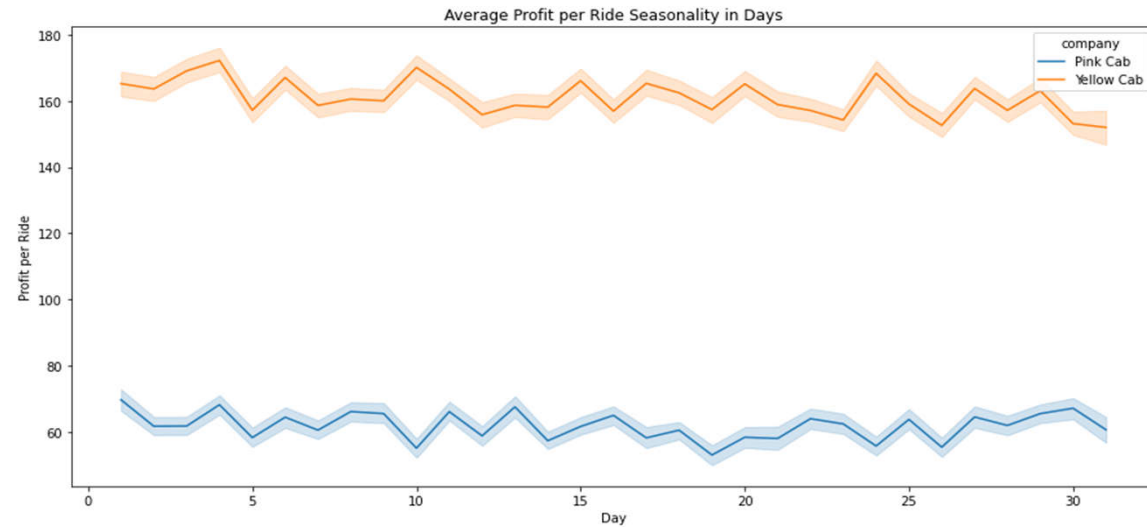
It is fluctuated for both companies. Both companies' profit declines by the end of the month.

Seasonality Effect on the Profit (Months)

Summer is the worst time for Pink Cabs. On the other hand, Yellow cab's profit declines in the August & September.

Payment Mode

Yellow Cab's customers prefers to pay through cash.

Profit Forecasting

Profit Forecasting of Yellow Cab

Profit Forecasting of Pink Cab
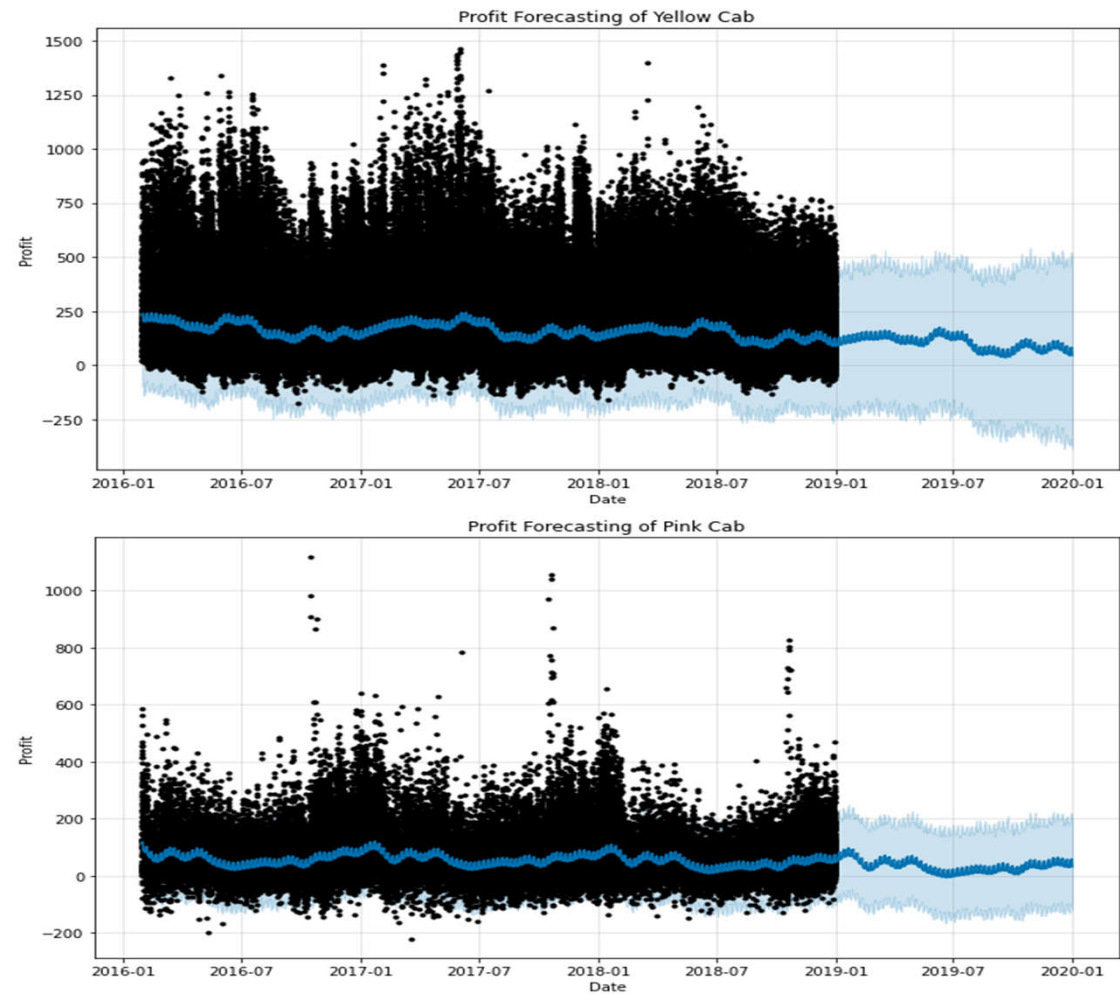
Forecasting the profit for the next 1 year. Although both companies are declining, Yellow Cab company has the better income.

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Recommendations & Insights

- It can clearly be seen that **Yellow Cab has the most profit share**.

- **Yellow Cabs are completing most of the rides**. For this reason, **Yellow cab is the superior in terms of the average profit per ride**.

- **Annual profit of Yellow Cab is much higher** than Pink Cab.

- **Most of the customer of populated cities prefer Yellow Cab**. There are only 4 cities where the number of rides of Pink Cab are higher than Yellow Cab. But it has not effect on the profit.

- **The proportion off different gender is almost same** for both of the companies. So, gender has no effect.

- **Most of the customers of Yellow cab are Young and Middle-aged**. For Pink Cab different age groups do not matter that much.

- Seasonality is present on the data. The profit is fluctuated for both company. But, **Pink Cab does good business by the end of the month**. In terms of different season, **Pink Cab's worst profit time is summer**. **Yellow cab goes downward in autumn**.

- **Most of the customers of Yellow Cab love to pay through card** where both card & cash payments has the same effect for Pink Cab.

- **Regarding the forecasting, it is clear that Yellow Cab will have higher profit than Pink Cab for the next one year**, although the profit trend is slightly downward for both companies.

Based on these points, **it is quite clear that investing on Yellow Cab will be the best decision**.

Thank You