G2M Case Study

Virtual Internship

12-Oct-2022

Agenda – G2M(cab industry) case study

- Data Summary

- Objective

- Problem Statement

- EDA

- Data Analysis

- Recommendation

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 following parts:

- Data Understanding

- Data Visualization

- Profit Analysis and number of rides for each cab type

- Finding the most profitable Cab company

- Recommendations for investment

Data Exploration

- 22 Features(including 8 derived features)
- Timeframe of the data: 2016-01-31 to 2018-12-31
- Total data points :355,032

Assumptions:

- Outliers are present in Price_Charged feature but due to unavailability of trip duration details ,we are not treating this as outlier.

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

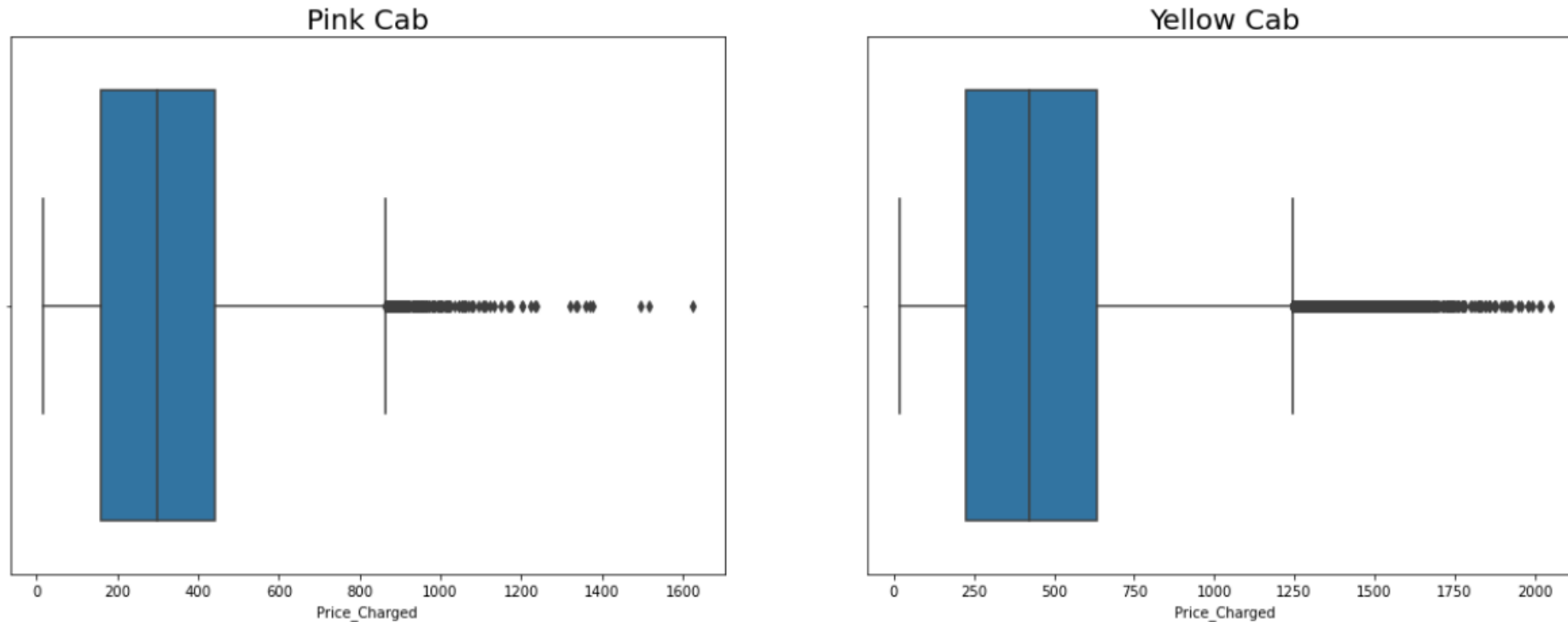Cab_Data.csv   Customer_ID.csv   Transaction_ID.csv   City.csv

Master Data

EDA
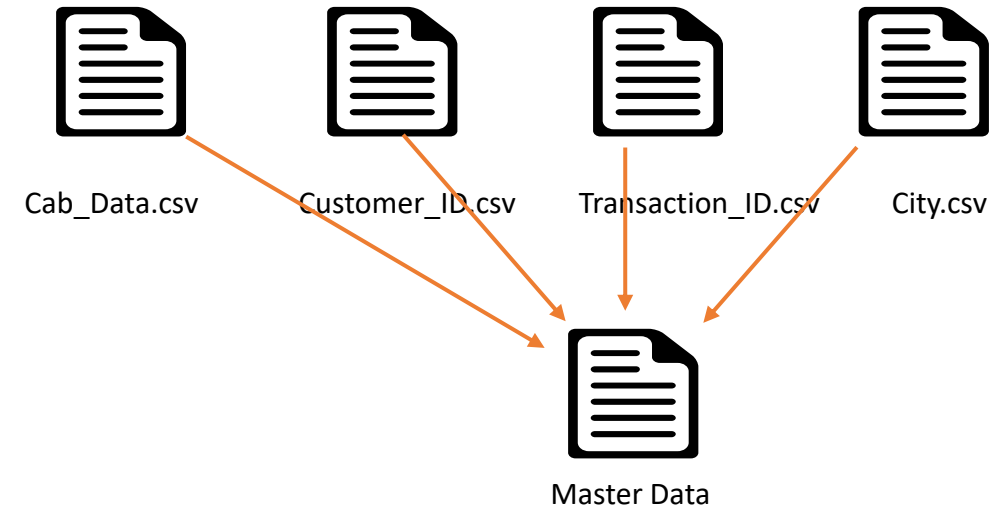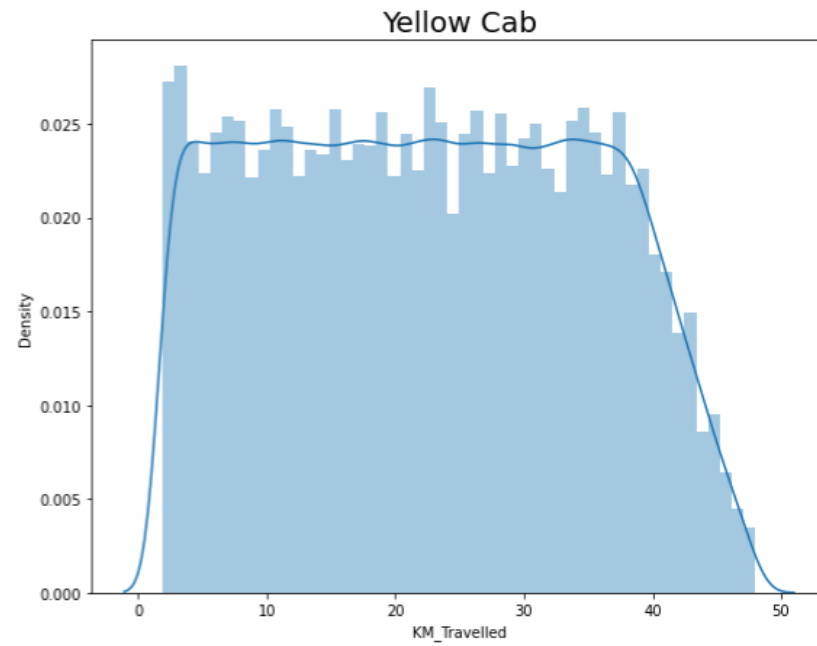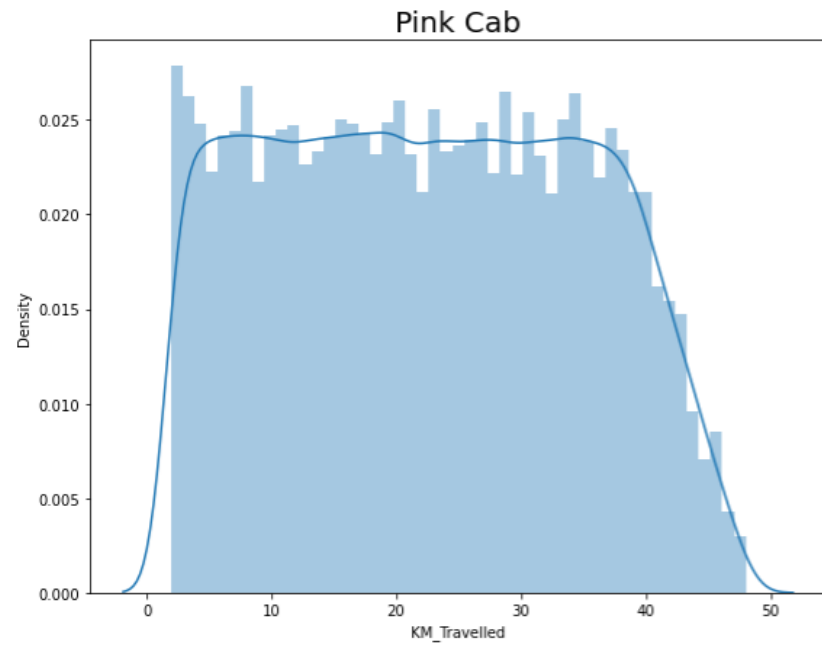
- Above visualization shows that total distance travelled in KM for yellow cab as well as Pink cab is same, which is range from 2- 48 KM.

EDA

- Above visualization shows that Price charged for yellow cab is greater than price charged for Pink cab.
- Price charged for Box plot shows outliers. But they are not considered as outliers, as unavailability of trip duration.

Profit Analysis
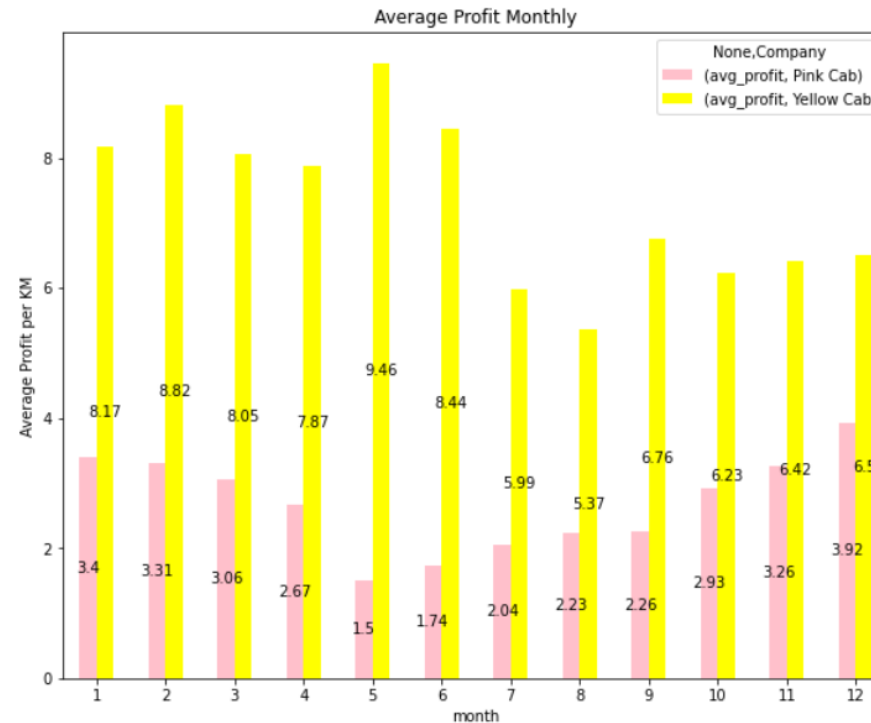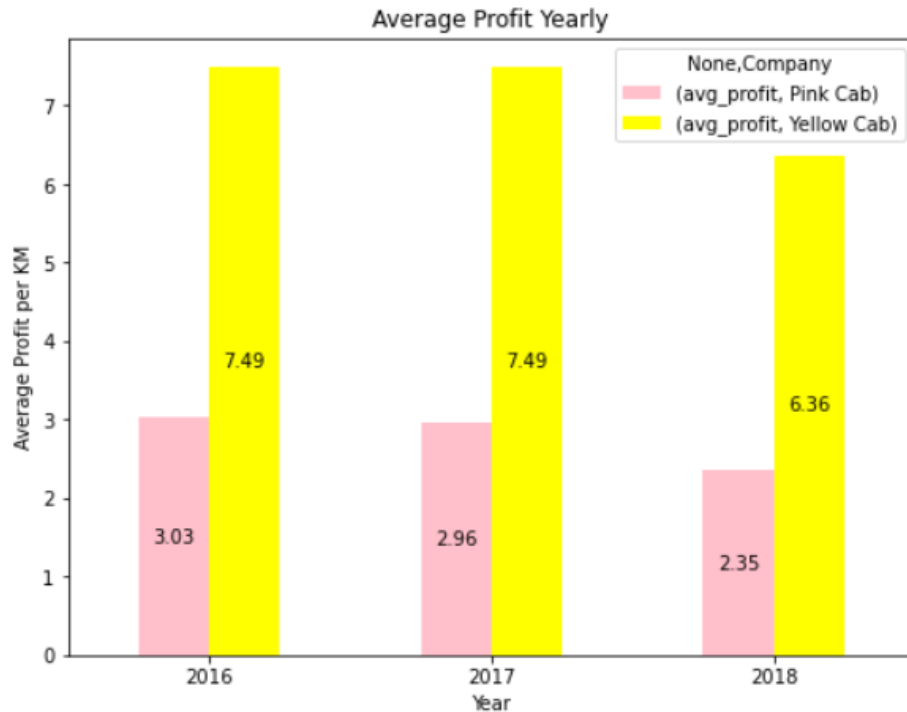
- Yearly average profit for yellow cab is more by around 39% than Pink cab for all three years.
- Monthly analysis of average profit shows that profit for yellow cab in month of May is higher than all months.
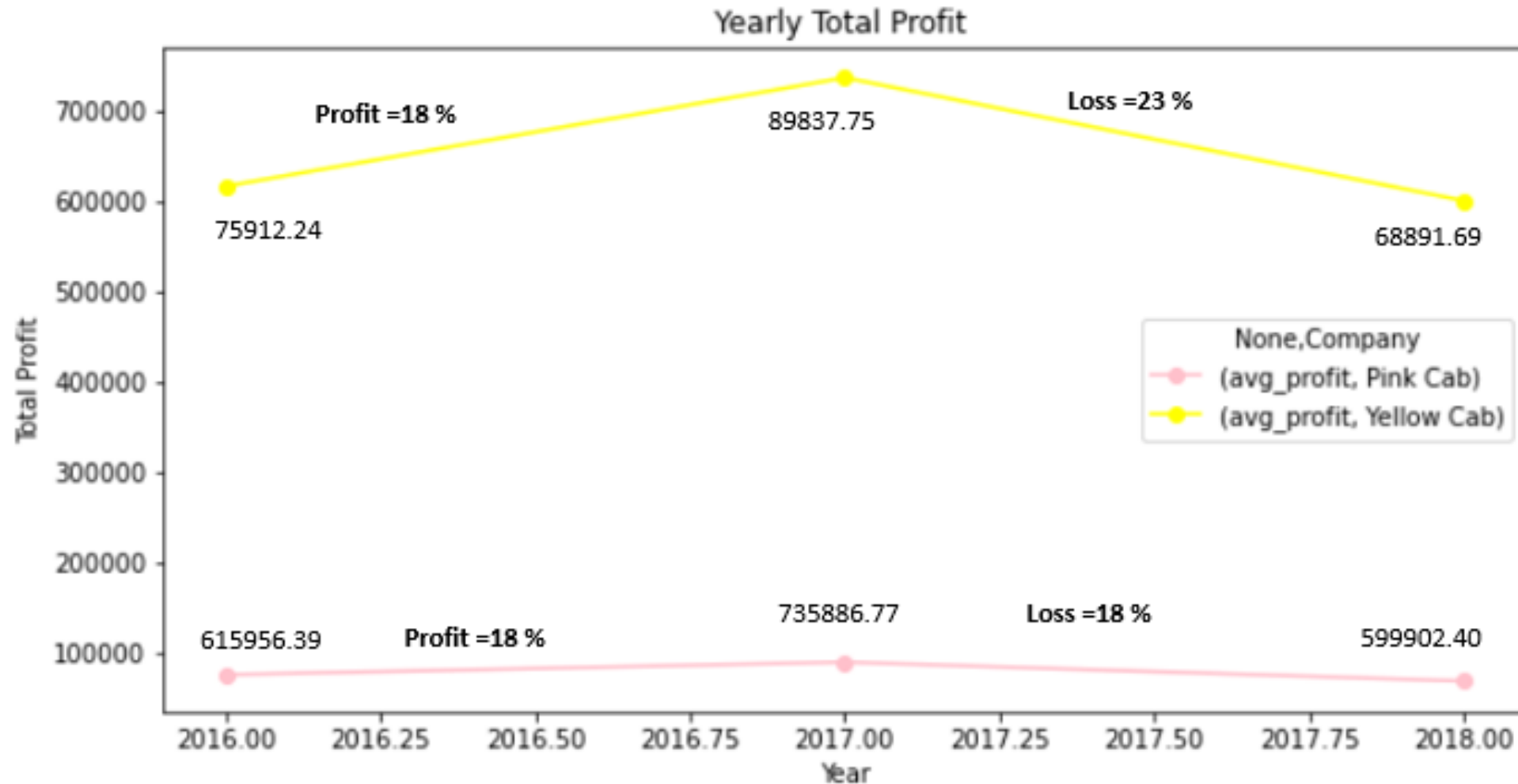
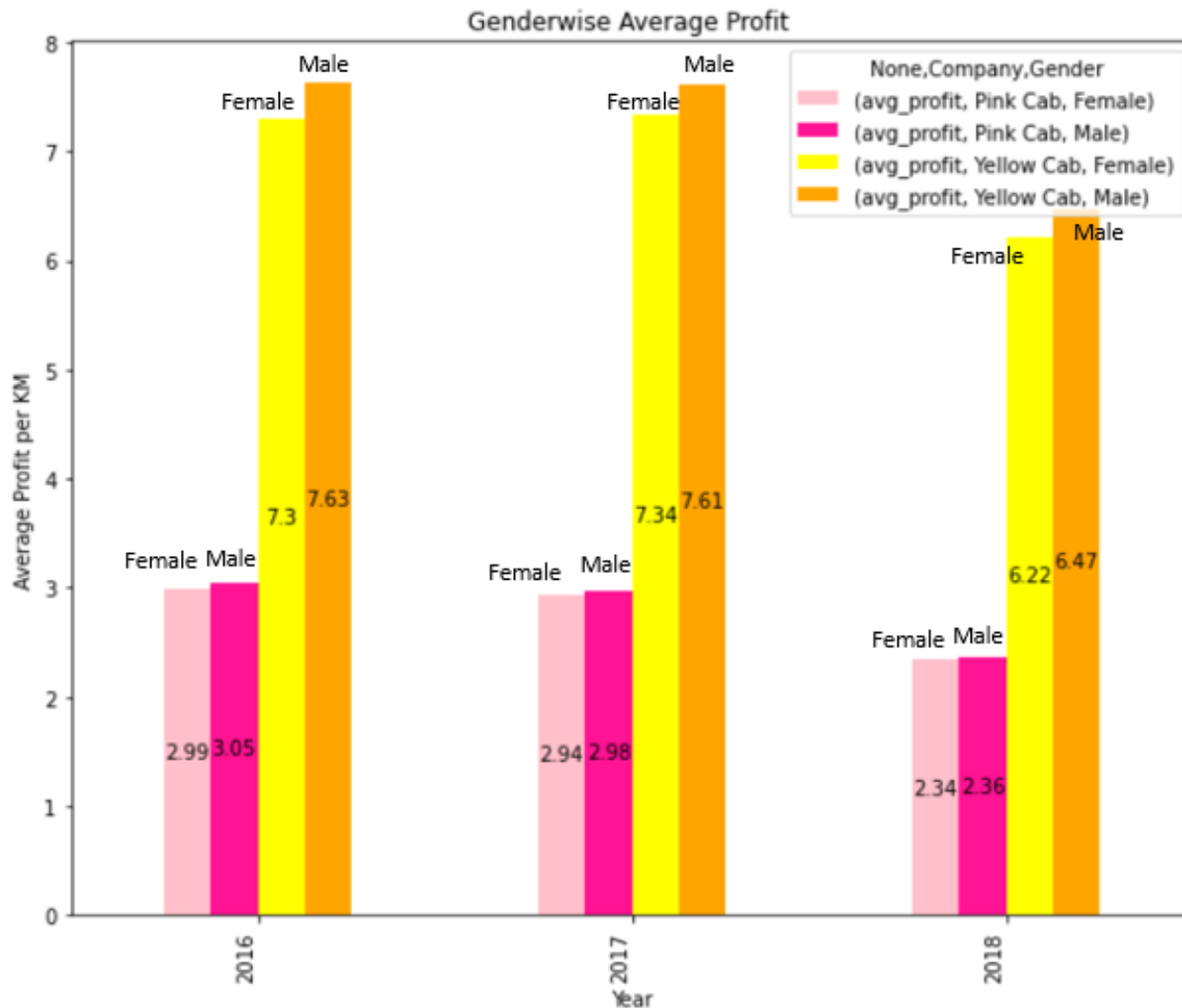# City wise Profit Analysis

Citywise Average Profit
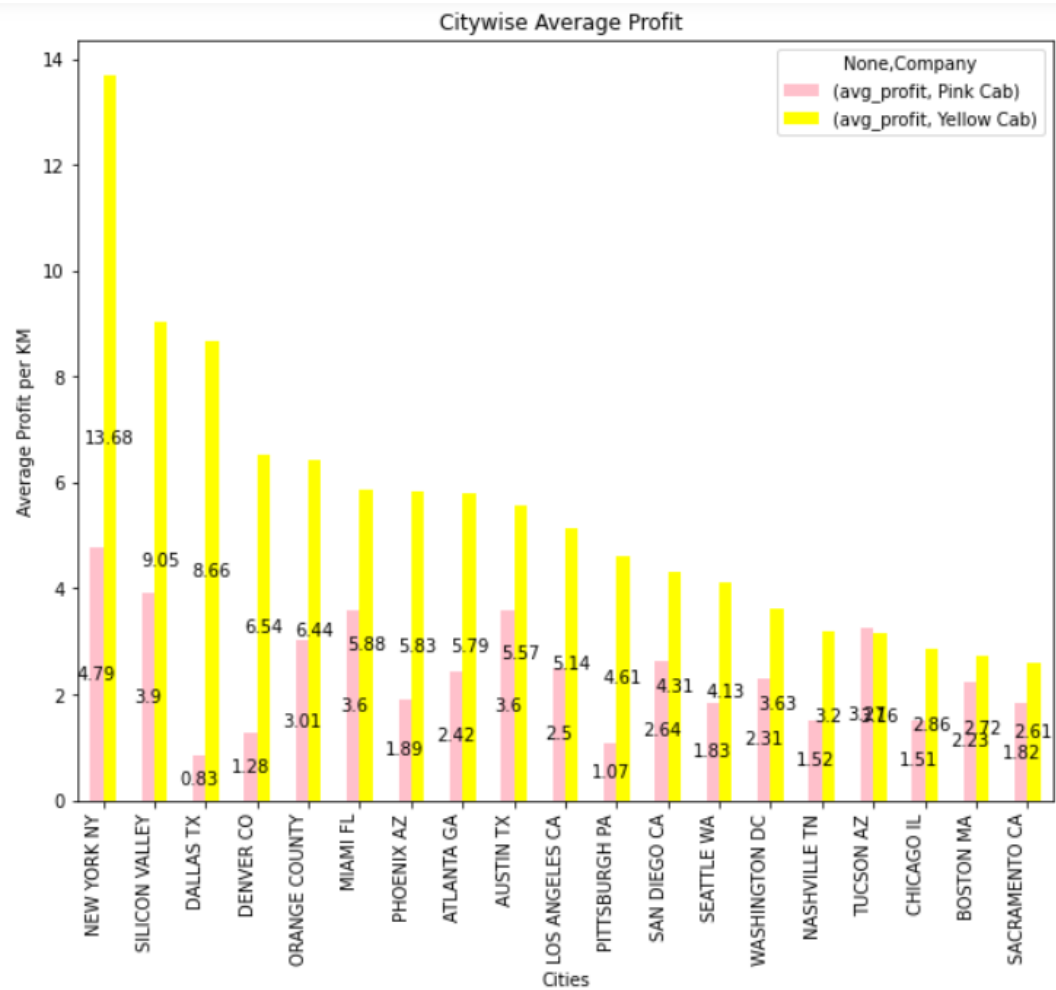
- City wise profit analysis was taken by considering all users for three years.

Yearly Profit Analysis

Gender wise Average Profit Analysis
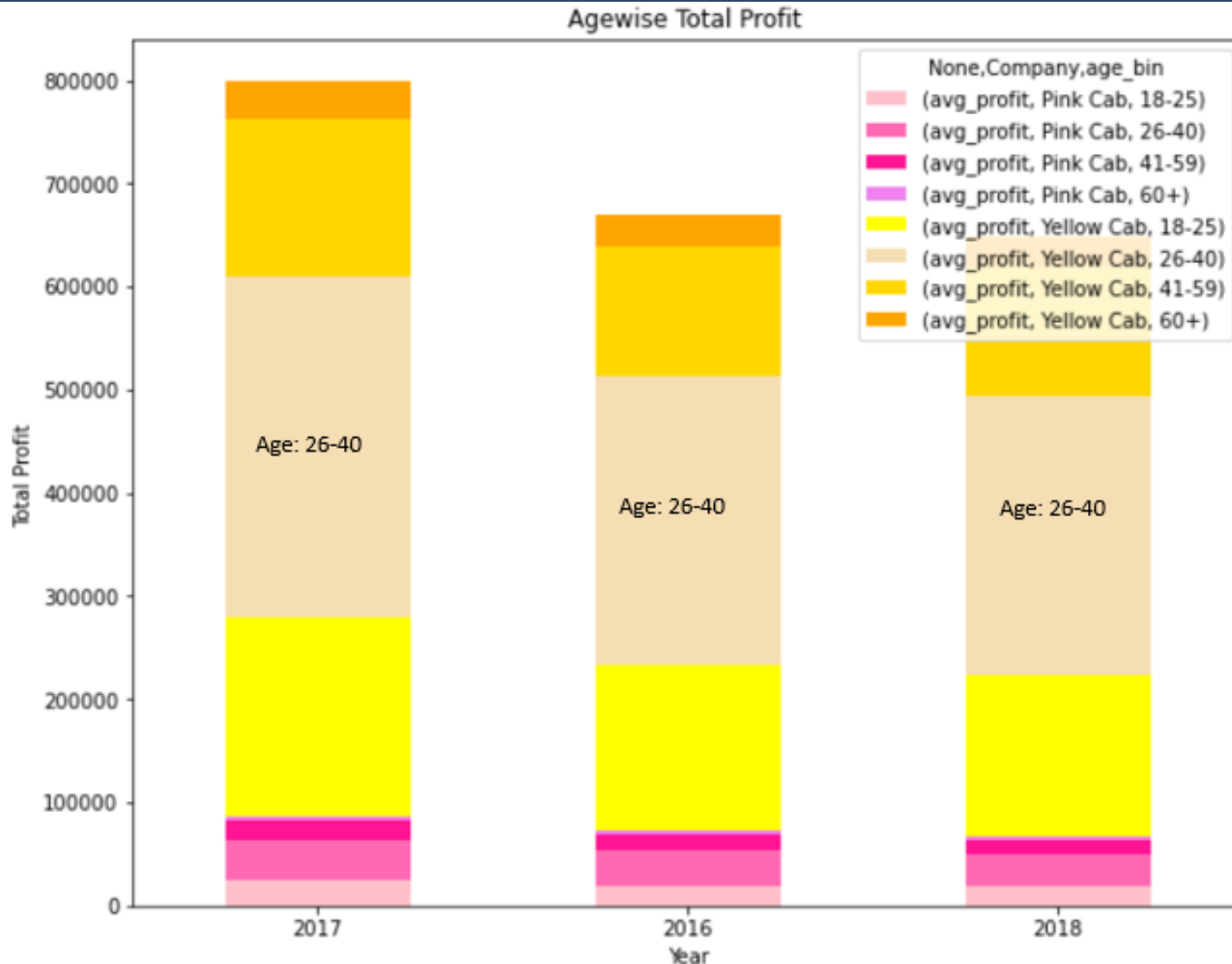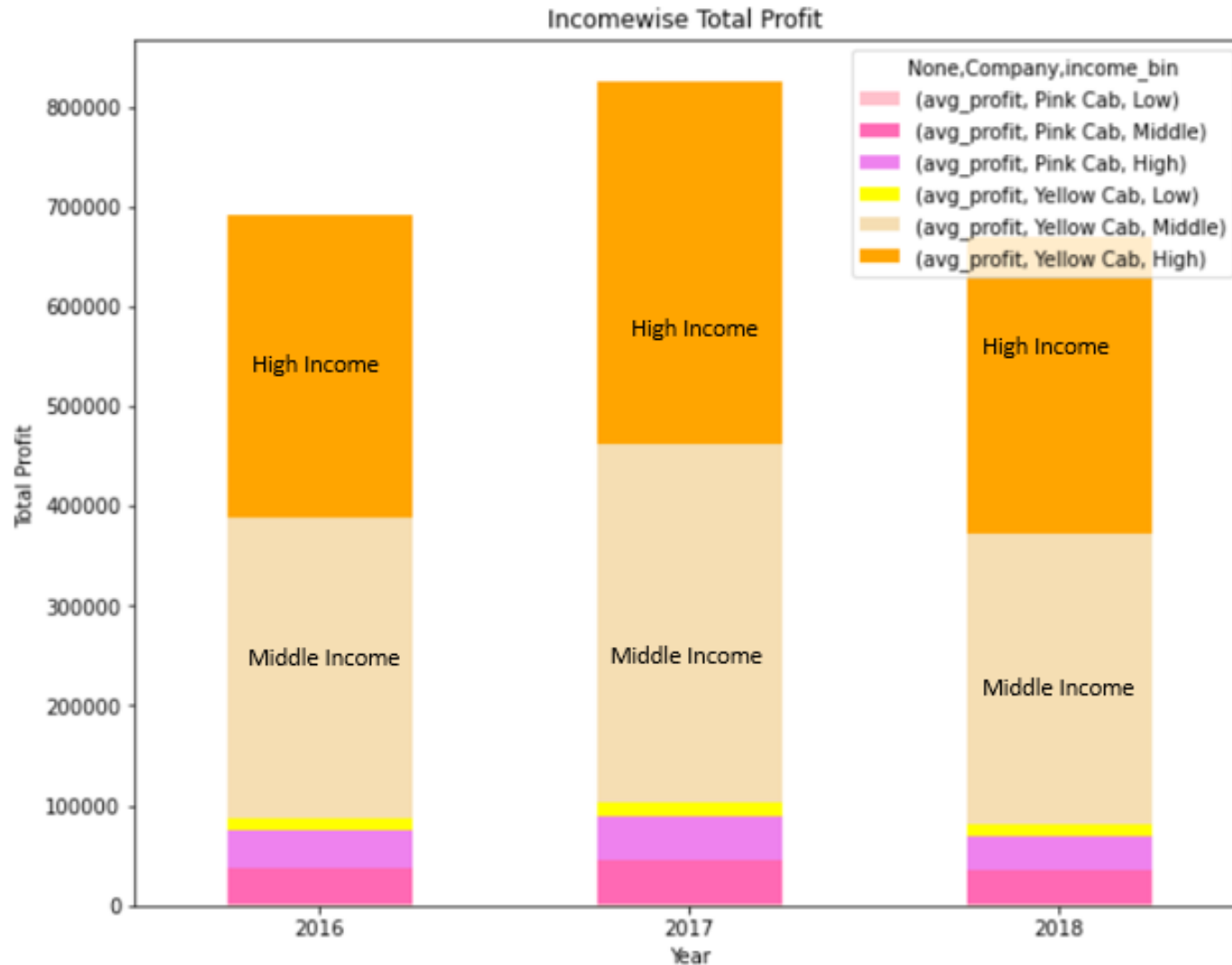

Genderwise Average Profit

- Gender wise average profit shows that profit increase is negligible for male or female.
- For Yellow cab profit is more for both gender.

Age wise Profit Analysis

Agewise Total Profit

Legend (None, Company, age_bin):
- (avg_profit, Pink Cab, 18-25)
- (avg_profit, Pink Cab, 26-40)
- (avg_profit, Pink Cab, 41-59)
- (avg_profit, Pink Cab, 60+)
- (avg_profit, Yellow Cab, 18-25)
- (avg_profit, Yellow Cab, 26-40)
- (avg_profit, Yellow Cab, 41-59)
- (avg_profit, Yellow Cab, 60+)

- Number of users in age group of 60+ for yellow cab is approximately equal to age group of 18-25 for pink cab
- Age wise distribution shows that users for yellow cab in range of age 26-40 are more than any other age

Income wise yearly total Profit Analysis

Incomewise Total Profit

Legend: None,Company,income_bin
- (avg_profit, Pink Cab, Low)
- (avg_profit, Pink Cab, Middle)
- (avg_profit, Pink Cab, High)
- (avg_profit, Yellow Cab, Low)
- (avg_profit, Yellow Cab, Middle)
- (avg_profit, Yellow Cab, High)

- Income wise yearly total Profit Analysis shows that number of users for yellow cab are more in income range of middle and high.

# Income wise monthly Profit Analysis

Incomewise Total Profit
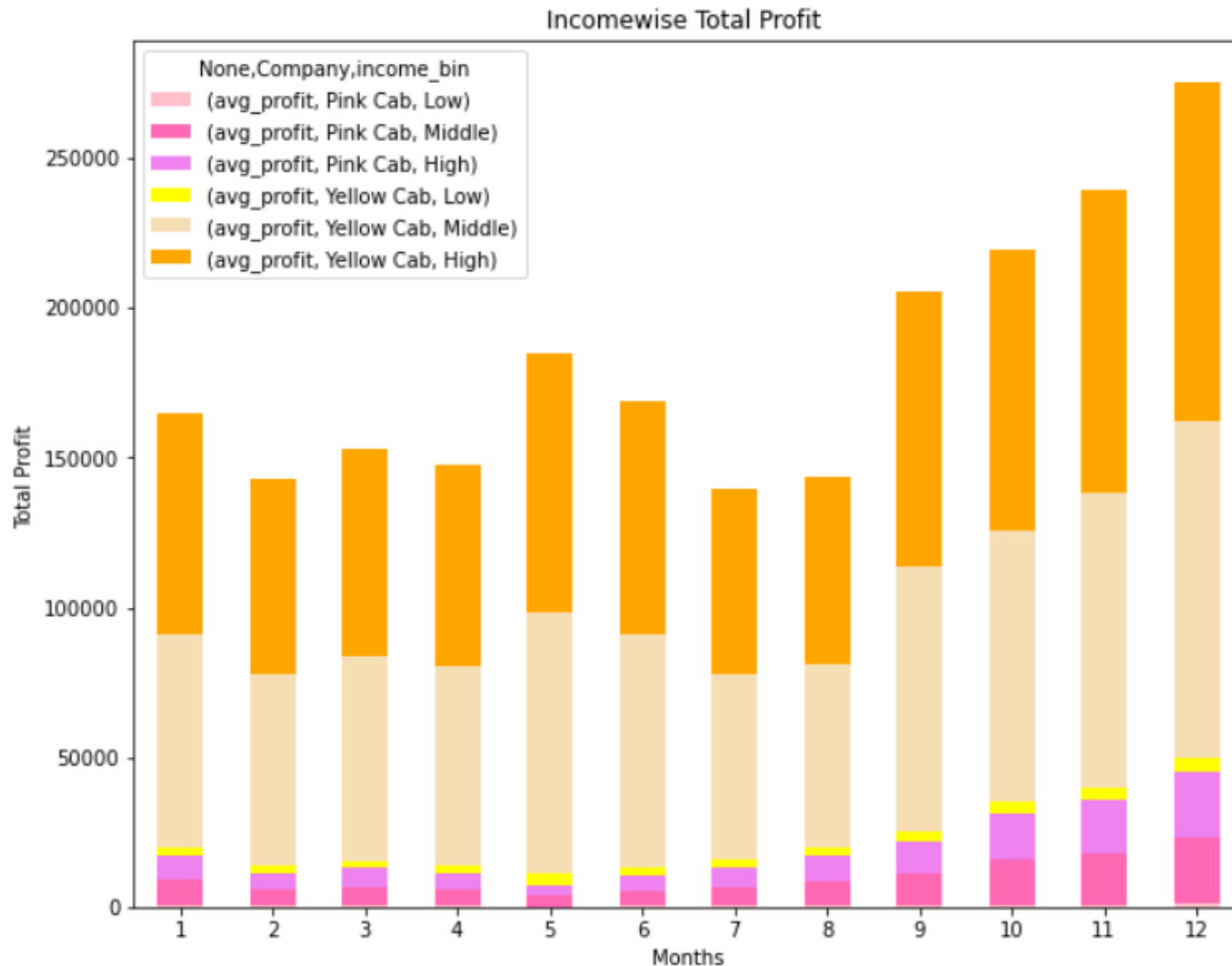
- Income wise monthly total Profit Analysis shows that number of users for yellow cab are more in income range of middle and high.
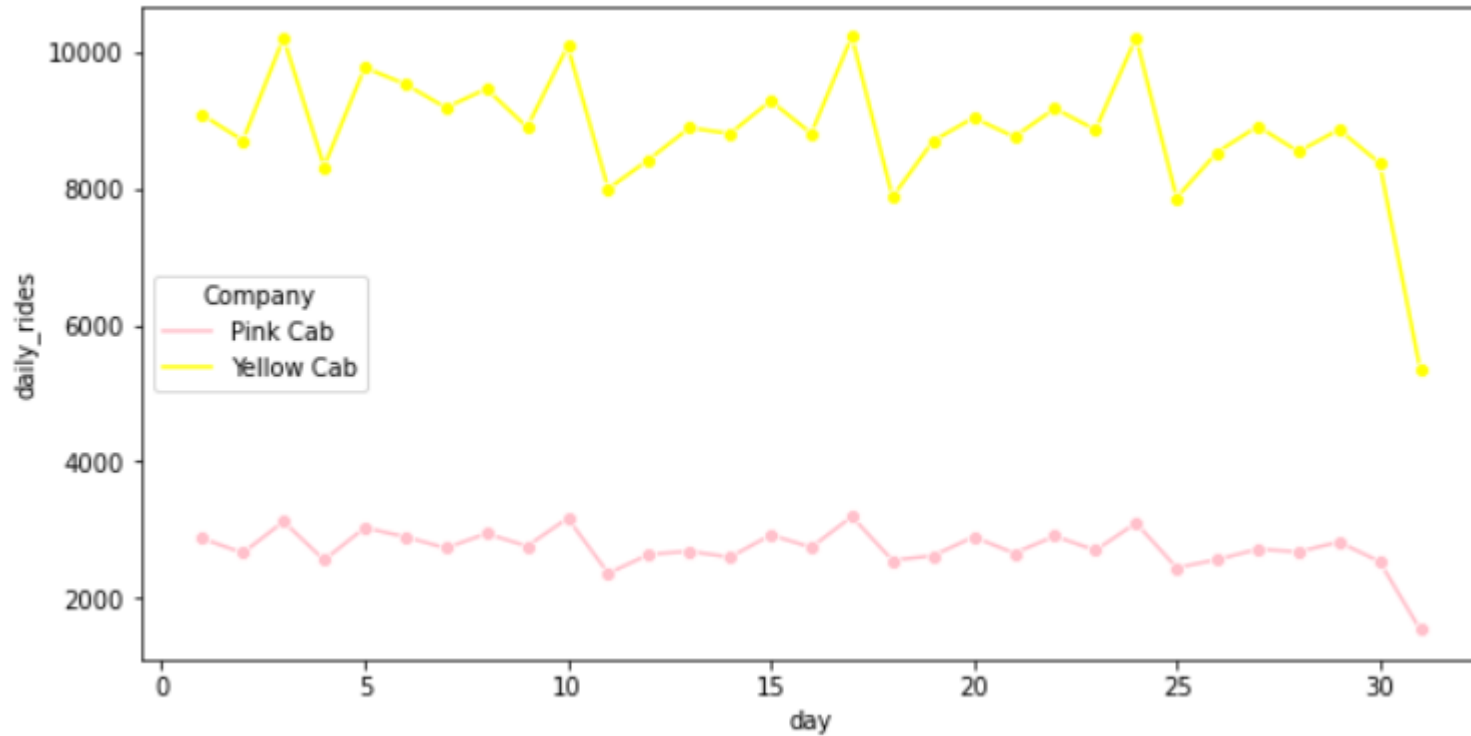
Customer Retention
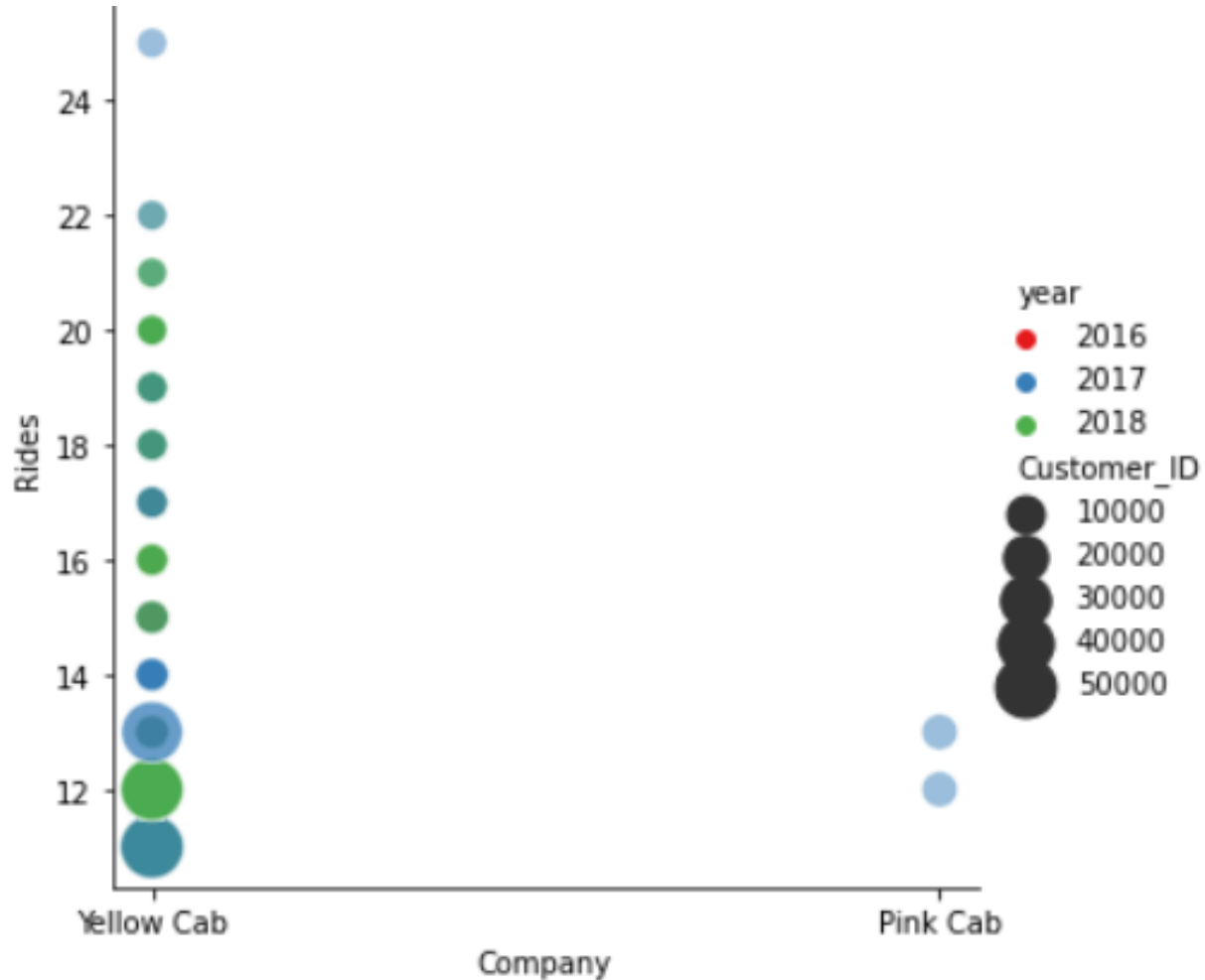
- For customer retention number of users are considered who have at least 10 rides.
- Yellow cab is capable to retain customers as compared to pink cab.

City wise total Users
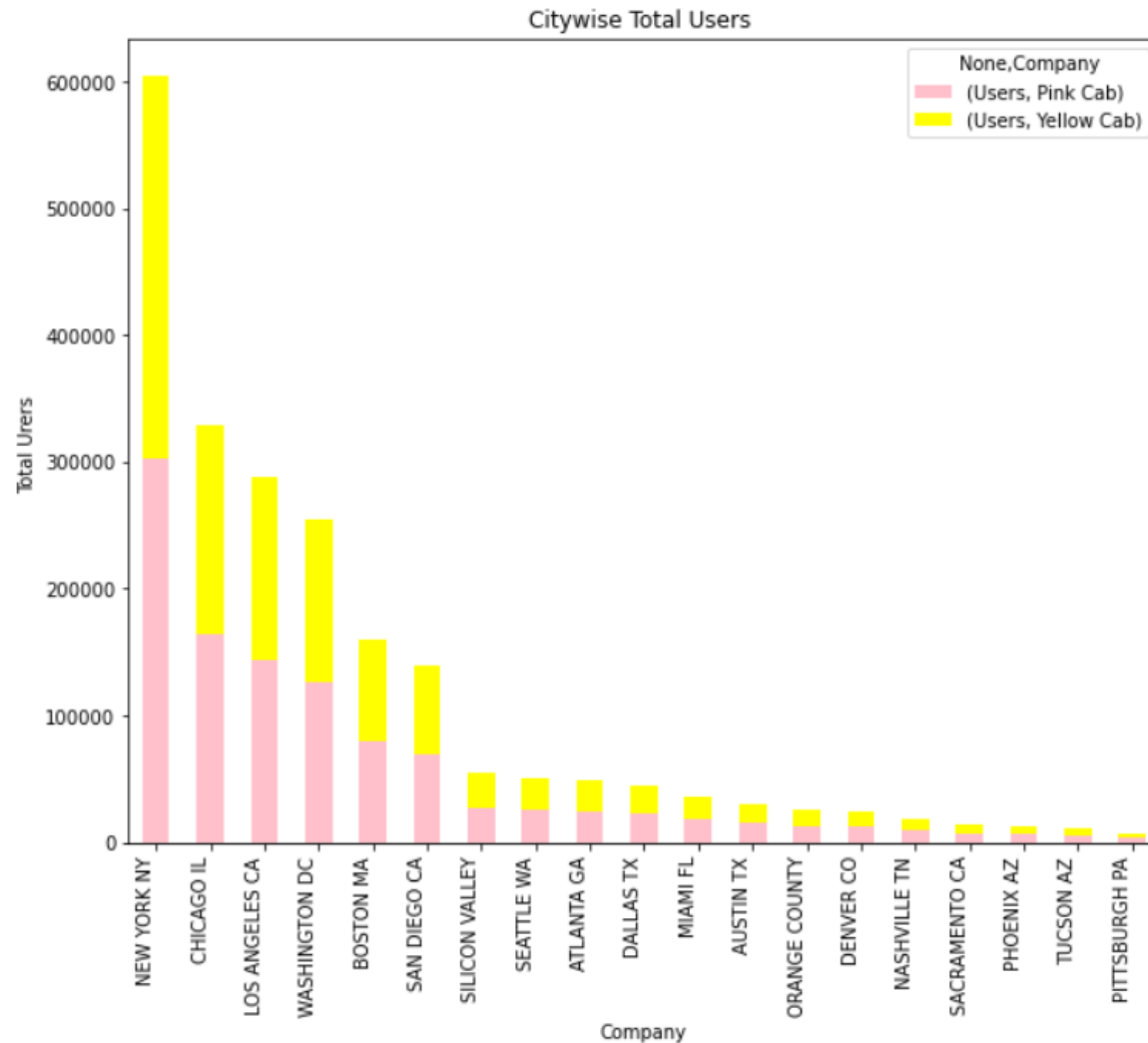
- Yellow cab has higher reach in different 19 cities
- For yellow cab number of users are more in New York as compared to other cities of US.

Seasonability Daily Riders
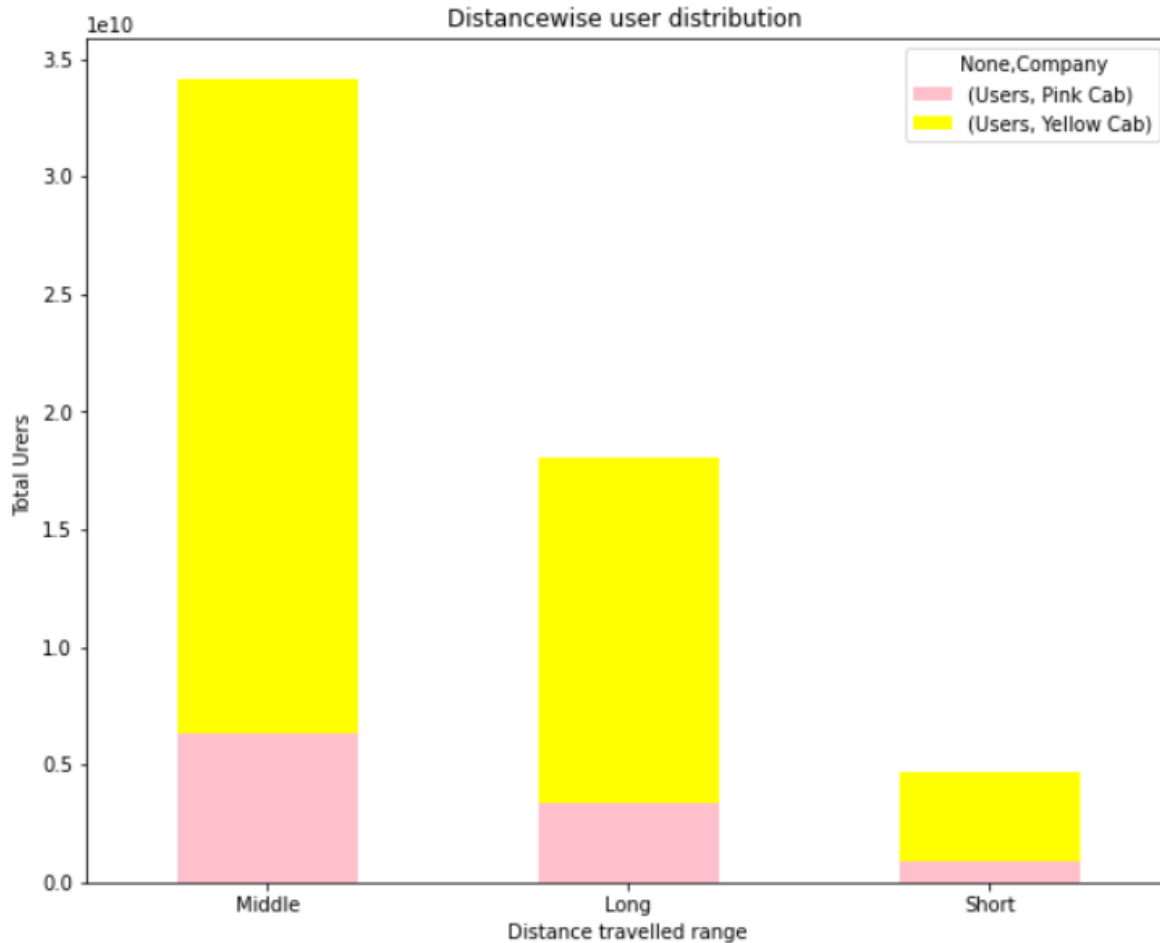

- For every 3rd day of month daily users are more and the trend get repeated after 7th day for both pink and yellow cab.

Seasonability Daily Users

Distance wise user Distribution

- Distance travelled range is considered as short, Middle and Long.
- Number of Users in middle distance travelled is more for pink as well as yellow cab.

Recommendations

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

- **Average Profit per KM :** Yearly average profit for yellow cab is more by around 39% than Pink cab
- **Customer Reach :** Yellow cab has higher reach in different 19 cities. For yellow cab number of users are more in New York as compared to other cities of US.
- **Customer Retention:** We have analyzed this in two segments : at least 5 drive and at least 10 drive with the same cab company. And we found that Yellow cab is doing far better than Pink cab in both these segments.
- **Age wise Reach :** Number of users in age group of 60+ for yellow cab is approximately equal to age group of 18-25 for 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)
- **Ride count :** For every 3rd day of month daily users are more and the trend get repeated after 7th day for both pink and yellow cab.
- **Distance wise distribution :** Number of Users in middle distance travelled is more for pink as well as yellow cab.

On the basis of above points , I will recommend Yellow cab for investment.

Thank You