



Data Glacier

Your Deep Learning Partner

Exploratory Data Analysis

G2M Case Study

15-March-2021

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:

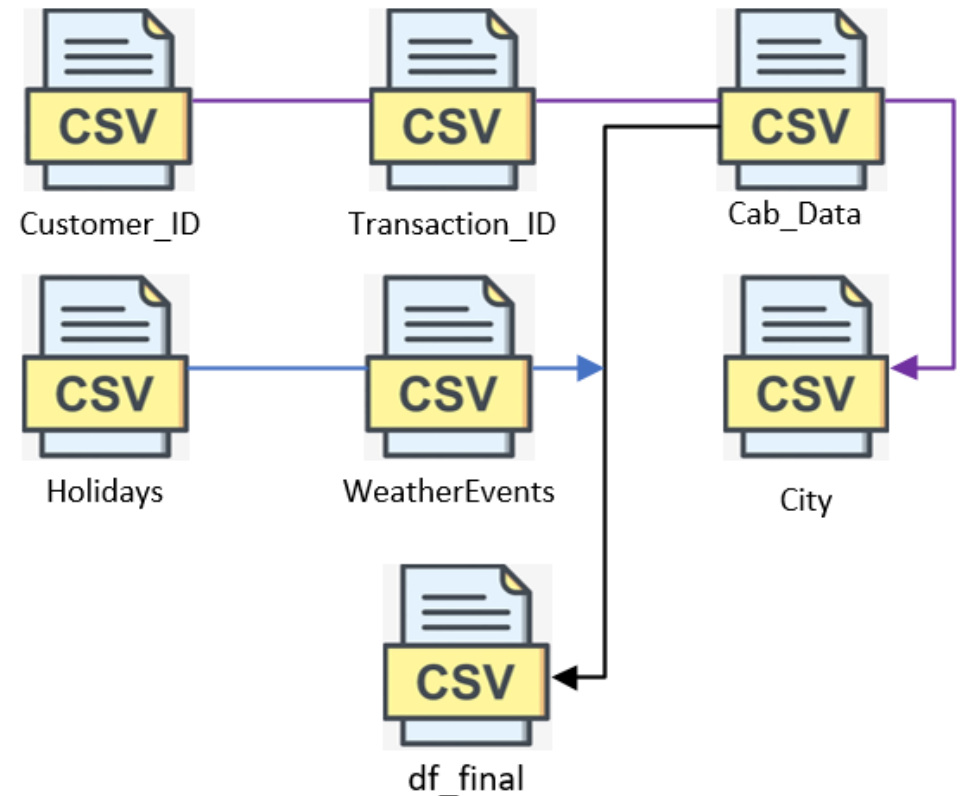
- Data Understanding
- Forecasting profit and number of trip for each cab type
- Finding the most profitable Cab company
- Recommendations for investment

Data Exploration

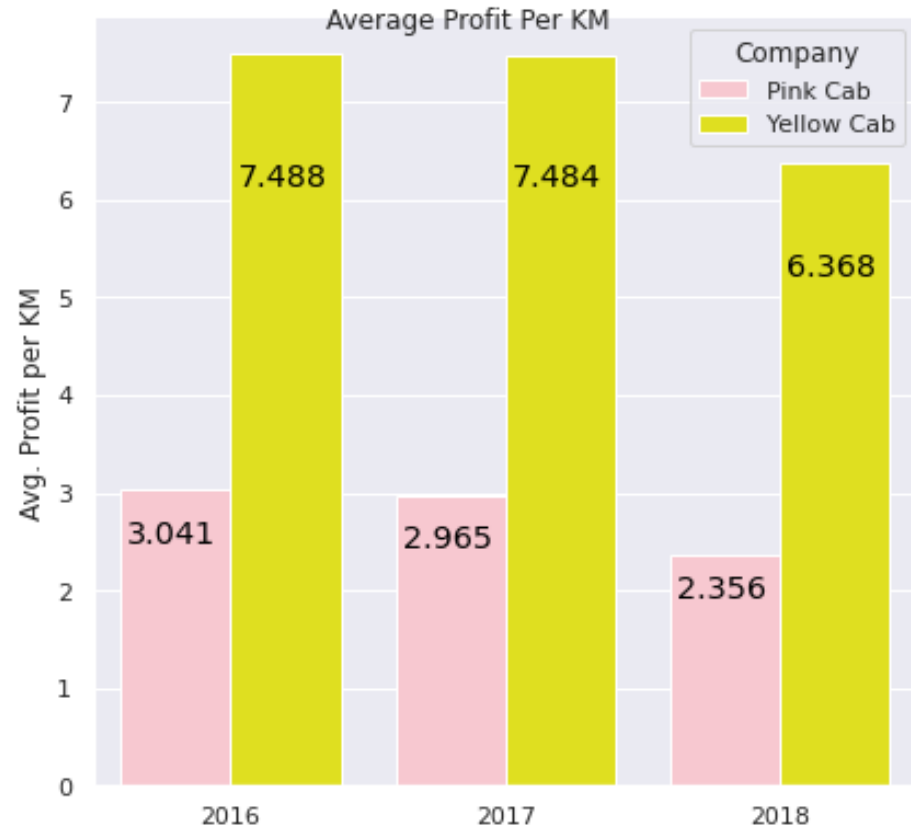
- Timeframe of the data: 2016-01-02 to 2018-12-31
- Total data points :359,392

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.
- 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 well(including Yellow and Pink cab)

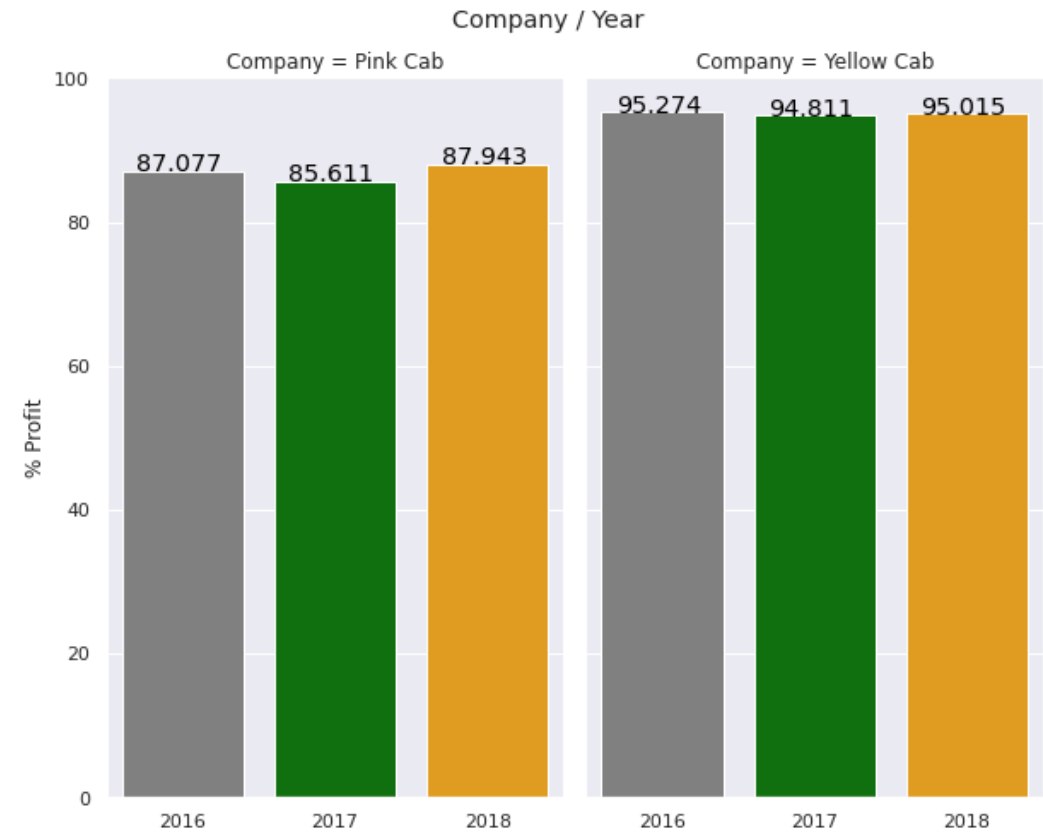


Profit Analysis



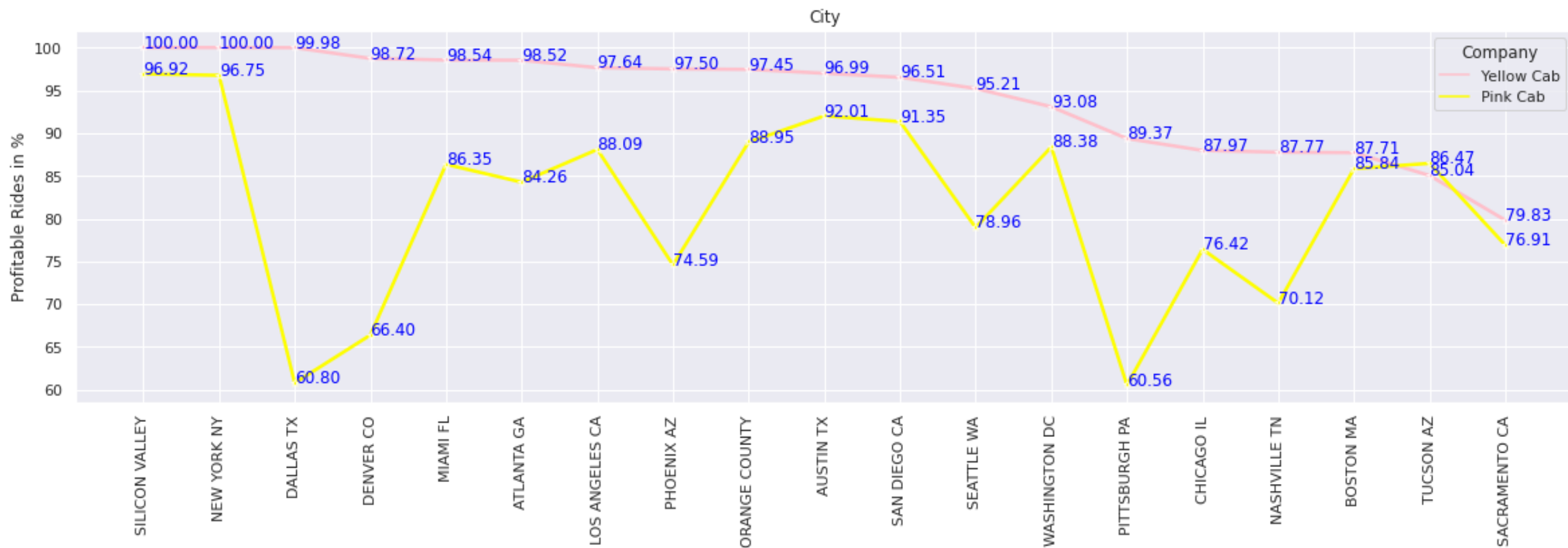
Company	Profit	Total Ride	Profit per Ride
Pink Cab	5302884.17	84653	62.642602
Yellow Cab	44002585.67	274483	160.310787

Profit % Yearwise

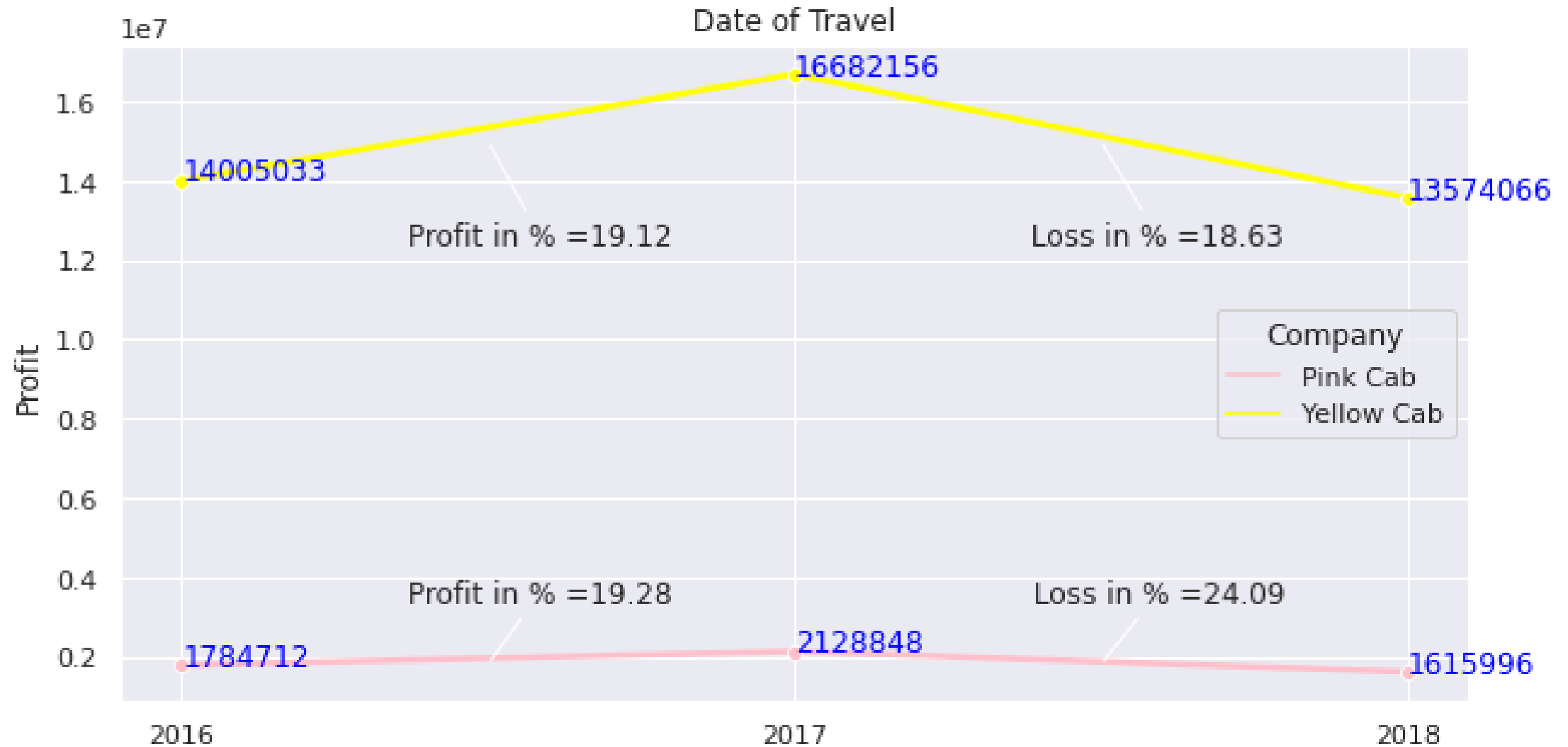


Profit Analysis

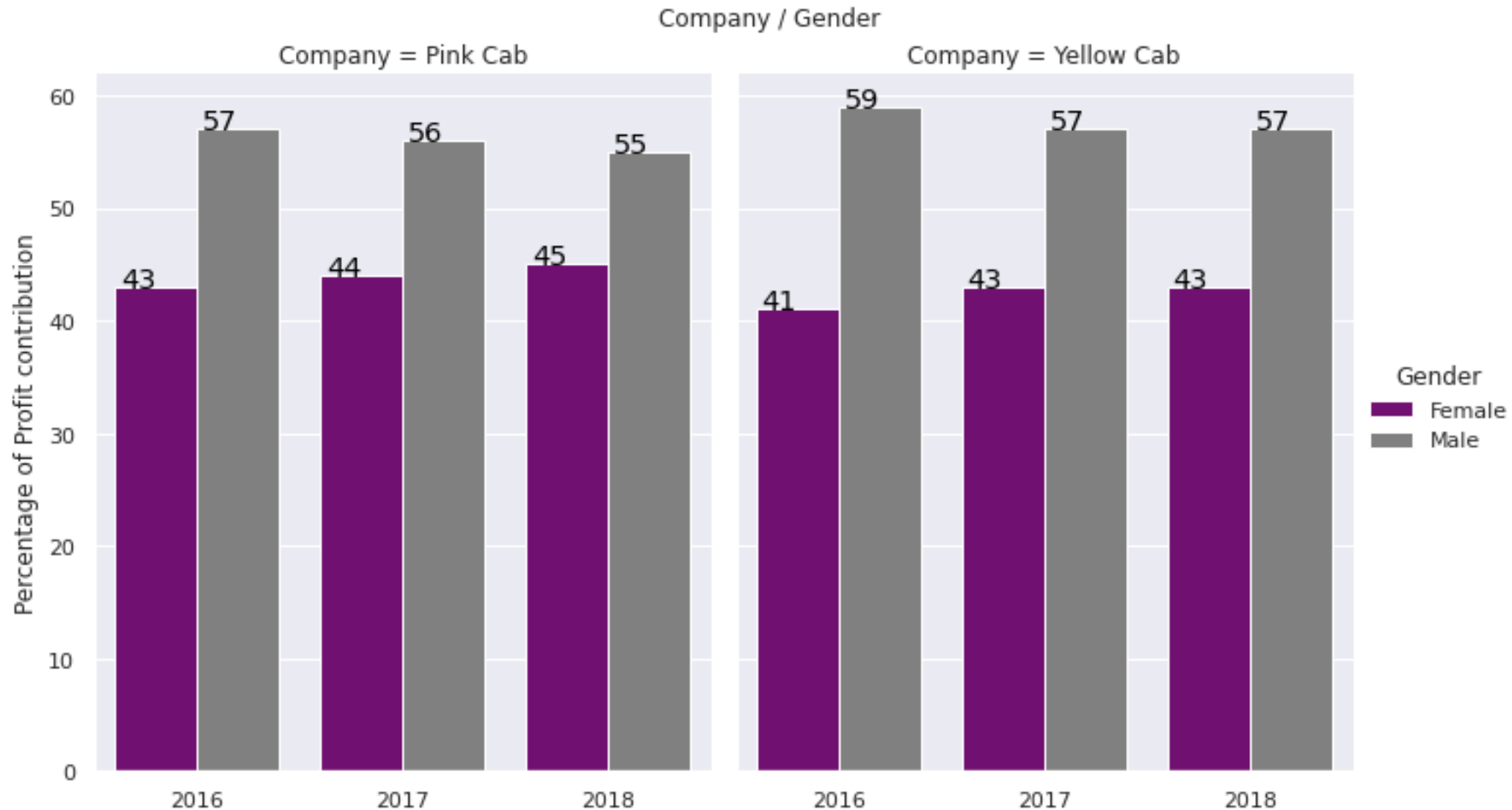
Citywise Profitable rides Percentage



Yearly Profit Analysis



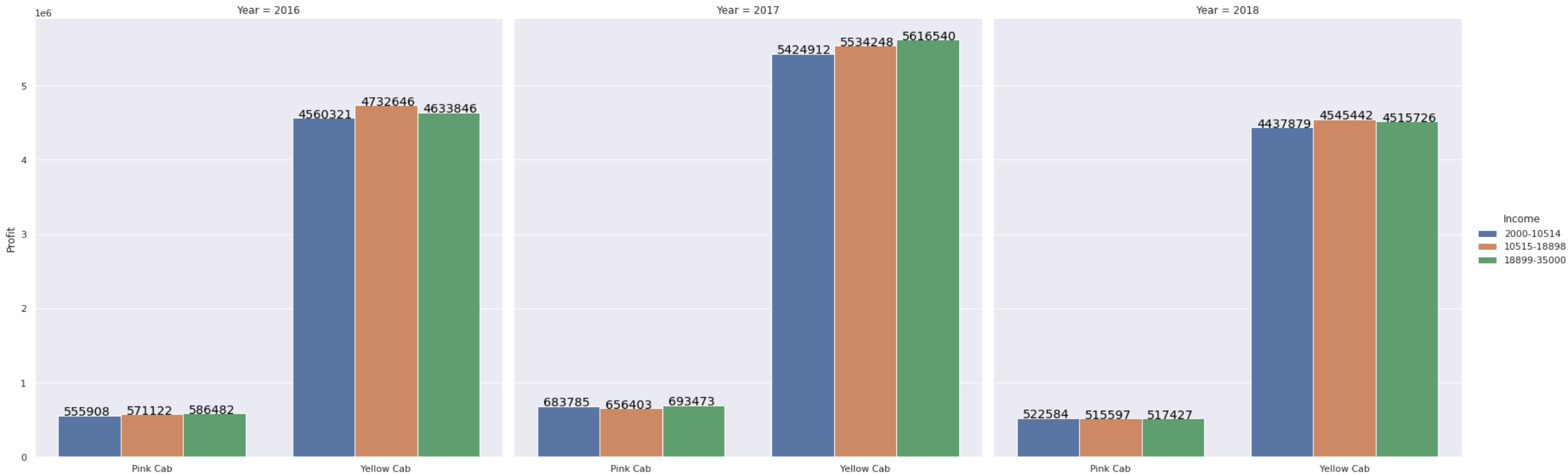
Profit base Analysis Gender wise



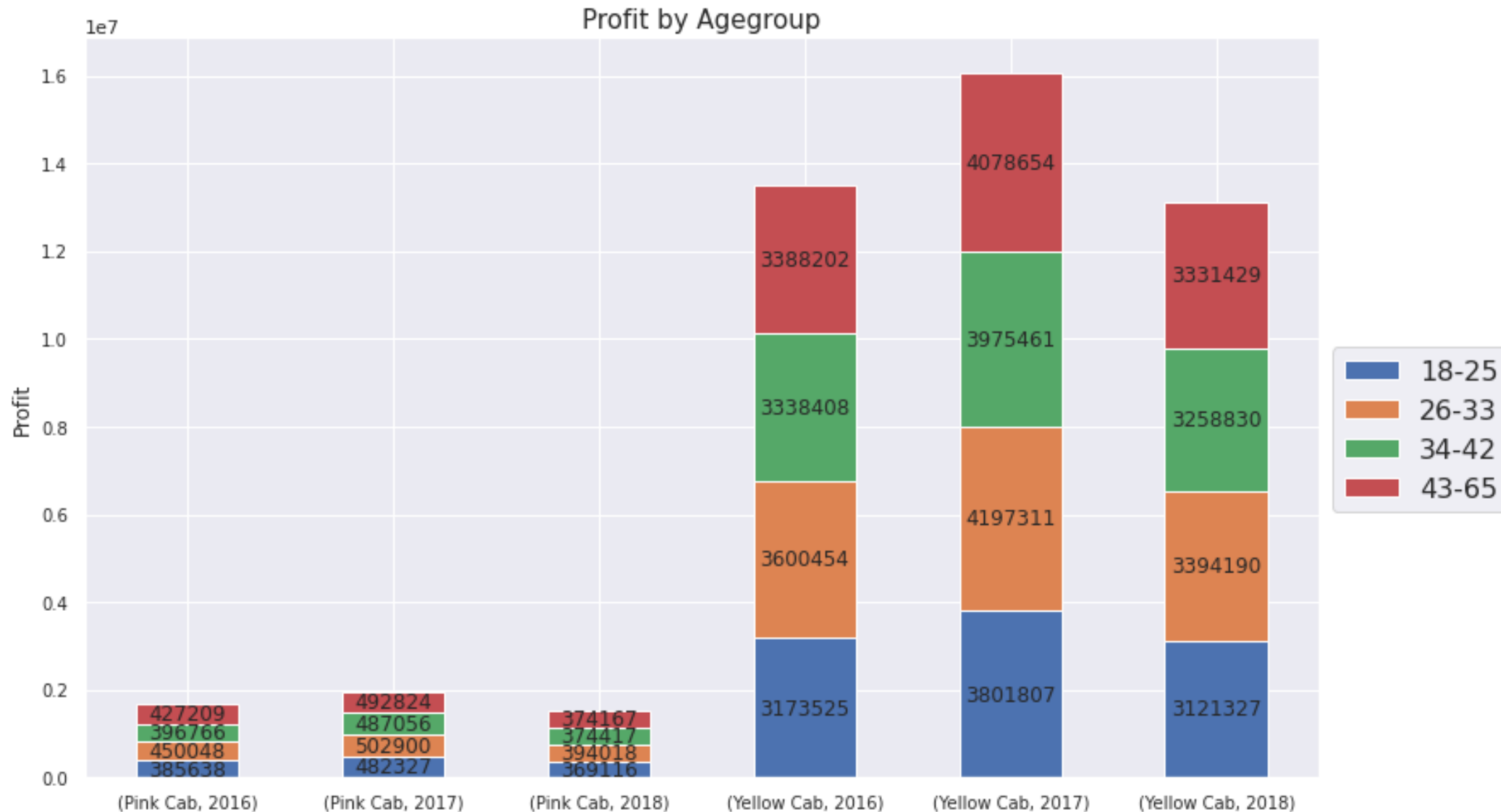
There is almost equal distribution of gender in the Profit.

Income Class wise Profit Analysis

Middle class (10515-18898) and high class(18899-35) contributes more in the profit as well as in the customer base of both the cabs



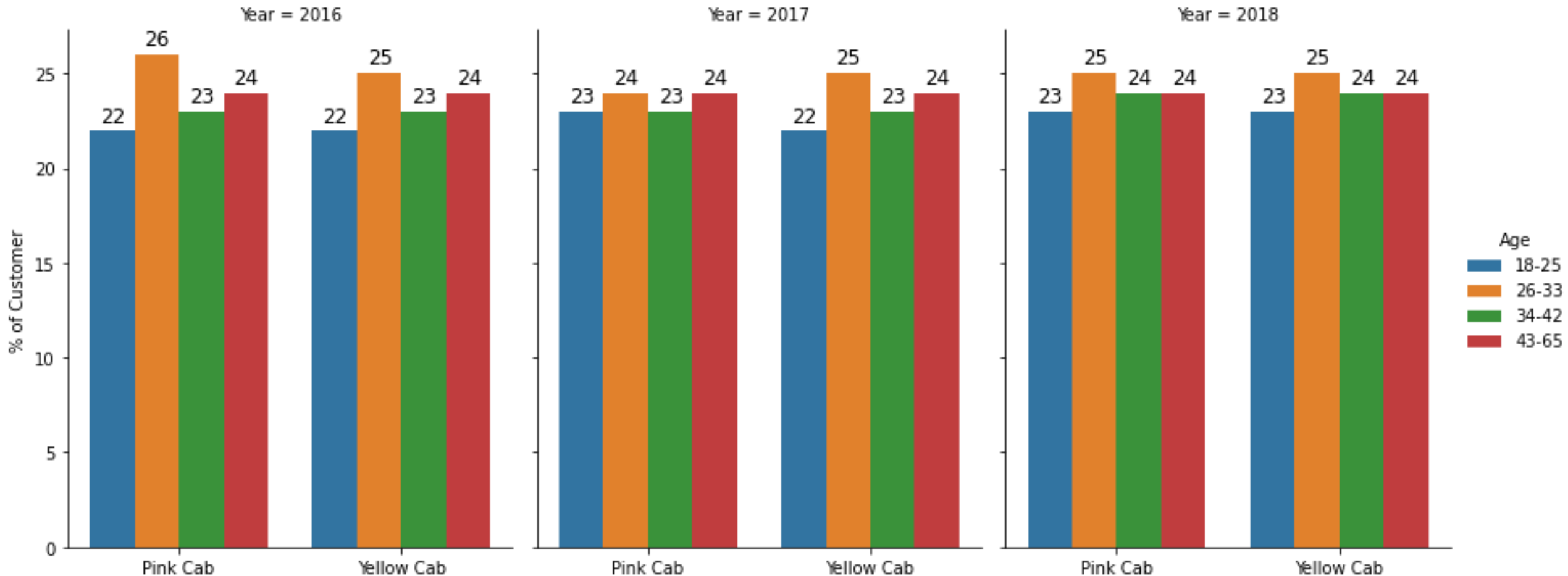
Age GroupWise Profit Analysis



the age range 26-33 have more Profit for both cab in all years.

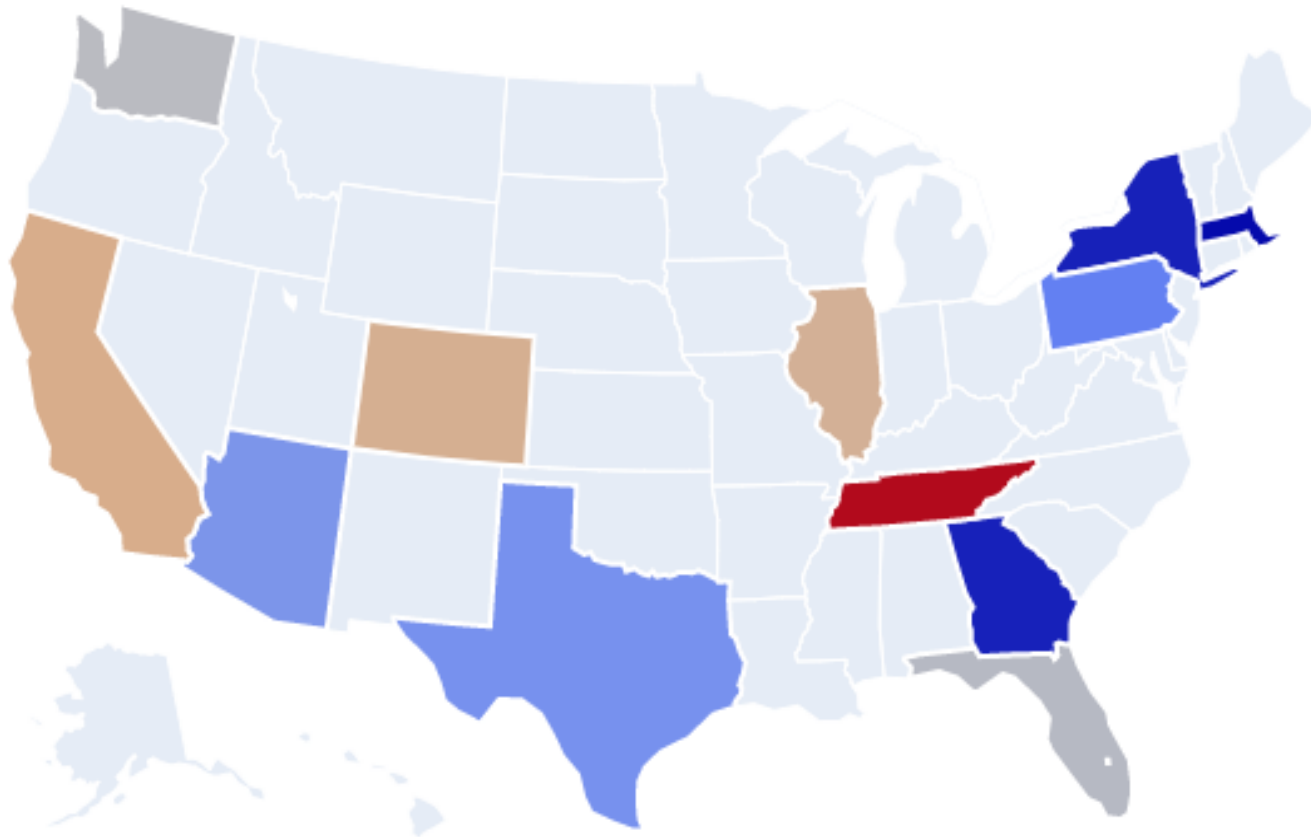
Age GroupWise Profit Analysis

the age range 26-33 has more Customer percentage in both cab in all years.



Profit of Customer by State

Profit and Transaction of Customer by State



Profit

146

144

142

140

138

136

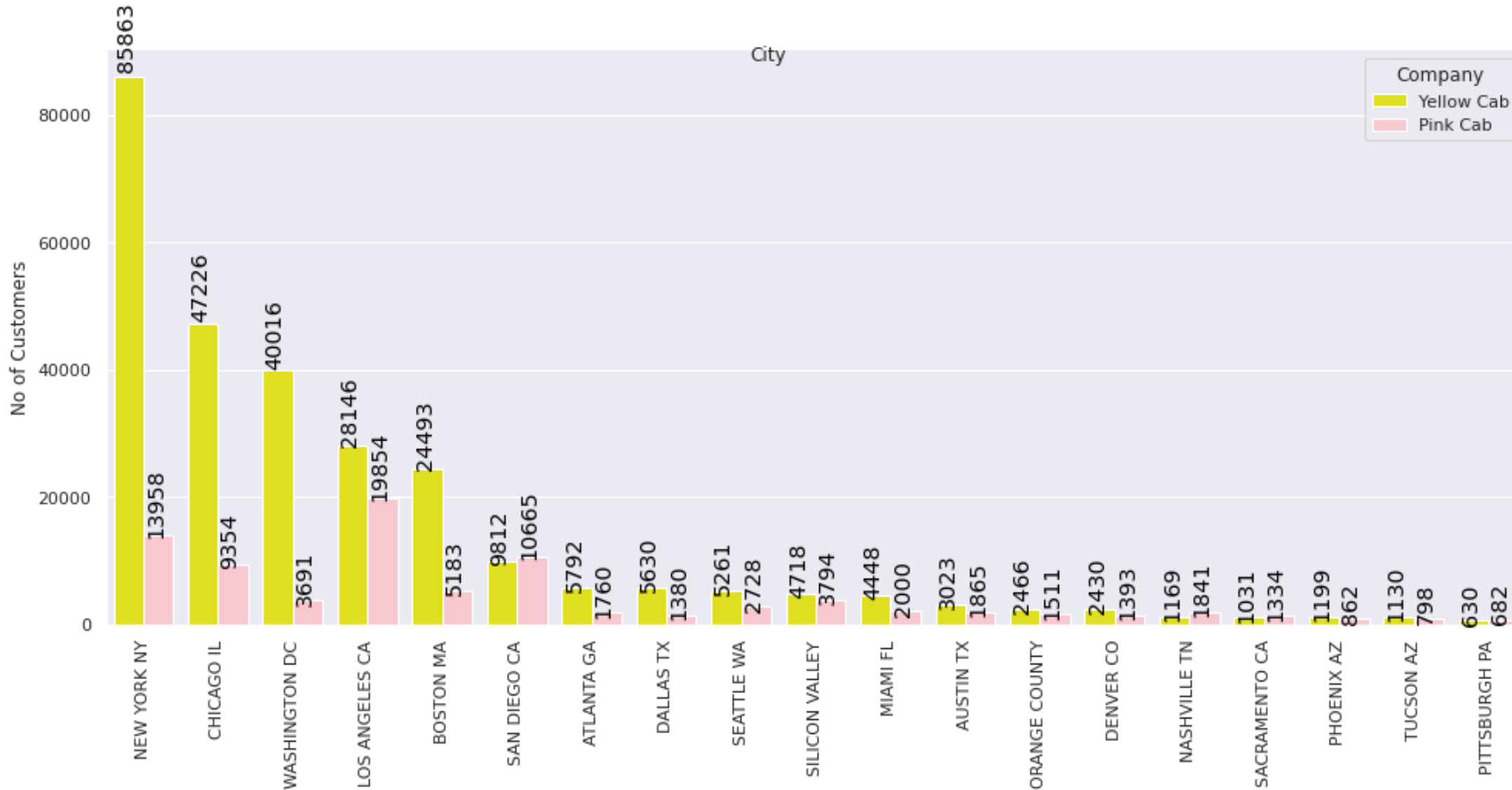
134

132

These are the states where both cab have presence.

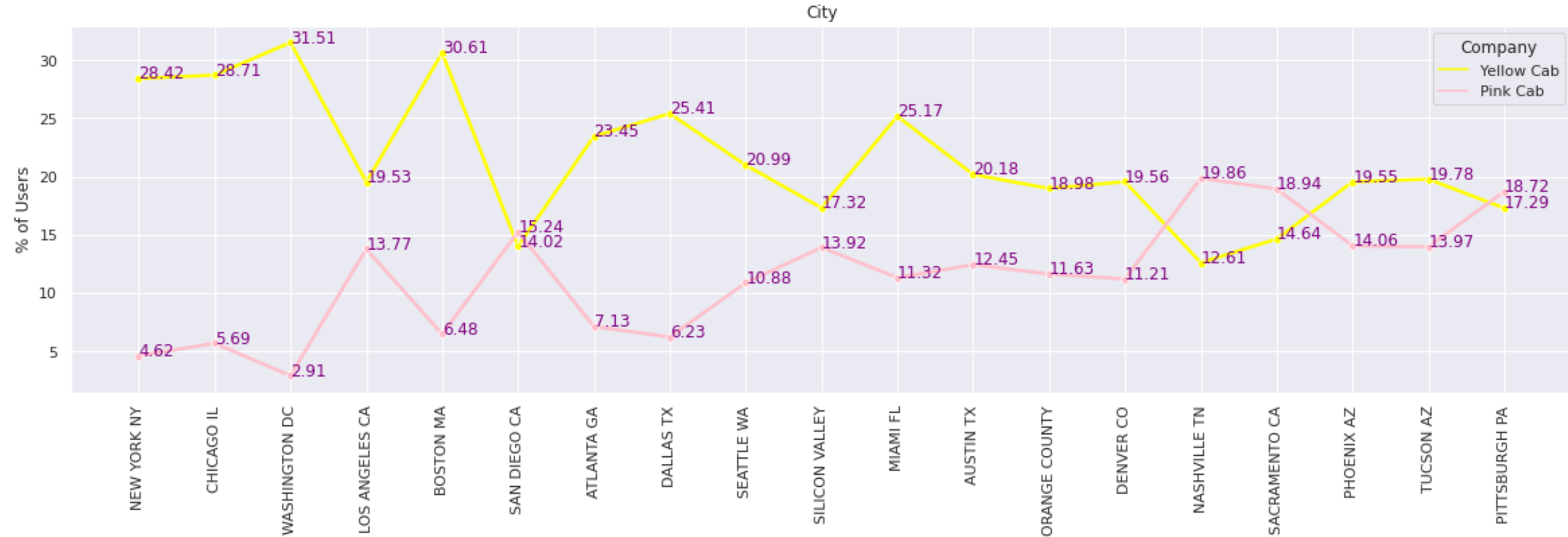
The New York State is where they have more profit

Customer Presence of Yellow and Pink cab City Wise



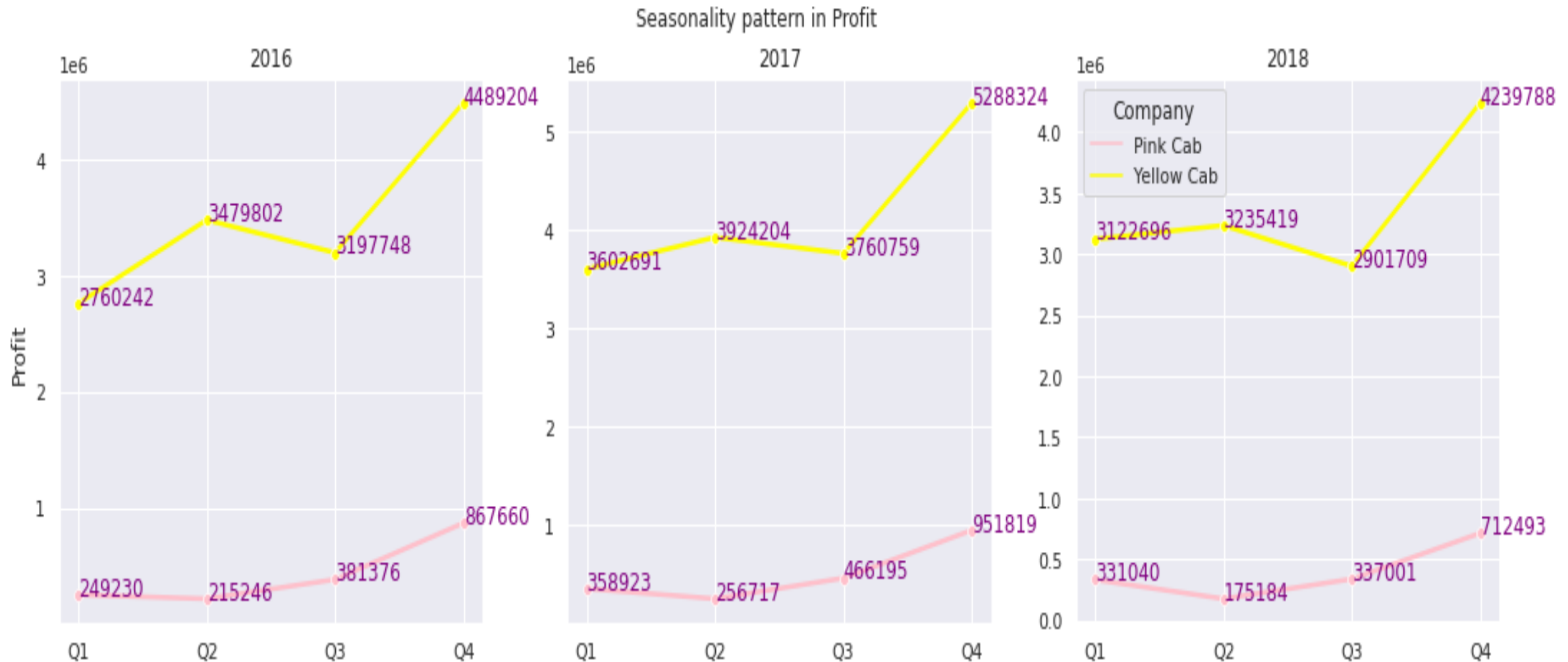
New York city is where Yellow Cab has more presence and Los Angeles city is where Pink Cab has more presence

City wise cab Users Covered By Company

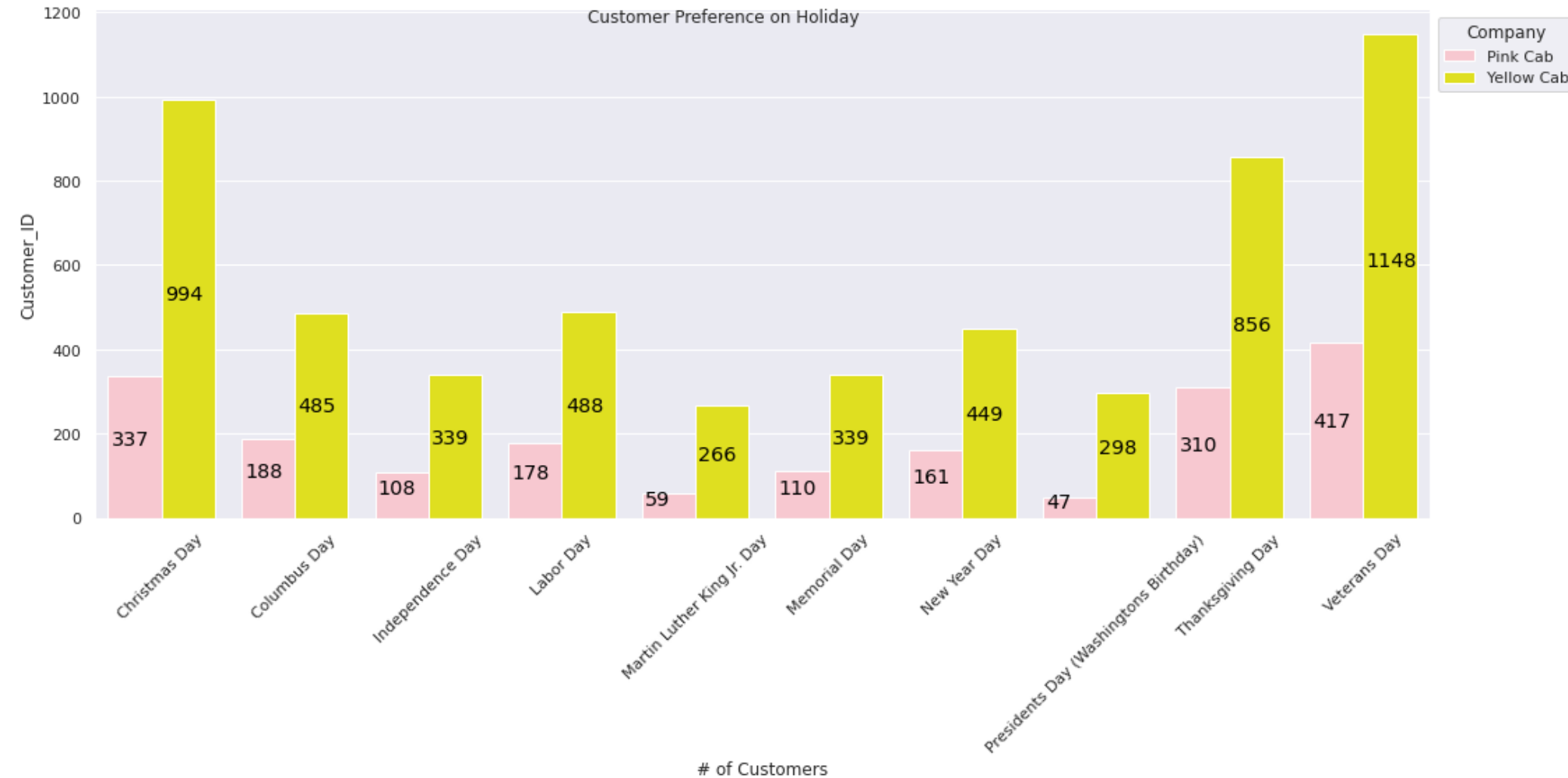


Seasonality in the Profit

- Seasonal pattern 4 quarter cycle.

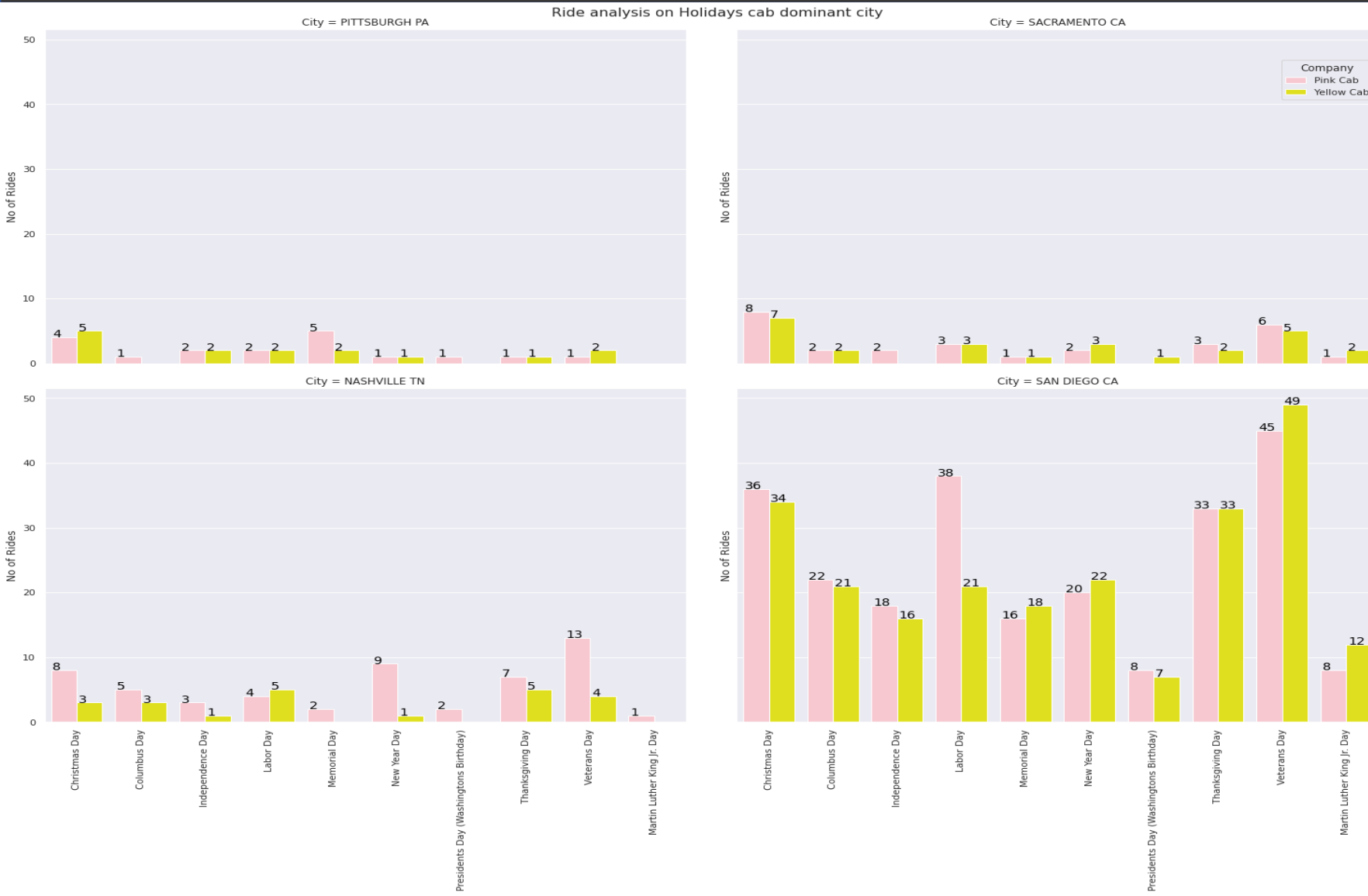


Customer Preference on Holiday



- Yellow cab is performing well as compared to Pink cab on Holidays.
- Yellow cab is even Performing well In the cities where Pink cab's customer is more.

Customer Preference on Holiday



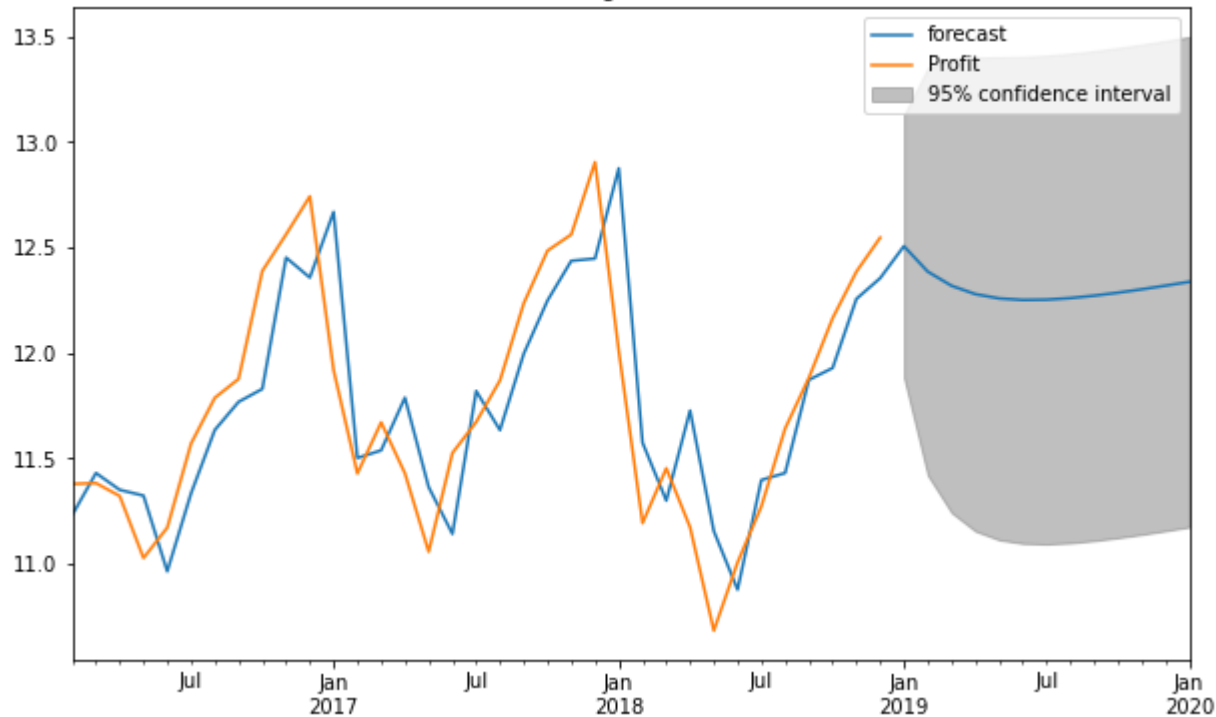
Ride analysis on Holiday in
Pink cab dominant cities

San Diego has more rides
on Holidays as compare to
cities where Pink cab
dominates and here also
Yellow cab is giving tough
competition to Pink cab

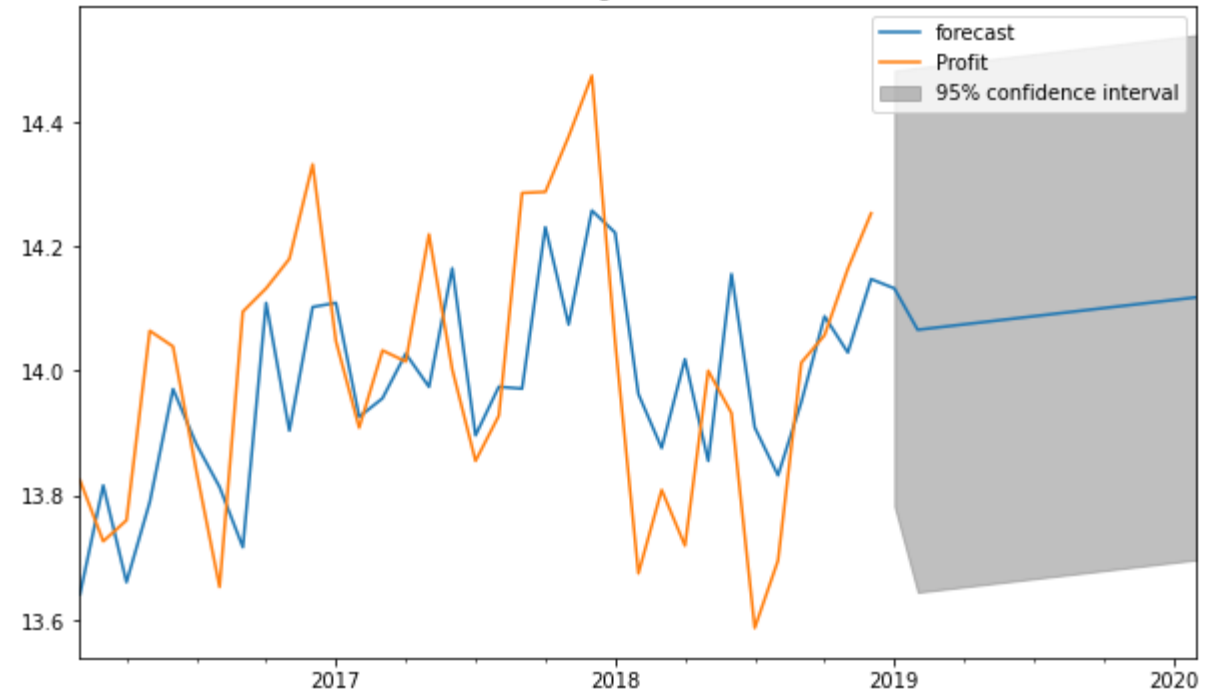
Profit Forecasting for 2019

Profit Forecasting for 2019 for Pink Cab and Yellow Cab

Profit Forecasting for 2019 - Pink Cab

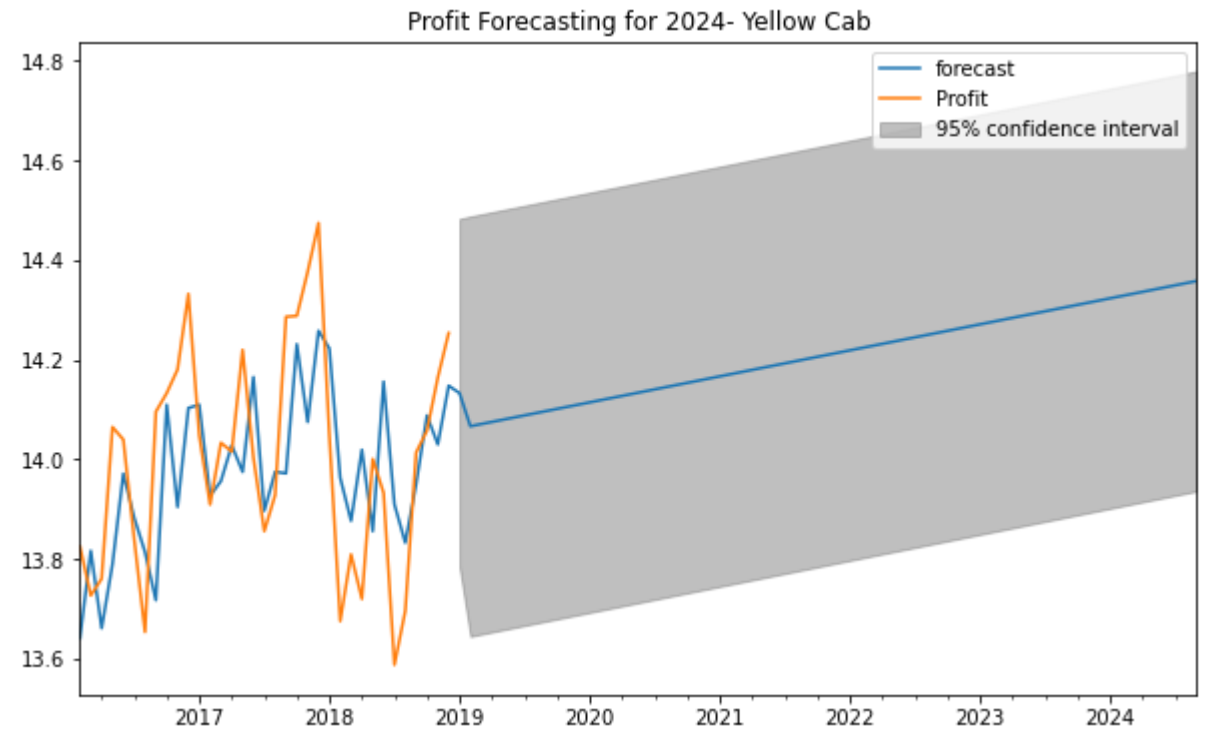
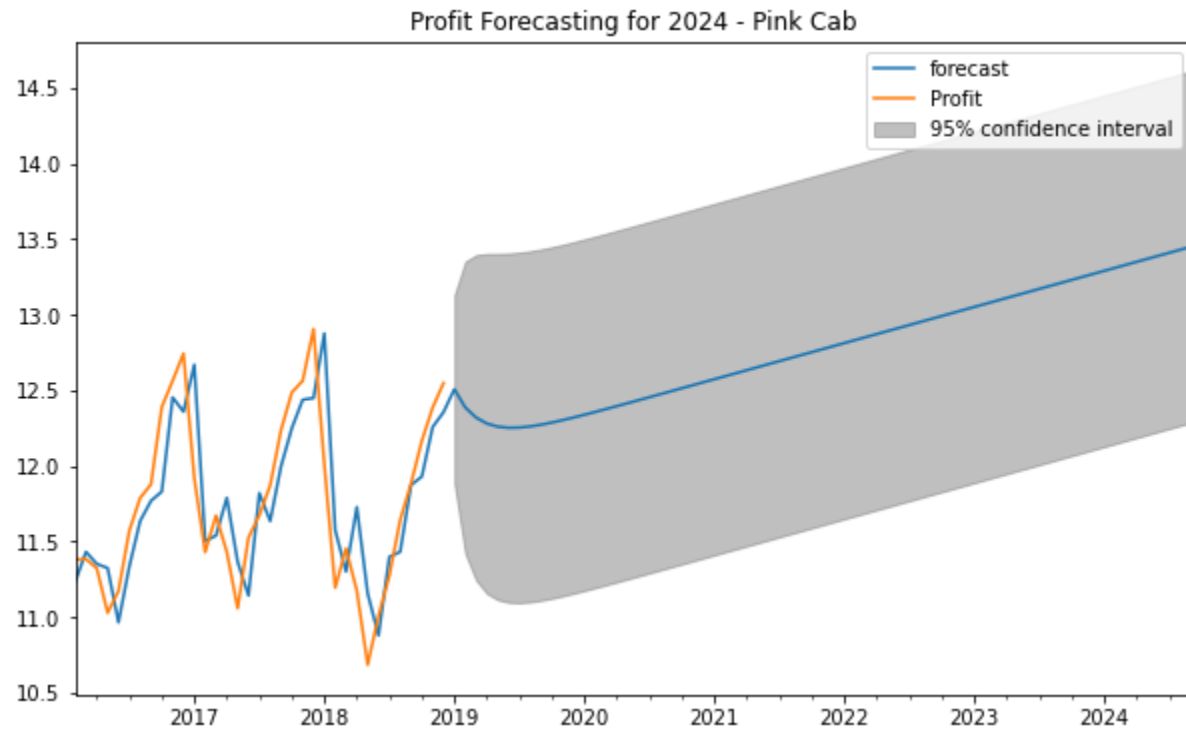


Profit Forecasting for 2019 - Yellow Cab



Profit Forecasting for 2024

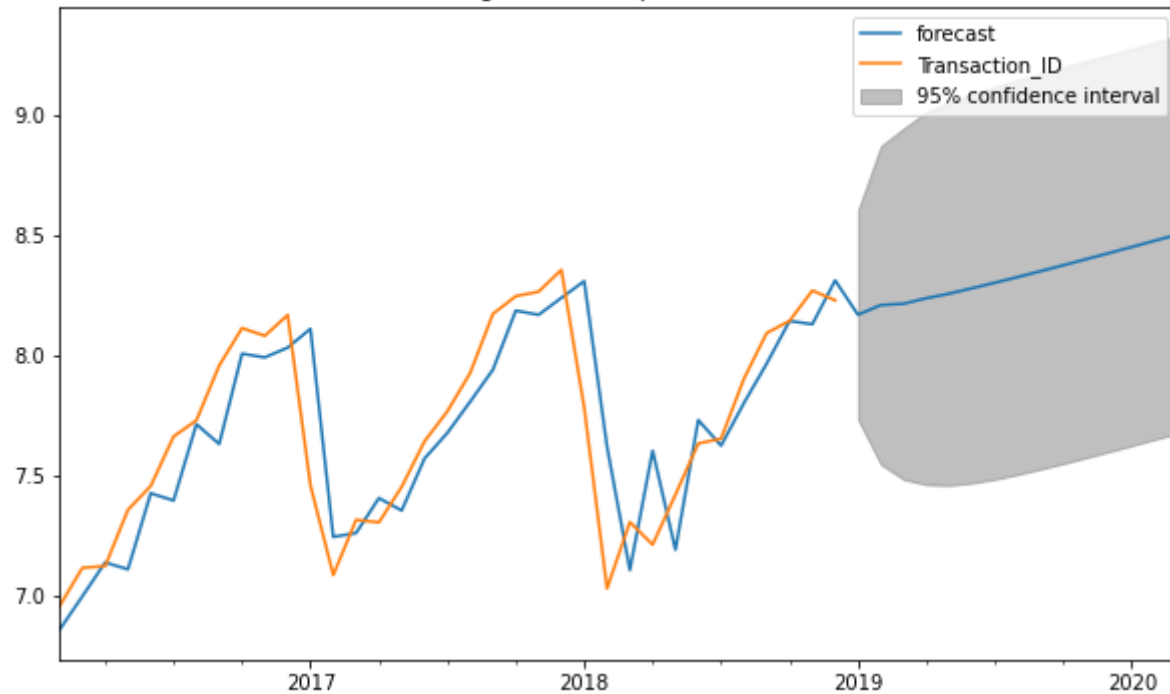
Profit Forecasting for 2024 for Pink Cab and Yellow Cab



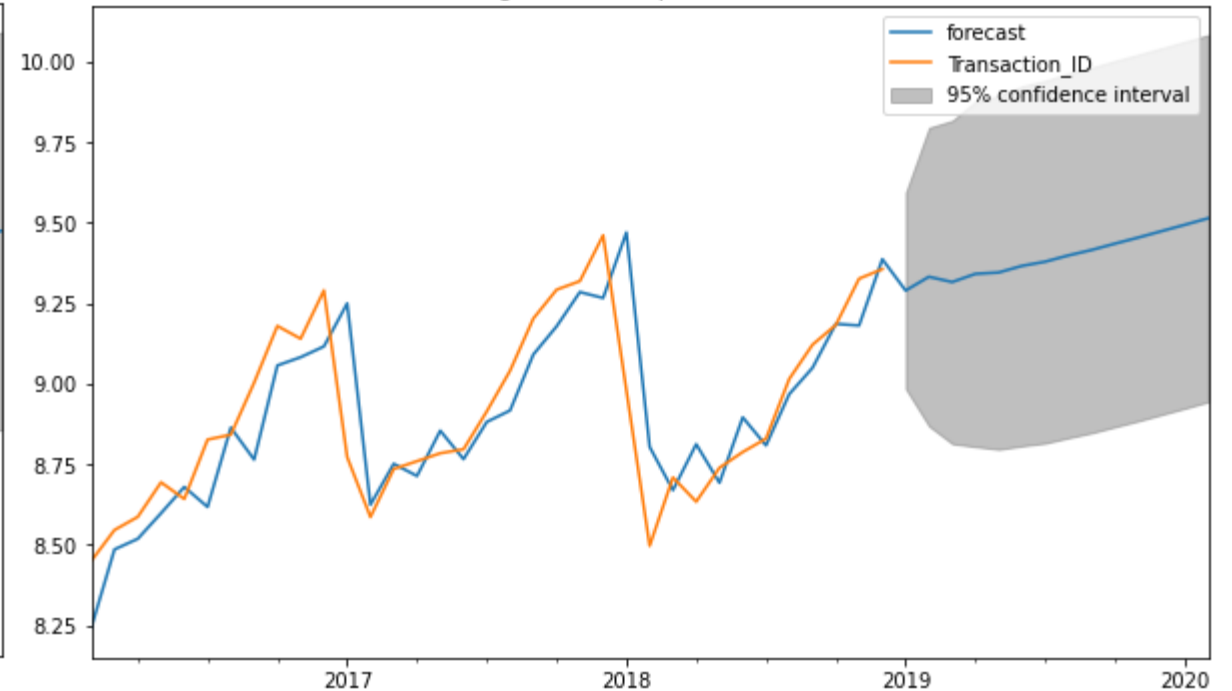
Trip Forecasting for 2019

Trip Forecasting for 2019 for Pink Cab and Yellow Cab

Forecasting of No. of Trip of Pink Cab - 2019



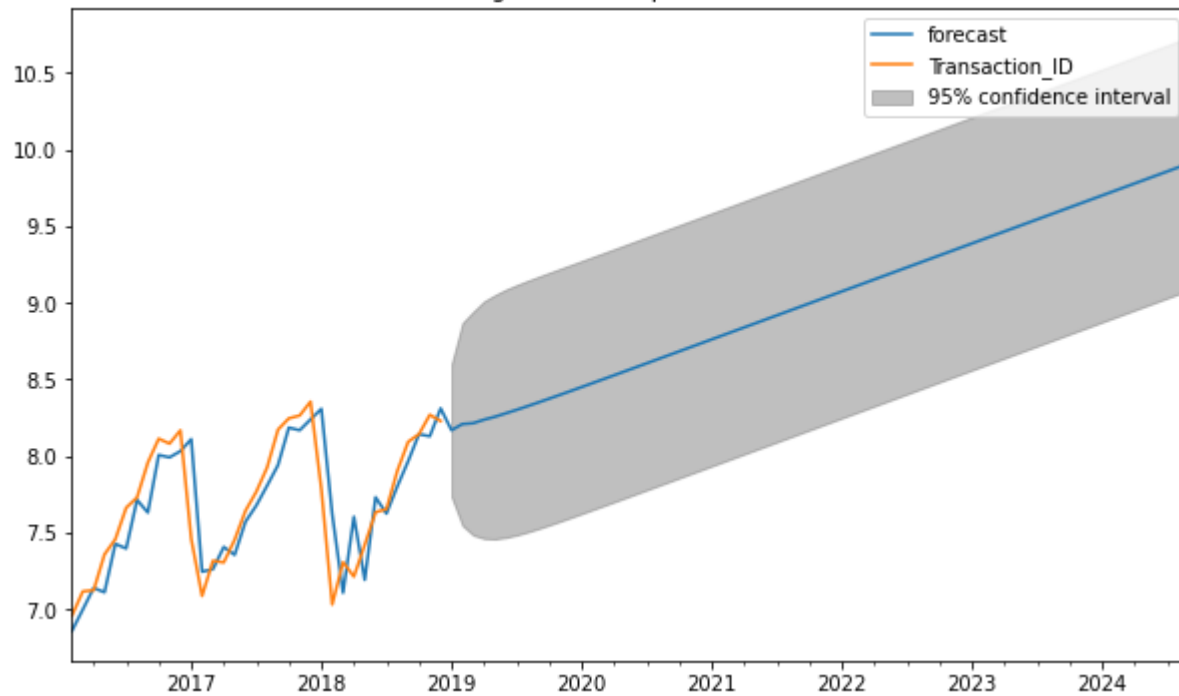
Forecasting of No. of Trip of Yellow Cab - 2019



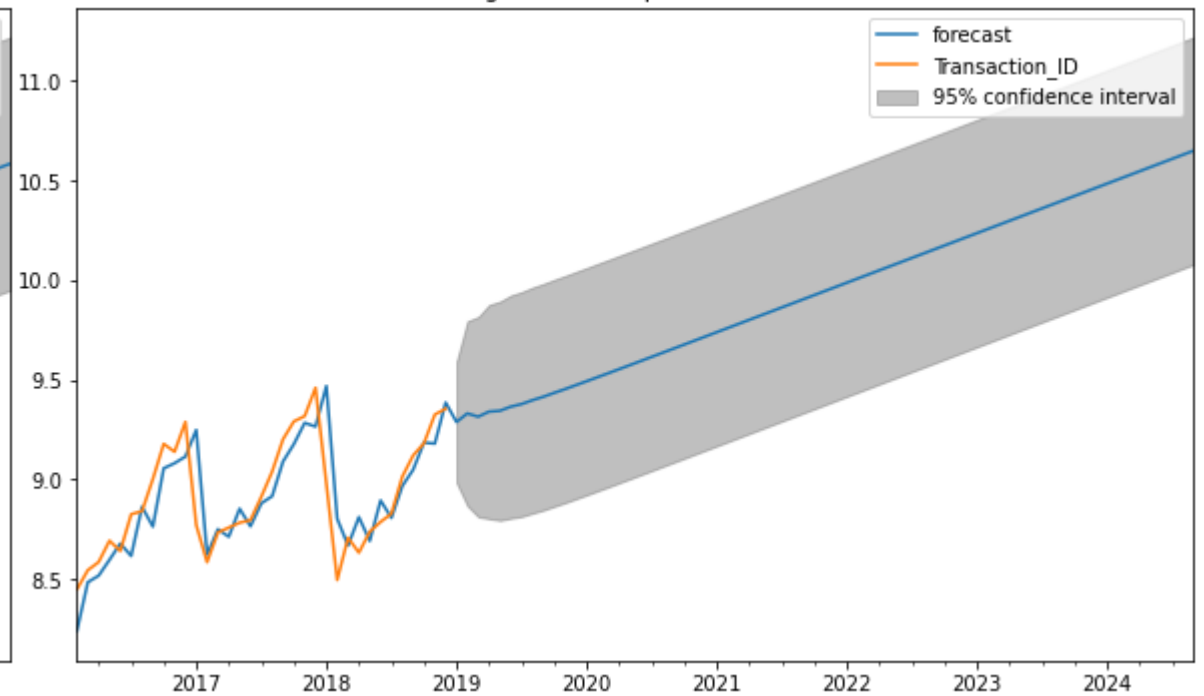
Trip Forecasting for 2024

Trip Forecasting for 2024 for Pink Cab and Yellow Cab

Forecasting of No. of Trip of Pink Cab - 2024



Forecasting of No. of Trip of Yellow Cab - 2024



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 26-33 age group.
- **Average Profit per KM**: Yellow cab's average profit per KM is almost three times the average 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).
- **Ride count and Profit Forecasting** : Pink Cav has loss in the profit and low no. of ride. Yellow cab has loss forecasted no of ride loss is lesser than Pink cab.

Besides that,

- 1.Yellow Cab are dominating the market and haven't lost much business to Pink Cabs and above all it has more profits.
- 2.New York is the city with the most visitors per year and it is the city in which Yellow Cab has the most presence.
- 3.Pink Cab has potential and can grow much more if implemented some policies better
- 4.Yellow Cab has the politice to give more discount in high season and decrease in slow seasons.
- 5.Yellow Cab increases its margins when there are less customers and decrease when there is season, and I beleive thats a good business model
- 6.I believe that yellow cab will continue to dominate the market for a longer period of time

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

Thank You



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