



Data Glacier

Your Deep Learning Partner



G2M: Cab Investment Analysis

Virtual Internship Case Study

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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



Analyzing profit and number of rides for each cab type



Finding the most profitable Cab company



Recommendations for investment

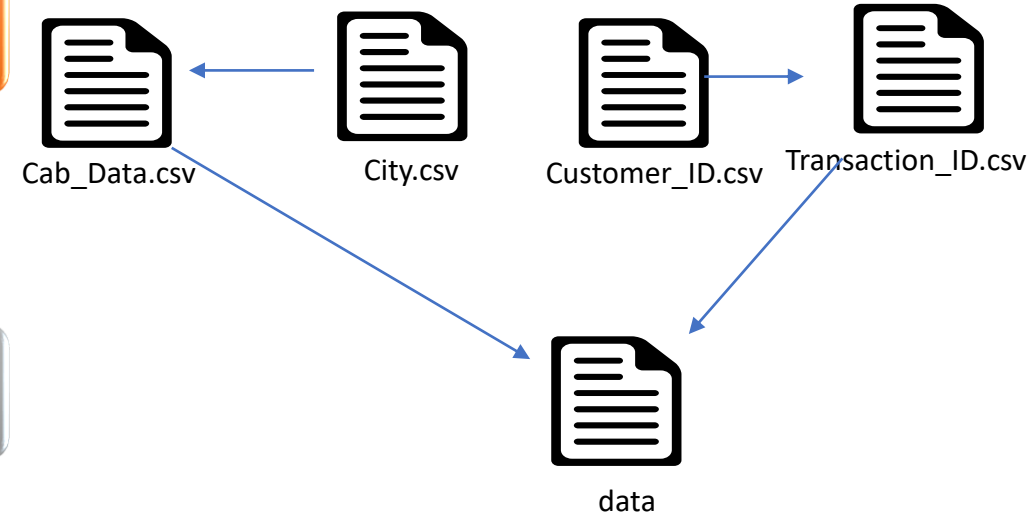
Our Dataset

Dataset:

- 22 Features(including 10 derived features)
- Timeframe of the data: **2016-01-31 to 2018-12-31**
- Total data points :359,392

Postulations:

- Most High-Income Earners use the costliest cab services
- Season and Distance determine the market price in the hailing businesses
- Cities with high usability gives more price value to Cabs.
- Most female gender use cab services more than males

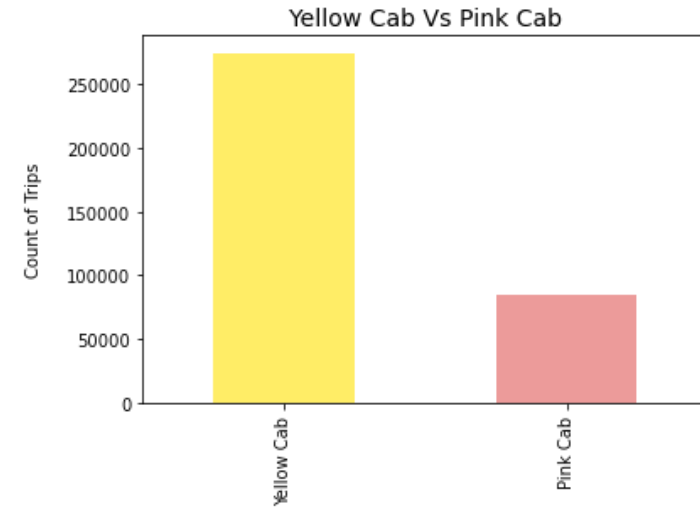
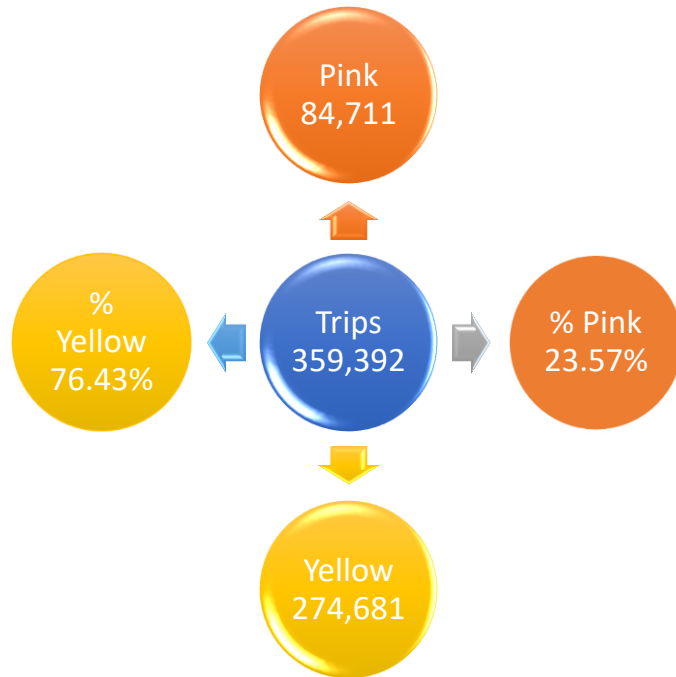


Data Exploration: Preprocessing

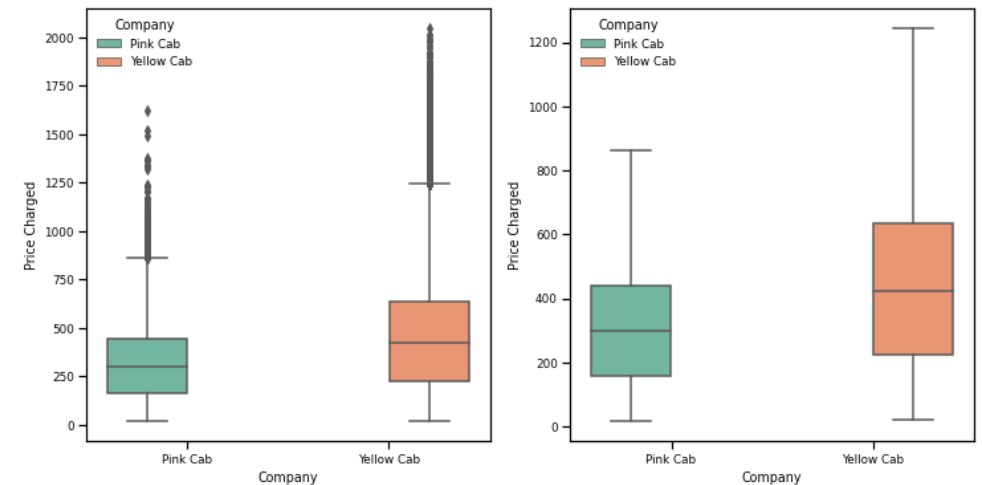
Checked the nature (datatypes) of the dataset for meaningful insights

Checked missing values after the obtaining the final datasets: zero (0)

Number of duplicates : 0

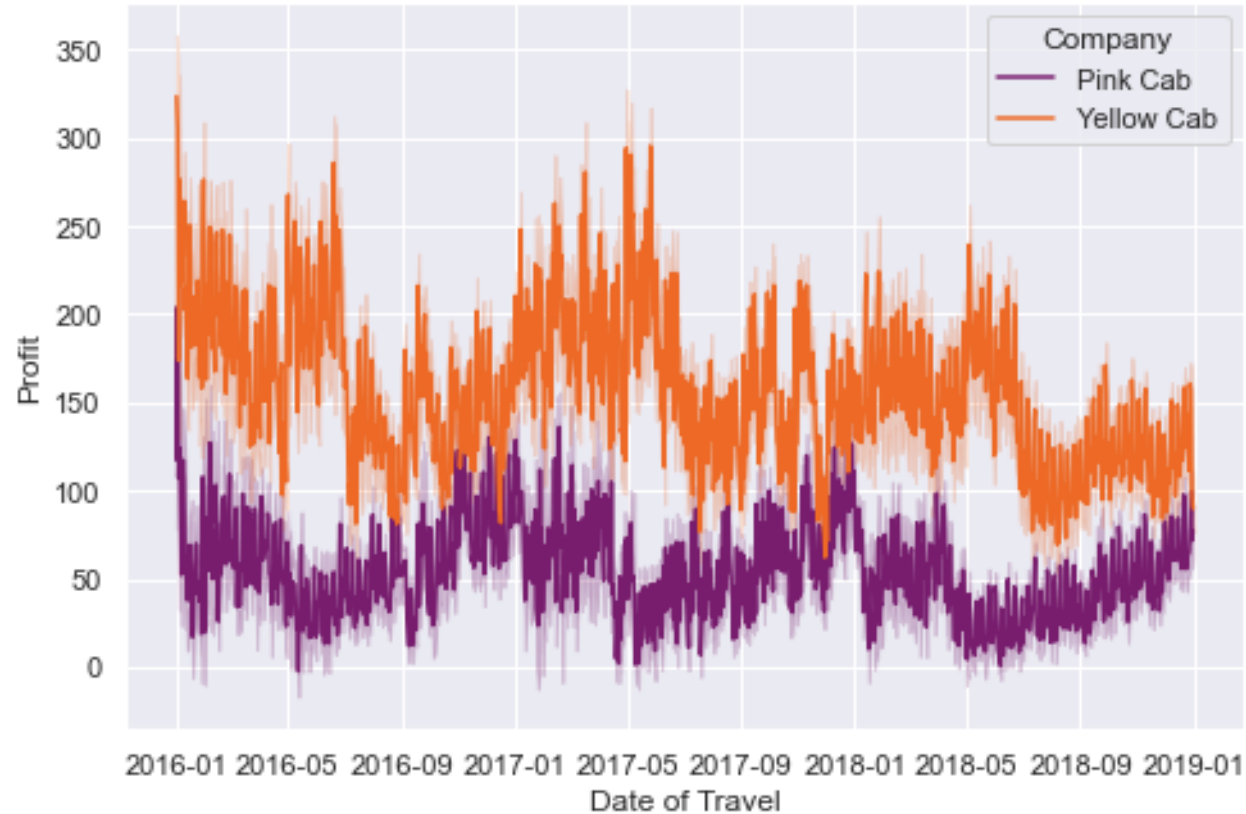


Company Distribution by Trip Charge

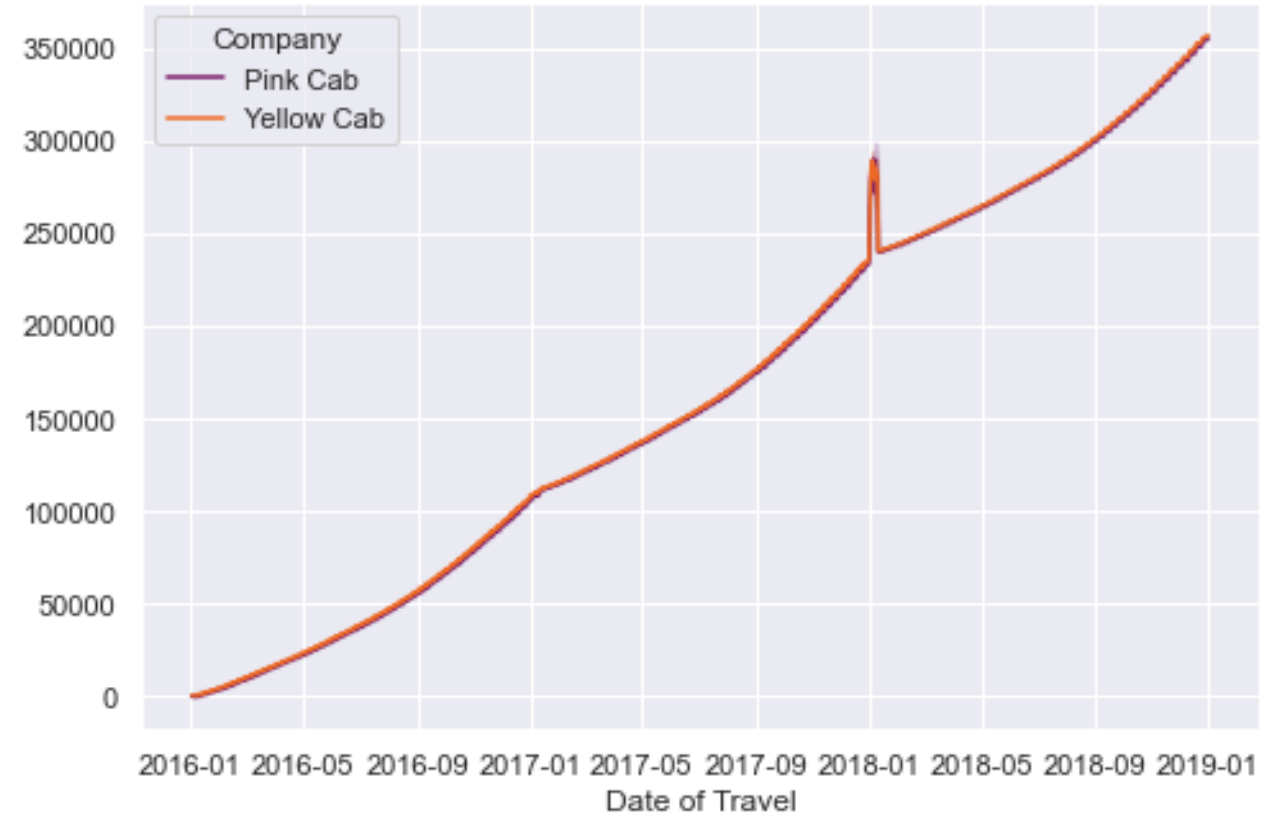


Profit vs Trips Analysis

Trend of Profit by Company

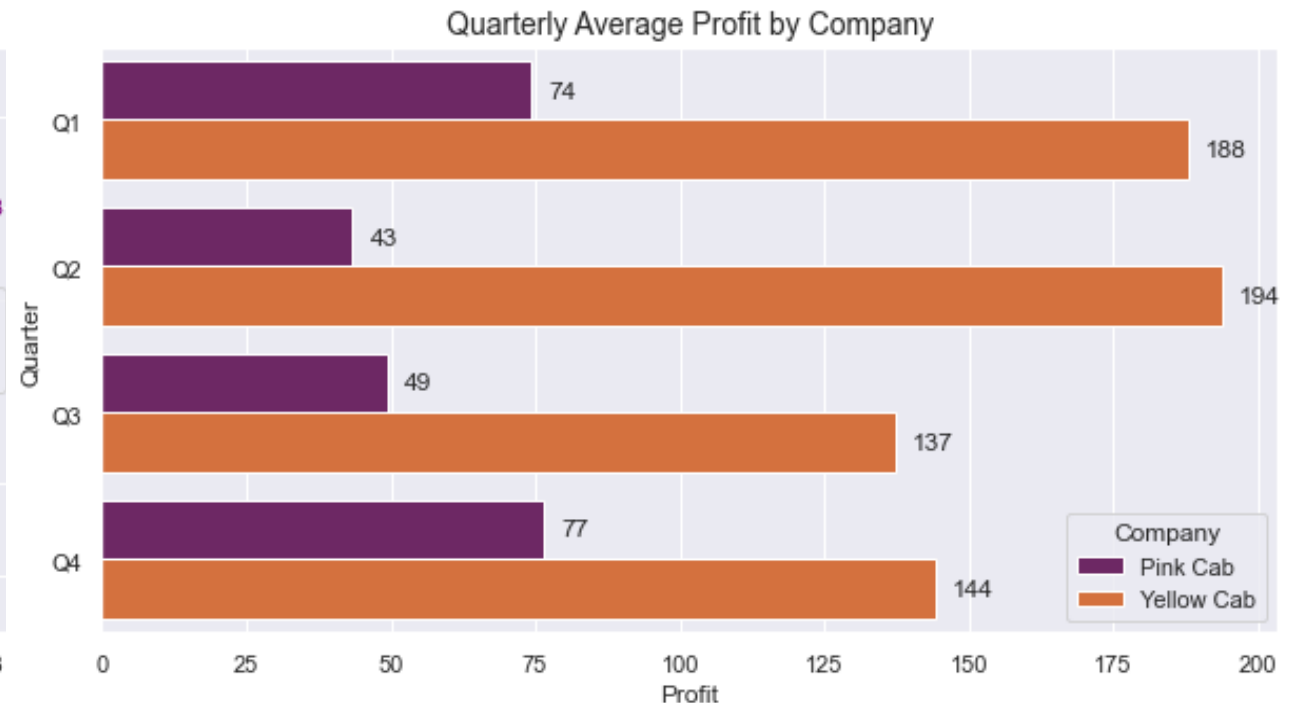
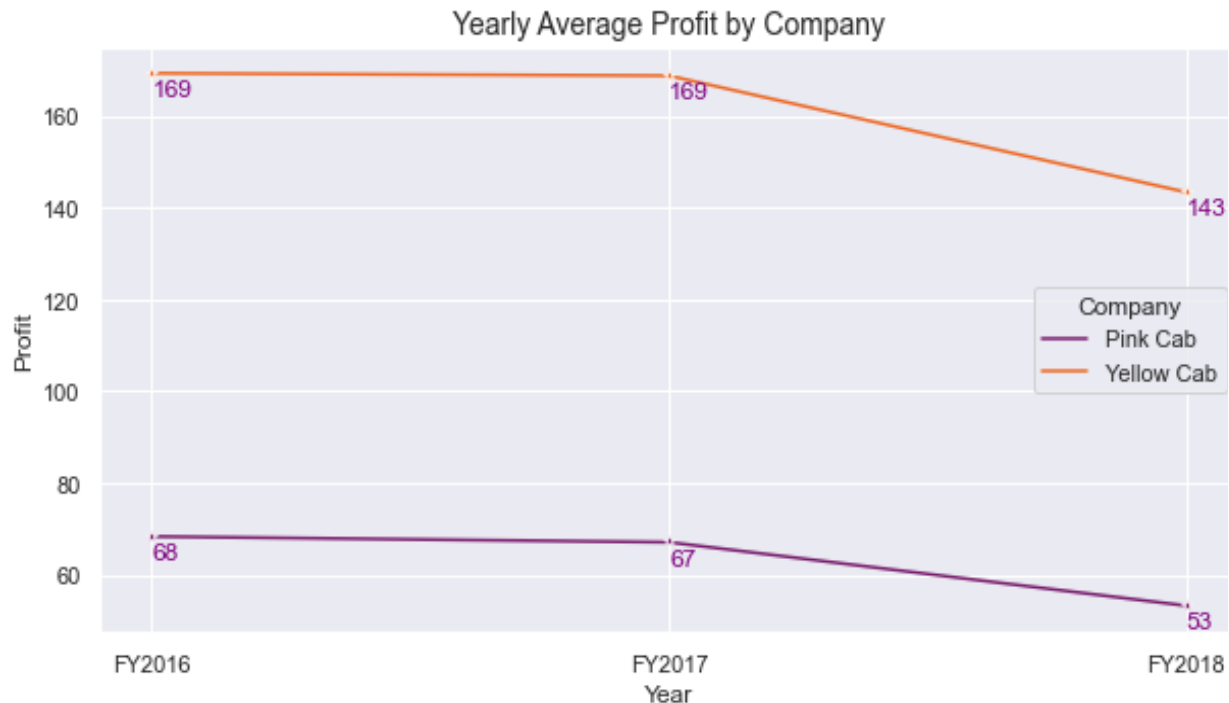


Trend of Trips by Company



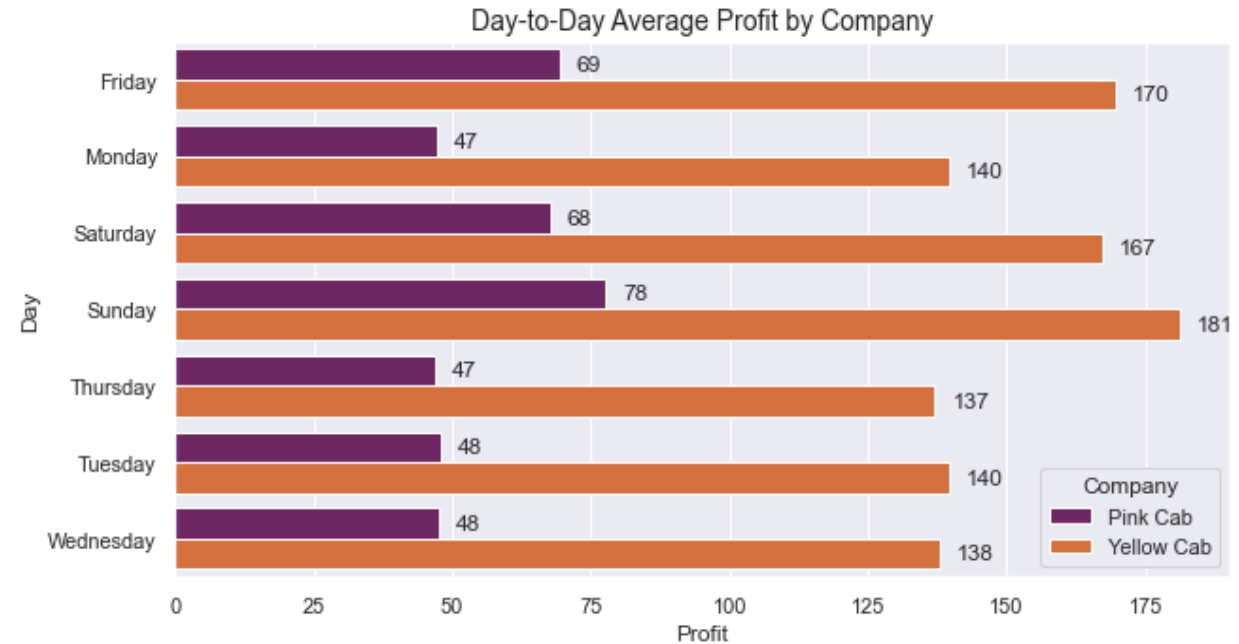
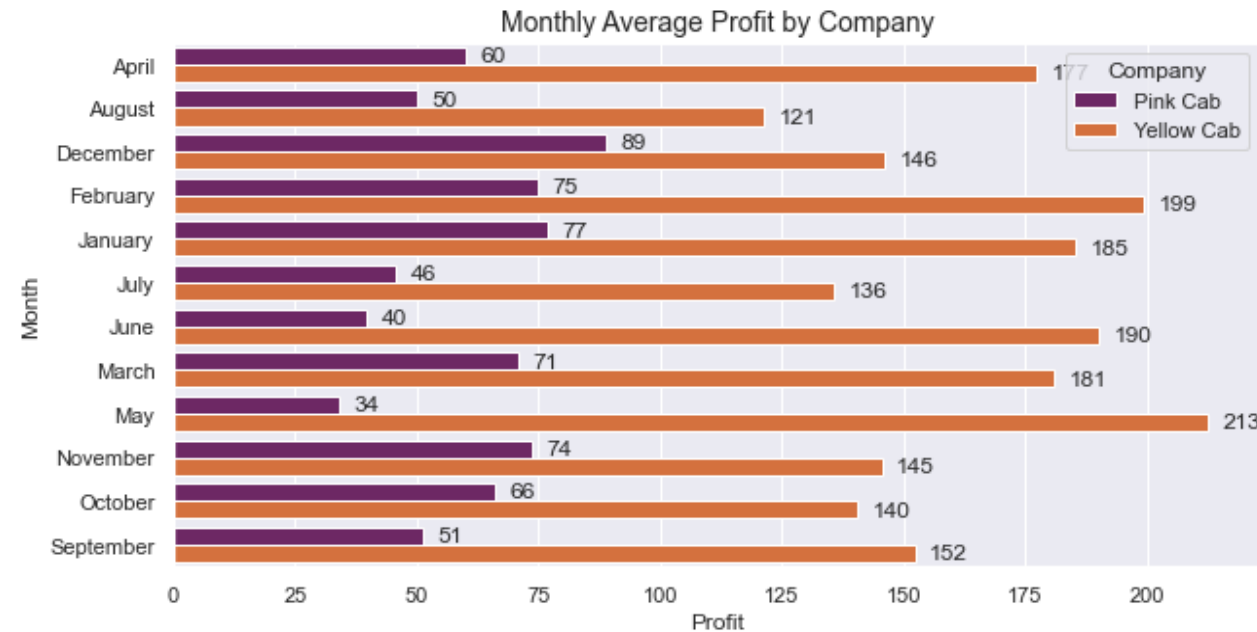
- Overall, the Yellow Cab company makes more profit than Pink across the trend
- There has been a high demand in the cab business by virtue of number trips seen across the years

Yearly vs Quarterly Average Profit Analysis

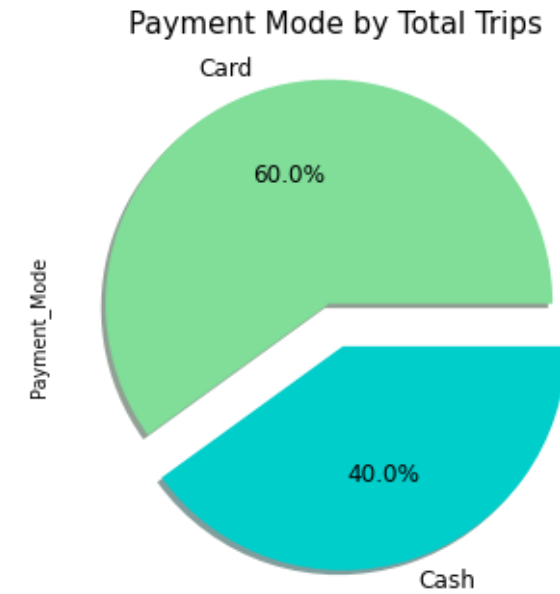
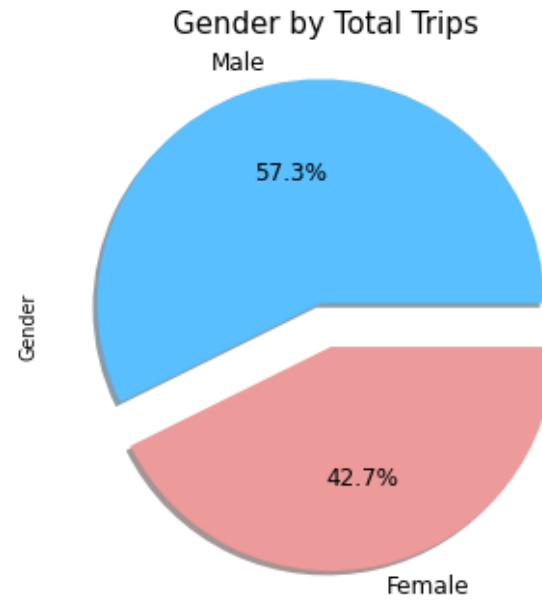
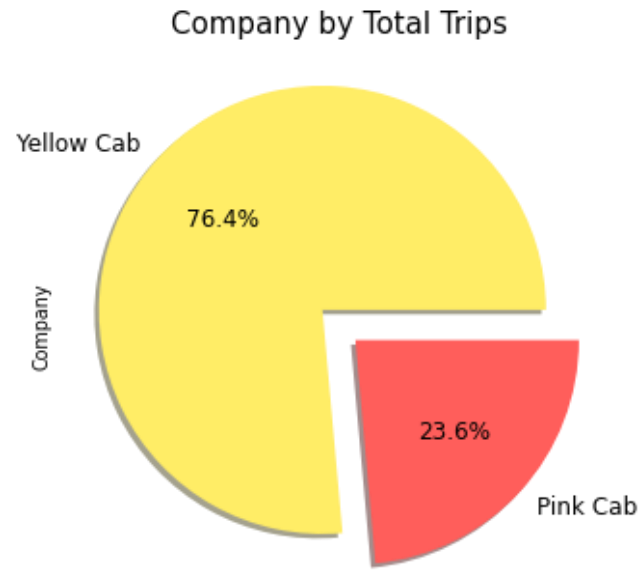


On yearly basis, the Yellow Cab makes an average of 100 units profit more than Pink Cab with a slight decline in the business between 2017 and 2018. Judging by quarter; Q1 and Q2 are the best times for yellow cabs, while Q4 is rather suitable for pink cabs compared to Q2 in terms of profit making.

Monthly vs Day-to-Day Average Profit Analysis



On monthly basis, the Yellow Cab makes very significant average profit more than Pink Cab with more profits usually coming in between February and June. For day of the weeks, weekends (Fridays to Sundays) are the best times for the both cab services providers.

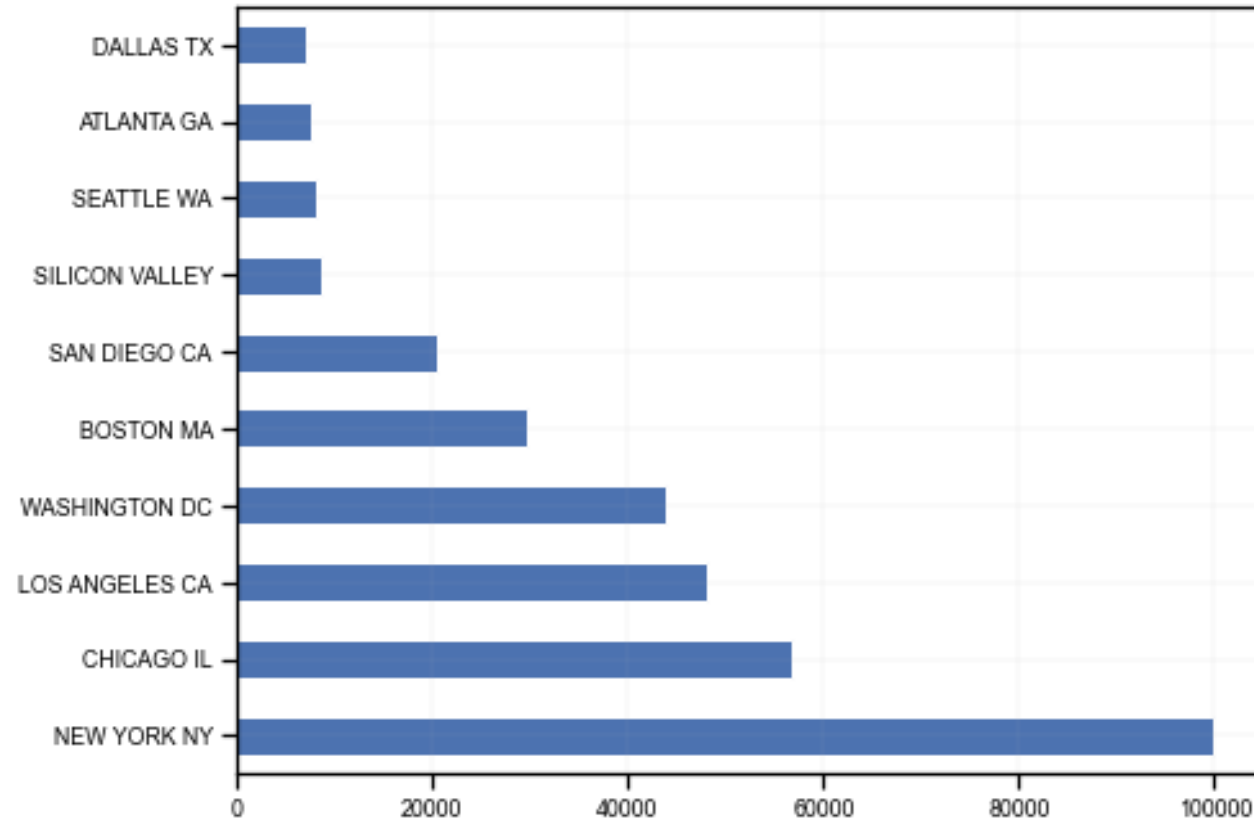


Analysis by Total Trips

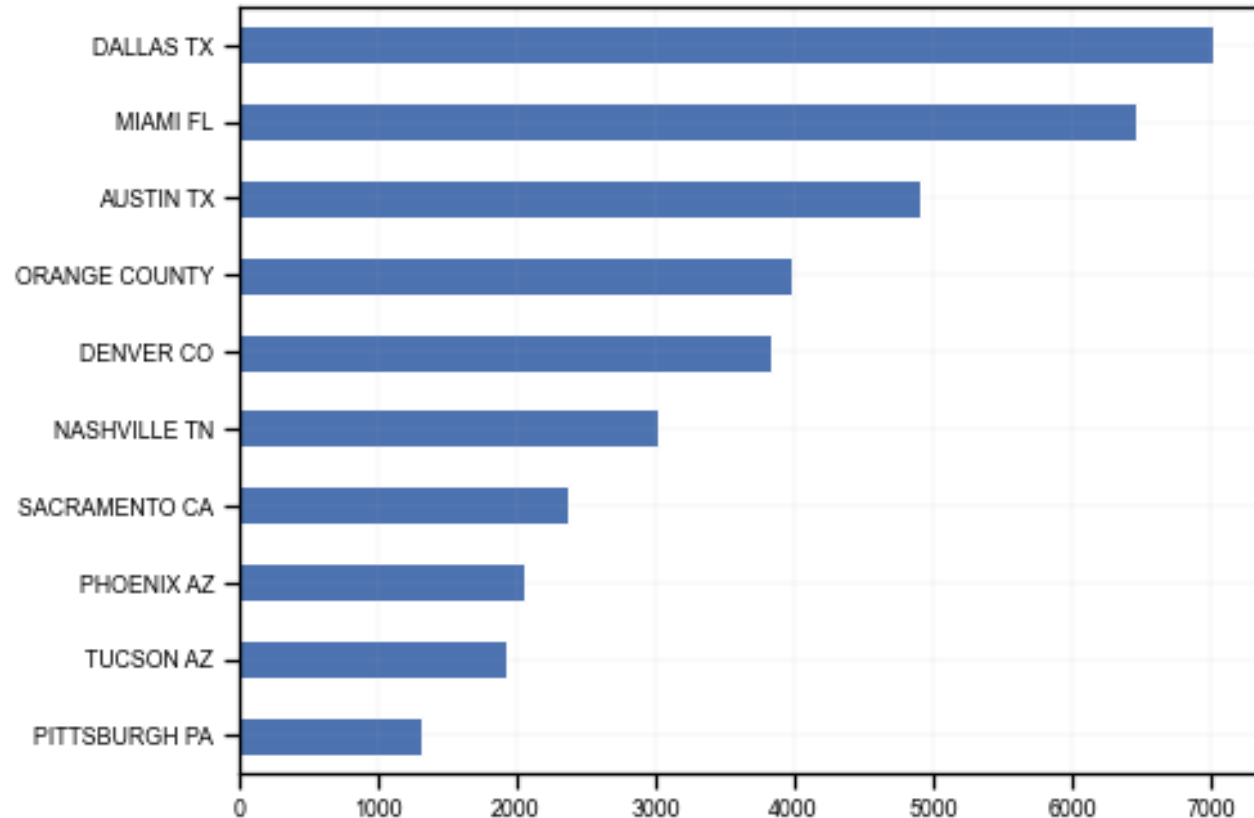
- There is almost equal distribution of gender
 - Cards are used more by users.

Top 10 vs Bottom 10 Cities by Total Trips

Top 10 Cities by Total Trips

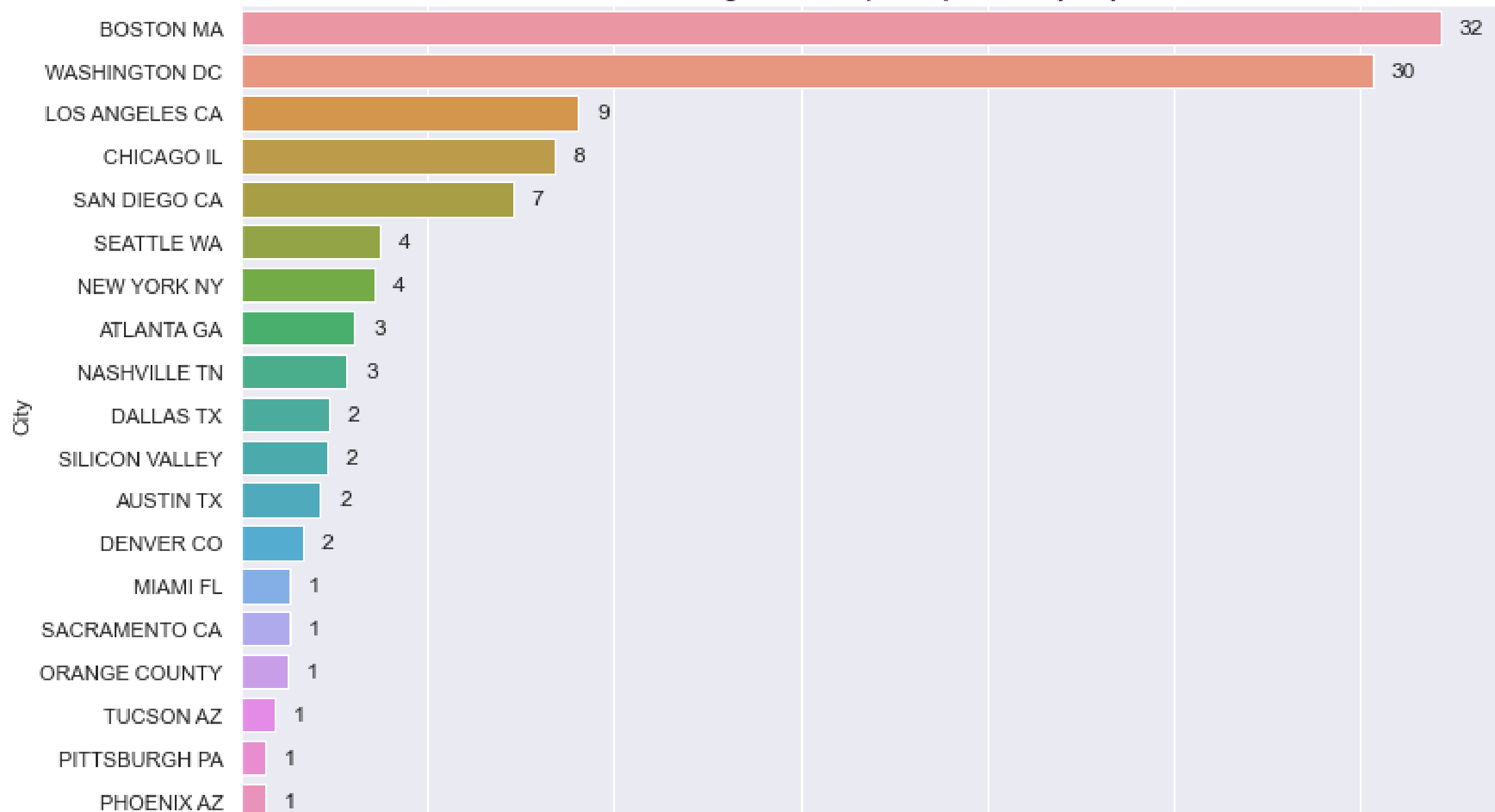


Bottom 10 Cities by Total Trips

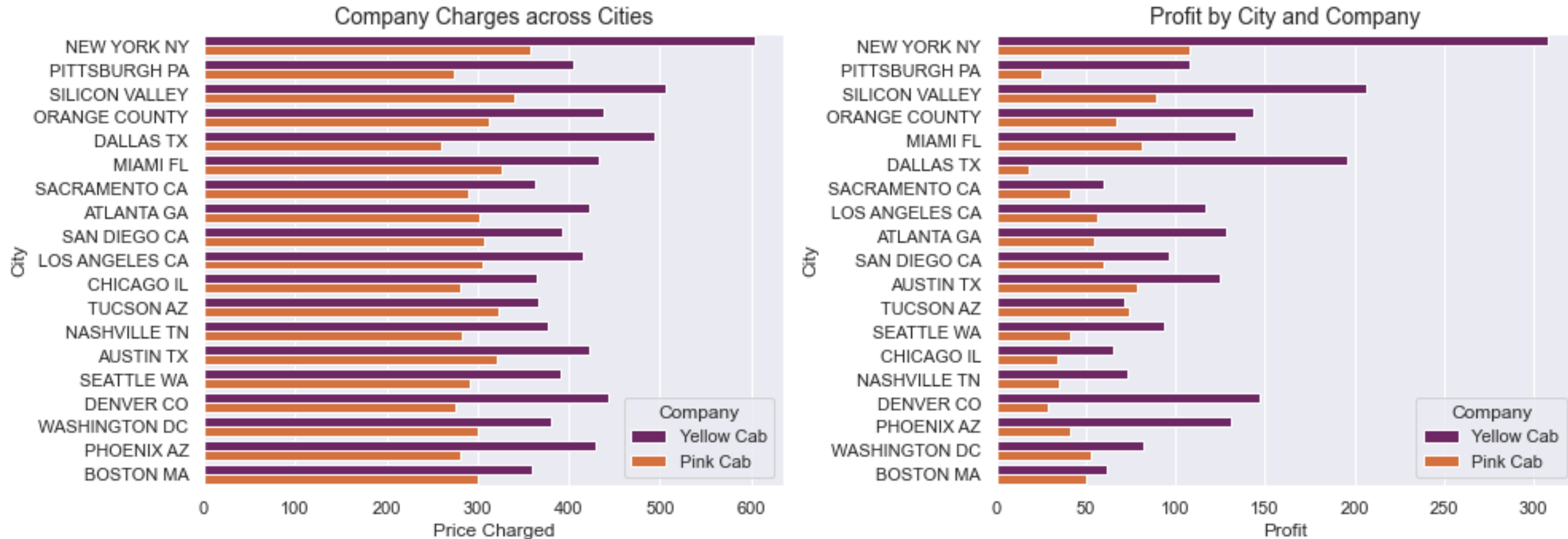


Analytics shows that most cities with highest number of trips are New York, Chicago, and Los Angeles. They are also the cities with the most users to population density. This shows high conversion rate and where the highly active customer base lies.

Percentage of Users per Population by City

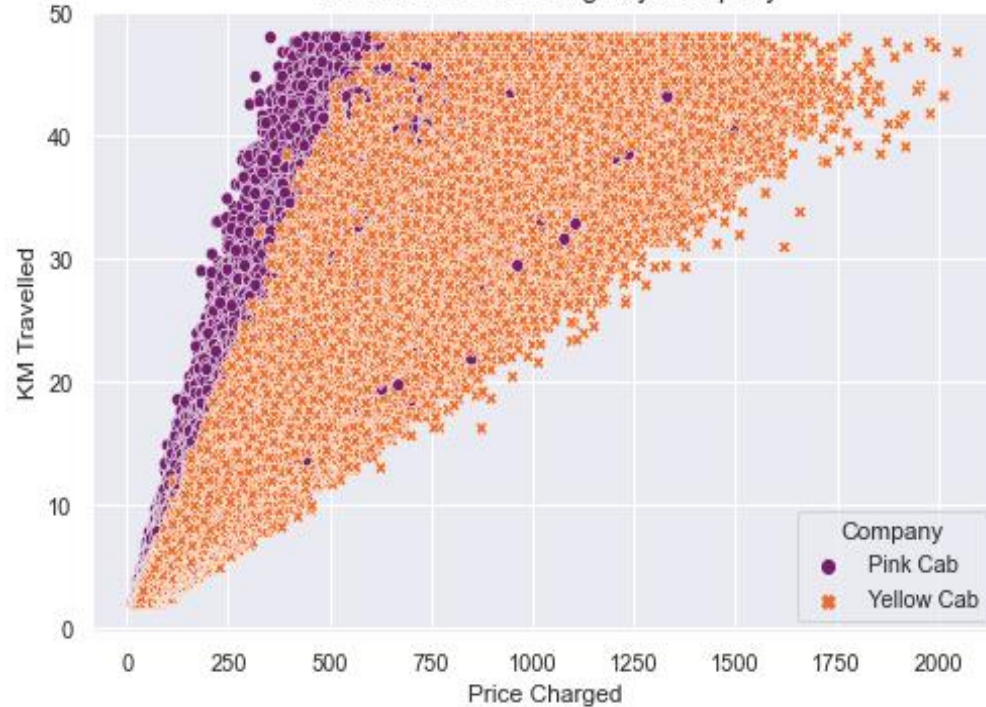


Who controls the Market?

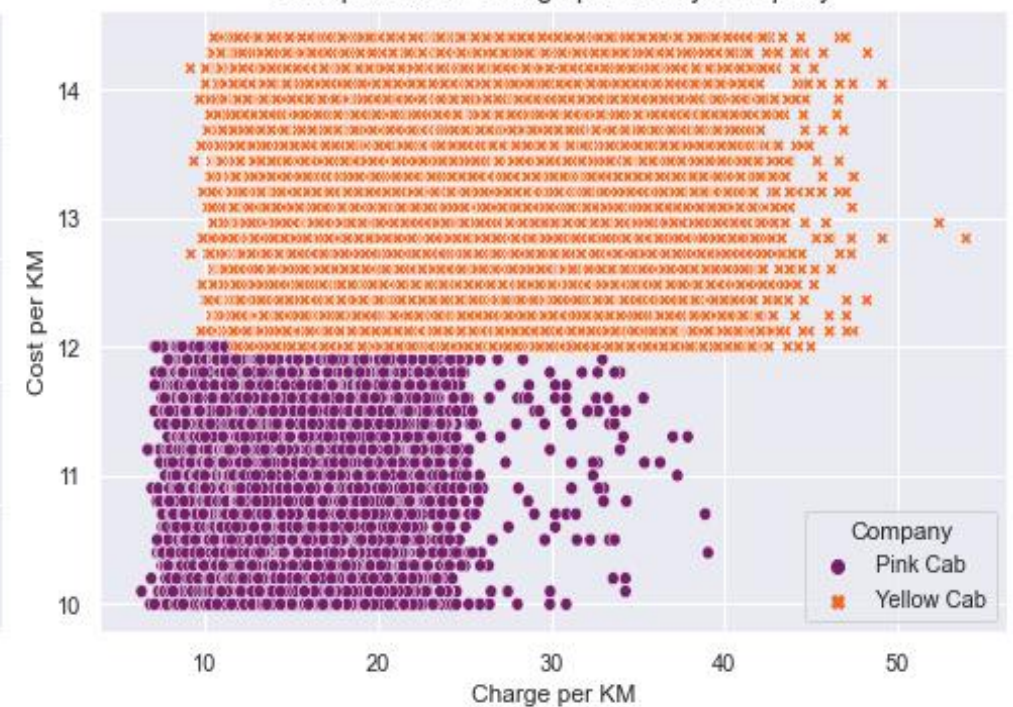


Data shows that the Yellow Cab company controls the market by all margin – charges more, makes more profit and serves over 70% of the instances from this dataset.

KM Travelled vs Charge by Company



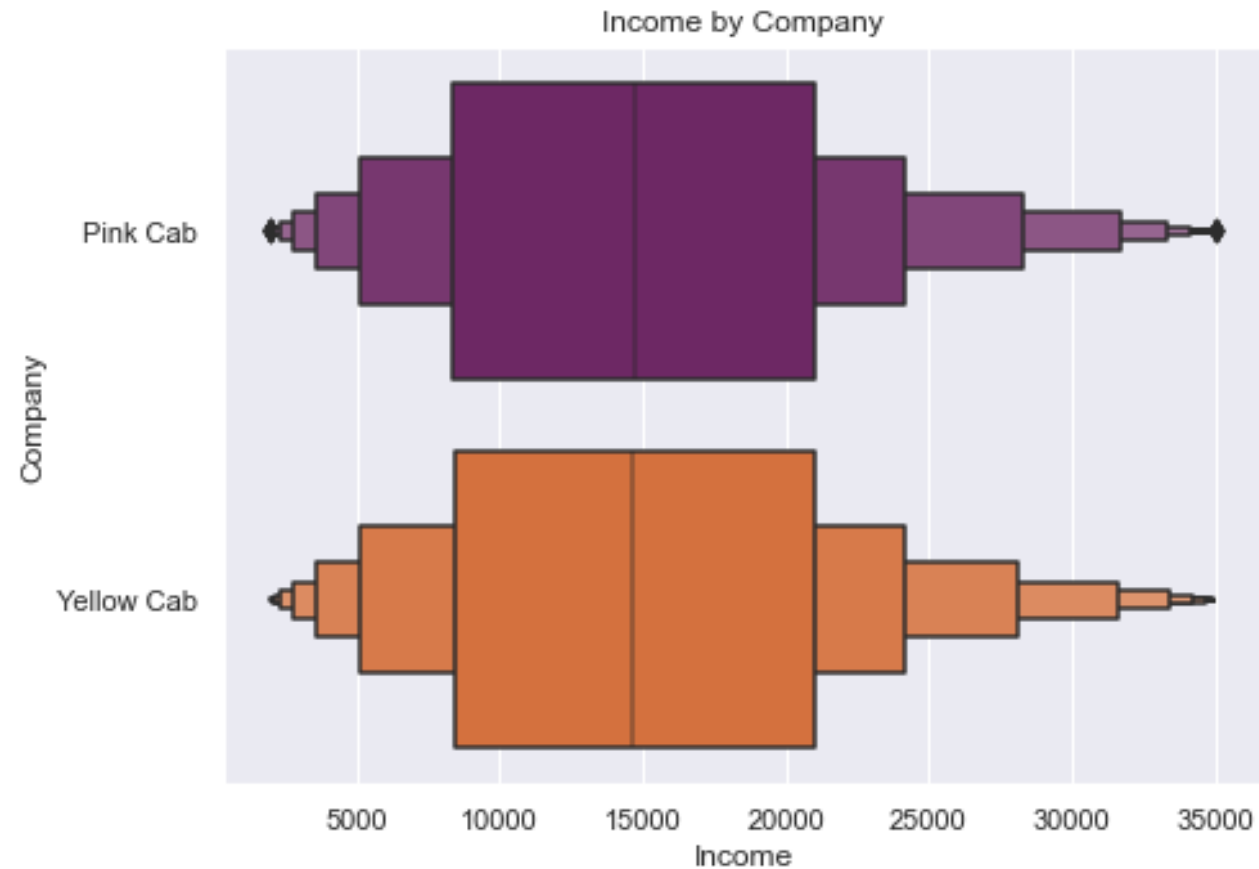
Cost per KM vs Charge per KM by Company



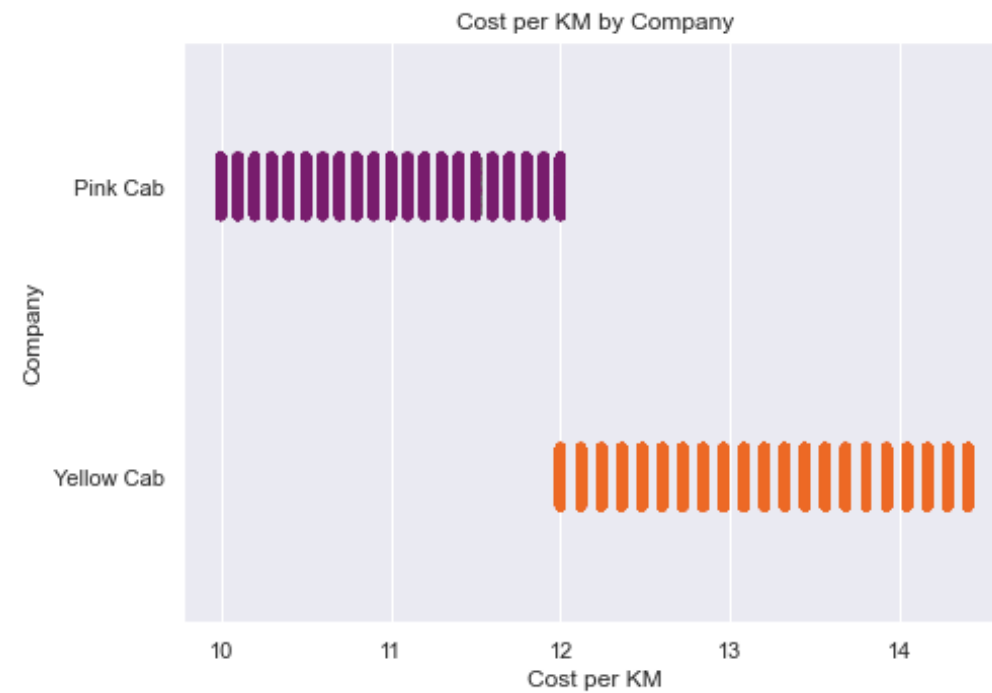
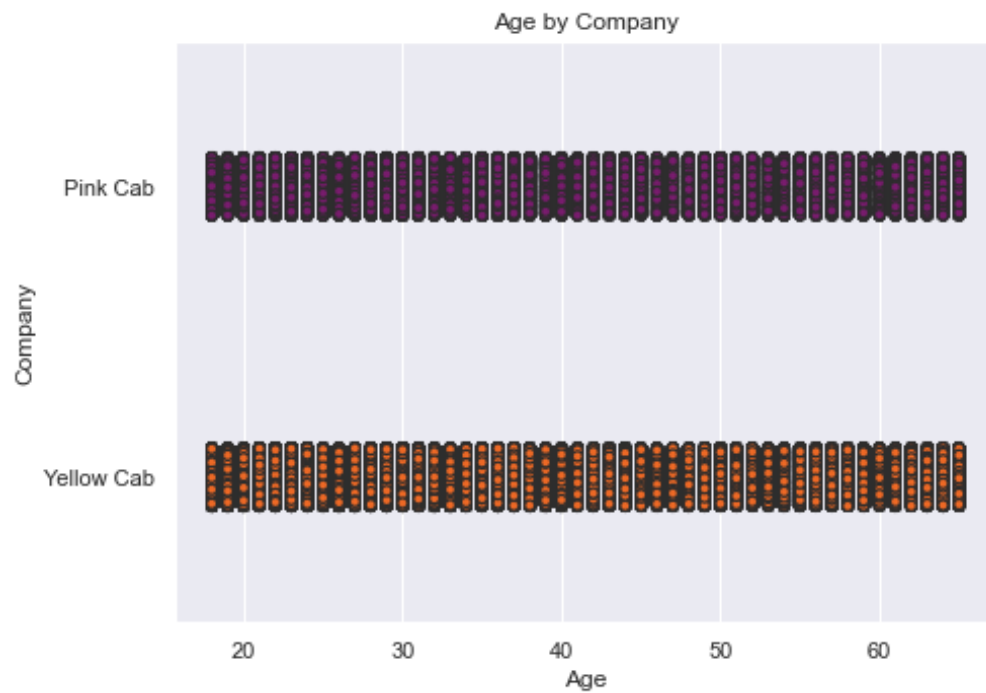
Market
Spread of
Yellow and
Pink cab by
Price

- When placed side by side, Yellow Cab attracts more price value per same distance covered
- Yellow Cab doesn't charge less than \$12 per KM – which indicates a high standards over Pink cab

Does Income matter?



Regardless of users income, it didn't determine which band of income earners uses any cab services; which goes against our postulations.



Does Age matter?

- Regardless of user's age, it didn't determine which age group uses any cab services more. They are evenly distributed
- However, company set their cost prices according to their business playbook. So Yellow Cab spend more to gain more.

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 than Pink cab in a 3 to 1 ratio. We have also observed that Yellow cab is doing good in covering other cab users as compared to Pink cab.
- **Age wise Reach**: There is no factor of age as the age groups are even distributed across the users of the two cabs regardless of the user density.
- **Gender wise Reach**: There is no factor of gender as there is almost an even distribution across the users of the two cabs by gender
- **User Population**: There is no solid correlation between high value market across locations with high user population density. Cities like Boston and Washington with high user density are not at least in the top 3 of cities with high profit value across the two cabs
- **Seasonality**: There is seasonality in the business judging by quarterly, monthly and day-to-day profit analysis. Q1 and Q2 are best for Yellow Cabs while Q4 is when Pink Cab cashes out compared to Q2
- **Cost per KM**: Yellow cab's cost per KM double times the cost per KM of the Pink cab because their playbook is; high quality of service for high charges. This is an indication of a category king as it is evident in the charges per same distance.
- **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)
- **Trips and Profits Analysis** : Both the companies are facing loss in the profit between 2017 and 2018. However, by every other times of a calendar year, Yellow Cab has the grounds in terms of profit and market value.
- **Based on above points, we will recommend Yellow cab for investment.**

Thank You



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