Data Glacier

Exploratory Data Analysis
G2M insight for Cab Investment Firm

18-June-2022

Agenda

Data Glacier

Your Deep Learning Partner

Executive Summary

- 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 and as per their Go-to-Market(G2M) strategy they want to understand the market before taking final decision.

Problem Statement

- Objective : To help XYZ firm in identifying the profitable and best solution for making investment with understandable visualization and insights.

Approach

- Data Understanding
- Data Cleaning and manipulation
- Analysing and visualizing data to find best cab company
- Finding the most profitable and used Cab company
- Recommendations for investment

Data Exploration

- 17 features in total including 2 derived features
- Time Frame: 2016-01-31 to 2018-12-31
- Total Data: 359392
- Merged every dataset into one master data and then divided it into two data on the basis of cab company.
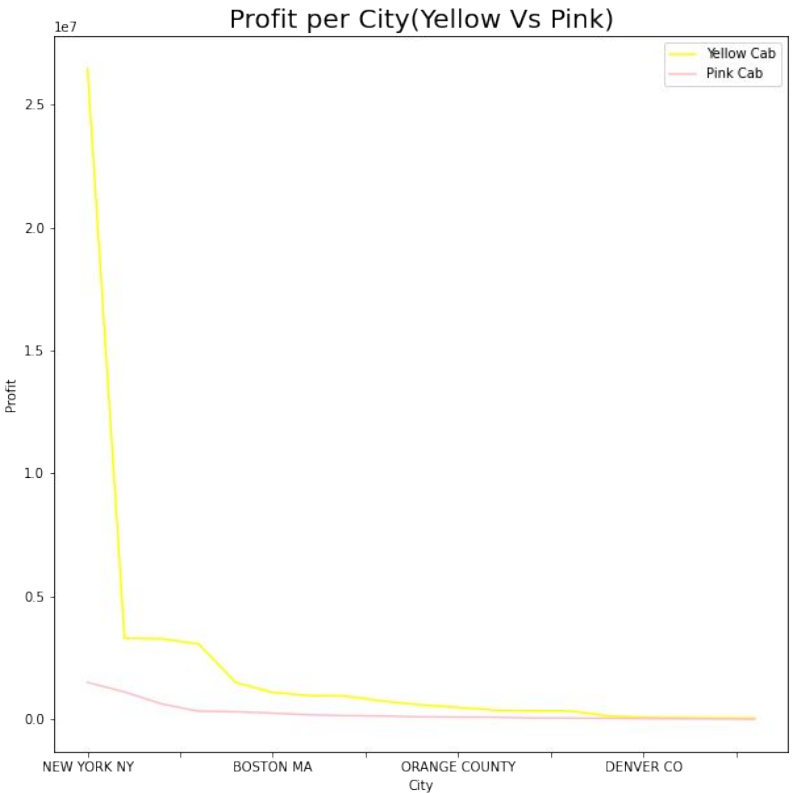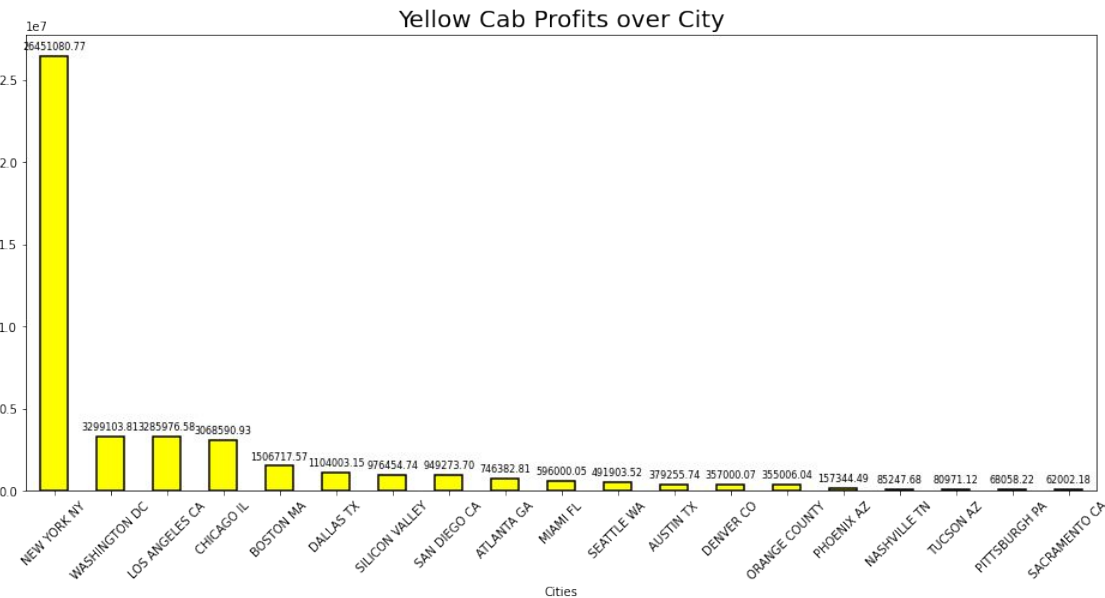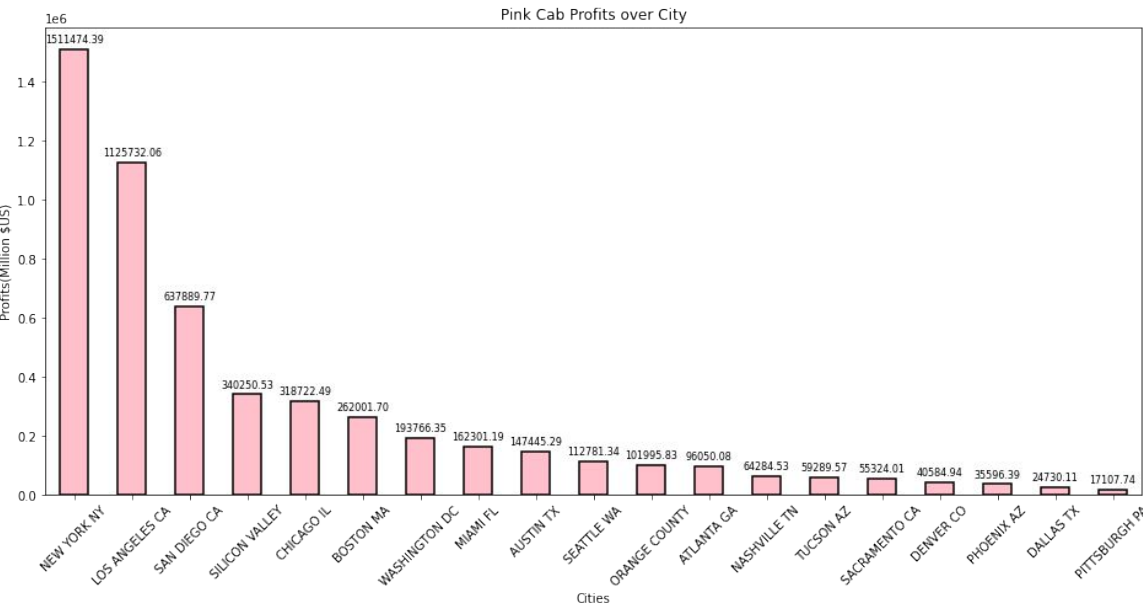
Note:

- We have high number of outliers in Price Charged features but we are ignoring this because Price Charged depends on so many factors which might not given in dataset. So, we will include price charged feature in our data analysis.
- We have 2 derived features Profit and Profit Per KM
- Profit is calculated on the basis of difference between Price Charged and Total cost and Profit per KM is calculated on the basis of Profit and Km Traveled.
- Users feature considered as Total number of users for cab company.

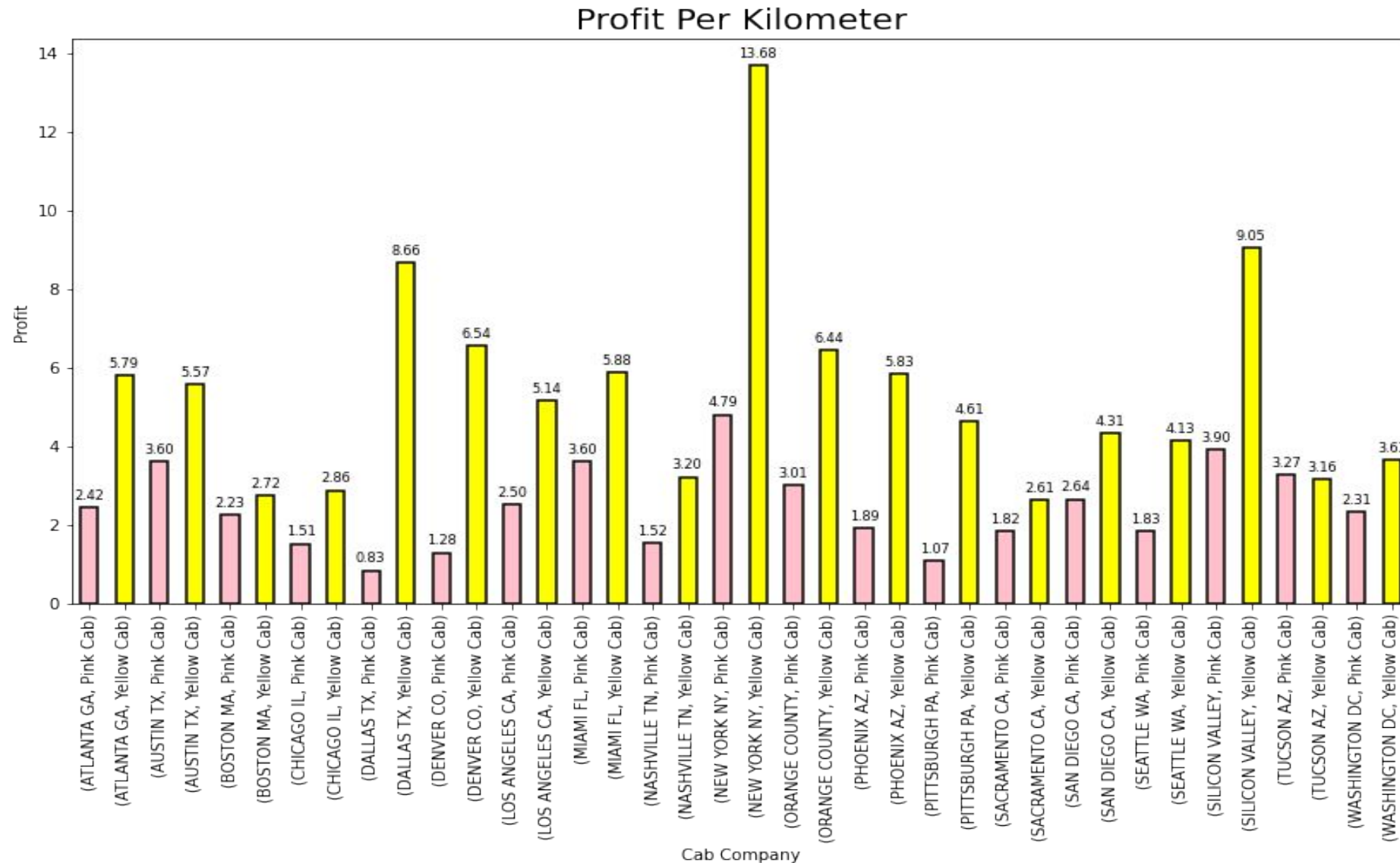# Profit Analysis per Cab Company (overall and Per Kilometer)
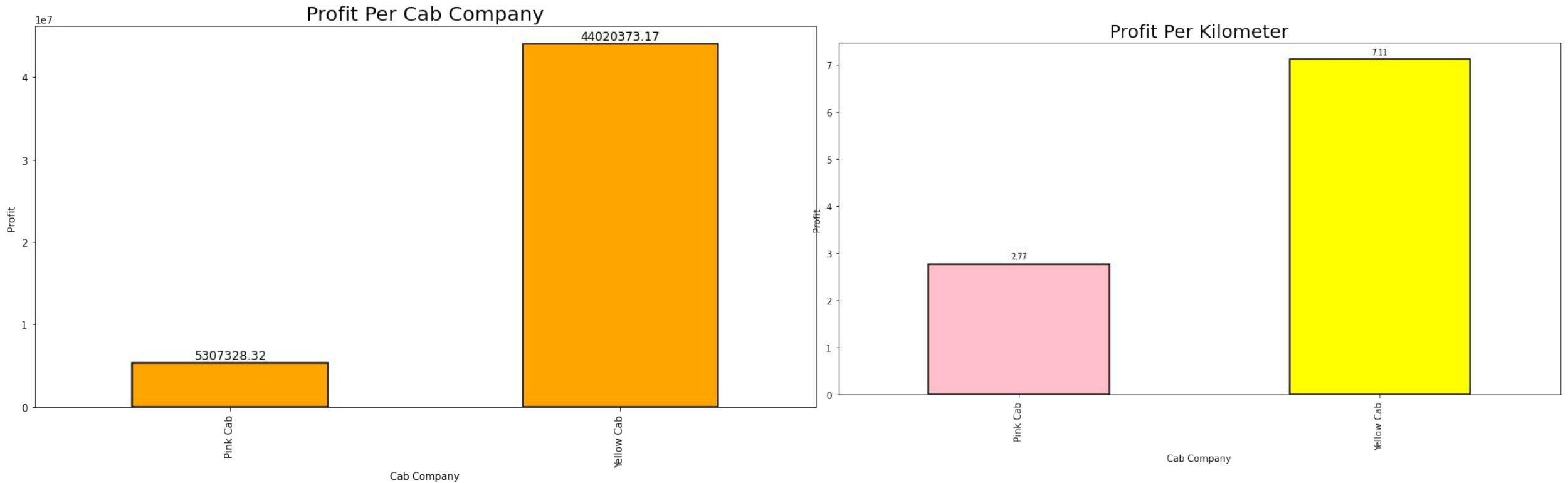
- Yellow cab has 9 times more profit overall than Pink Cab.
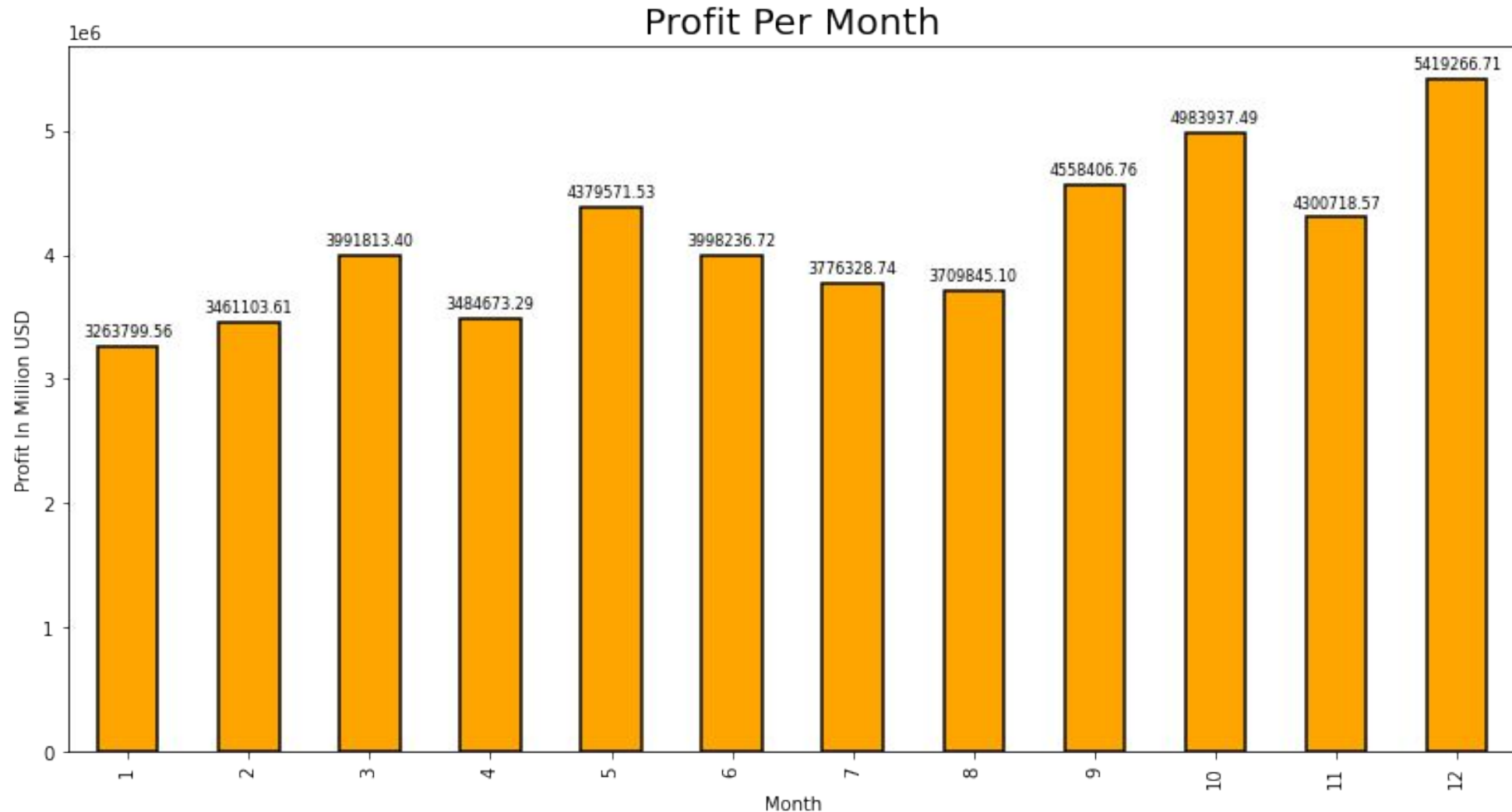- Also, Yellow cab has almost 3 times more profit per Kilometer than pink cab.

- Pink Cab have more profits in only 3 cities out of 19 cities.

Profit Analysis per Cab Company (City Wise per kilometer)
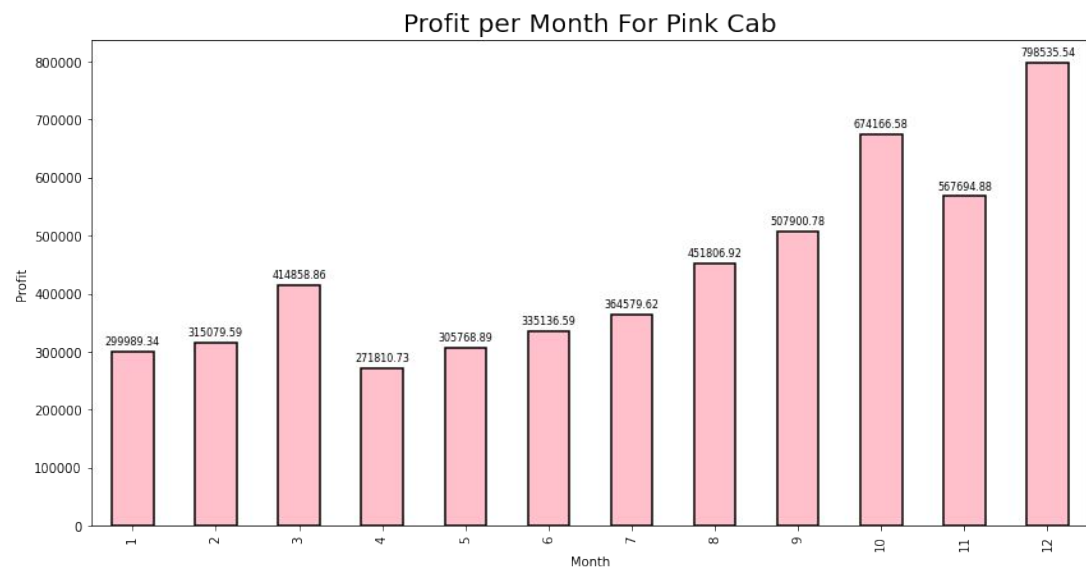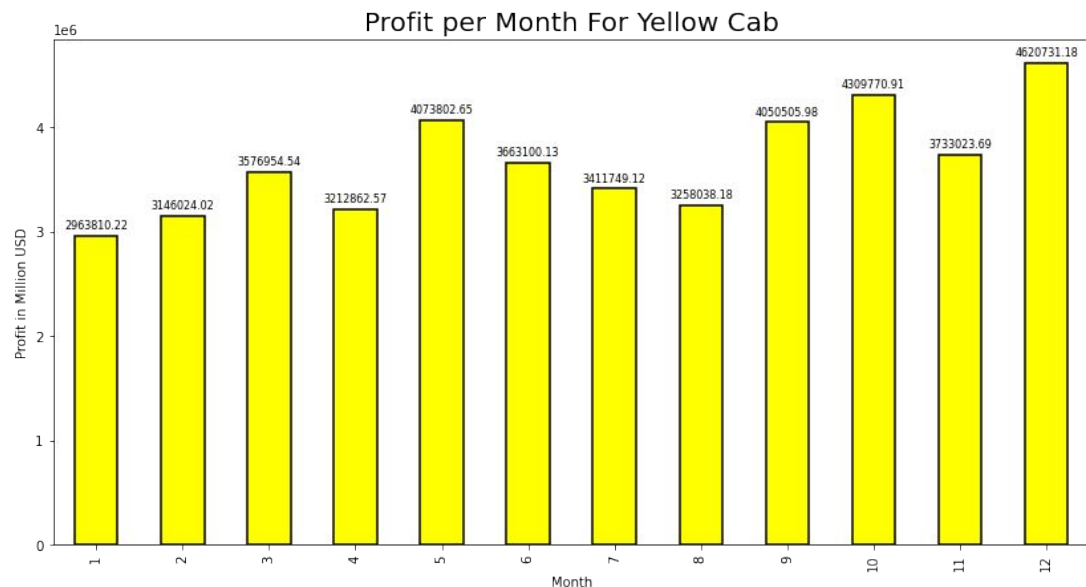

Profit Per Kilometer

- Yellow cab have more profits per kilometer in every city apart from TUCSON city.

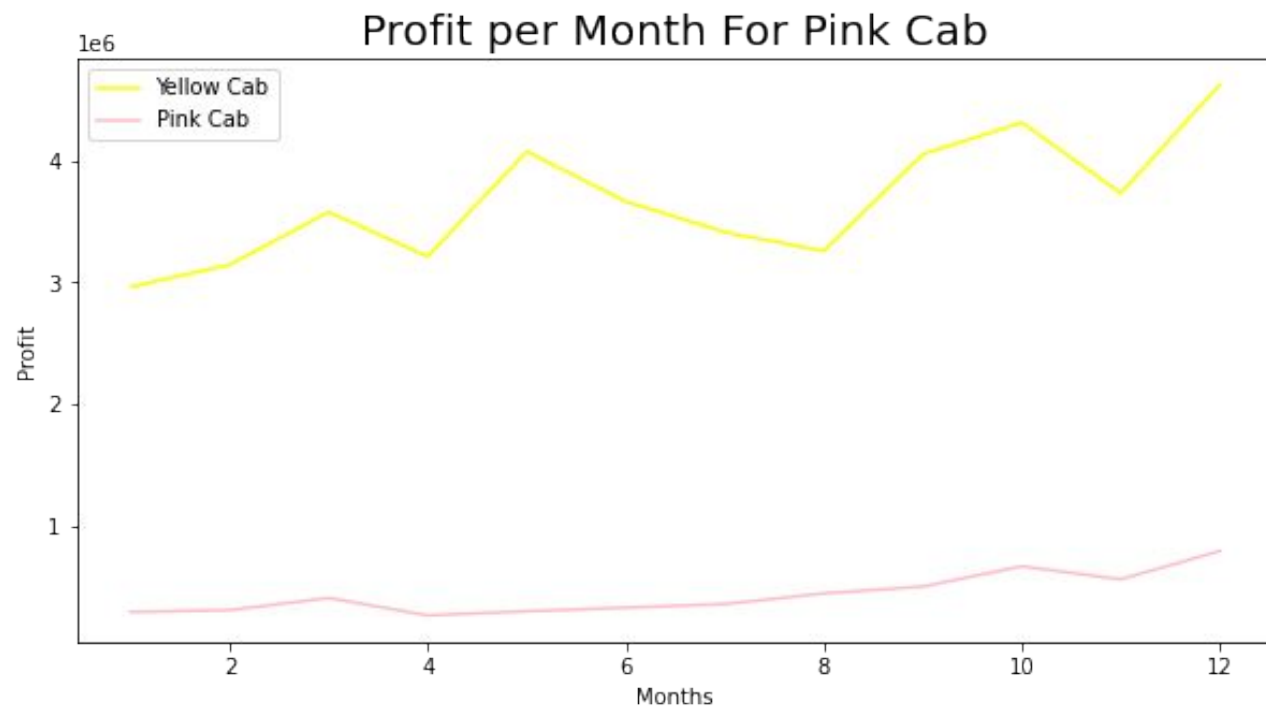# Profit Analysis(Seasonal)

- Profit increases as months passes.
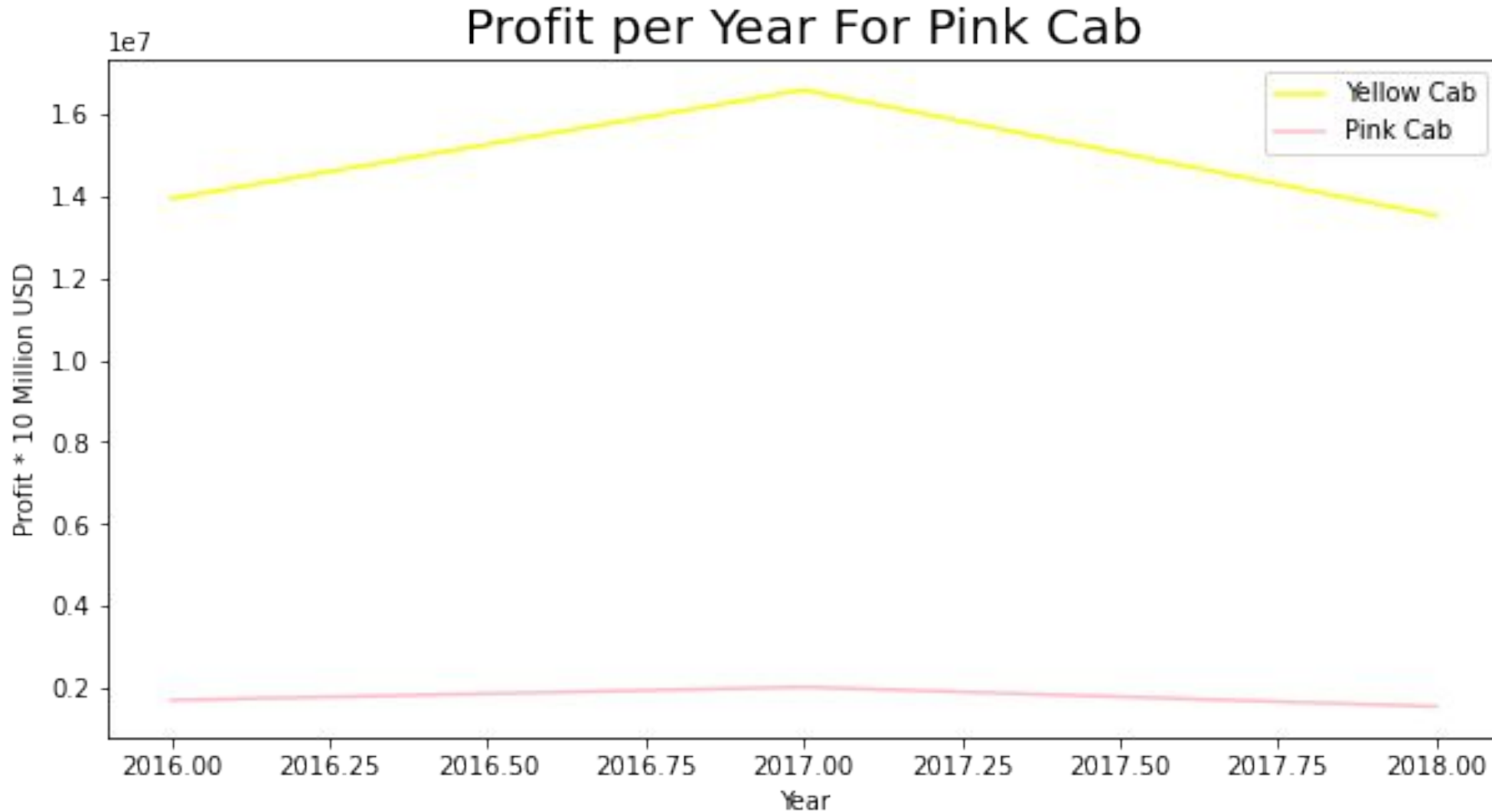- Profit of third quarter of the year is highest.

Profit Analysis per Cab Company (Seasonal)

- Seasonal profit for Yellow Cab is complex but for pink cab it increases as months passes.
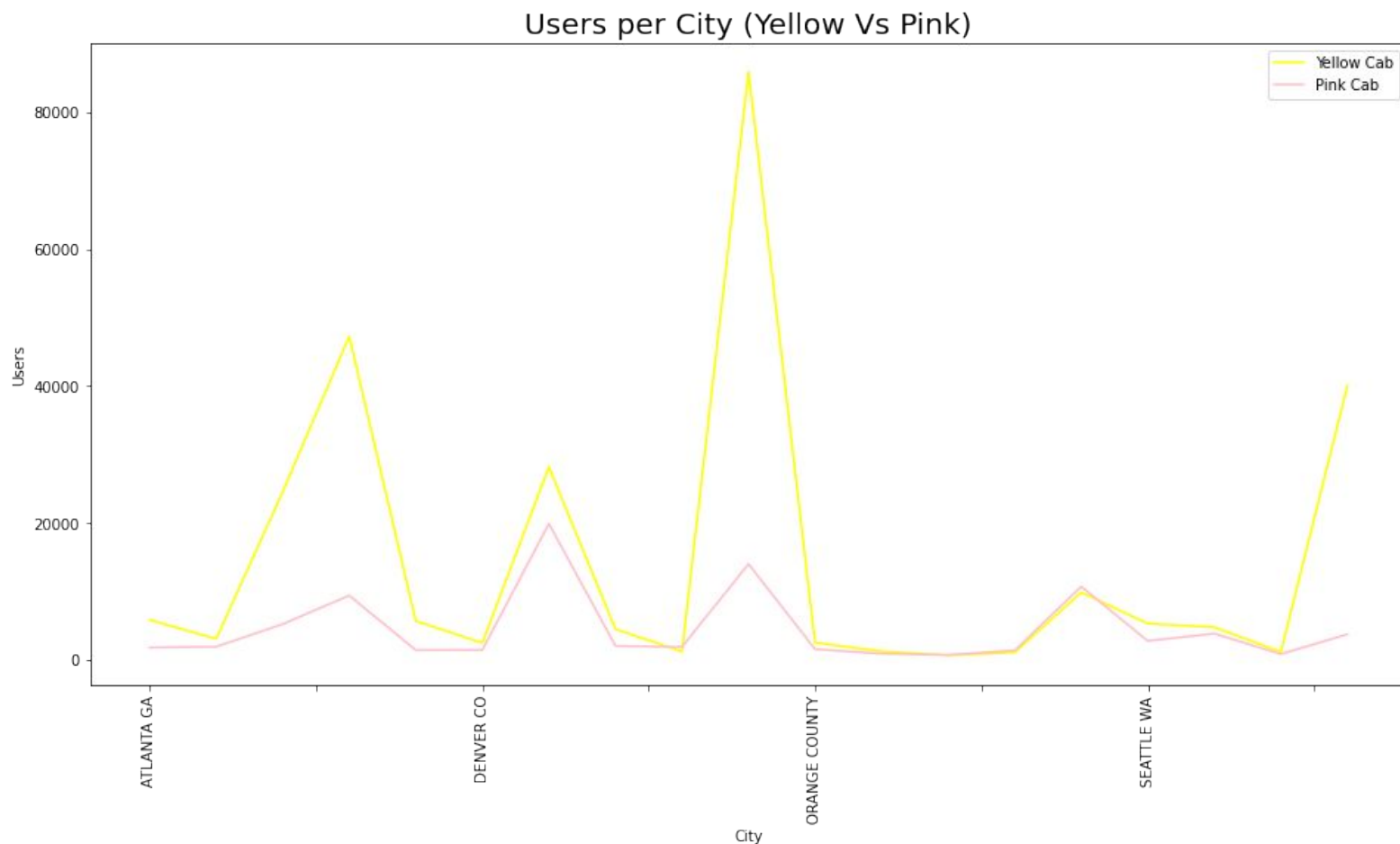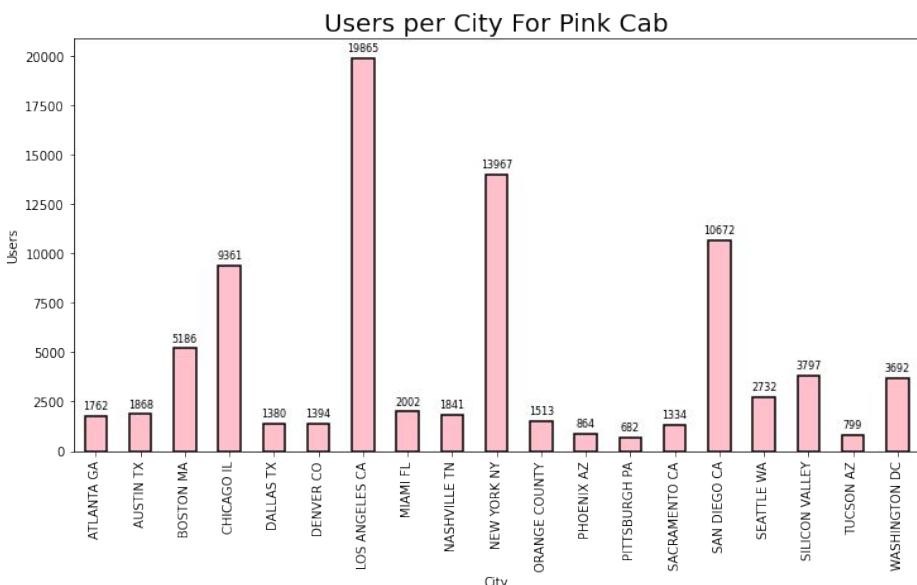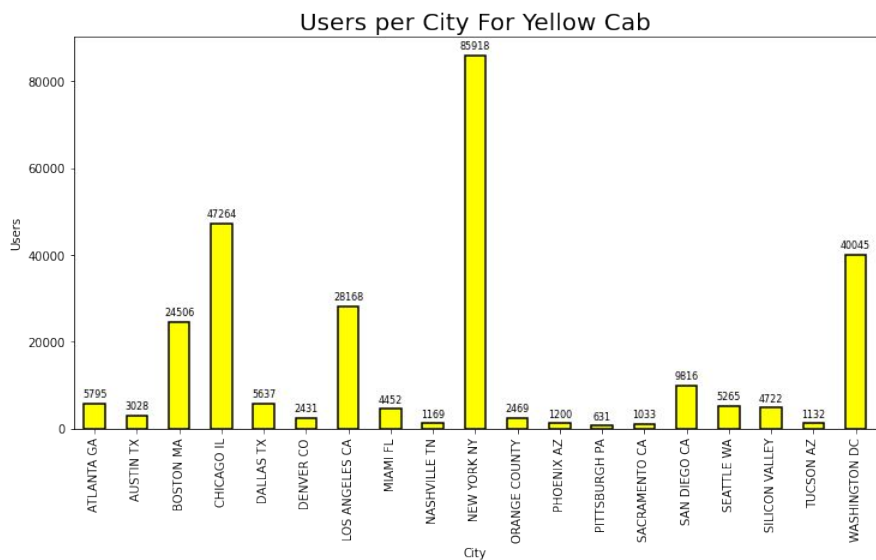- Moreover, Yellow cab generates more profit every month than pink cab.

Profit per Year For Pink Cab

- Yellow cab have more profits in every year than Pink Cab.

Users per City For Yellow Cab

Users per City For Pink Cab

- Only 4 Cities have best customer base for Pink cab out of 19 Cities.

Users per City (Yellow Vs Pink)

Customer Base Analysis per Cab Company (Seasonal)

- For both the Cab Company users increases as months passes.
- While, Yellow cab have more users for every month.
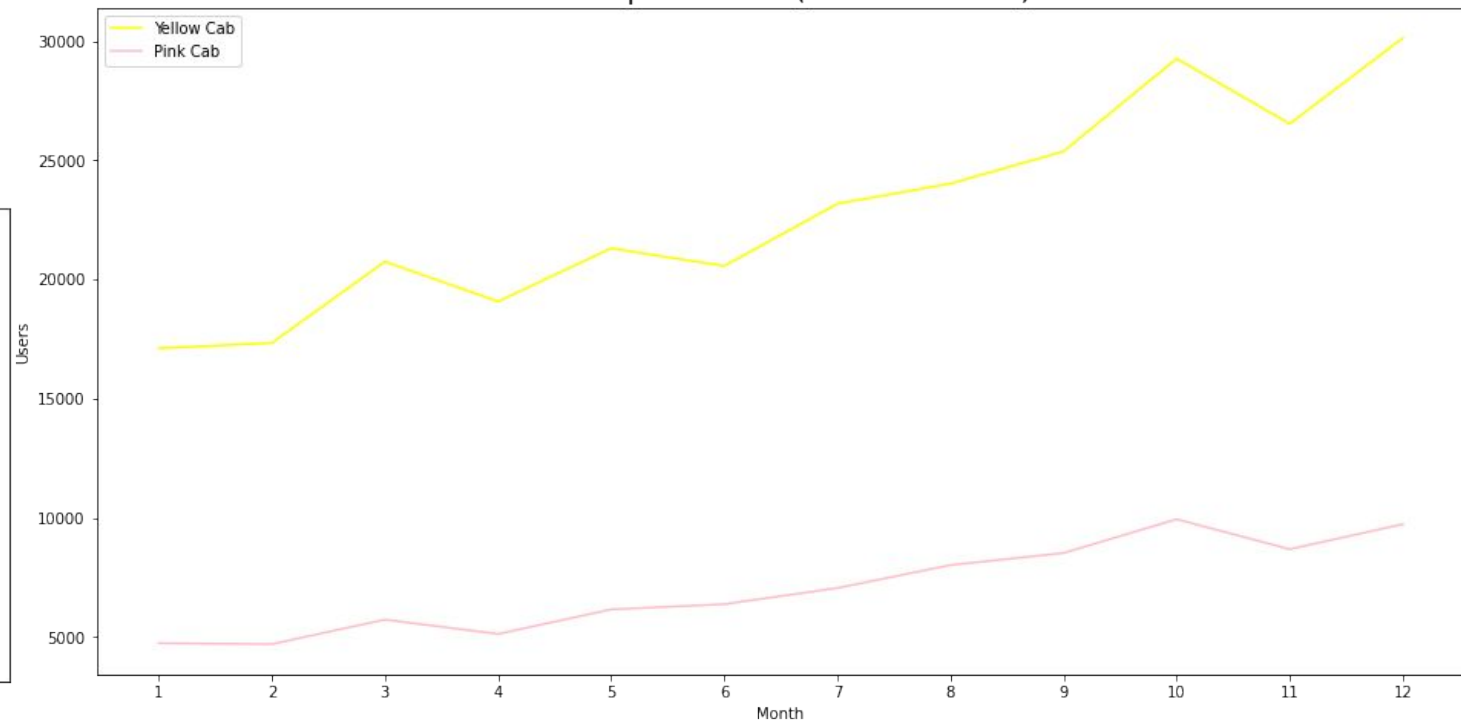
Customer Base Analysis per Cab Company (Yearly)

No of Cabs user in Years
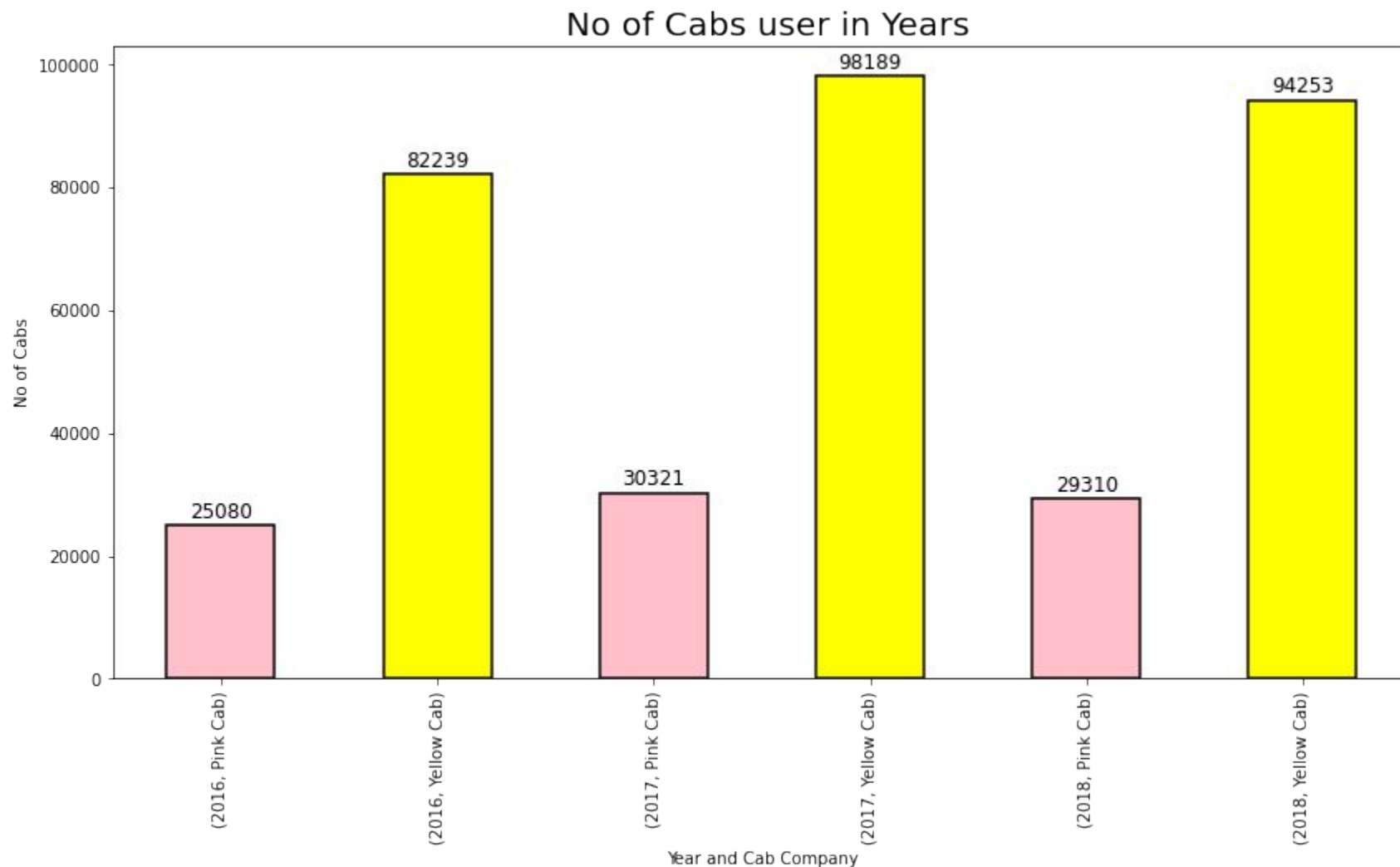
- Yellow cab have more users in every year than Pink Cab.
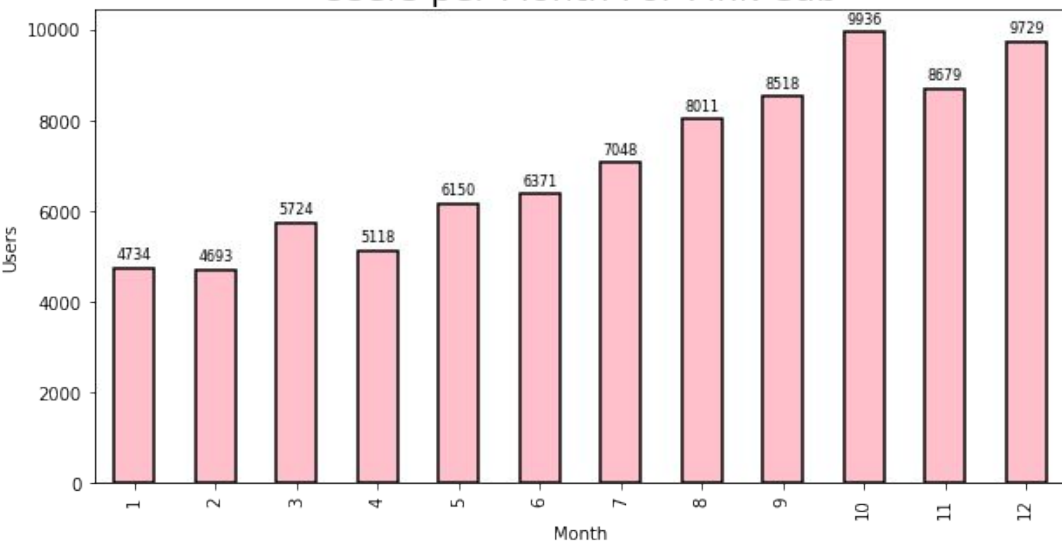
Customer Base Analysis per Cab Company (Age Group)

Users per Age Group
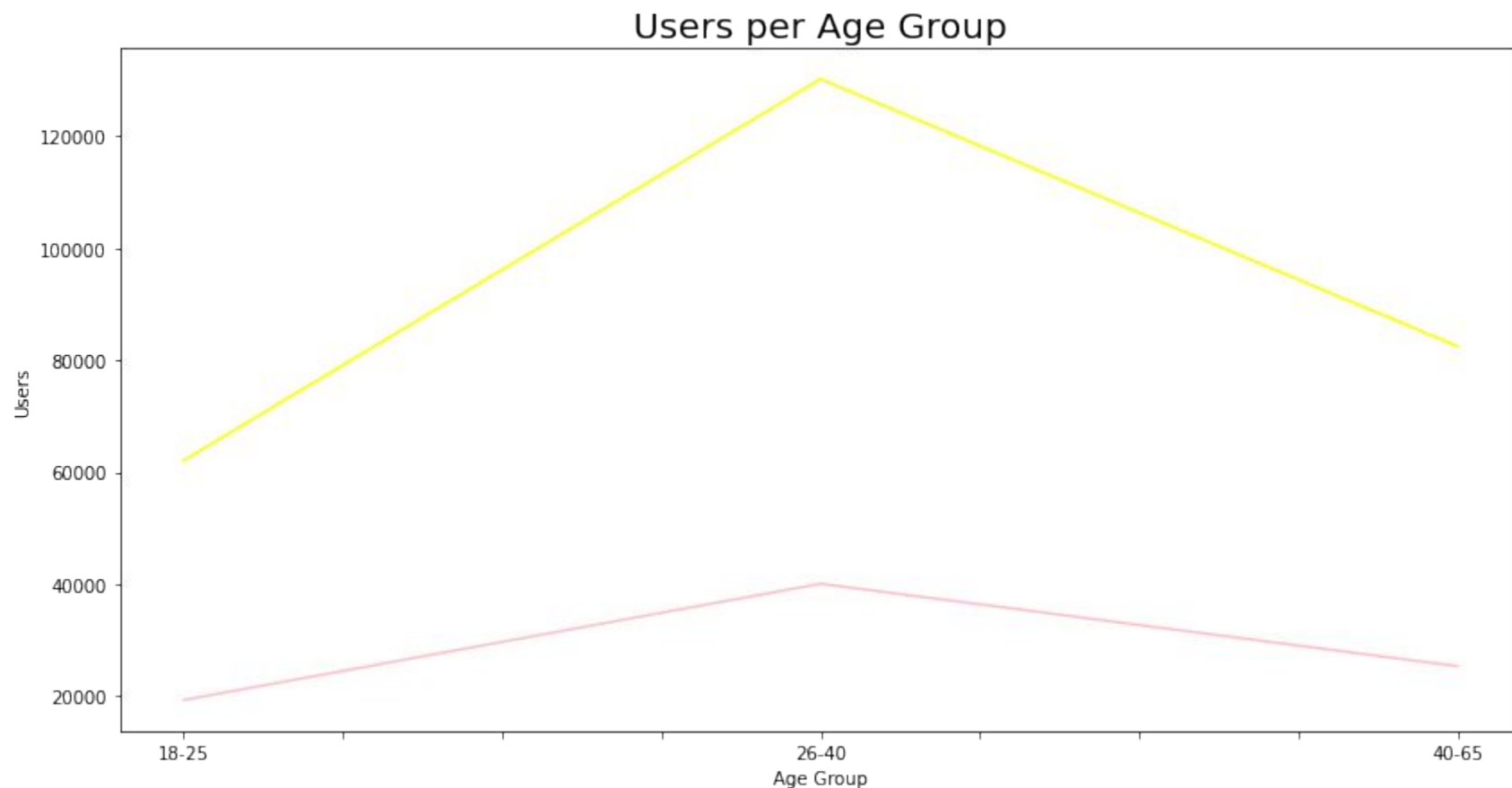
- Yellow cab have more than 3 times users in every age group than Pink Cab.

Payment Method Used by users
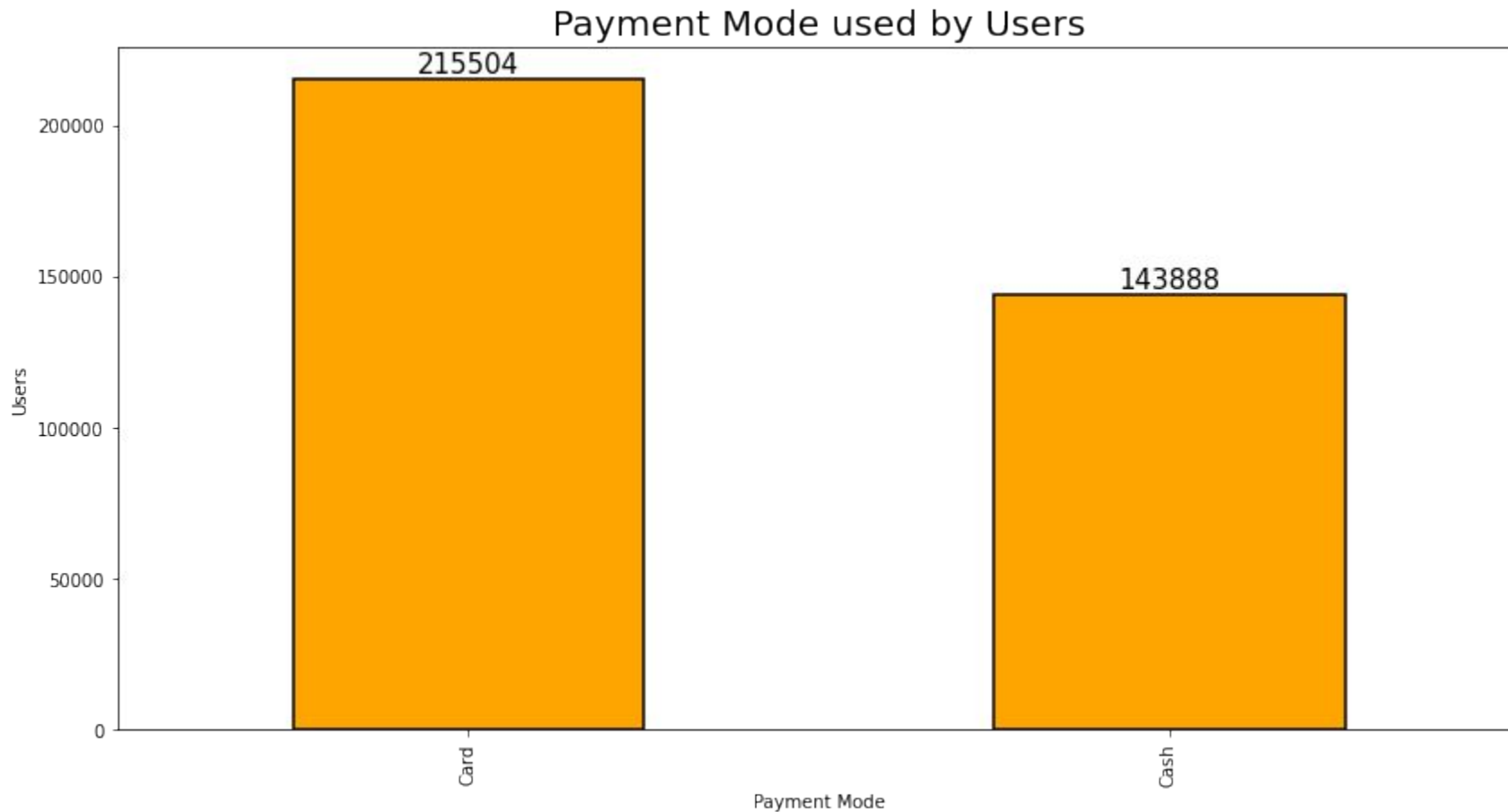
- Card payment method is most used payment method.

Gender Analysis
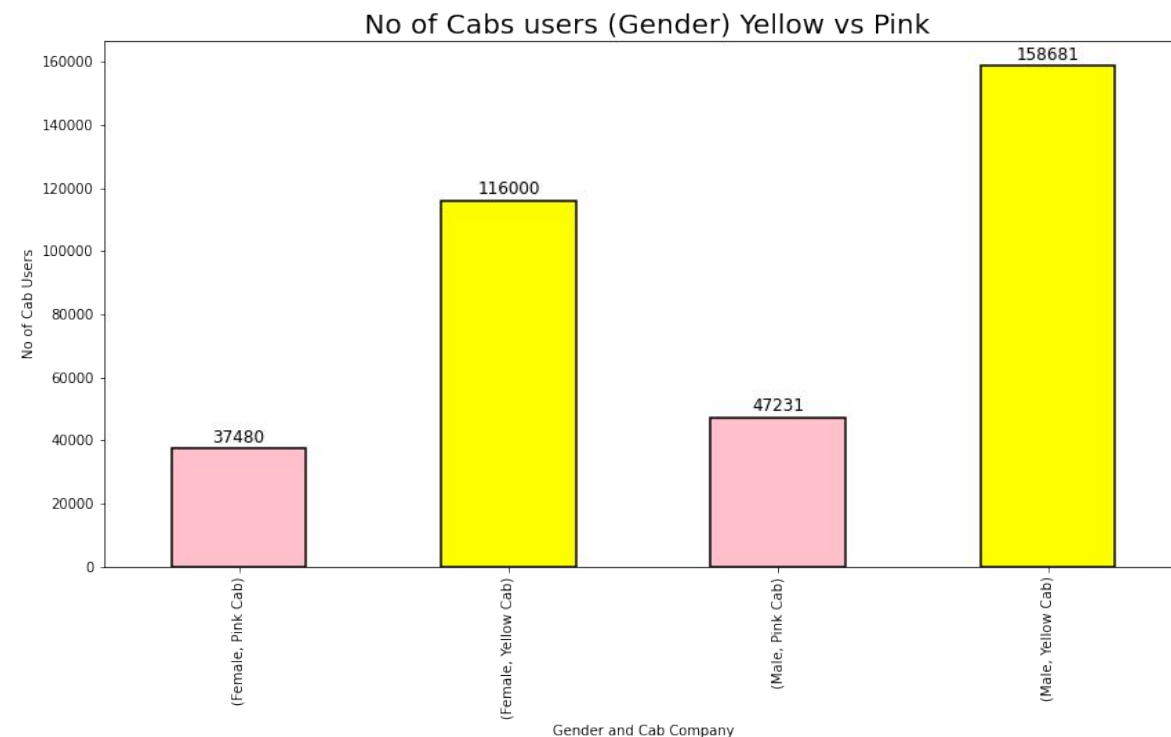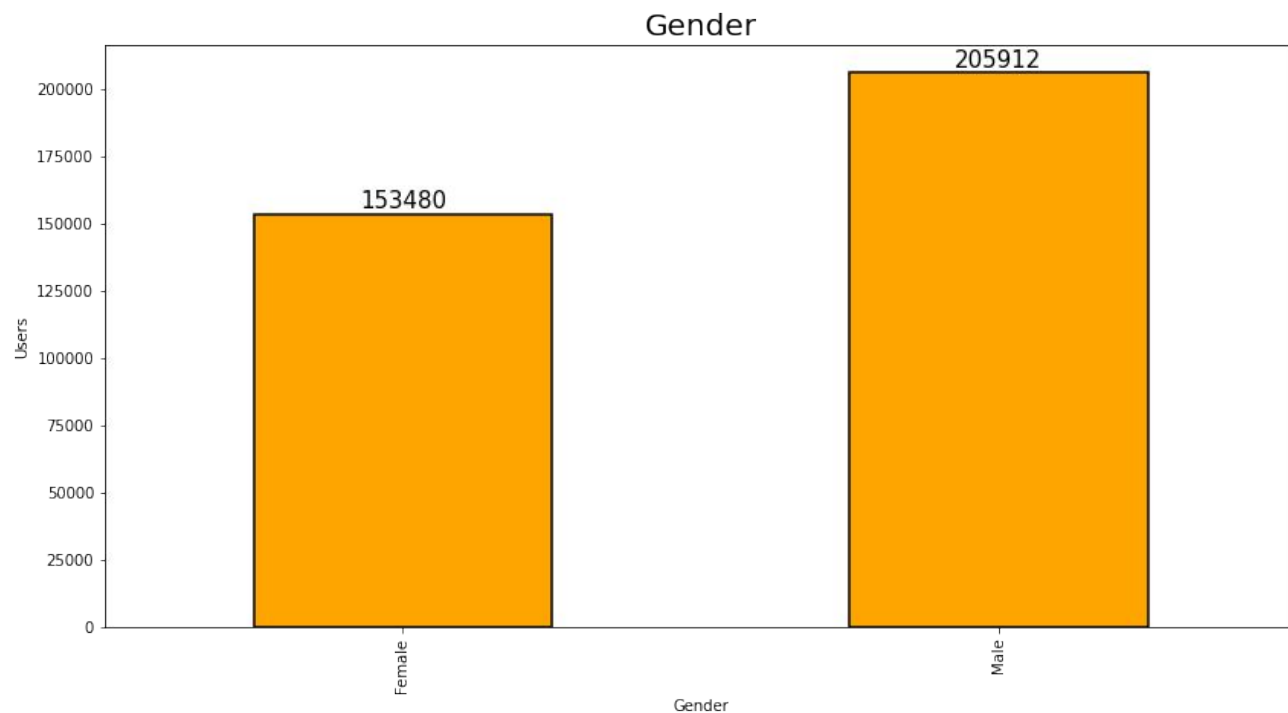
- Both Cab companies have more male users than female users.
- Yellow Cab have more users for both Genders.

City wise analysis(%Population Uses Cabs and Total user)
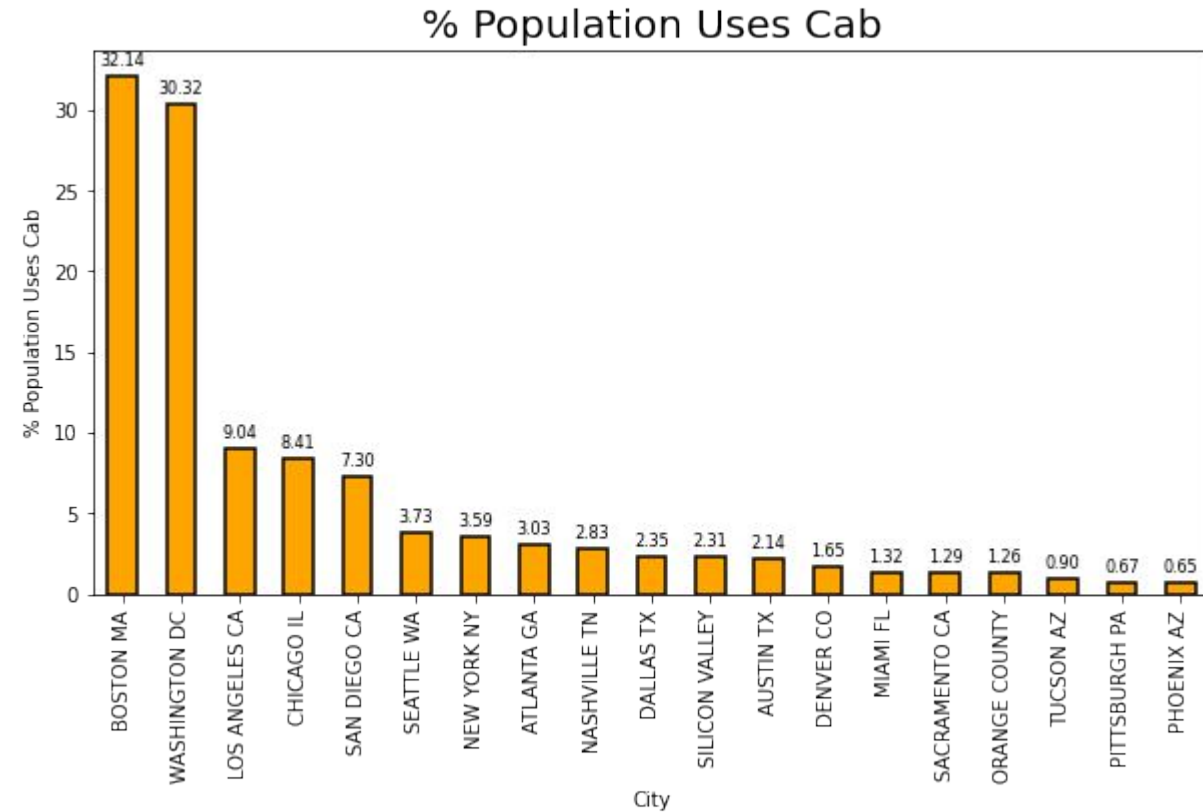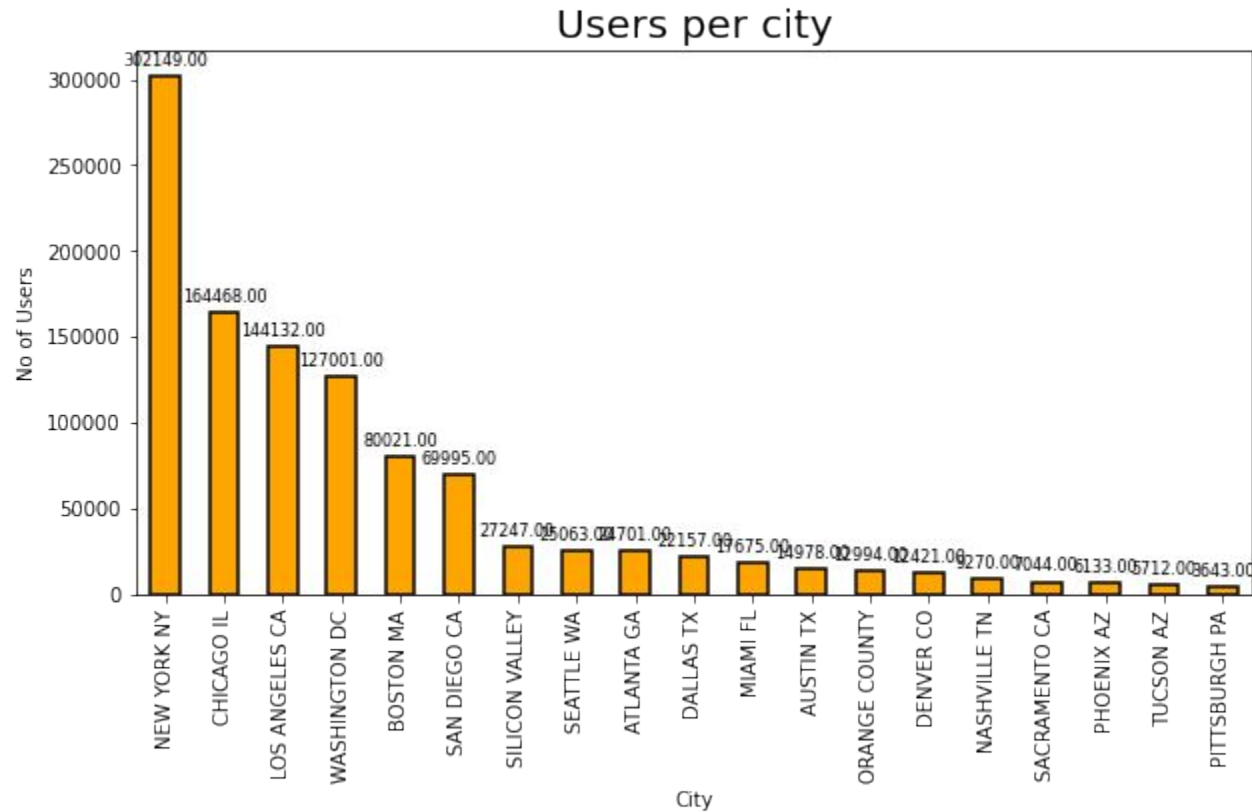
- New York, Chicago , Los angeles and Washington DC have more users as compared to other cities.
- Moreover, Boston,Washington DC, Los Angeles and Chicago have more percent population (>8%) that uses cabs for travelling.

Recommendation and Analysis

Profit Analysis:

- Profit Per Cab Company Overall: Yellow Cab has almost 9 times more profit than pink cab.
- Profit per City : Yellow Cab has more profit in every city than Pink Cab.
- Profit Per Kilometer : Yellow Cab has more profit per kilometer in all cities than Pink Cab.Also, Overall Yellow cab has almost 3 times more profit per KM than Pink Cab.
- Profit Per Month and Year : Yellow Cab has almost 10 times more profit per all months than pink cab. Moreover, Yellow Cab has almost 7-8 times more profit per year than pink cab.

Customer Reach:

- Customers Reach in Cities: Pink Cab has more Customer reach tha Yellow cab in only 4 cities.
- Customers Reach Time wise : Yellow cab has certainly higher customer reach than pink cab in every month of all three years observed.
- Customer Reach Age wise: Yellow Cab has better customer reach for every age group than Pink Cab
- Customer Reach Gender Wise : Both the cab have more male users than female users. Yellow Cab Have more users for both Genders.

Recommendation:

- Based on above analysis i will recommend you to use Yellow cabs than Pink Cabs as Yellow Cab has dominated in all the areas whether it is Profit or Customer Reach.

Other Analysis and Recommendation:

- Boston, Los Angeles, Washington DC, Chicago and San Diego are cities with most percentage of population use the cab services. But New York has more number of users as compare to other cities because of its high population. So implementing cab system in these cities will be more beneficial.
- Around 2/3 cab users prefer to pay the cab bills with card than cash. So, i would highly recommend you to enable card payment method.
- Also both cabs are used more in later part of the year. So, i would recommend you to run cab services at full potential possible in 2nd and 3rd quarter of the year.

Thank You