



**Data Glacier**

Your Deep Learning Partner

# Exploratory Data Analysis

Cab Investment Firm

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# Agenda

Executive Summary

Data Exploration

EDA

Conclusion

# Executive Summary

## Company Background

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.

## Objective

- To find which of the Companies is more suitable for Investment.
- To find the Company that is more successful considering various factors

## Process

The Dataset will be Analyzed and combined into one. Then Exploratory Data Analysis Techniques will be performed & Visualizations will be used to Identity for the better Company.

# Data Exploration

## Overview of Each Dataset

Name	Number of Features	Observations
Cab Data	7	359393
City	4	21
Customer ID	4	49172
Transaction ID	3	440099

## Assumptions

- Data Sources are merged on Customer ID, Transaction ID & City.
- There are outliers present in the feature Price Charged but they cannot be treated as outliers due to insufficient information for Trip Duration.
- The features of Price Charged & Cost of Trip are used for the calculation of Profit.
- The feature of Users in the dataset of City are assumed to be cab users of all cab companies including Yellow & Pink Cab Companies.

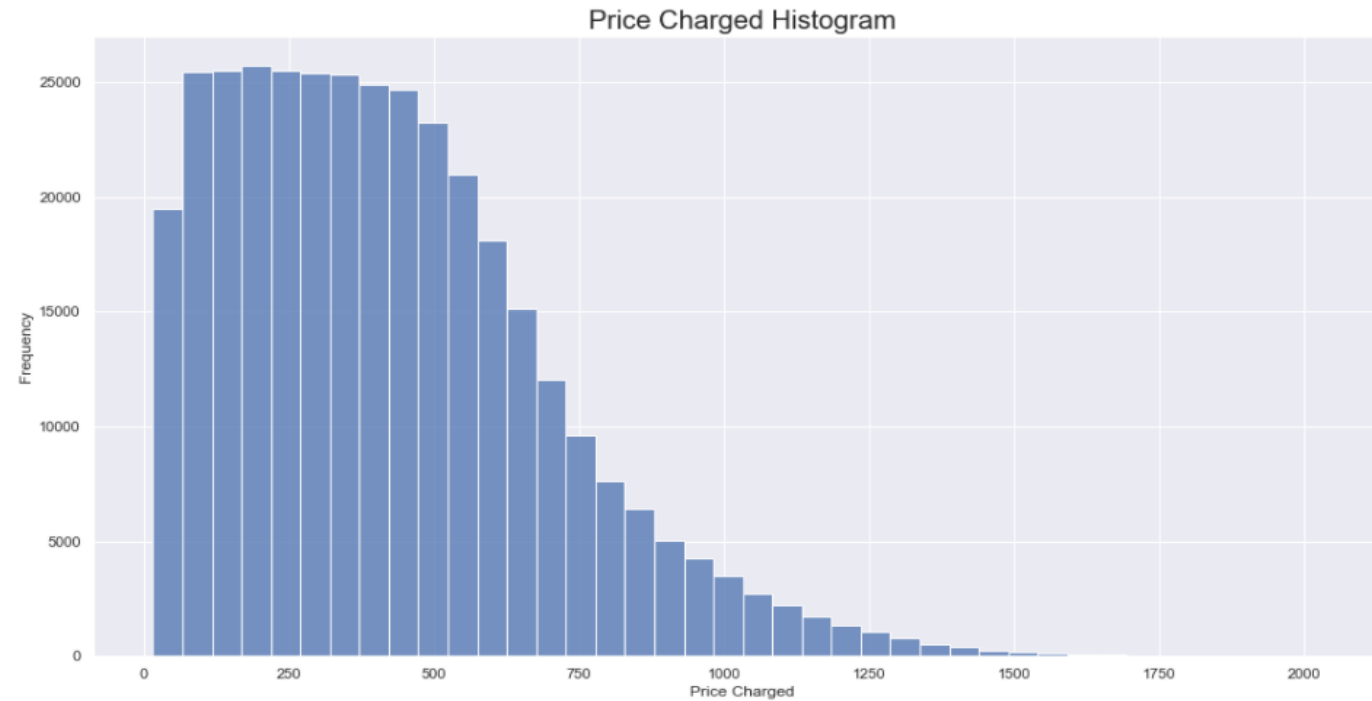
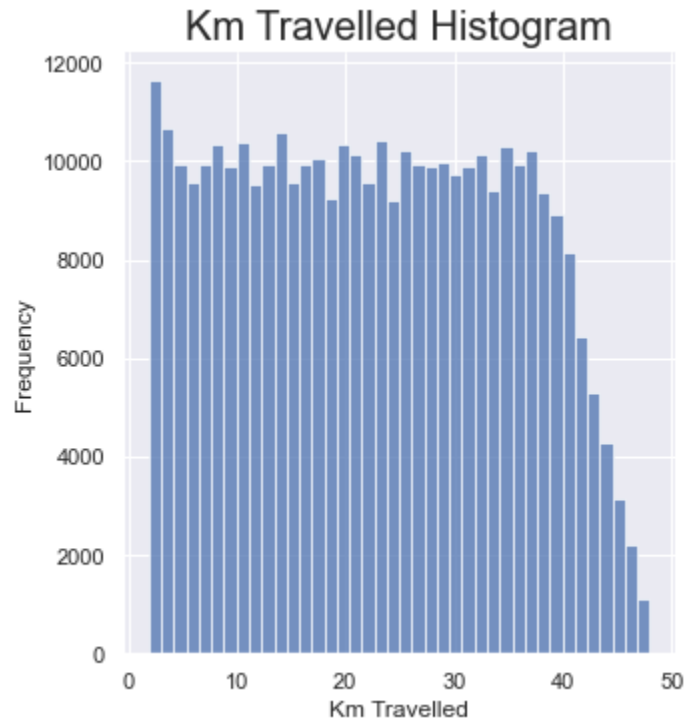
# Data Exploration

## Overview of Combined Dataset

	Transaction ID	Date of Travel	Company	City	KM Travelled	Price Charged	Cost of Trip	Customer ID	Payment_Mode	Gender	Age	Income (USD/Month)	Population	Users
0	10001340	2016-01-01	Yellow Cab	WASHINGTON DC	10.20	202.54	135.8640	52536	Card	Male	24	10606	418859.0	127001.0
1	10020018	2016-03-25	Yellow Cab	WASHINGTON DC	5.94	88.50	74.1312	52536	Cash	Male	24	10606	418859.0	127001.0
2	10102932	2016-11-08	Pink Cab	WASHINGTON DC	15.21	179.33	153.6210	52536	Cash	Male	24	10606	418859.0	127001.0
3	10164725	2017-04-16	Yellow Cab	WASHINGTON DC	8.08	123.21	104.7168	52536	Card	Male	24	10606	418859.0	127001.0
4	10188478	2017-06-23	Yellow Cab	WASHINGTON DC	13.80	283.74	168.9120	52536	Cash	Male	24	10606	418859.0	127001.0

# Analysis of Features

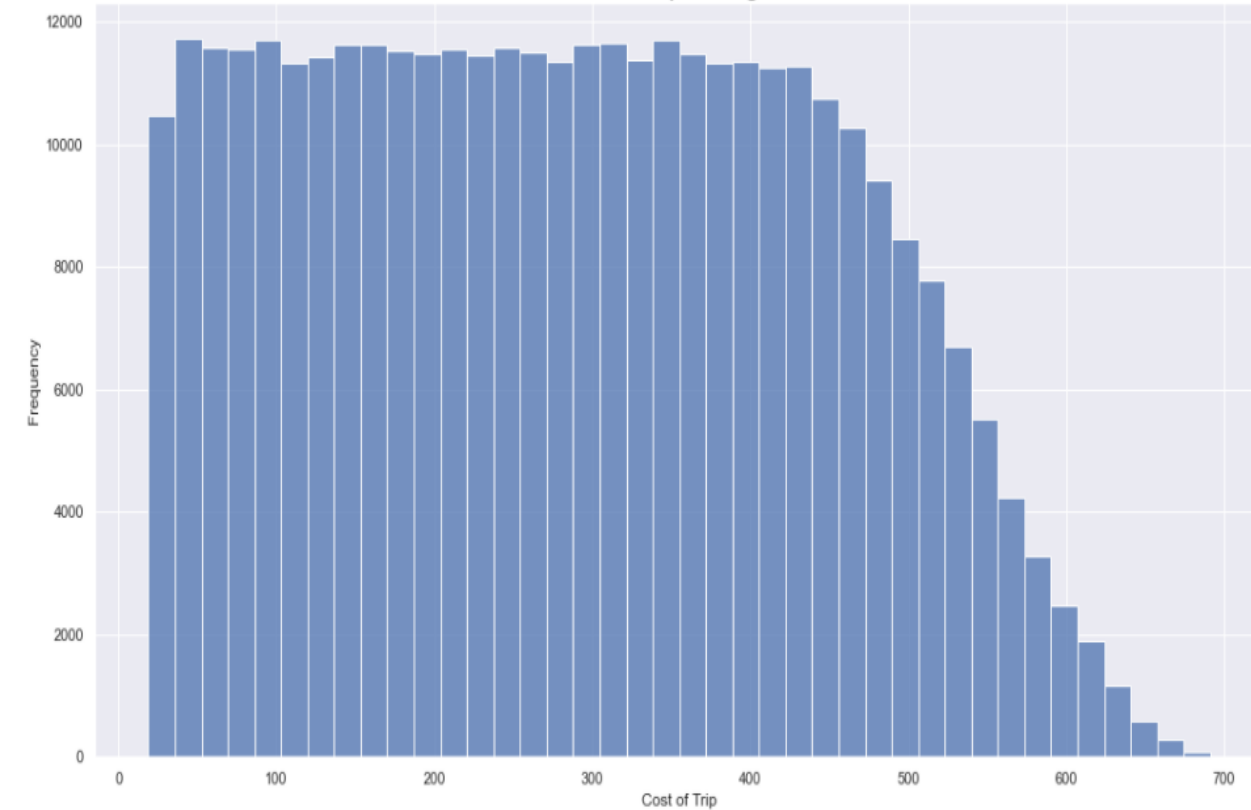
## Analysis of KM Travelled & Price Charged



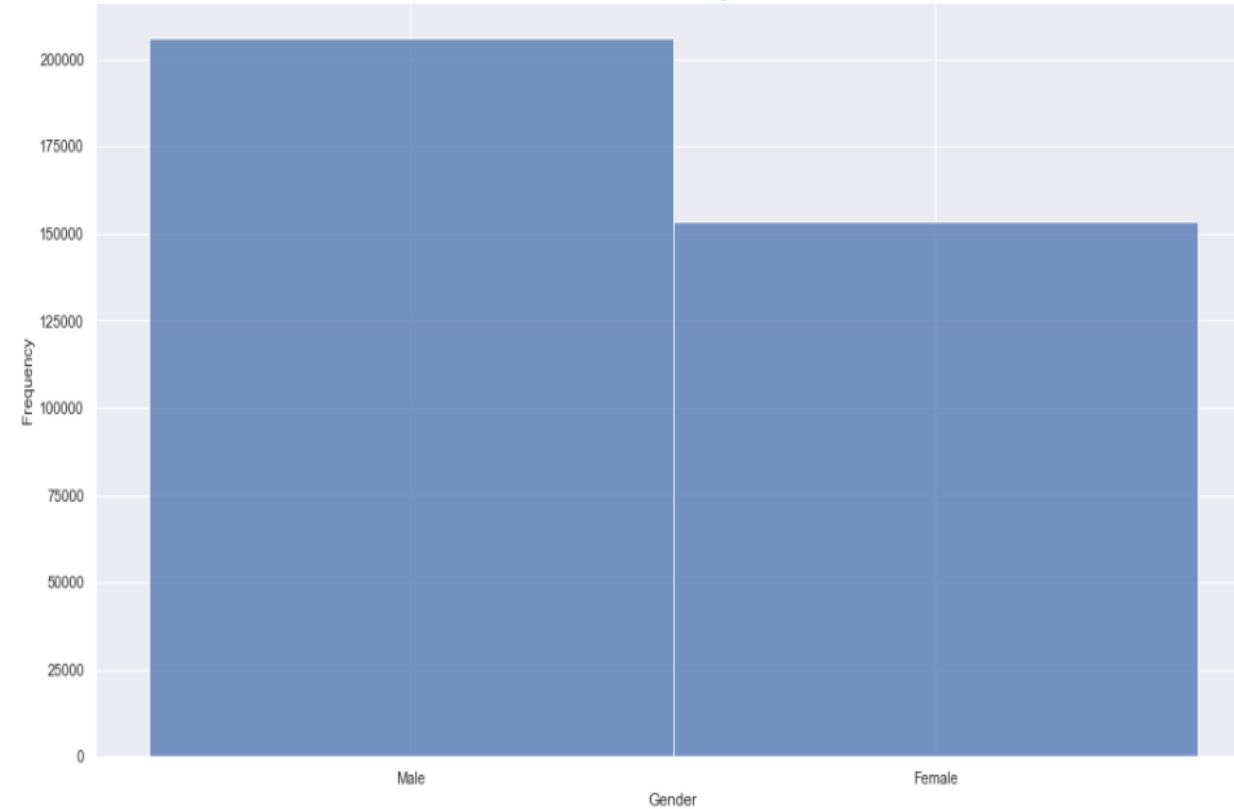
# Analysis of Features

## Analysis of Cost of Trip & Gender

Cost of Trip Histogram

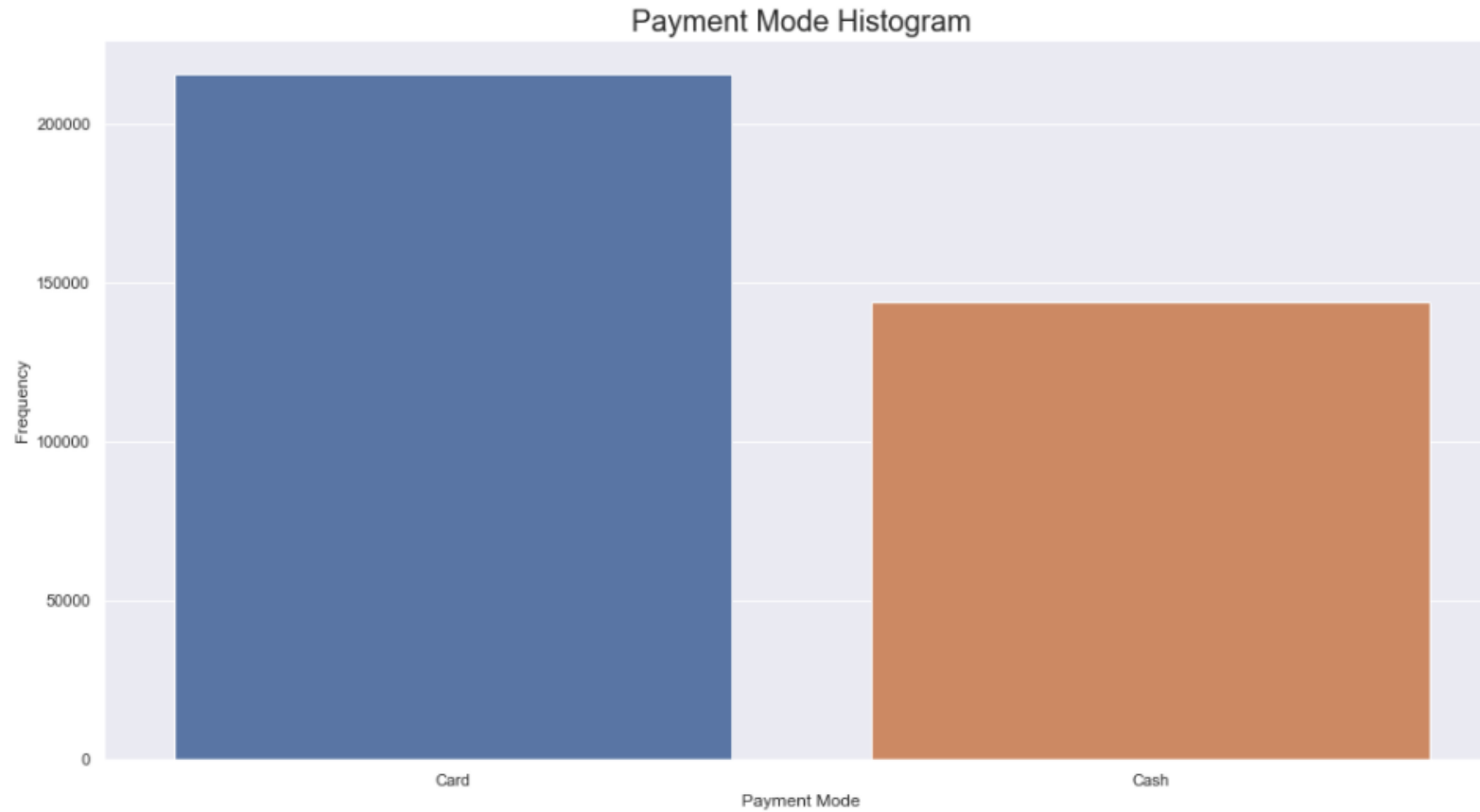


Gender Histogram



# Analysis of Features

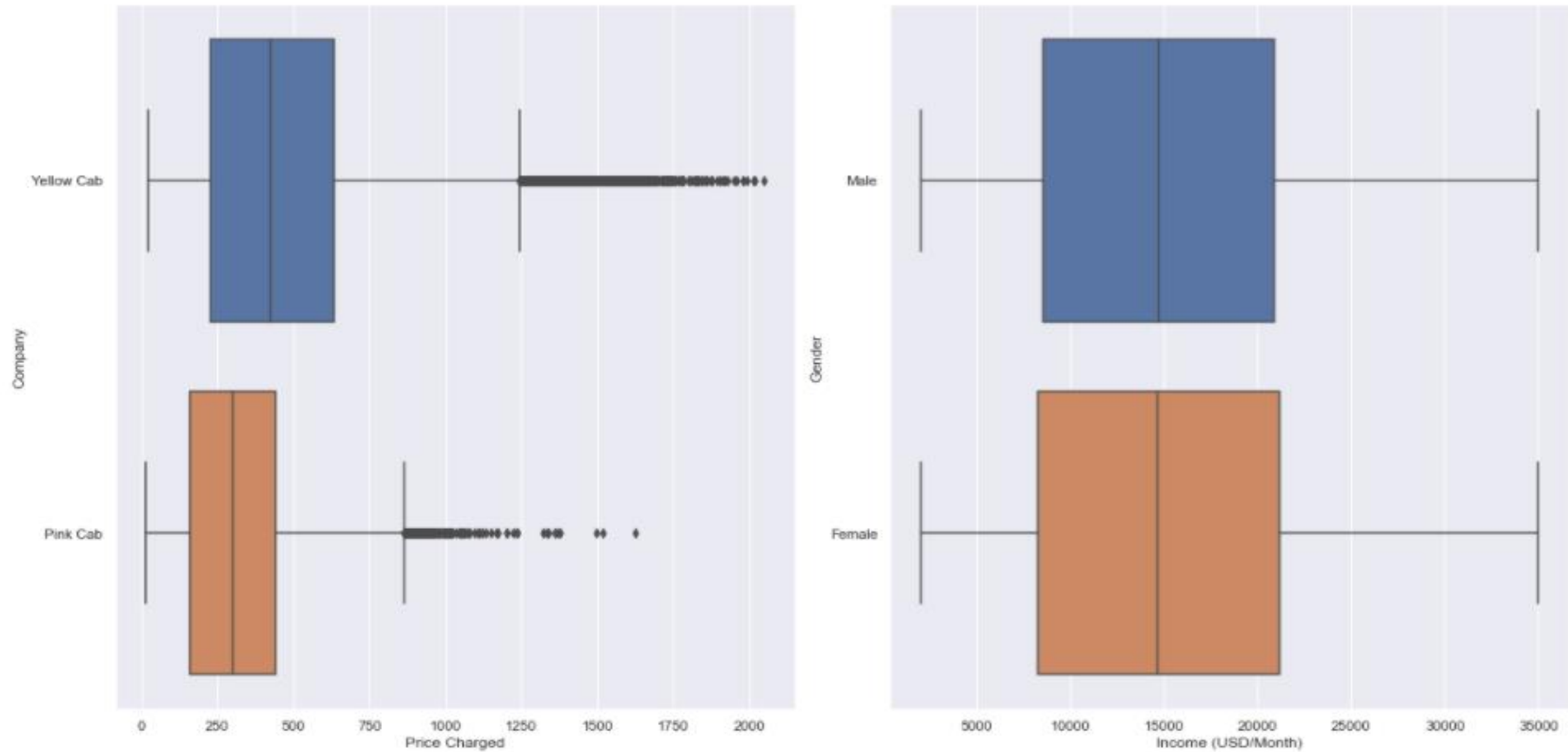
## Analysis of Payment Mode





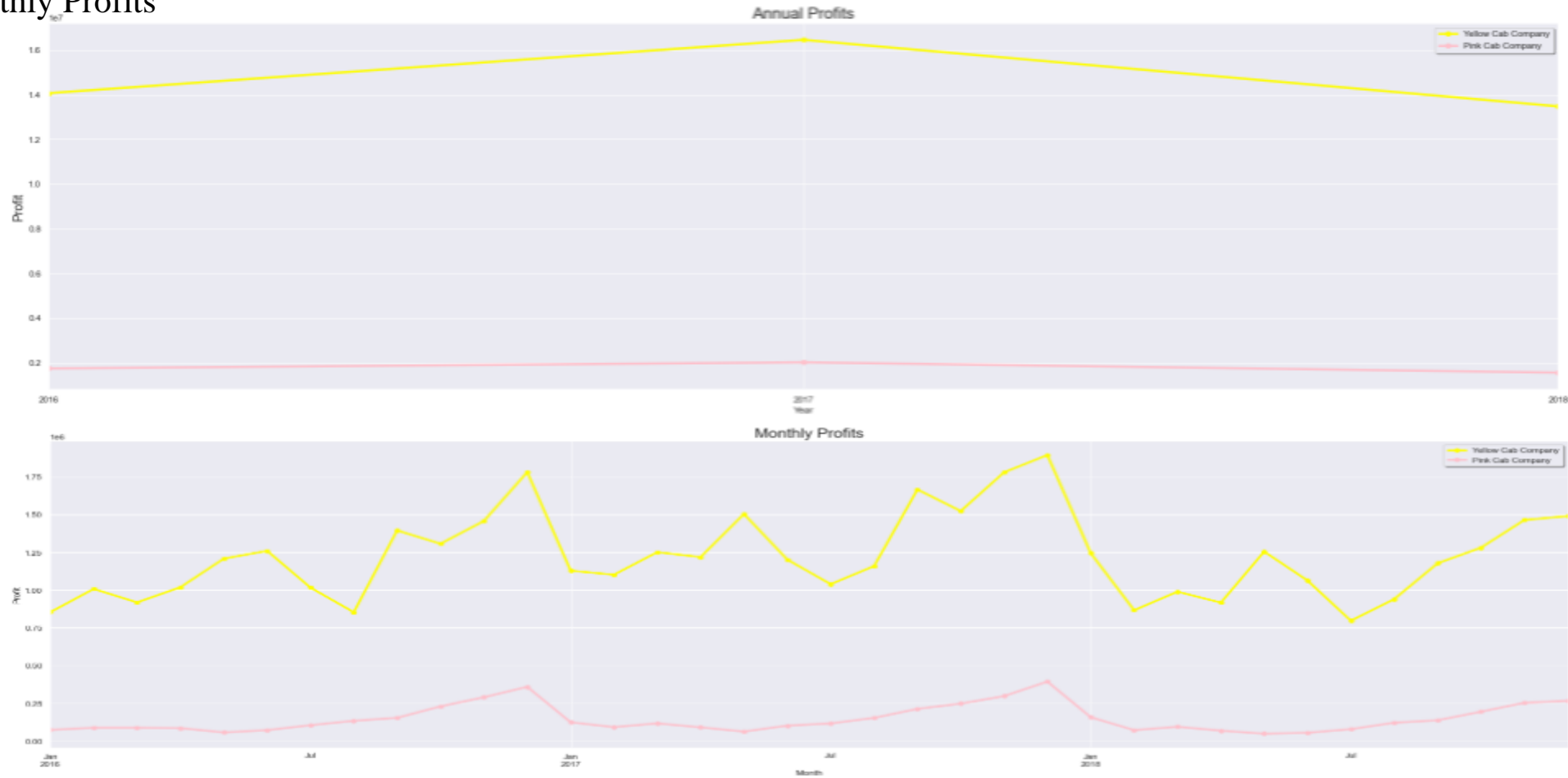
# Outliers

- There are outliers present in the feature Price Charged but they cannot be treated as outliers due to insufficient information for Trip Duration.



# Analyzing Profits

## ➤ Yearly & Monthly Profits



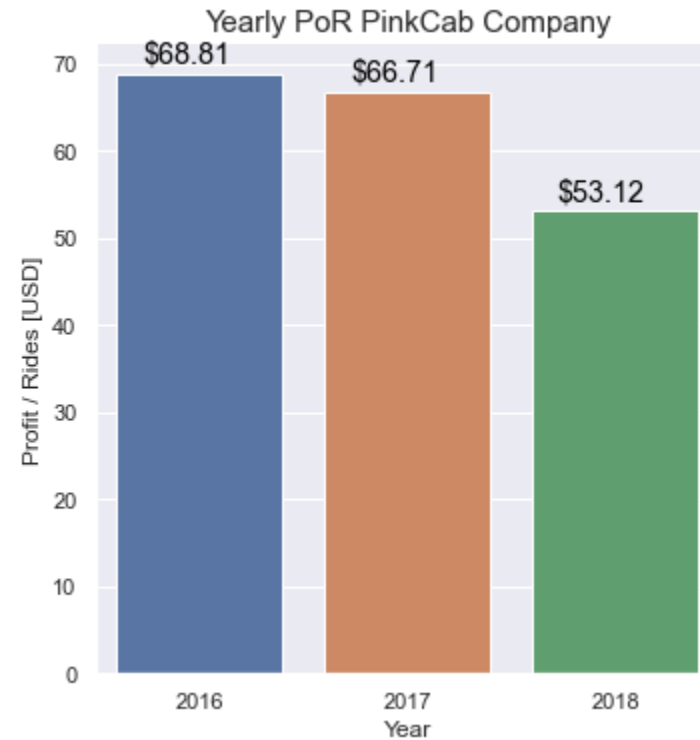
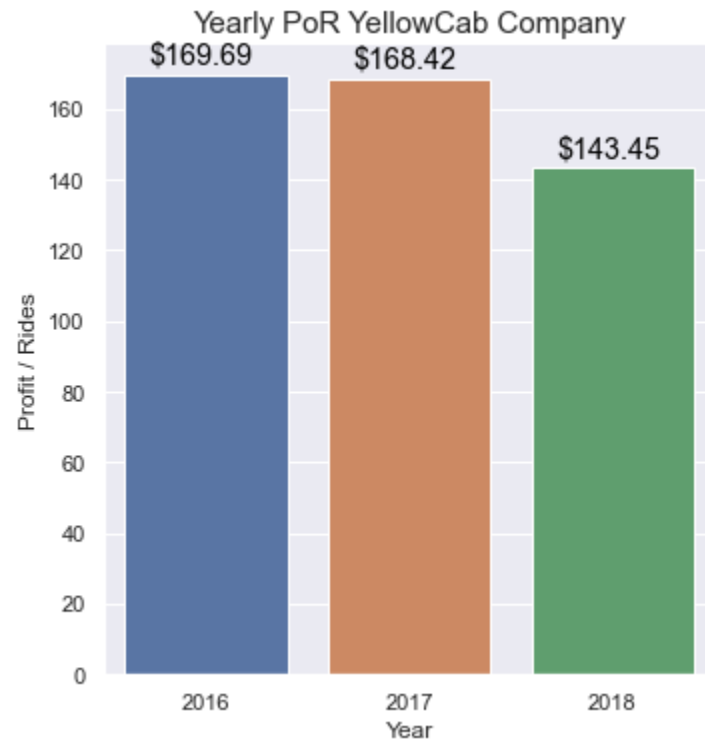
# Analyzing Profits

## ➤ Profits over the years



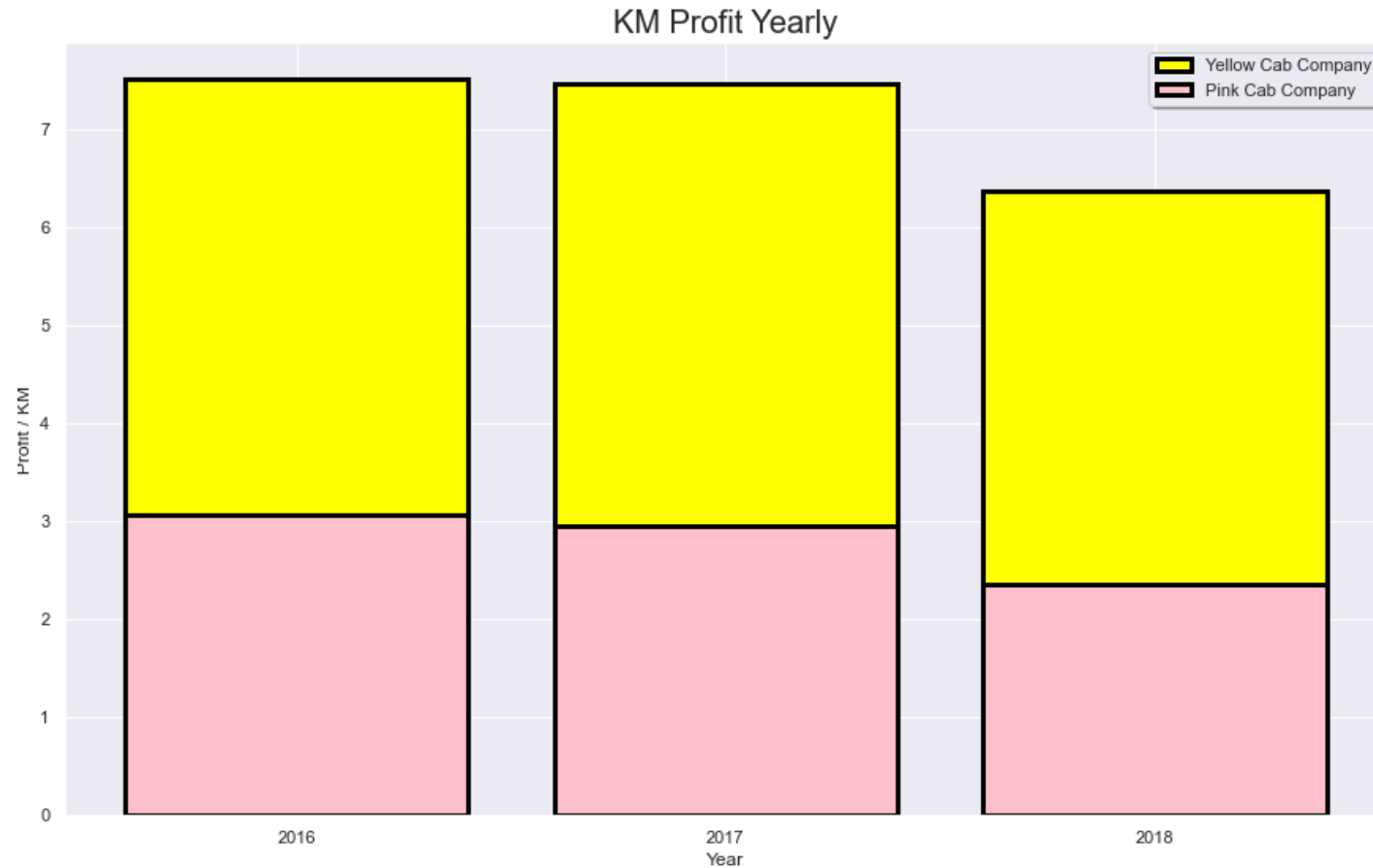
# Analyzing Profits

## ➤ Yearly ROI of Yellow & Pink Cab Companies



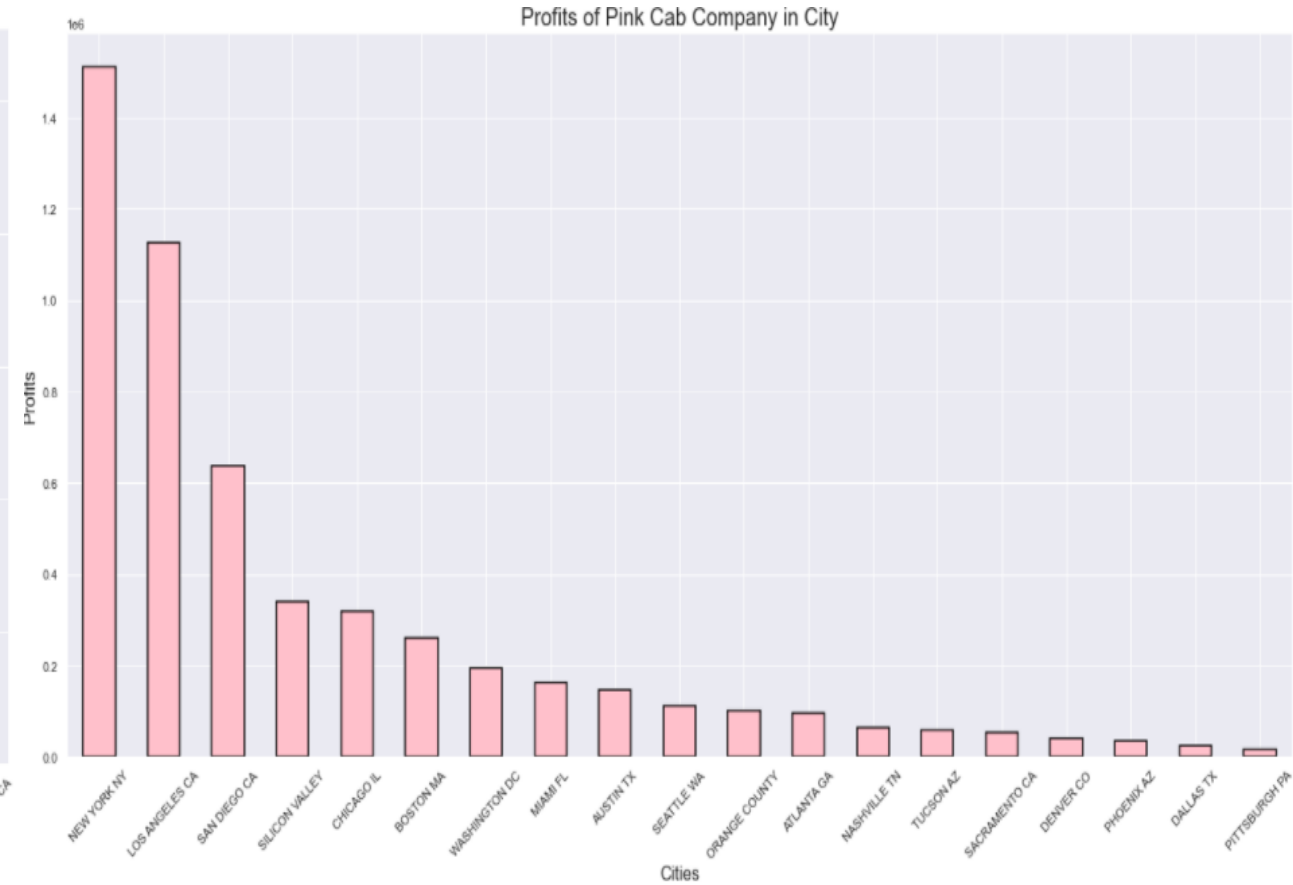
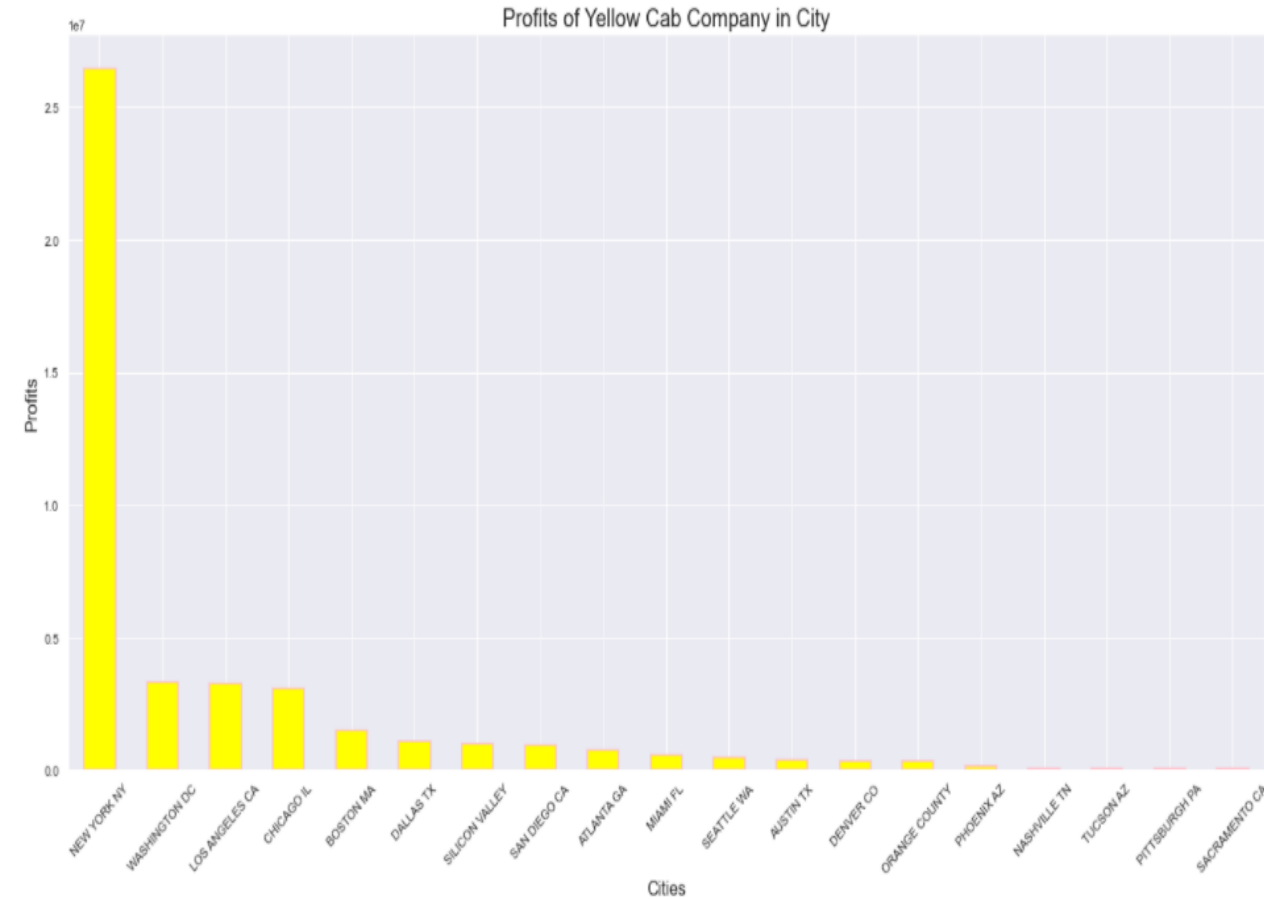
# Analyzing Profits

- KM Profit of each Cab Company shows better returns by Yellow Cab Company

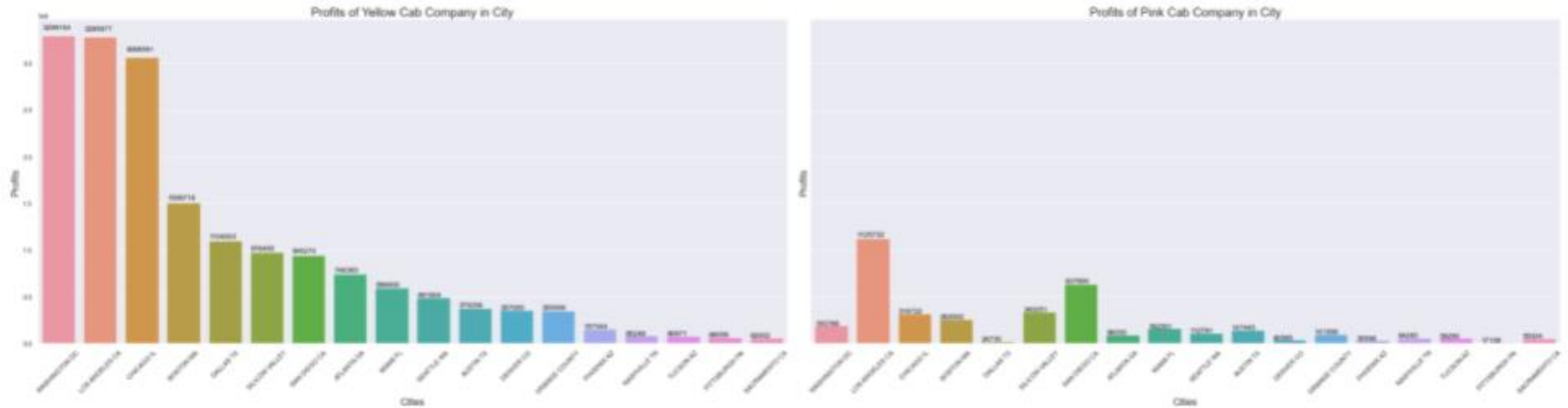


# Analyzing Profits

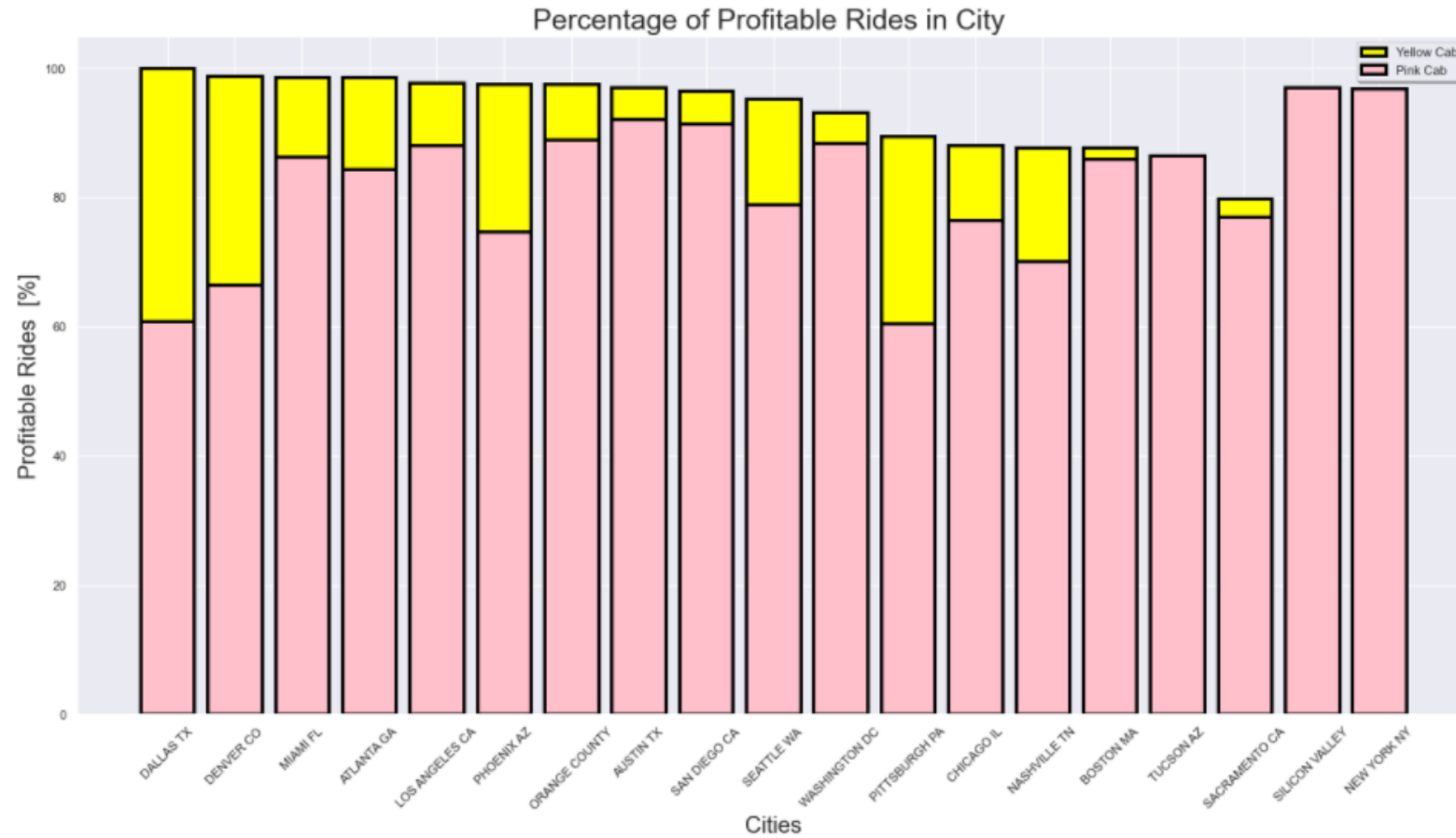
## ➤ Profits of Each Cab Company in Various Cities



# Analyzing Profits



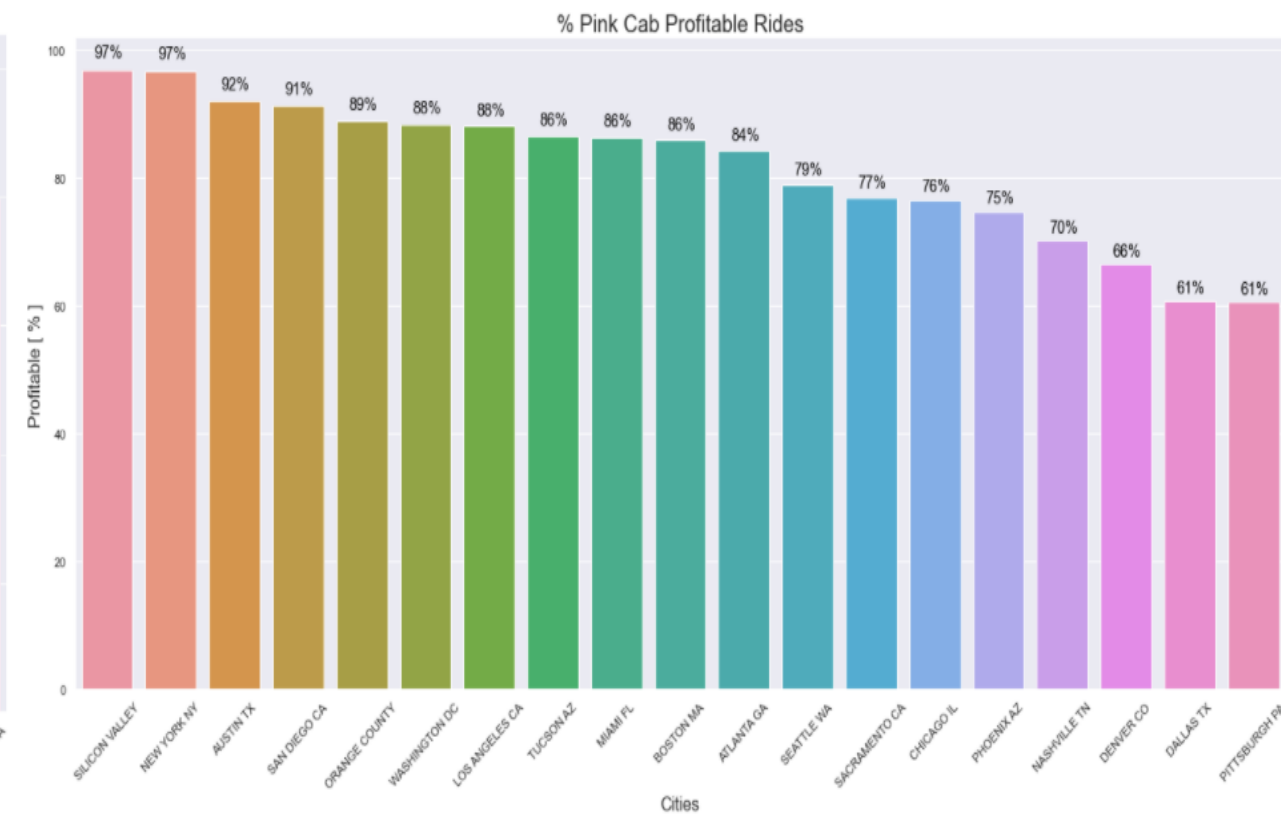
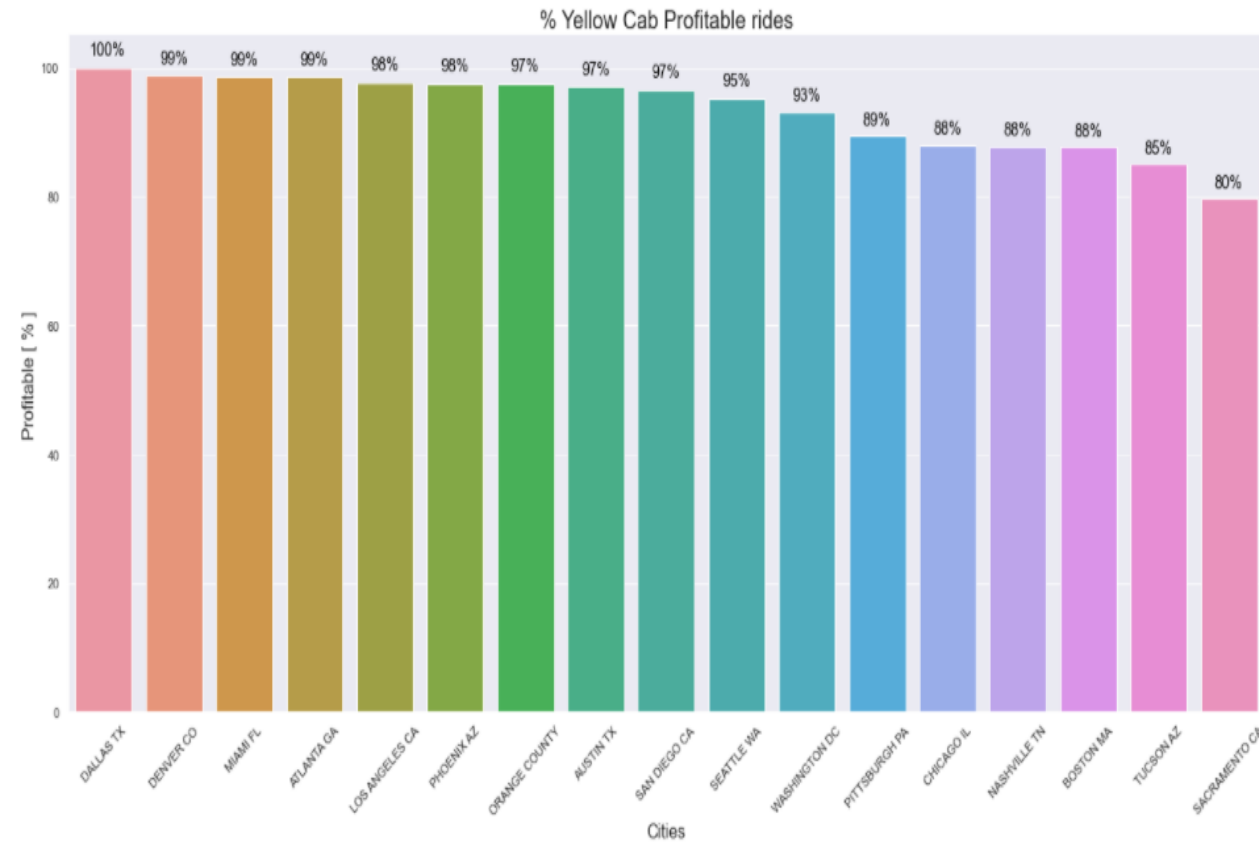
# Analyzing Profits





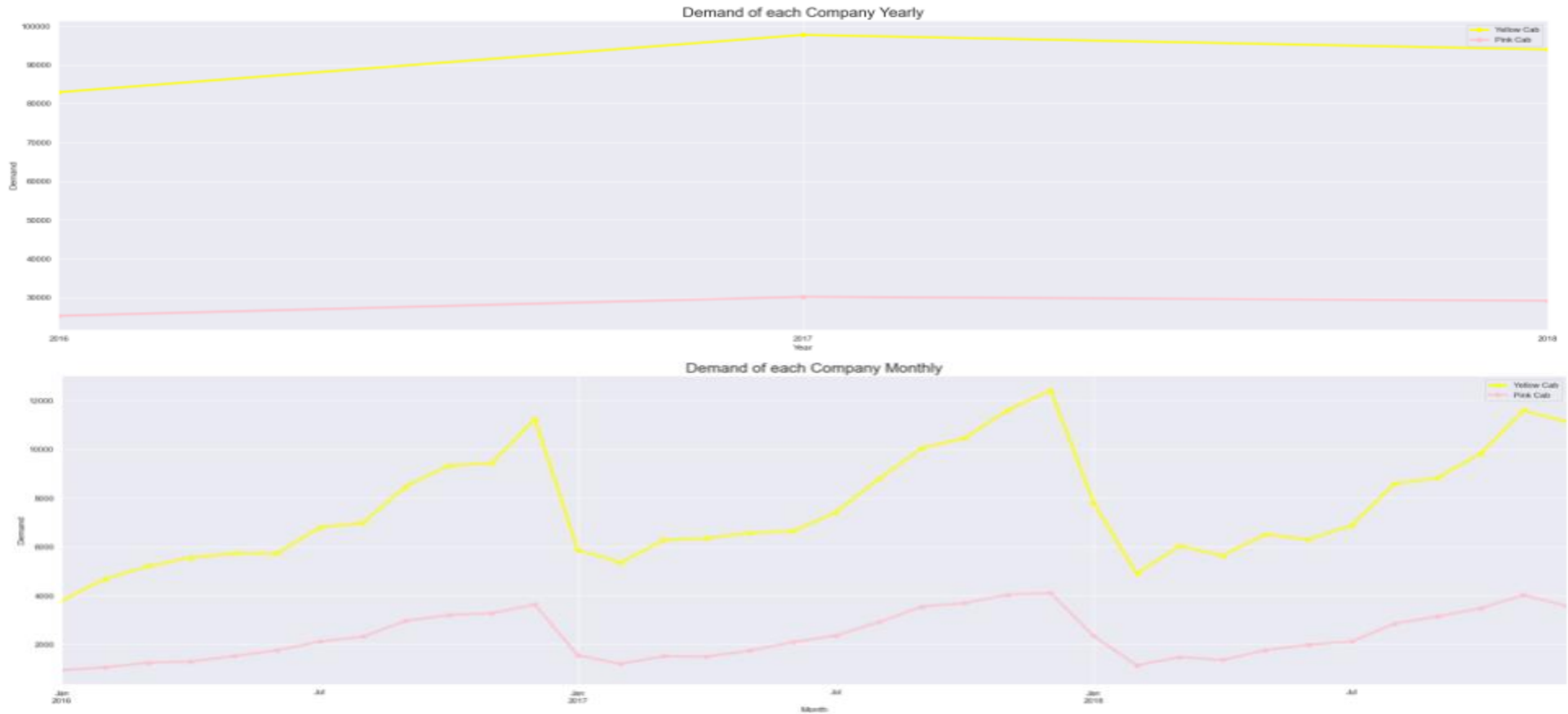
# Analyzing Profits

- Yellow Cab Company has more % of Profitable Rides



# Analyzing Demand

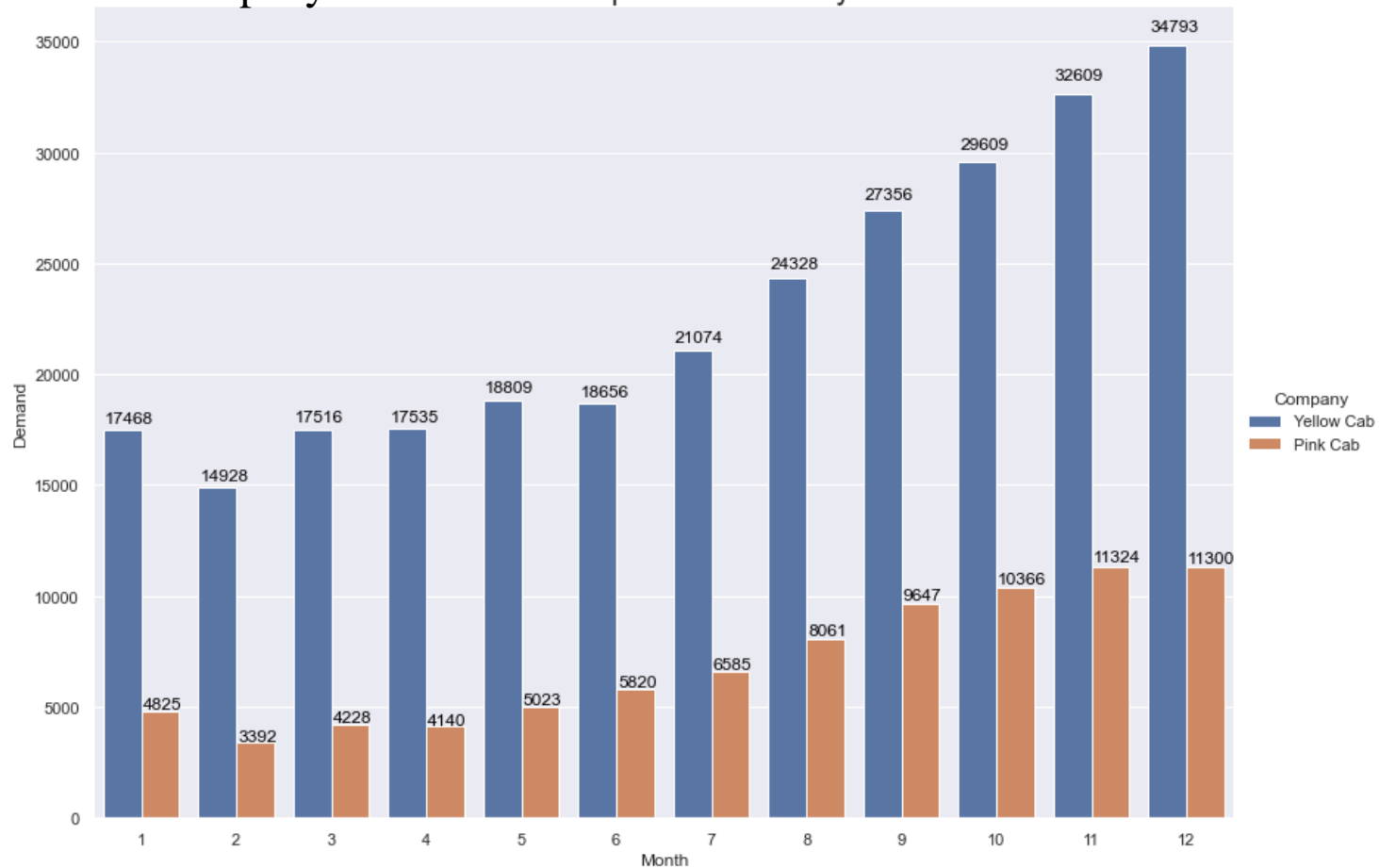
## ➤ Yearly & Monthly Demand of each Cab Company



# Analyzing Demand

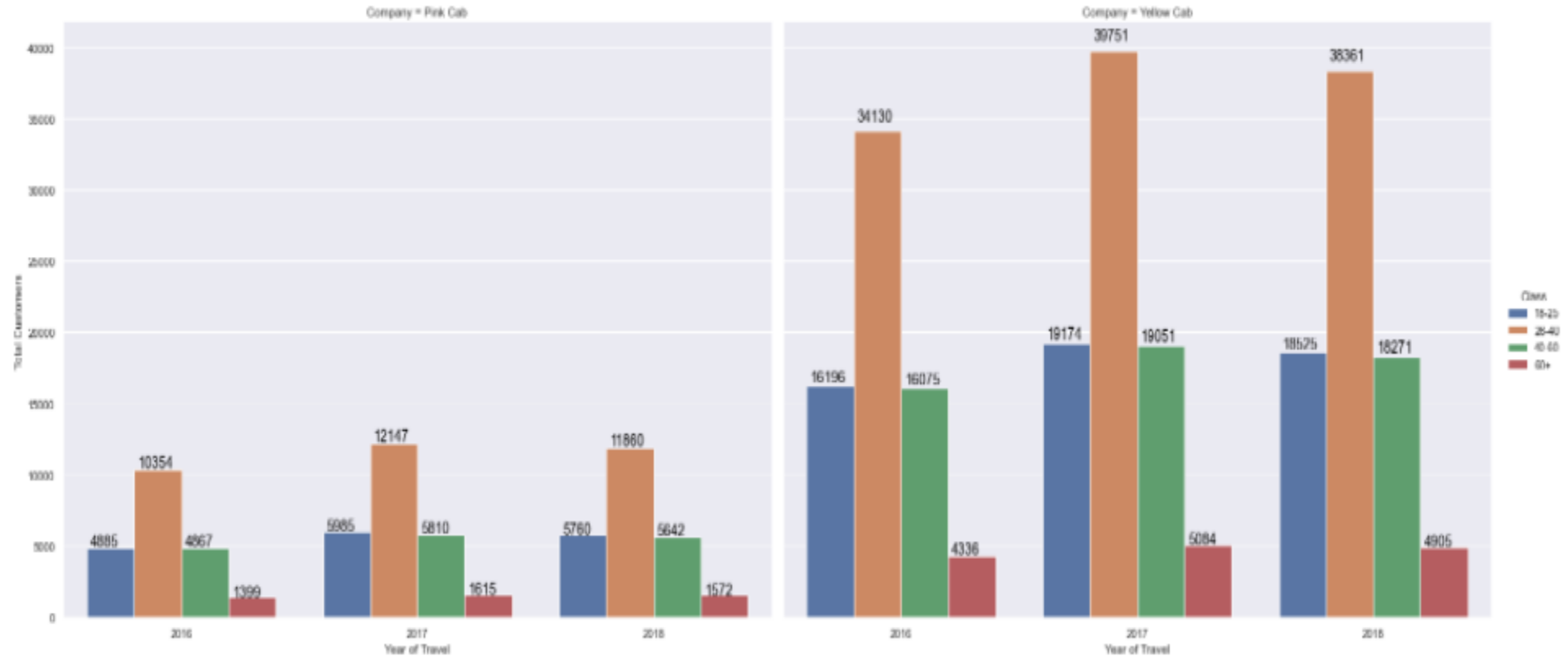
## ➤ Higher Demand for Yellow Cab Company

Demand of Companies on Monthly Basis



# Analyzing Demand

- Yellow Cab Company in More Demand based on Age Factor

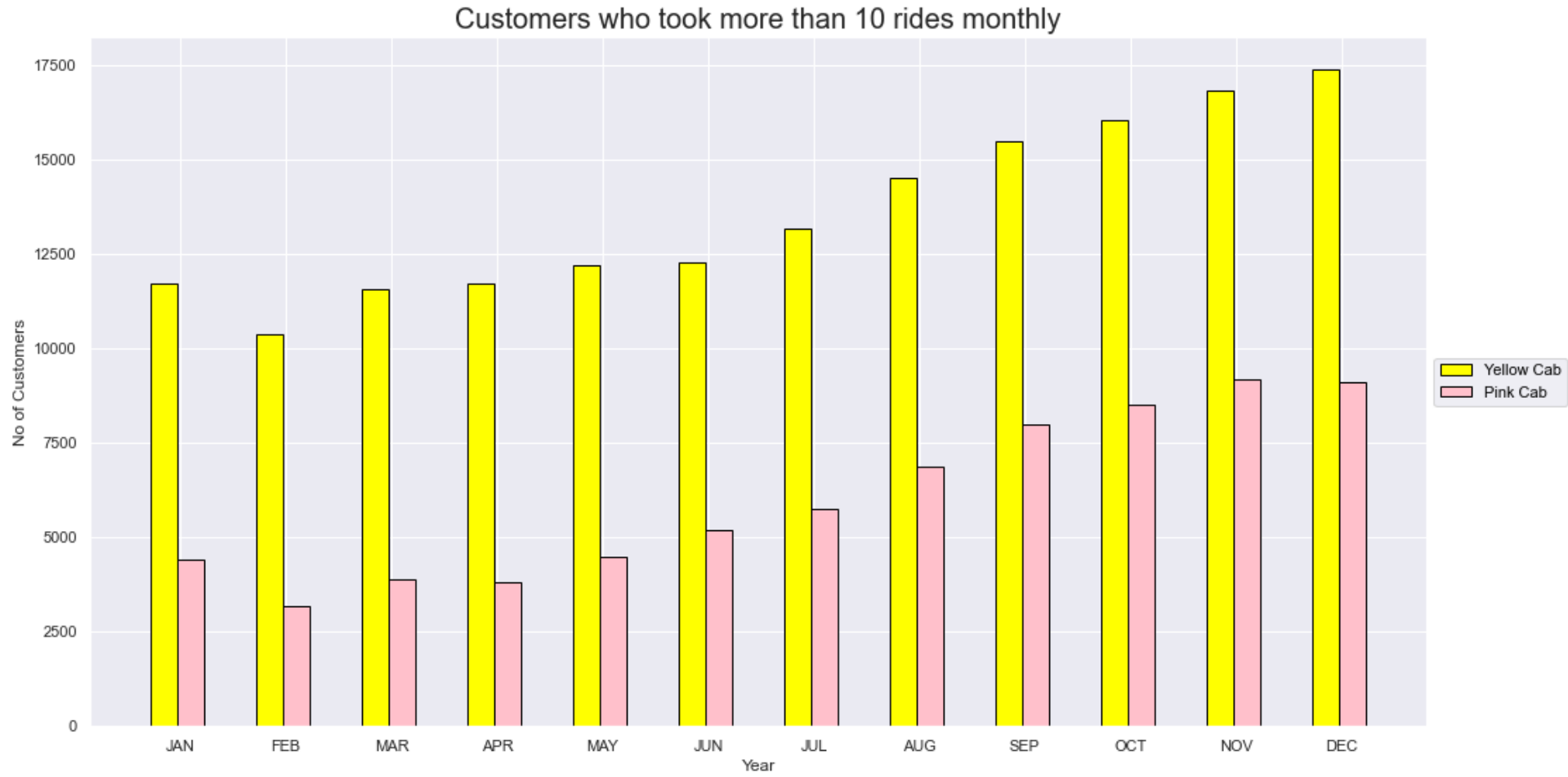


# Analyzing Customers

- Yellow Cab Company has more Customers that have taken 10 rides yearly

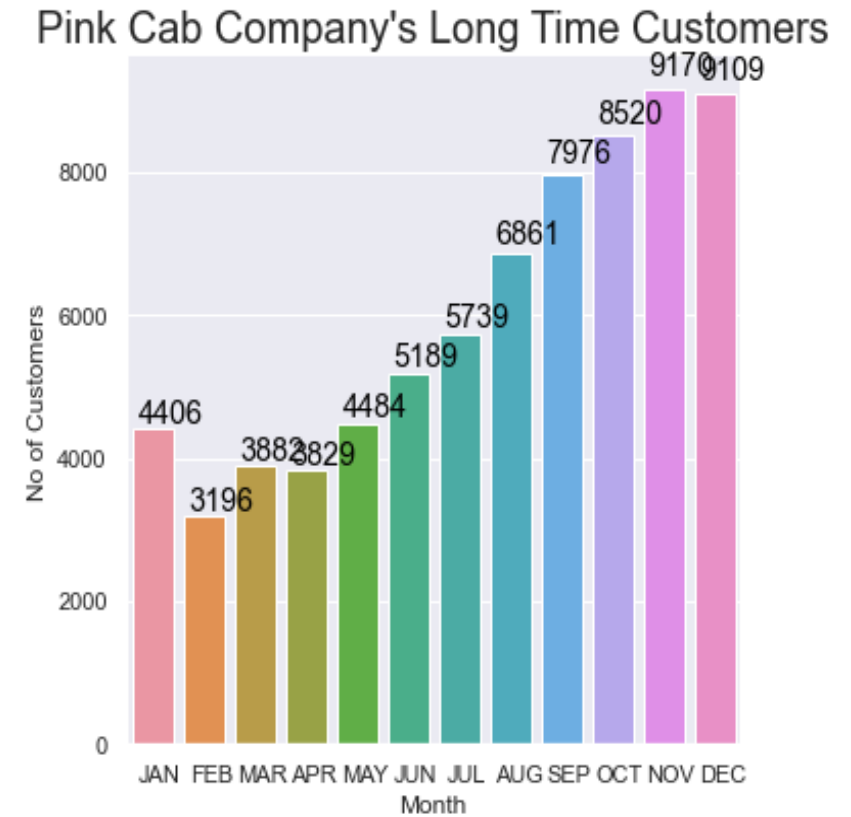
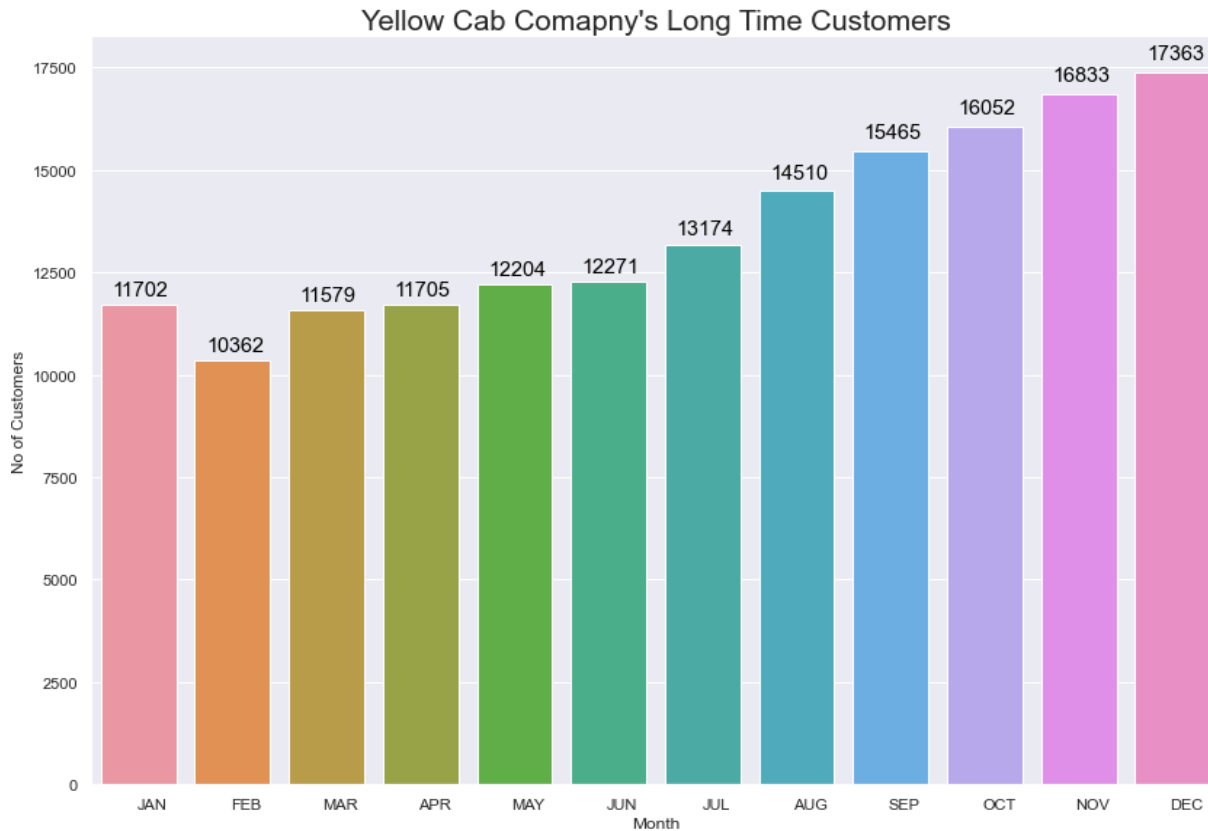


# Analyzing Customers



# Analyzing Customers

- Long Time Customers for each of the Cab Company



# Conclusion

Both the Cab Companies were Analyzed based on Profits, Demand & Customers. The following shows the results of the analysis

## Profit

- Both Cab Companies showed Profits that have increased with time
- Profits in terms of City & Rides, Yellow Cab Company has performed better in each of the category.

## Demand

- The demand for Yellow Cab Company is far Greater than Pink Cab Company
- Both of the Companies are used by similar Age Groups

## Customer

- Yellow Cab Company has more long term customers who have taken more Rides Yearly & Monthly

Conclusion: Yellow Cab Company is overall better in every aspect and is thus a better company for investment.



# Thank You