



Data Glacier

Your Deep Learning Partner

Exploratory Data Analysis

G2M insight Cab Investment firm

21st April 2023

Agenda

Executive Summary

Problem Statement

Approach

EDA

EDA Summary

Recommendations

Executive Summary

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, XYZ is planning for an investment in Cab industry.

Problem Statement

Objective


Provide actionable insights to help XYZ firm in identifying the right company for making investment.

XYZ, as per their Go-To-Market (G2M) strategy, wants to understand the market before making the decision


Approach



- Data Understanding



- Understanding the Cab industry market



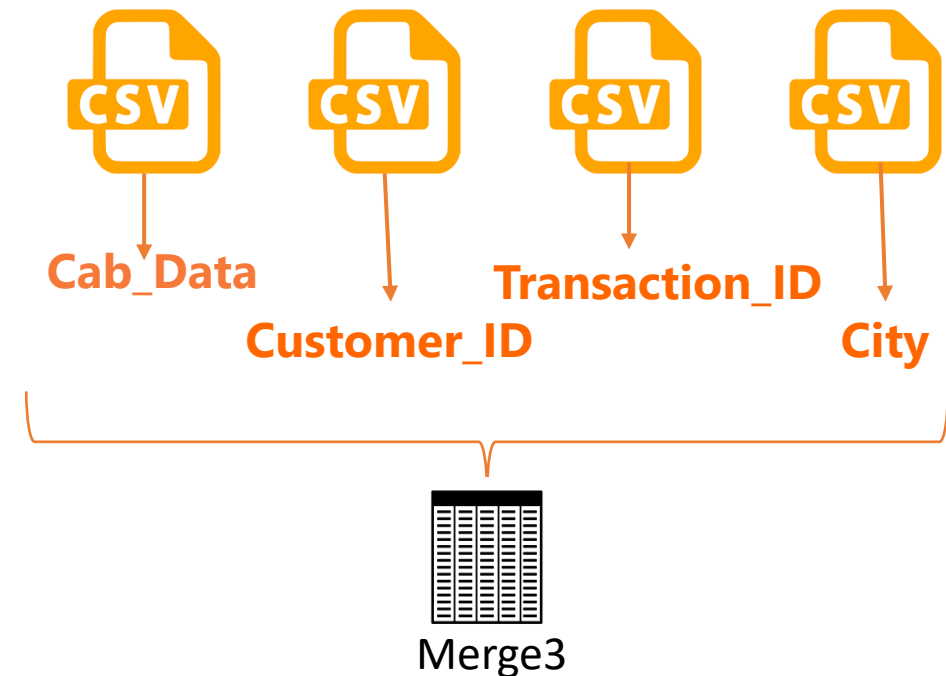
- Analyzing the most profitable Cab company



- Recommendations for investment

Data Exploration

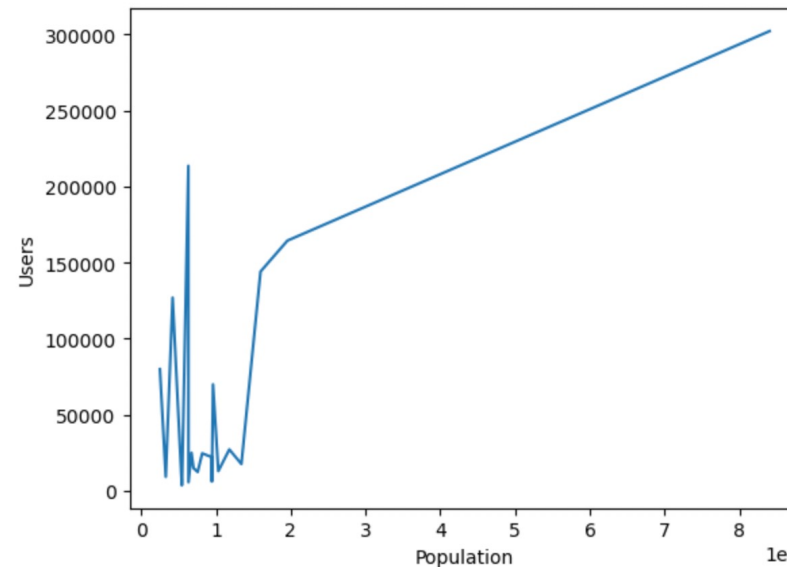
- 4 individual data sets merged into 1 DataFrame
- Time Period of the Data is from 31/01/2016 to 31/12/2018
- Total Data points: 359392



Assumptions:

- Both the Cabs (Pink and Yellow) are introduced into the market at the same time.
- Price charged, Cost of Trip and Income are all indicated in the same currency units USD as this data belongs to US cities.

Understanding the Market

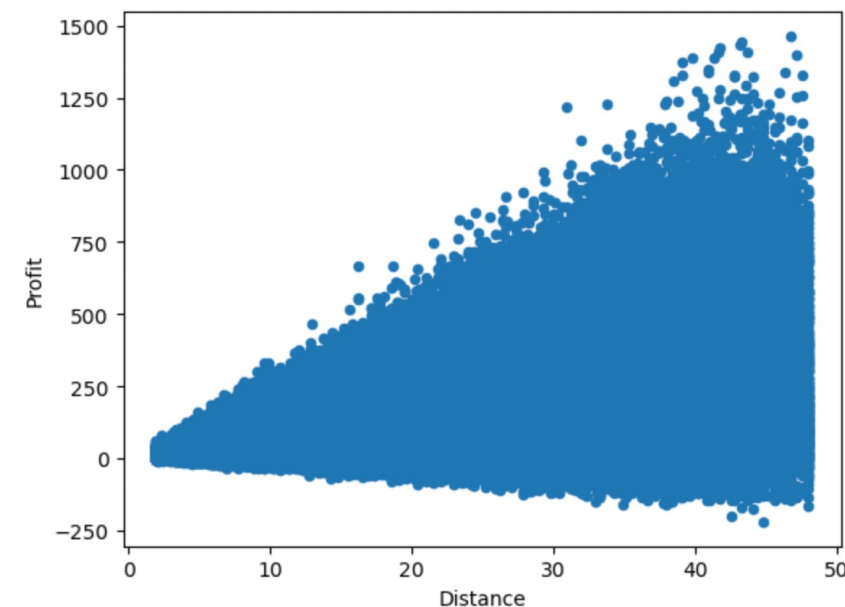


Does number of users increases as per the population?

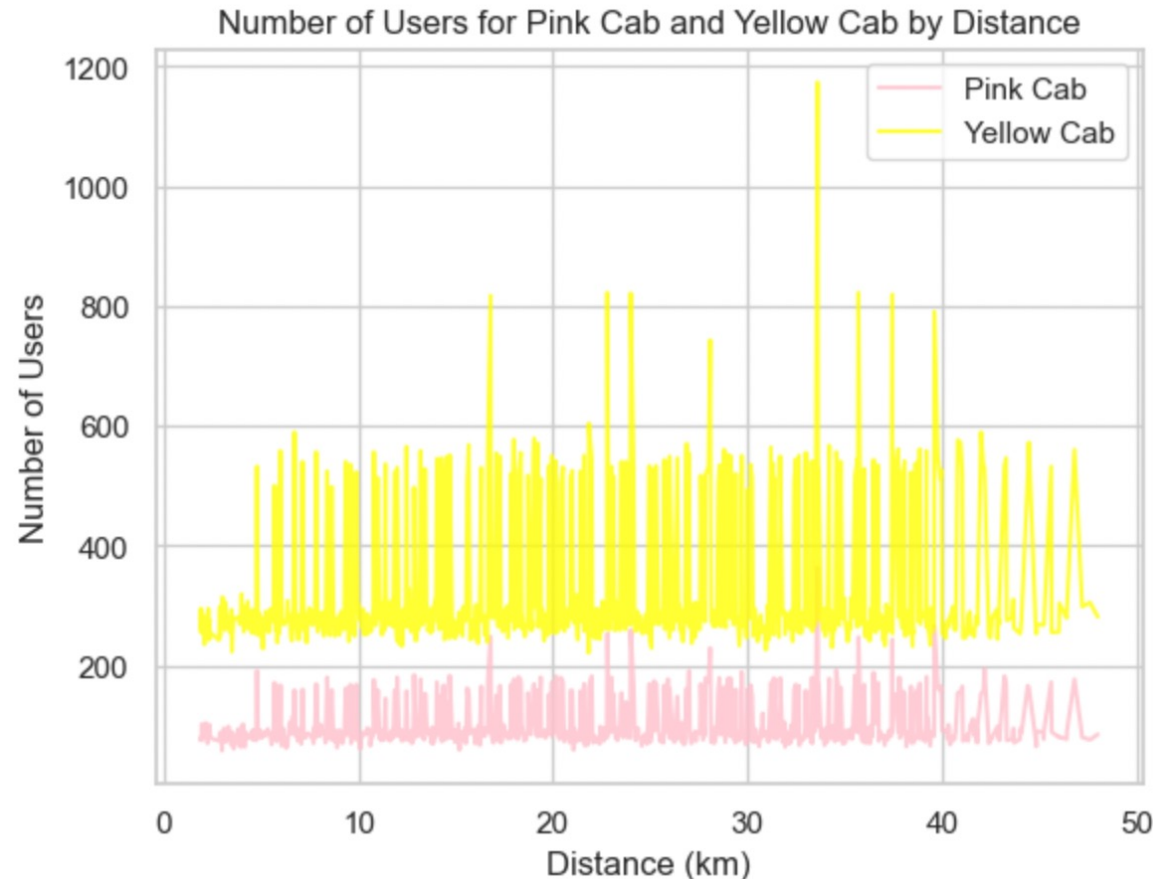
Initially the number of users were uncertain with the population growth. However, after a certain population, the number of users increased linearly with the increase in population

Does profit increases per distance?

There are Losses (negative profit) incurred in trip as well. The greater the distance the greater the profits, but at the same time there are greater chances of losses as well, as the spectrum spreads wider as the distance increase.



Understanding the market in terms of Pink and Yellow Cab



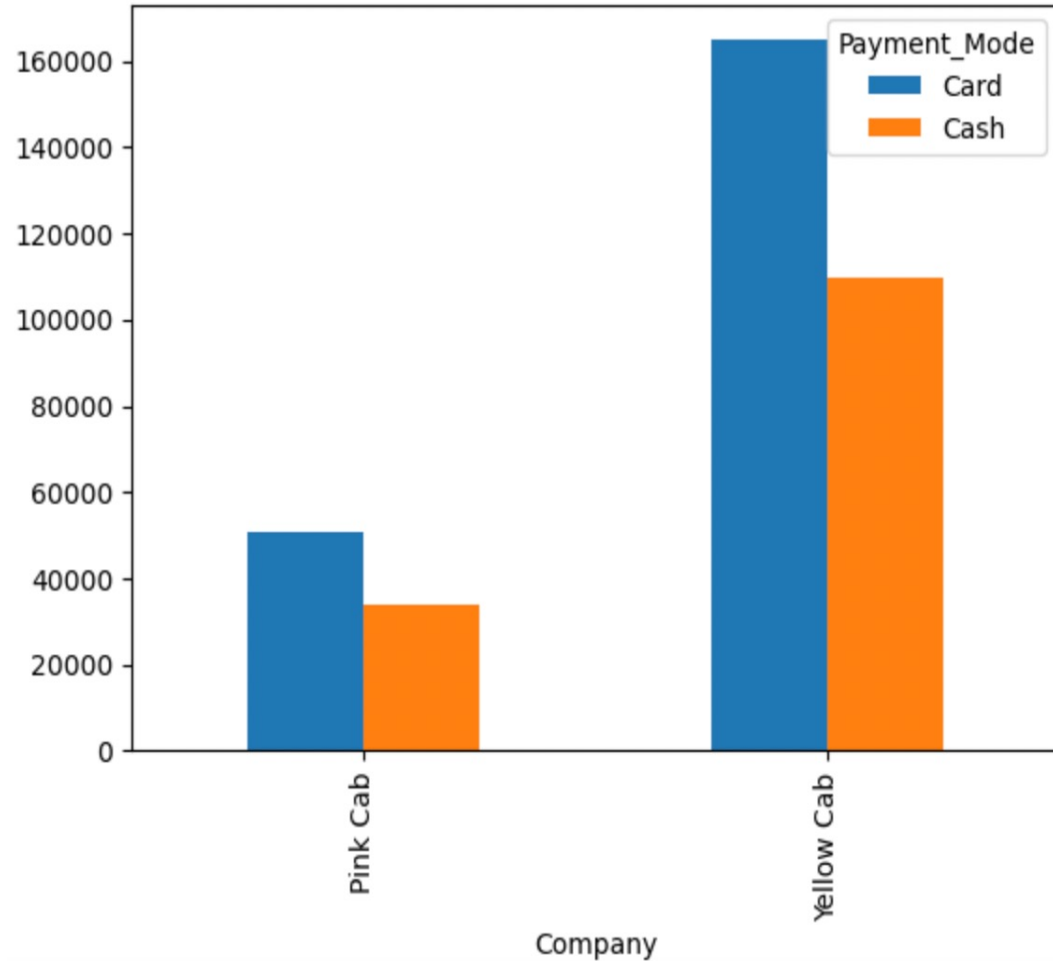
Do users prefer a specific cab as the distance increases?

No matter what the distance is, there are customers who travelled in Pink as well as Yellow cabs. There are more yellow cabs used than Pink cabs, but this could be because overall there is more yellow cabs used by the customers than the pink cabs are being used. But in this case, both the cabs are used at various distances.

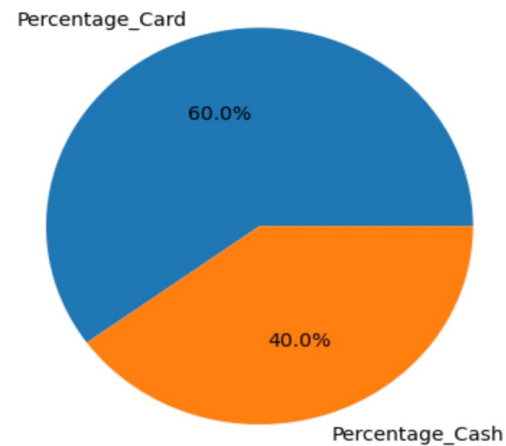
Had the frequency (usage) of specific cab been more than the other as the distance increases, we could determine that one of the cab is more efficient or preferred while traveling long distances.

Hence there is no co-relation between distance and the company

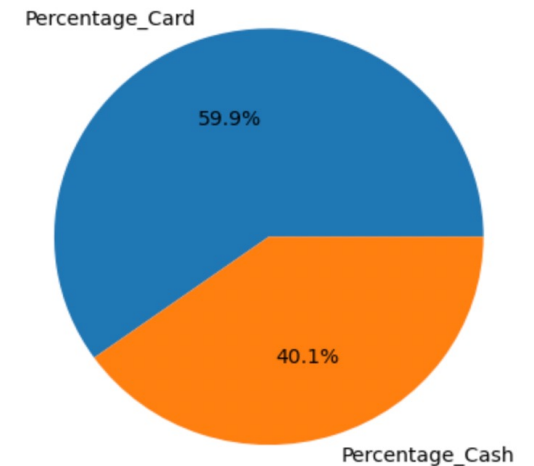
Understanding the market in terms of Pink and Yellow Cab



Yellow Cab Payment Mode Percentage

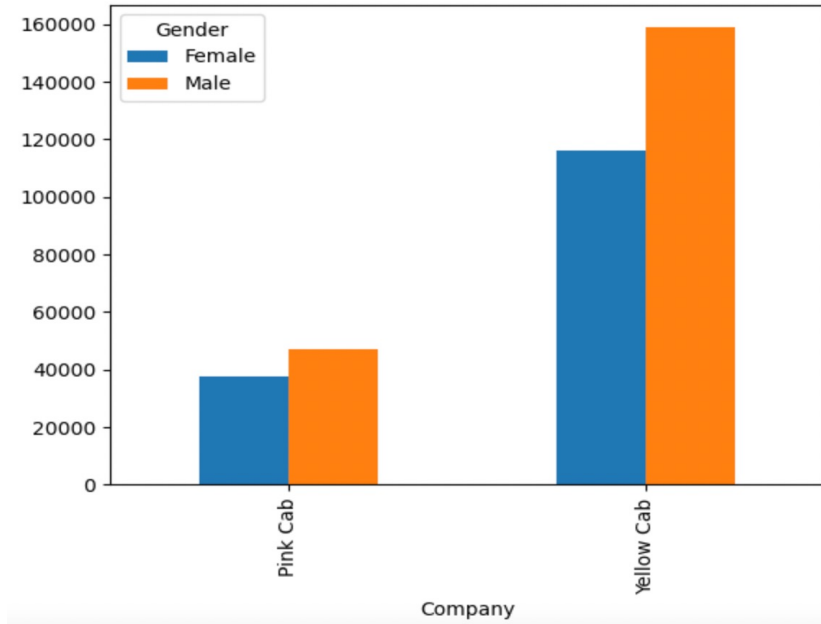


Pink Cab Payment Mode Percentage



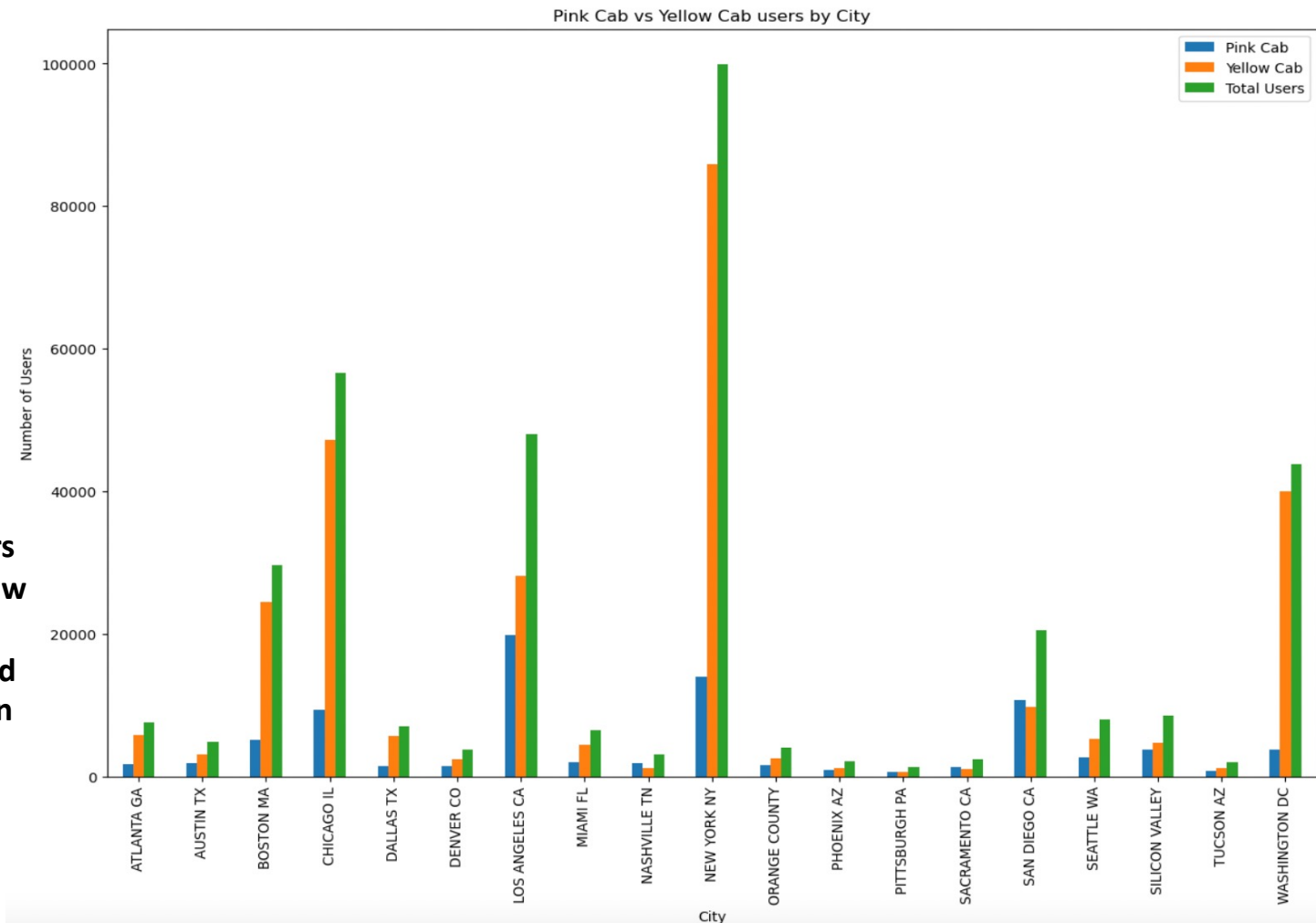
Both Pink Cab and Yellow Cab companies accept both card and cash payments, and the majority of their payments are made through cards. for both Pink Cab and Yellow Cab, more than half of their payments are made through cards

Understanding the market in terms of Pink and Yellow Cab



Both Pink Cab and Yellow Cab companies serve both female and male customers, with the majority of their customers being male.

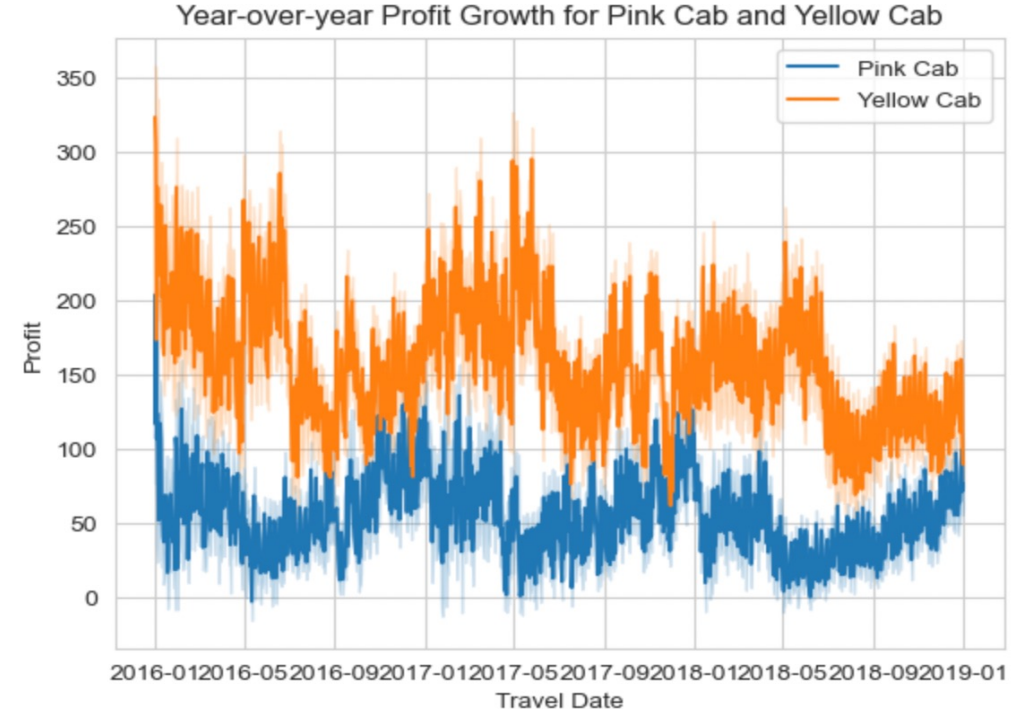
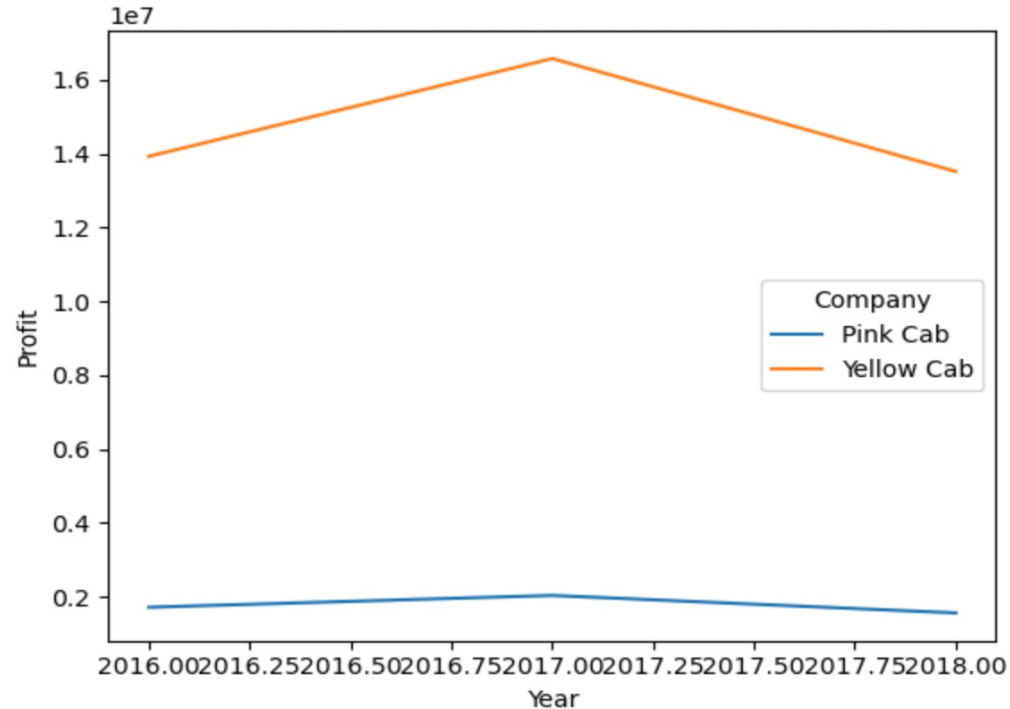
In 3 of cities Pink Cab has gained a higher quantity of users than the Yellow cab which are Los Angeles, followed by New York and Chicago. The difference is not too significant. However, for the rest of the cities, Yellow cab has attracted more number of customers with a very huge proportion in compared to the Pink Cab users in those cities



Insights about the Cab industry in the US Market



Analyzing the most profitable Cab company

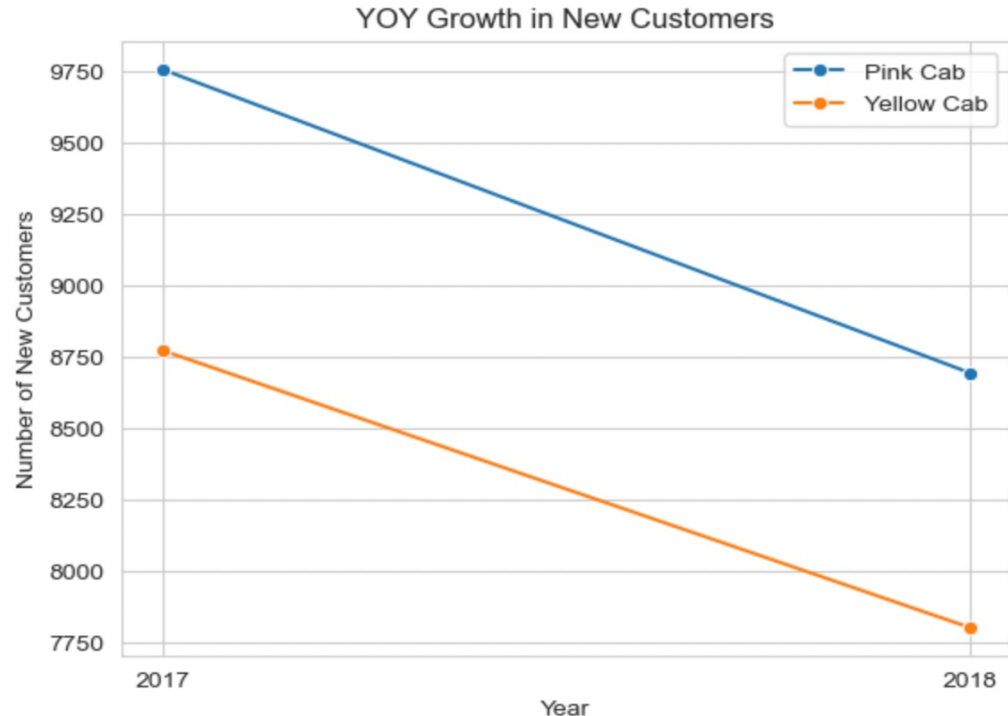
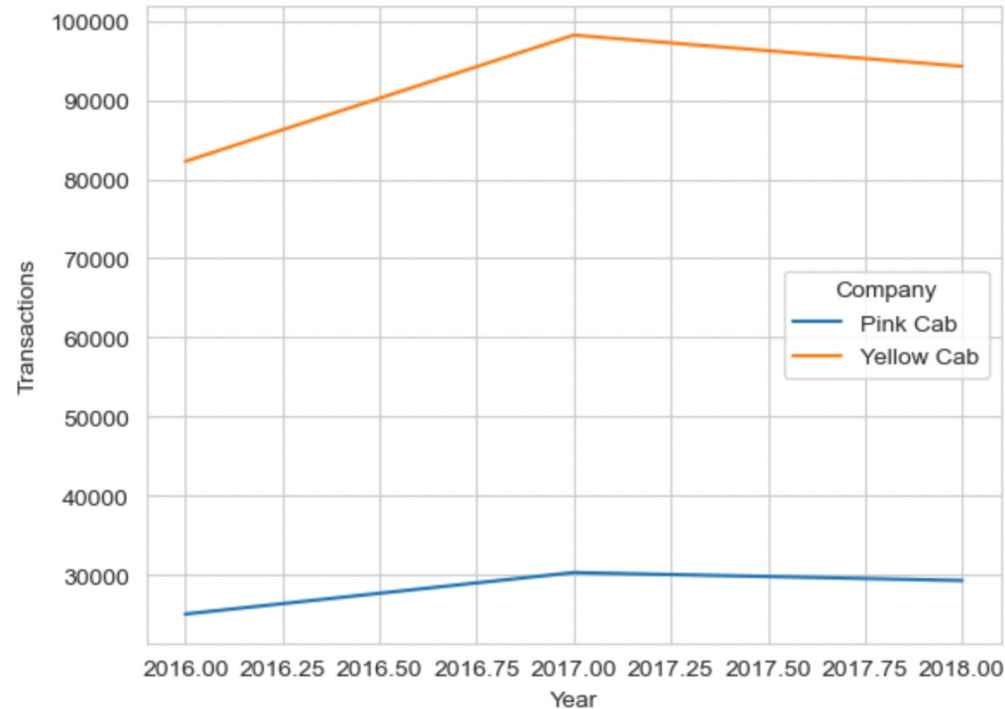


YOY growth rate increases in terms of profits

There is a drop in Year-On-Year profit from year 2017 to 2018. However, the profits for Yellow cab is higher by a significant amount than the Pink Cabs.

From the 2nd graph we can illustrate that, at few points where the profit falls in the Pink cab, the profits for the Yellow cab has been increasing or higher. This shows that there is some strategy that Yellow cabs use or grab the opportunity at the time of fall which Pink cabs is supposedly unable to manage.

Analyzing the most profitable Cab company

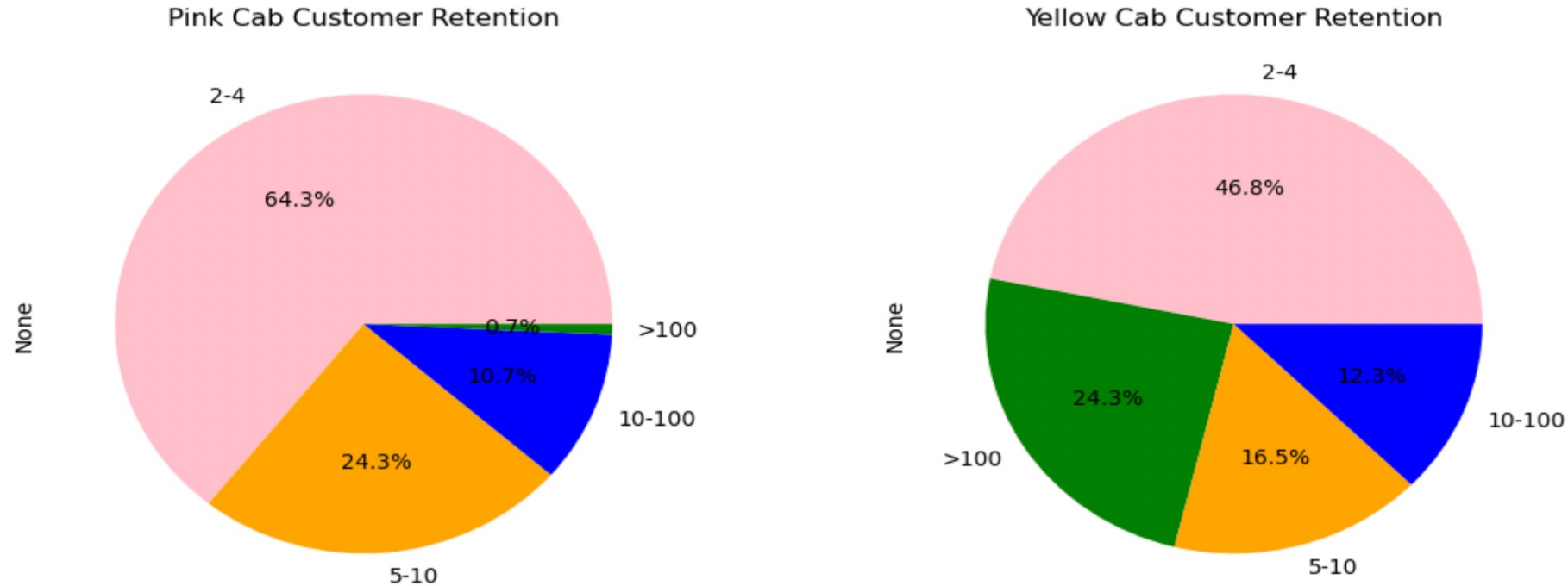


YOY growth rate in terms of Users and New customers

There is a drop in number of users Year-On-Year from year 2017 to 2018. However, the number of customers using the Yellow cab is higher by a significant amount than the number of customers using the Pink Cabs.

Though addition of new customers have reduced on a whole by a bit, but there is still a noteworthy amount of new customers still getting added to the cab industry (9758 and 8696 in Pink Cab and 8774 and 7804 in Yellow Cab for the years 2017 and 2018 respectively).

Analyzing the most profitable Cab company



YOY growth rate in terms of Users and New customers

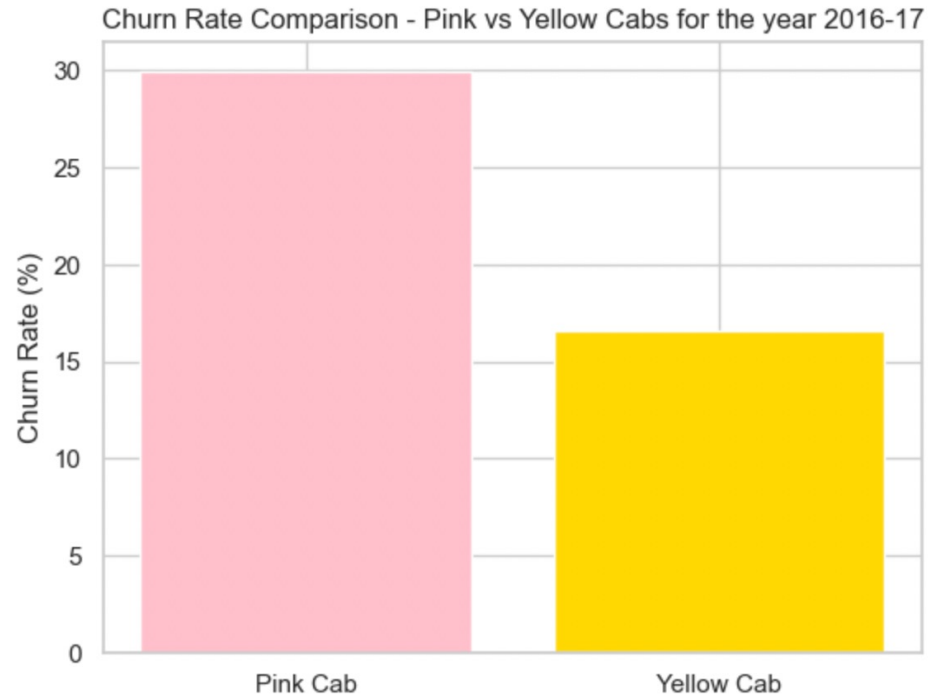
The customer retention is greater for Yellow Cabs than for the Pink cabs.

We can see that 24.3% of the users has used the Yellow cab service for more than 100 times, where as for approximately the same number of times, only 0.7% of the customers has used the Pink Cab service.

Similarly, higher retention rate is for Yellow cab rather than Pink cab for customers using the service for more than 10 times.

This shows that Yellow cab is able to retain their customers in greater numbers.

Analyzing the most profitable Cab company



YOY Churn rate

From 2016 to 2017 and from 2017 to 2018, the churn rate of Pink cabs has been higher than for Yellow cabs.

Churn rate in 2016 to 2017 for pink and yellow cabs has been 29.96% and 26.59% respectively. Churn rate in 2017 and 2018 for pink and yellow cabs has been 47.95% and 29.23% respectively. Which illustrates that the churn rate has gone up significantly in pink cabs whereas Yellow cabs were able to control their churn rate to at least maintain it as the similar rate as previous year.

Overall, the Churn rate for Pink Cab is higher than Churn rate for Yellow Cabs, as per above calculations

Summary and Recommendations

Summary

- Yellow Cabs have attracted a substantial number of customers in all of the given cities with the exception of three, where Pink Cabs have a slight advantage
- In all cities but three, Yellow Cabs are on top of Pink Cabs, except in threeYellow Cabs have a larger customer base compared to Pink Cabs.
- There is a higher profit margin for Yellow Cabs than for Pink Cabs compared with Year-on-Year figures.
- Pinks cabs attracted a little more number of 'new' customers than the Yellow cabs did
- Yellow Cabs has greater customer retention rate than the Pink cabs.
- The Churn Rate (the rate at which customers leave the service) is higher is Pink Cabs than in Yellow cabs.



Recommendations

- Considering the Customer reach, Customer retention, Churn rate and the overall profits, investment in Yellow cab is much beneficial and recommended.

Thank You