



Data Glacier

Your Deep Learning Partner

G2M insight for Cab Investment firm: Exploratory Data Analysis.

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Agenda

Executive Summary

Problem Statement

Approach

EDA

EDA Summary

Recommendations

Executive summary:

The Client:

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.

Data Set:

Four datasets have been provided for the analysis containing information about:

- Transactions for 2 cab companies
 - The customer's demographic and financial details.
 - US cities, their population and number of cab users
- Time period of data is from 31/01/2016 to 31/12/2018.**

Objective:

Providing meaningful insights through analyzing the data provided in order to help XYZ choose the right company for their investment.

Analysis plan:

- Profit analysis.
- Travels frequency analysis.
- Reach rate analysis.
- Customers base analysis.

Recommended Cab company:

Yellow Cab company.

problem statement :

Problem:

XYZ firm wants to understand the market and choose a Cab company for their investment based on data analysis and mathematical proofs.



VS



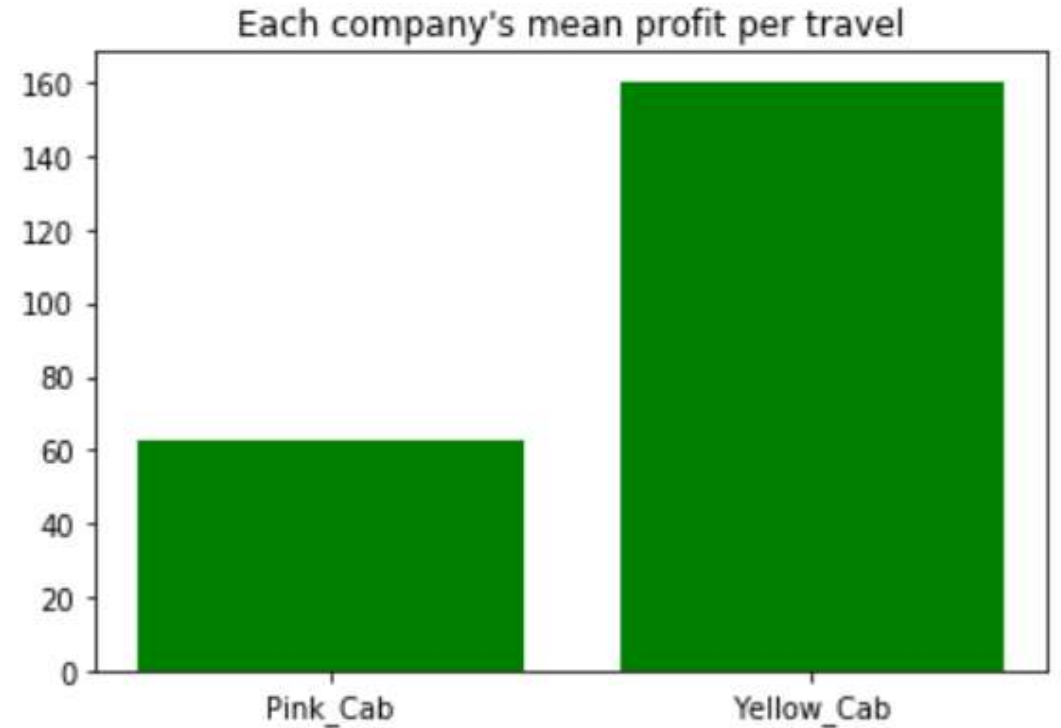
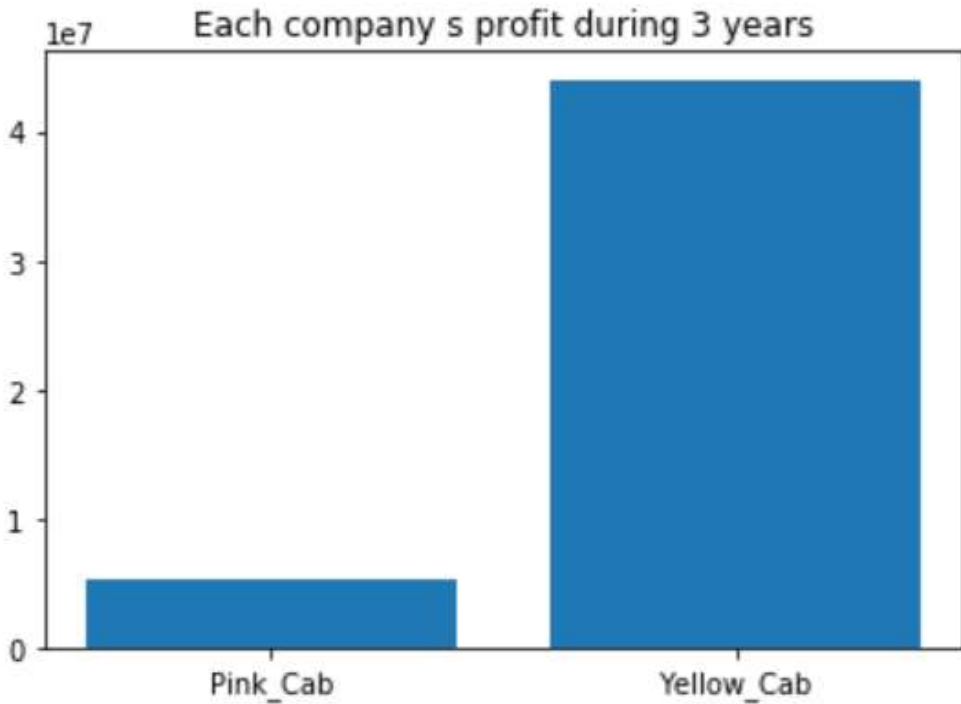
Approach:

Prescriptive analysis is the frontier of data analysis, combining the insight from all previous analyses to determine the course of action to take in a current problem or decision. And that is exactly why it was my choice for this study case.

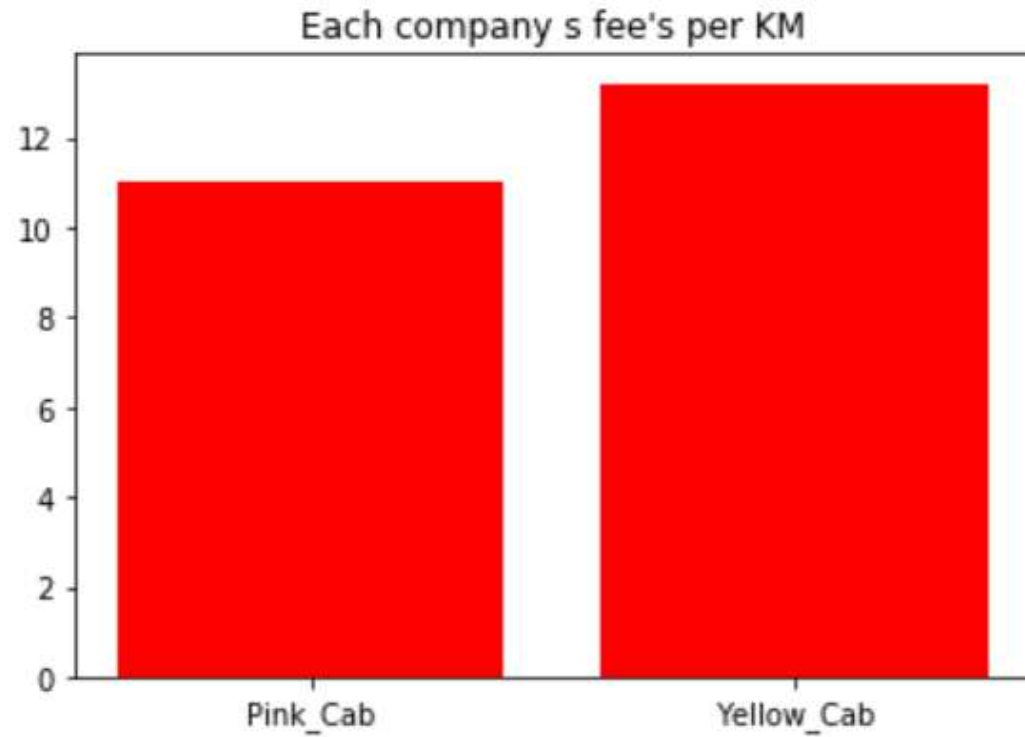


EDA

Profit analysis:



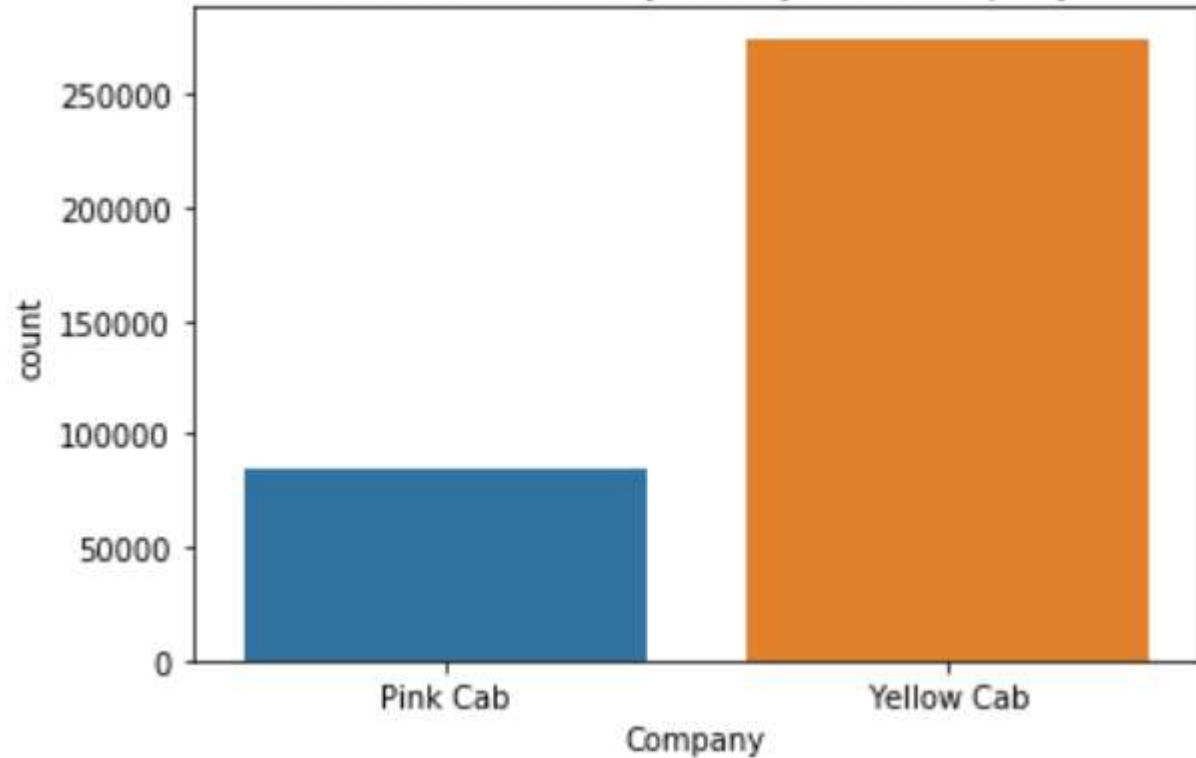
- Yellow cab's profit during 3 years is approximately equal to 9 times Pink cab's profit.
- Yellow cab's mean profit per travel is 160\$ while Pink cab's is only 60\$.



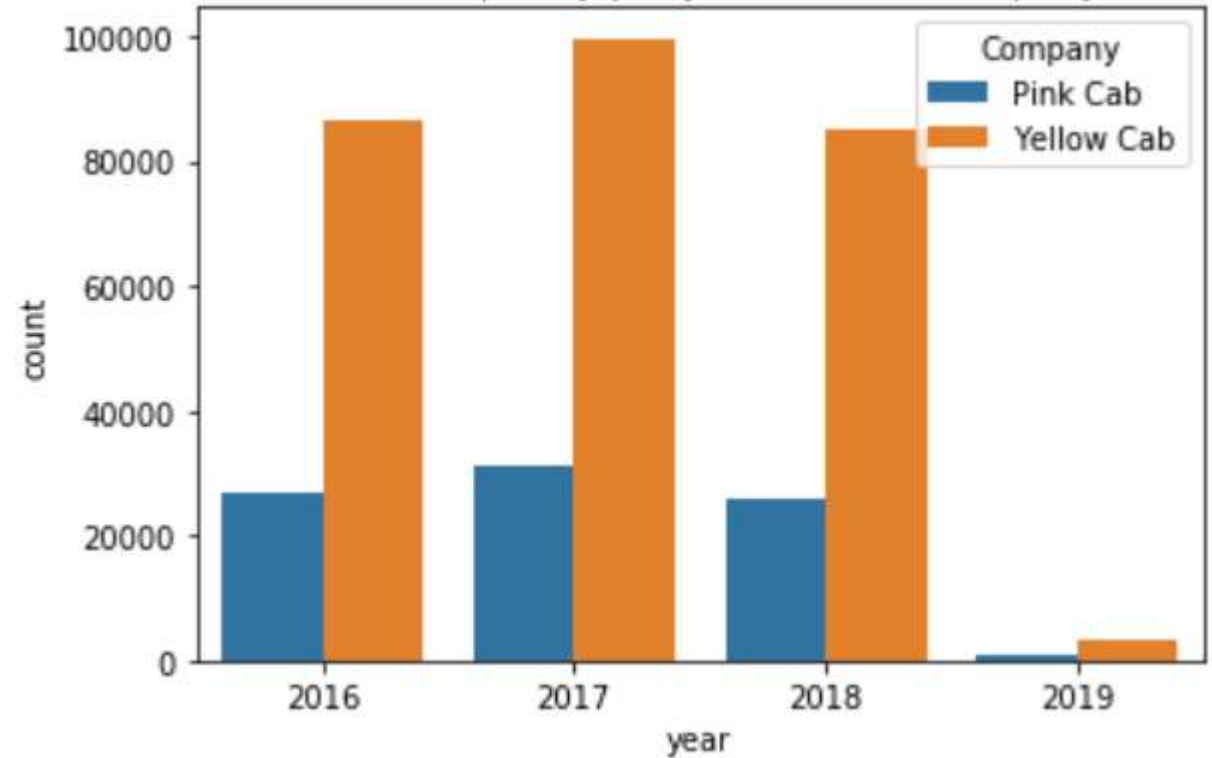
- Pink cab charges it's customers a little less than yellow cab (approximately 2\$ more per Km).
- This is one of the reasons why yellow cab makes more money.

Travels frequency analysis:

travels made in 3 years by each company

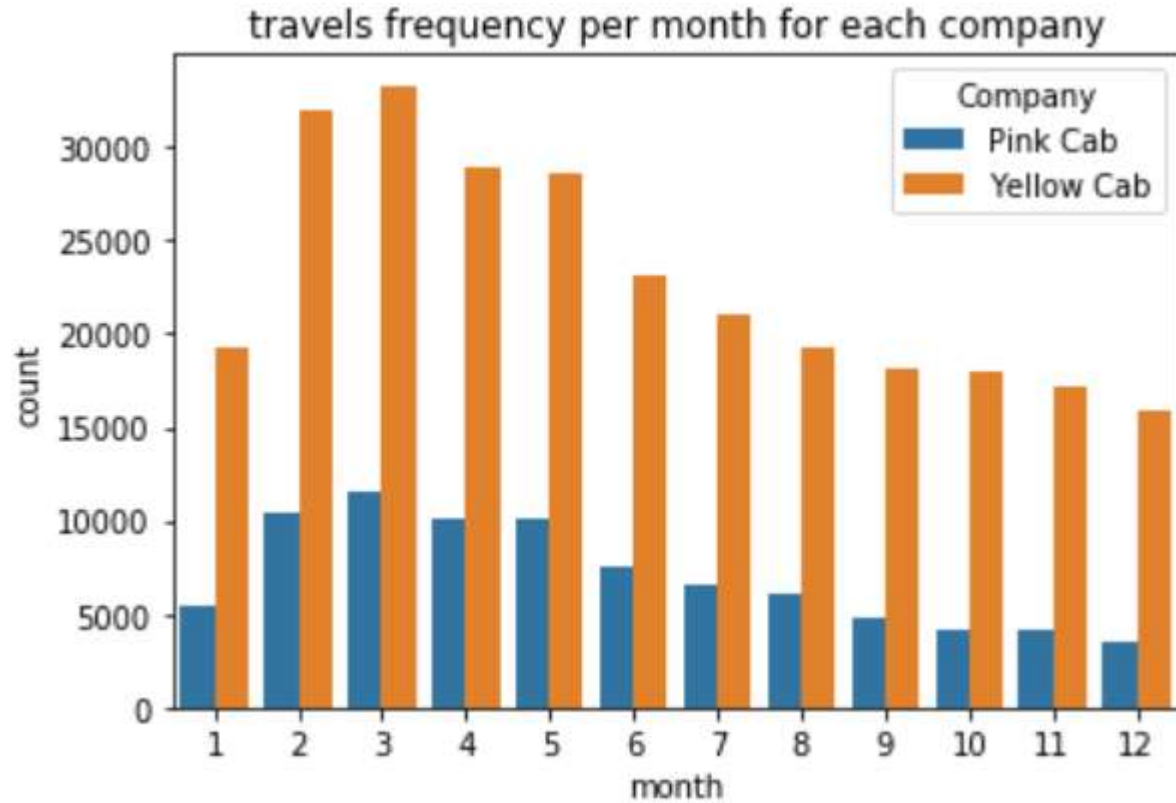


travel frequency per year for each company



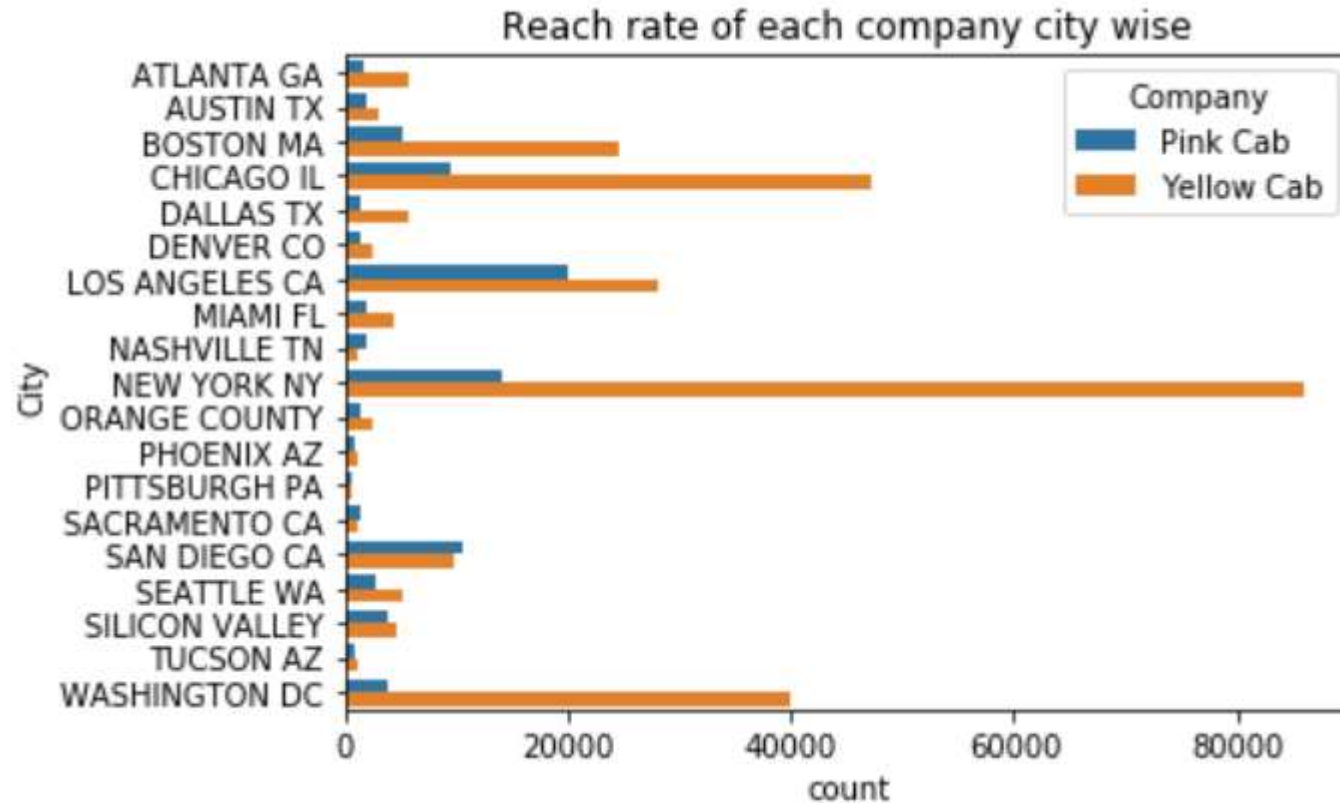
-Yellow cab's travels frequency is 3 times more important than Pink cab's during three years, and during each year between 2016 and 2019.

-One more reason why the yellow cab is more profitable.



- Demand on cabs is at it's highest during February , March ,April and May (the spring) for both company.
- _ Pink Cab is still by far below Yellow Cab during every month and each season.

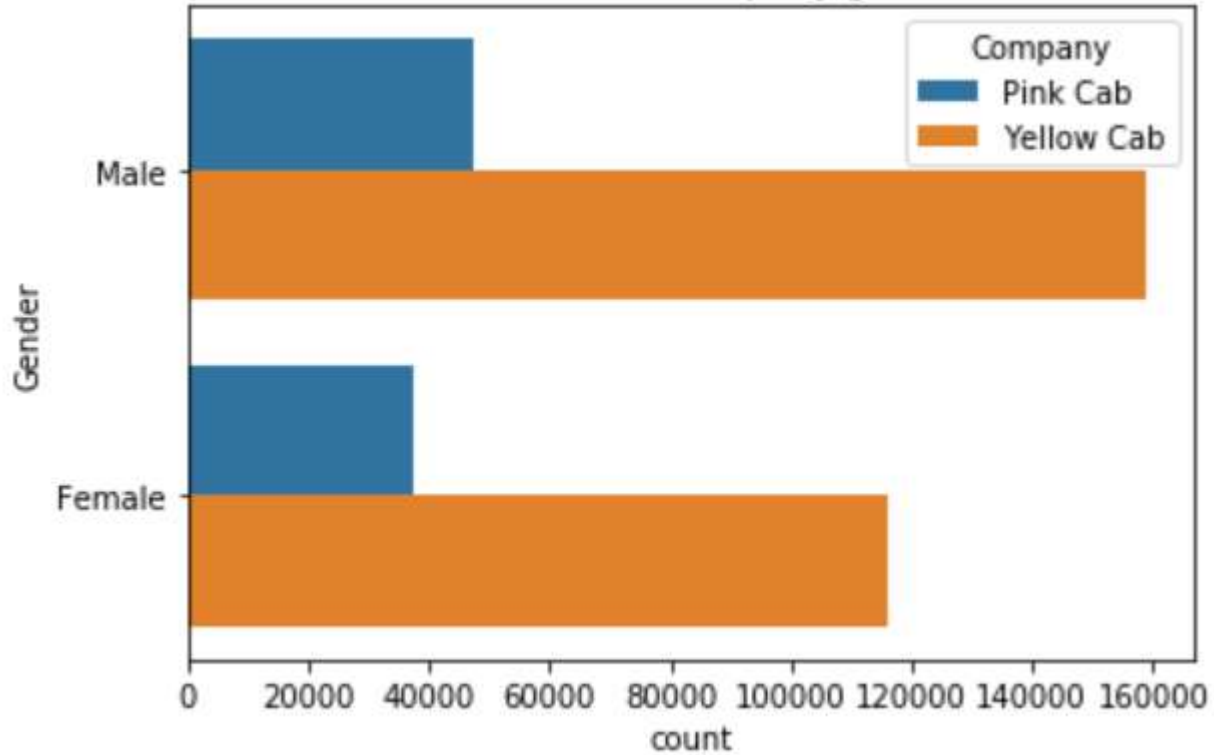
Reach rate analysis:



- Yellow cab has higher reach rates in the 99% of the cities.
- Pink cab is above yellow cab in only two city with very low travels frequency which are Sacramento and Nashville.

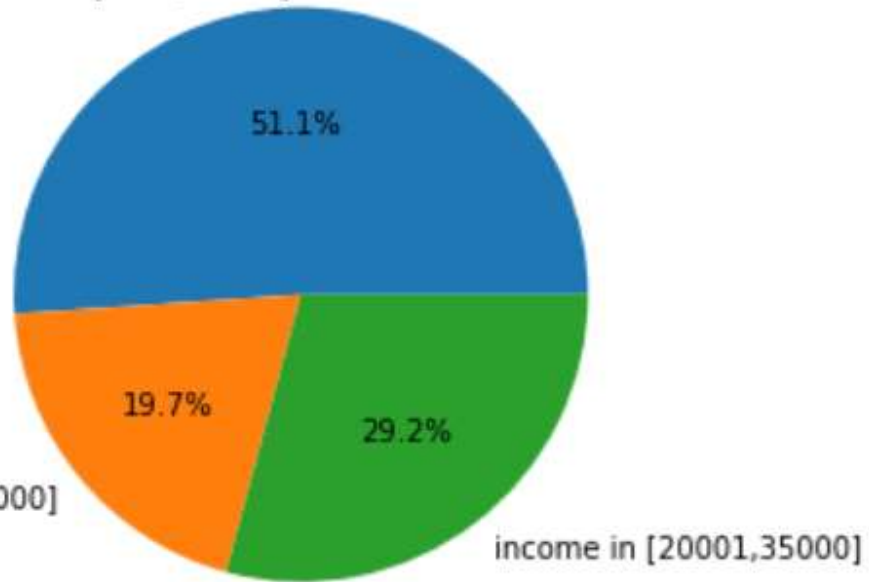
Customers base analysis:

Reach rate of each company gender wise

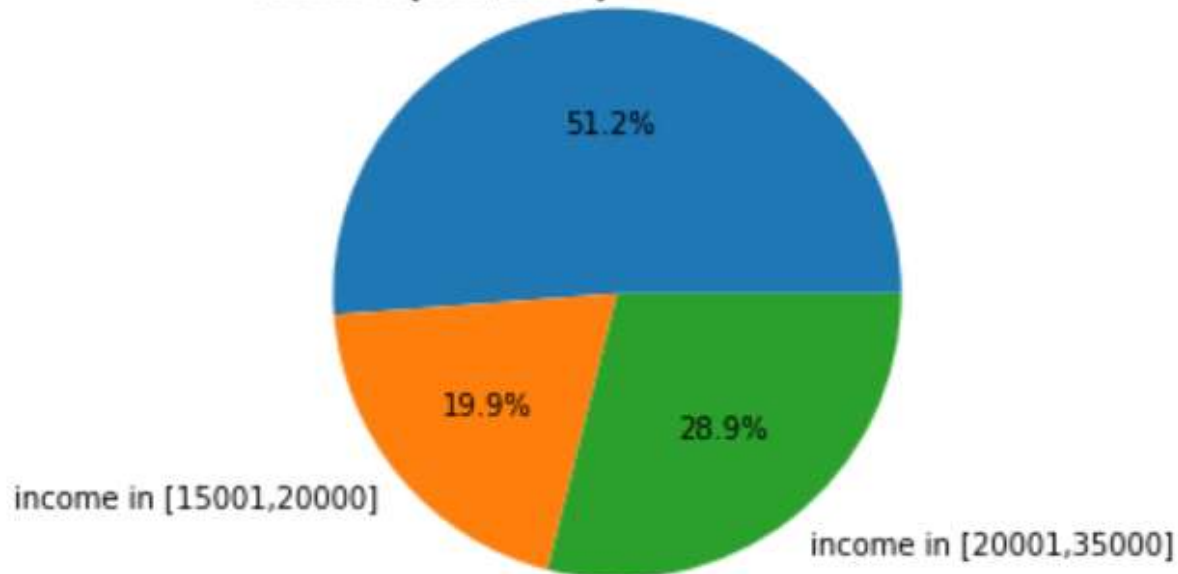


-Both males and females prefer Yellow Cab.

Customer base analysis based on monthly income for pink cab company
income in [2000,15000]

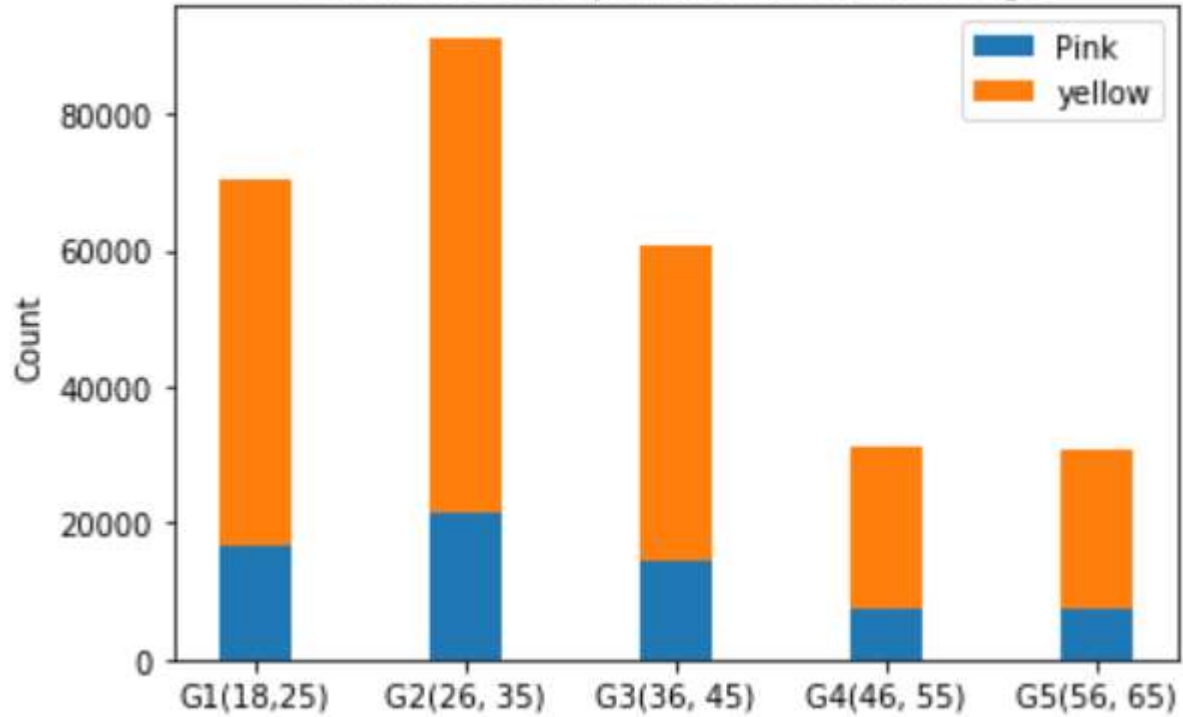


Customer base analysis based on monthly income for yellow cab company
income in [2000,15000]



- Both companies customer bases are composed of middle and high classes.
- Proportions are almost the same for both companies.
- There is no preference based on income.

Customer base preference based on age



- The majority of the customers base for both companies is people under 35 years old.
- Customers from all age categories prefer Yellow cab.

EDA summary:

All the analysis that have been made led us to conclude that Yellow cab is doing much better than Pink cab:

Profit analysis: Yellow cab makes 9 times more money than Pink cab each month and each year. It could be because it's fees are higher than pink cab's fees and that it has a big customer base making it's travel frequency also high.

Travels frequency analysis: Yellow cab is on demand all the time around the year. It has higher ride frequency compared to Pink Cab.

Reach rate analysis: Yellow cab has higher customer reach in 25 cities while Pink cab has higher customer reach in only 2 cities with very low travel frequency.

Customers base analysis: Yellow cab has more customers in every age range than Pink Cab. Even the 65+ years old customers.

Recommendations:

Based on all the information stated above, I recommend Yellow Cab company for investment.



Thank You