



Data Glacier

Your Deep Learning Partner

G2M Case Study

Data Glacier Virtual Internship

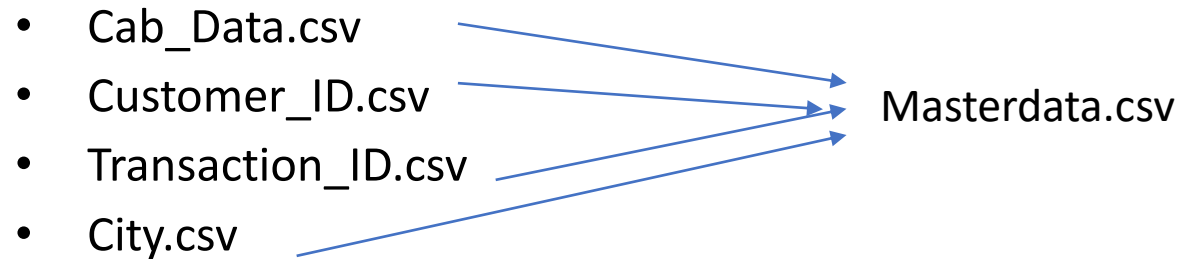
18-April-2023

Problem Statement

- XYZ, a private firm in the US, is planning to invest in the Cab industry. As per their Go-to-Market (G2M) strategy, they want to understand the market before taking the final decision.
- For this purpose, they have provided multiple data sets containing information on two cab companies. The objective is to provide actionable insights that will help XYZ identify the right company to invest in.

Data Exploration

There are 4 files provided for EDA:



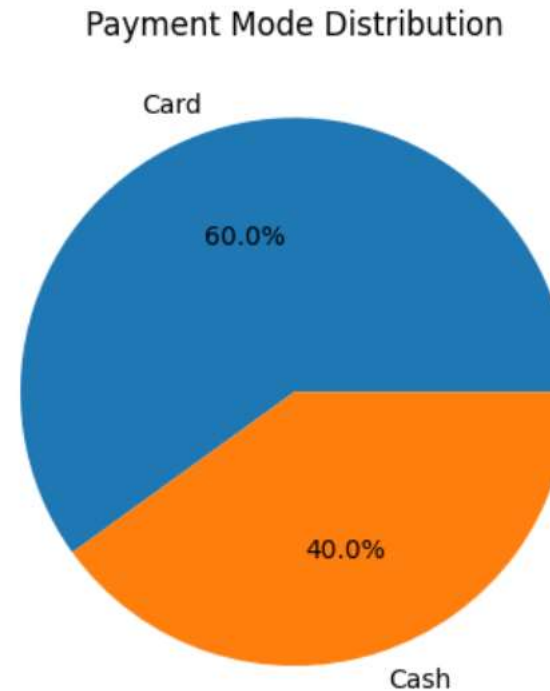
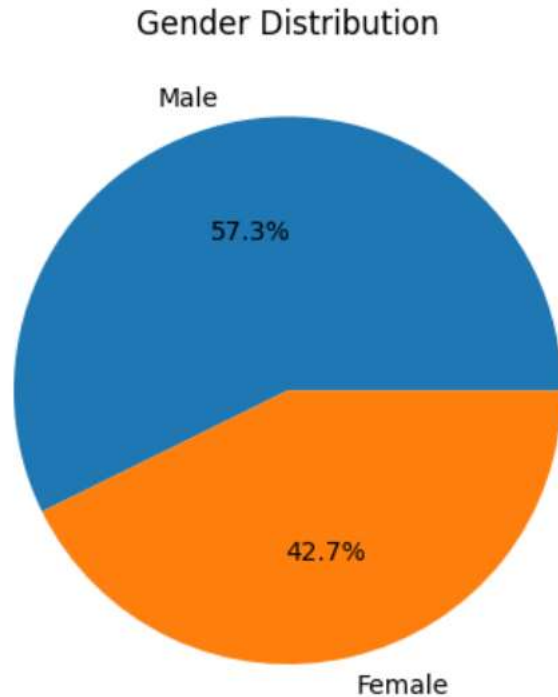
Timeframe of the data: 2016-01-03 to 2019-01-01

We observed that there are:

2 cab companies: Yellow Cab and Pink Cab

19 different cities that Pink Cab and Yellow Cab is serving

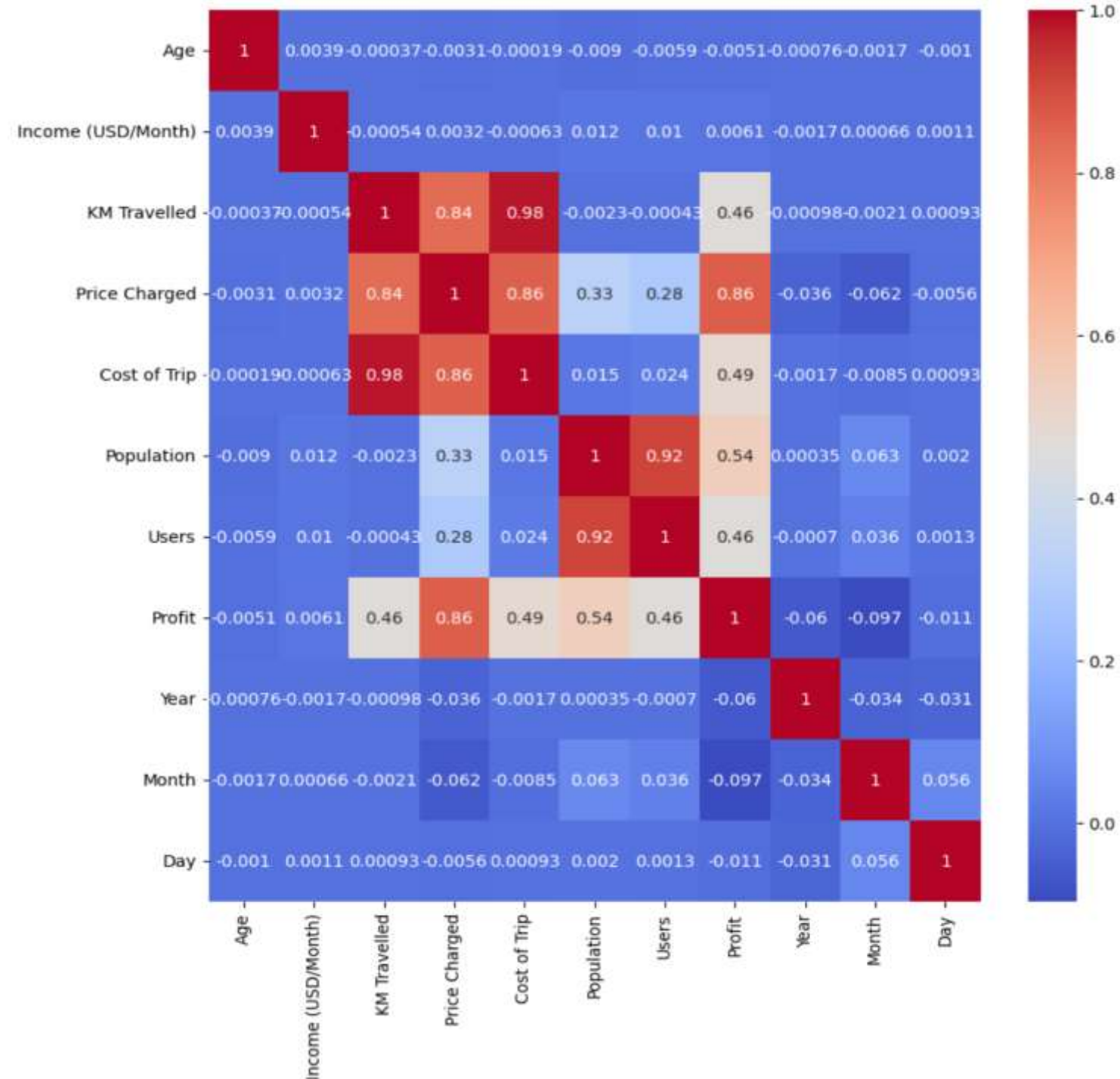
Gender Distribution and Payment Mode Distribution



- %57.3 of all Pink Cab and Yellow Cab users are male and %42.7 of all Pink Cab and Yellow Cab users are female
- %60 of the all payments are made with card, %40 of the all payments are made with cash.

Correlation Matrix

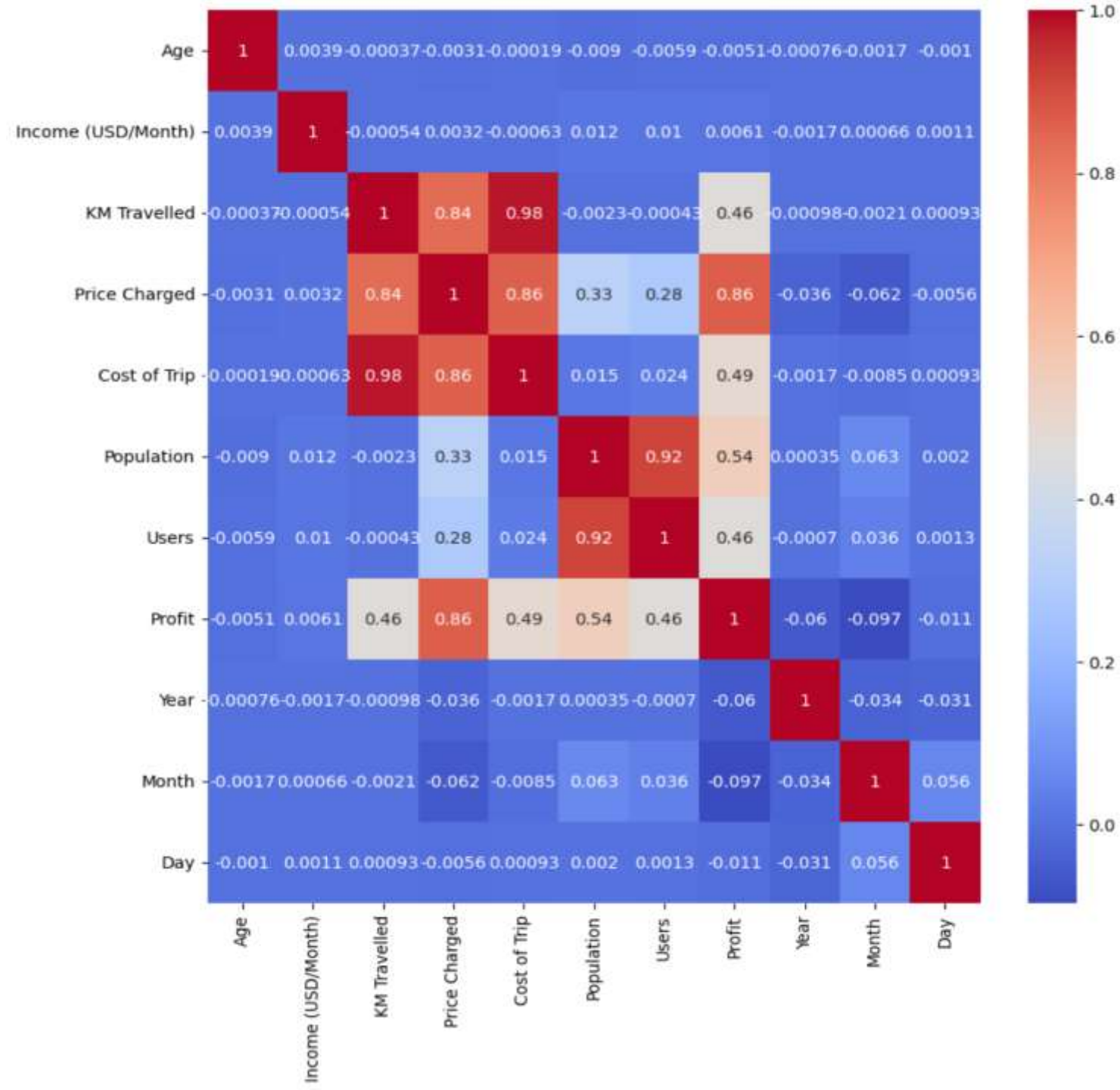
- We created correlation matrix to describe the strength and direction of a linear relationship between variables.
- The correlation coefficient ranges from -1 to 1.
- -1 indicates a perfect negative correlation
- 0 indicates no correlation
- 1 indicates a perfect positive correlation



Correlation Matrix

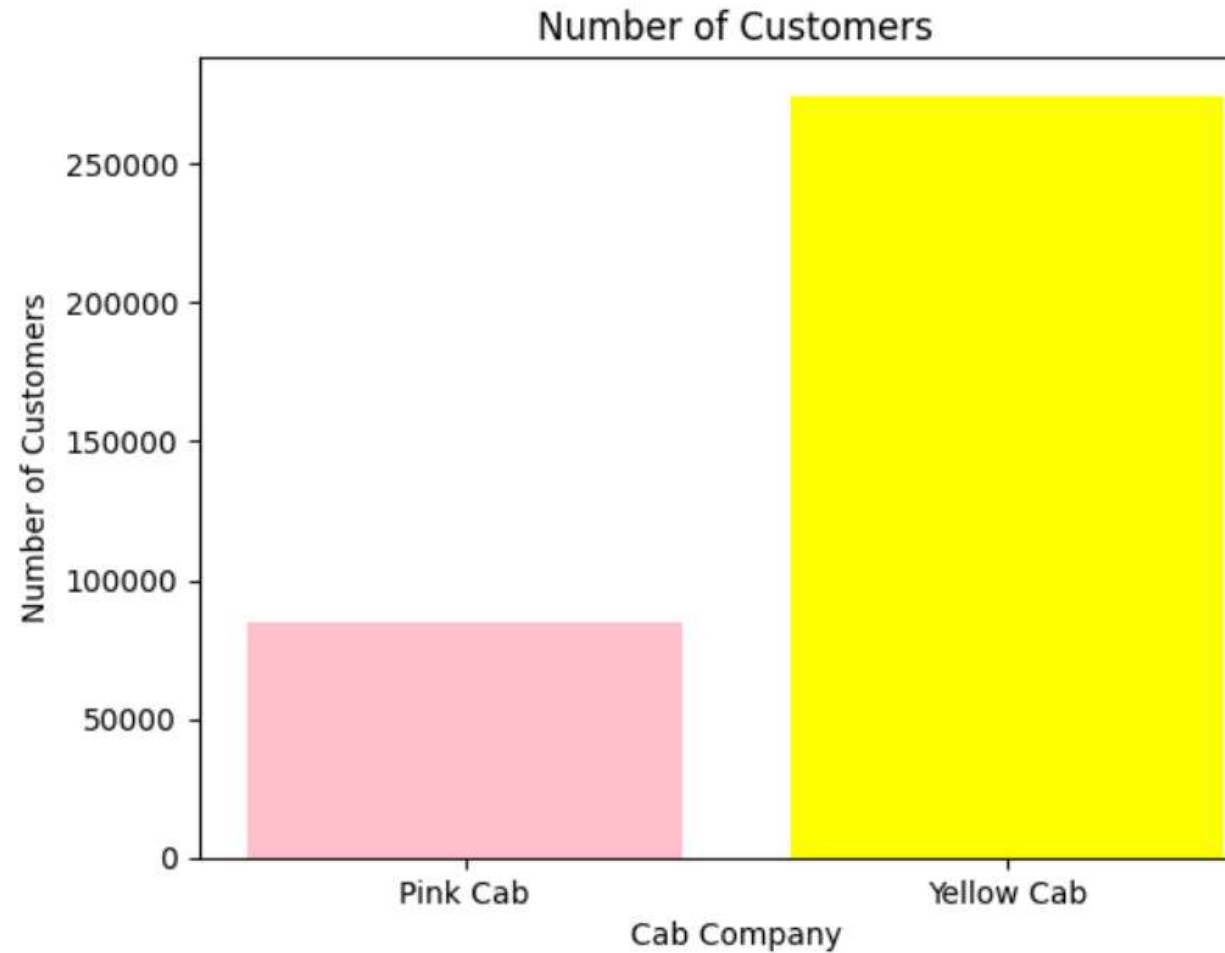
We observed that there exists positive correlation between 'Cost of Trip', 'KM Travelled', 'Price Charged', 'Profit'.

Additionally, 'Users' and 'Population' are also highly related to each other.





Number of Users



- Firstly, we identified that Yellow Cab has more users than Pink Cab.

Profit Analysis

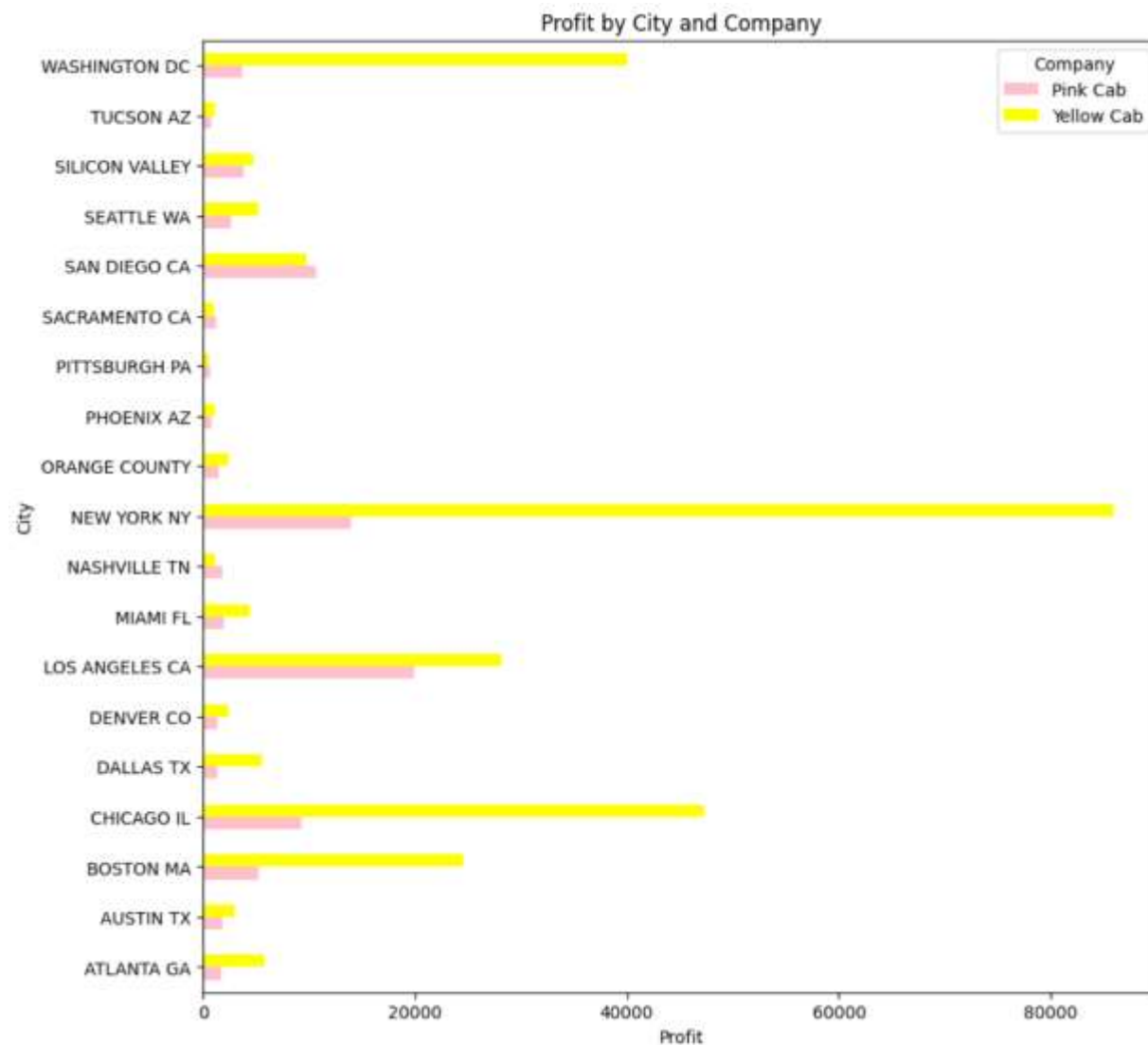
- We observed that the total profit for Pink Cab is 5307328.321 and the total profit for Yellow Cab is 44020373.17080002
- Then, we divide the number of customers to total profit for each company.
- This gives us the average profit per customer.

We concluded that a higher average profit per customer can indicate that the company is effectively targeting its most profitable customers and maximizing revenue from them. On the other hand, a lower average profit per customer may suggest that the company needs to re-evaluate its marketing and sales strategies to attract more profitable customers.



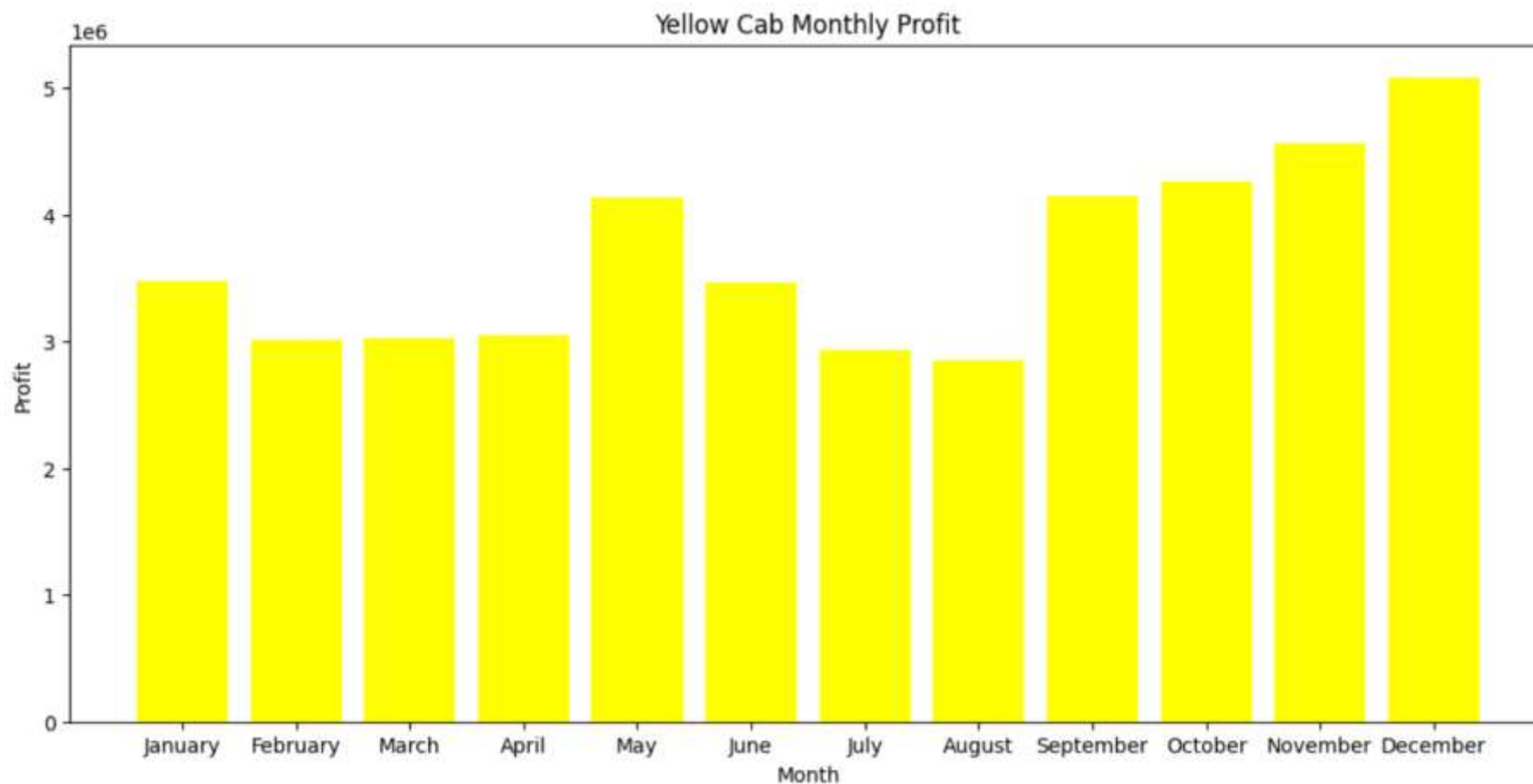


Profit by City and Company



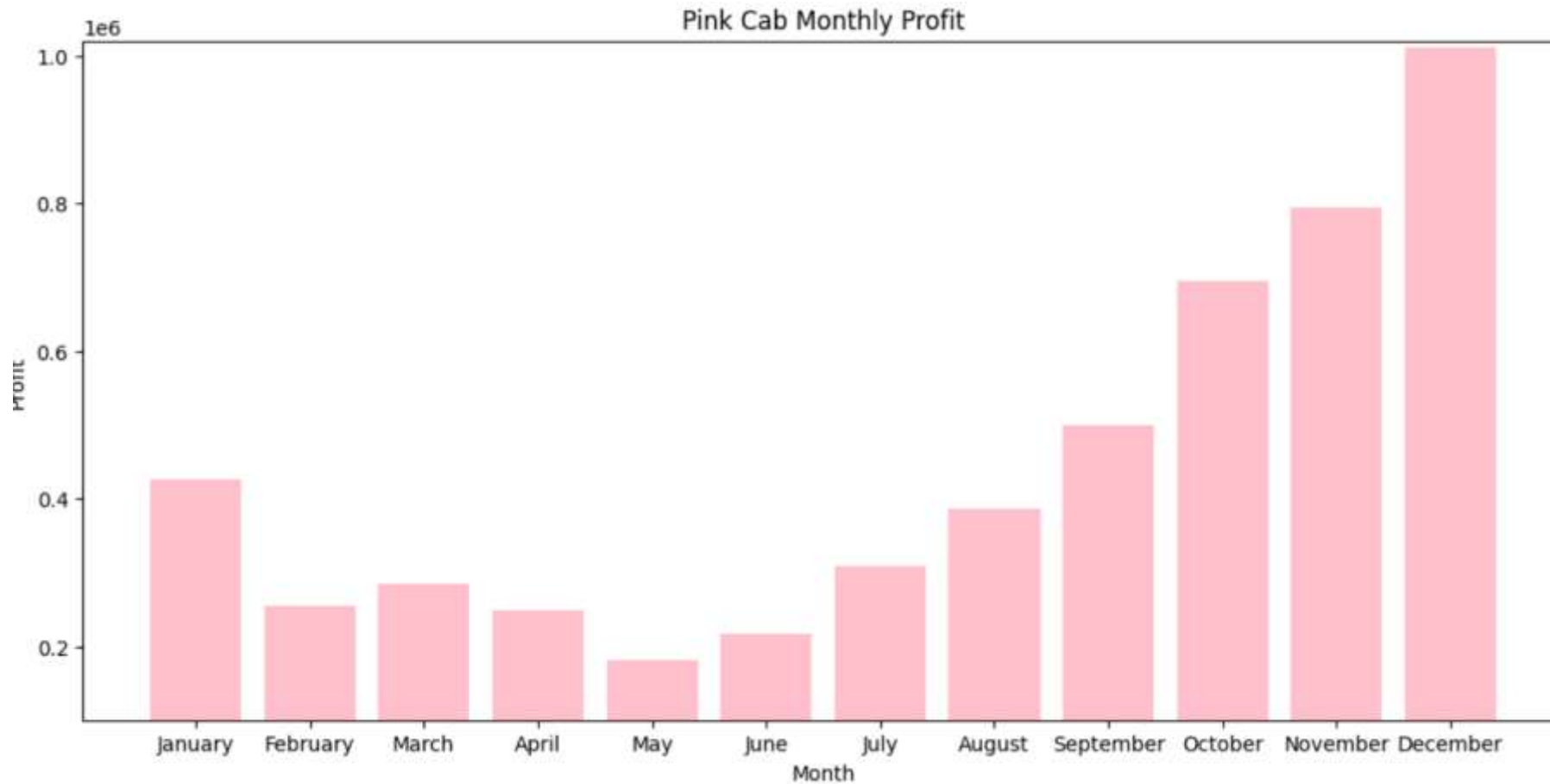


Monthly Profit Analysis



- Yellow Cab's monthly profit increases in April-May and August-December.
- Yellow Cab's monthly profit ranges between 2856378.9556 and 5087073.6024

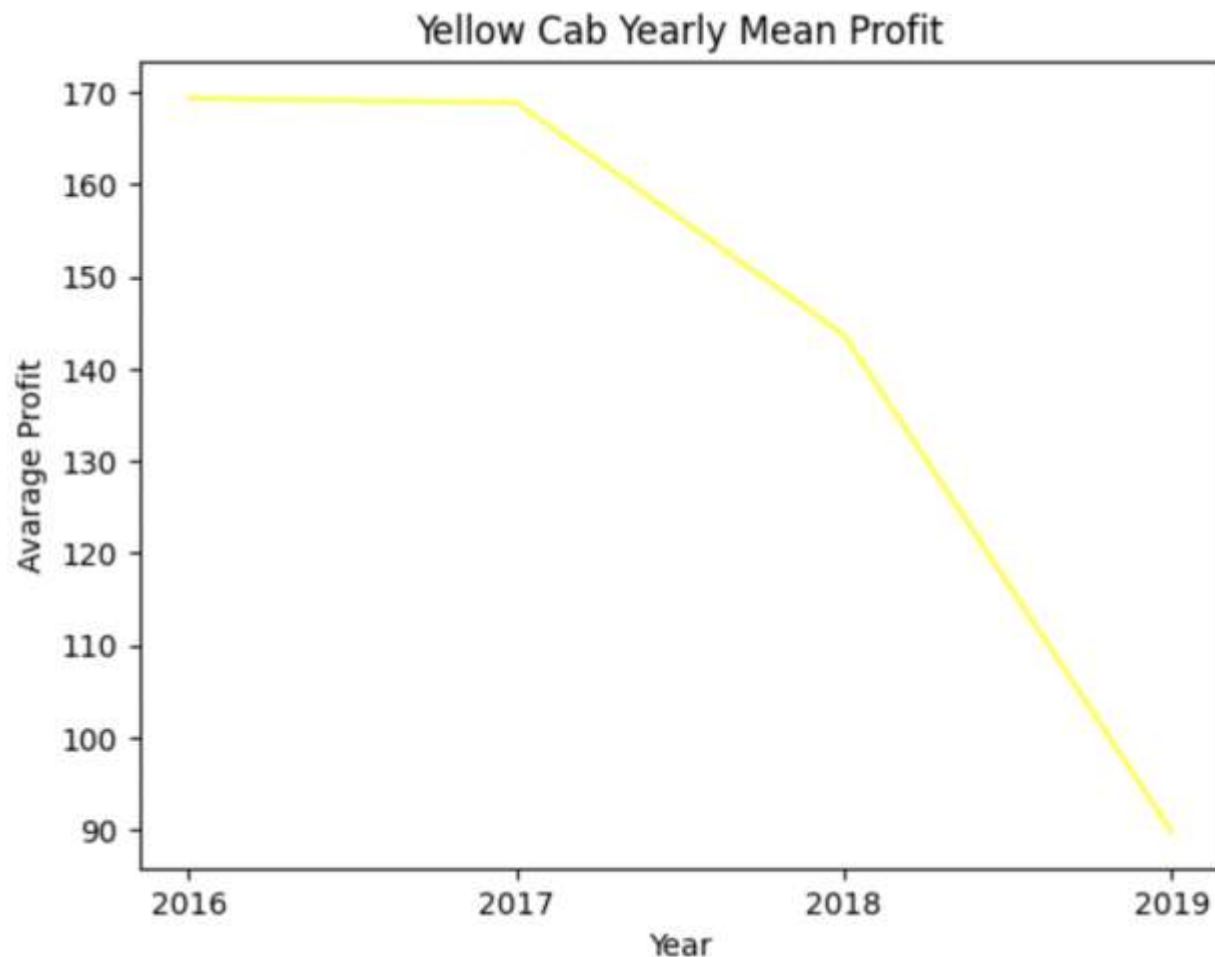
Monthly Profit Analysis



Pink Cab's monthly profit increases in April-May and August-December.

Pink Cab's monthly profit ranges between 181166.381 and 1011852.488

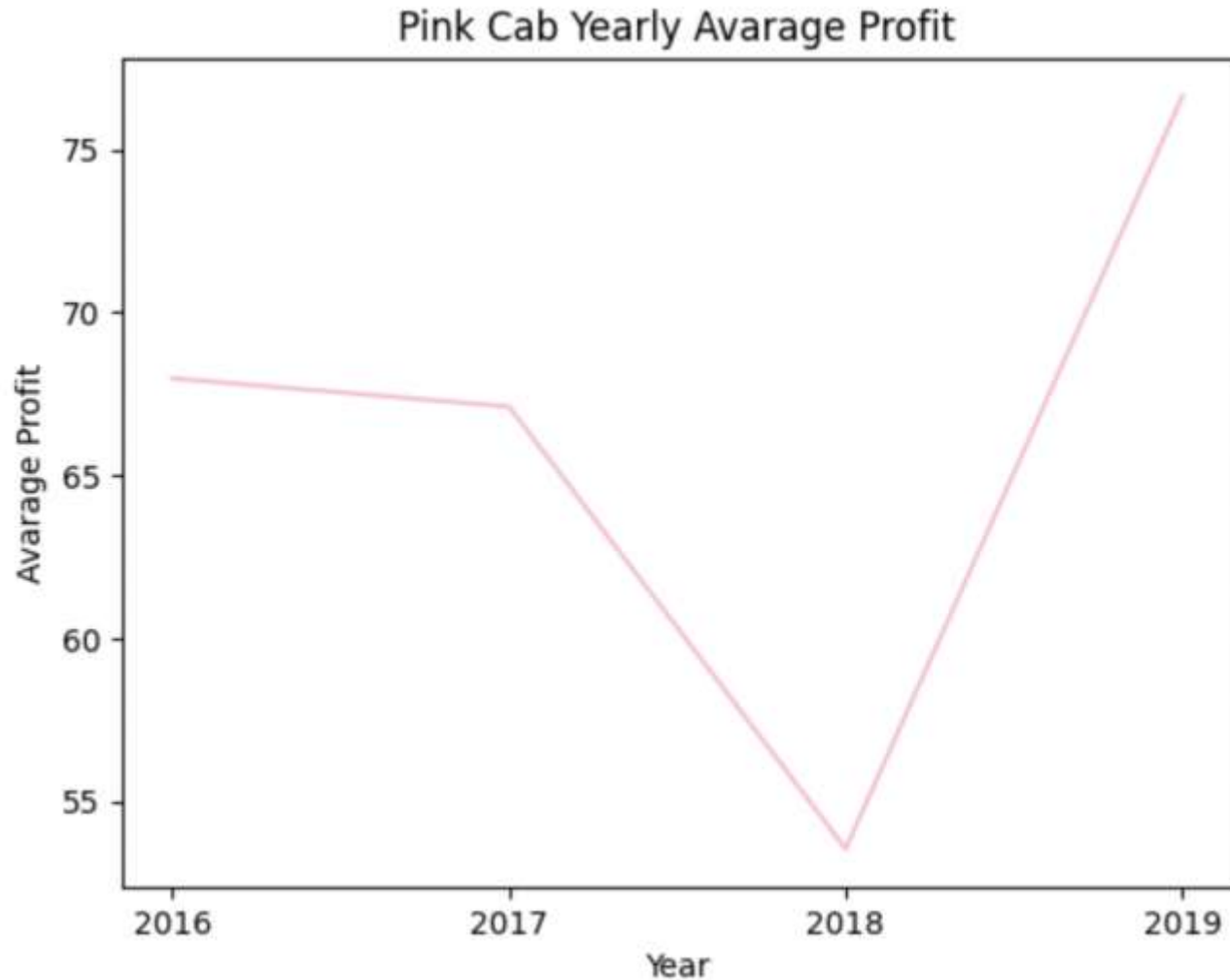
Yearly Profit Analysis



- Year Profit
- 2016 169.311790
- 2017 168.855795
- 2018 143.669510
- 2019 89.836398

Yellow Cab's profit decreases between 2017 and 2019.

Yearly Profit Analysis



- Year Profit
- 2016 67.973254
- 2017 67.103261
- 2018 53.537172
- 2019 76.623379

Pink Cab's profit decreases between 2017-2018. However, it increases between 2018-2019.

Ratio of Average Cost of Trip per km to Average Price Charged per KM

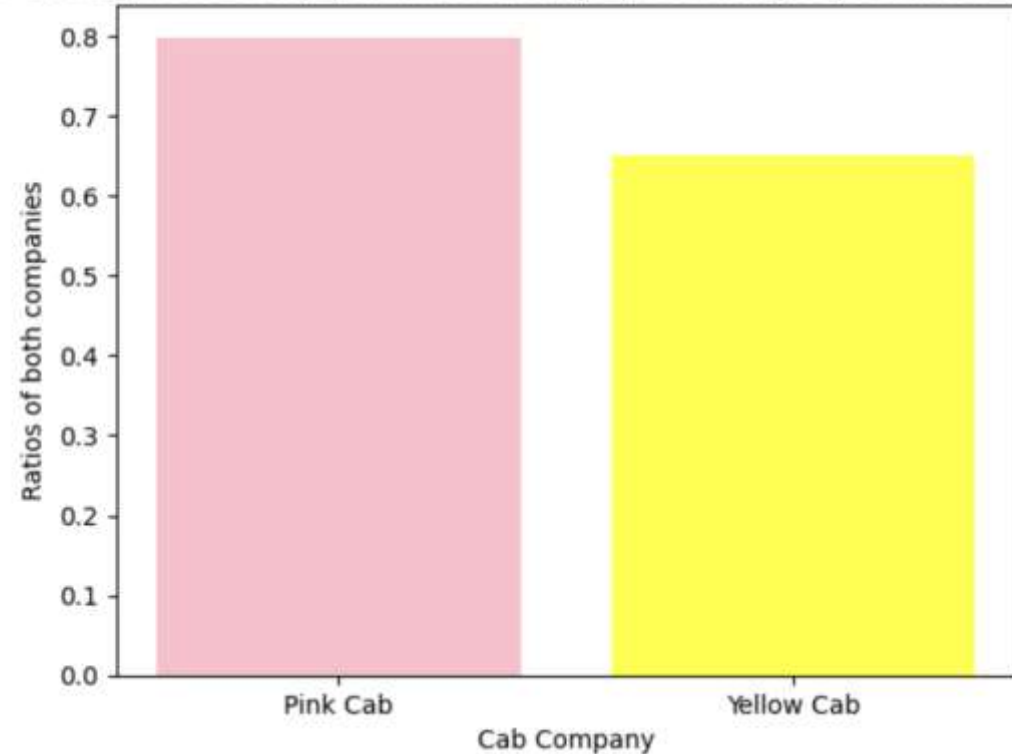
Average Price Charged Per KM

- Pink Cab 13.776685
- Yellow Cab 20.300921

Average Cost of Trip Per KM

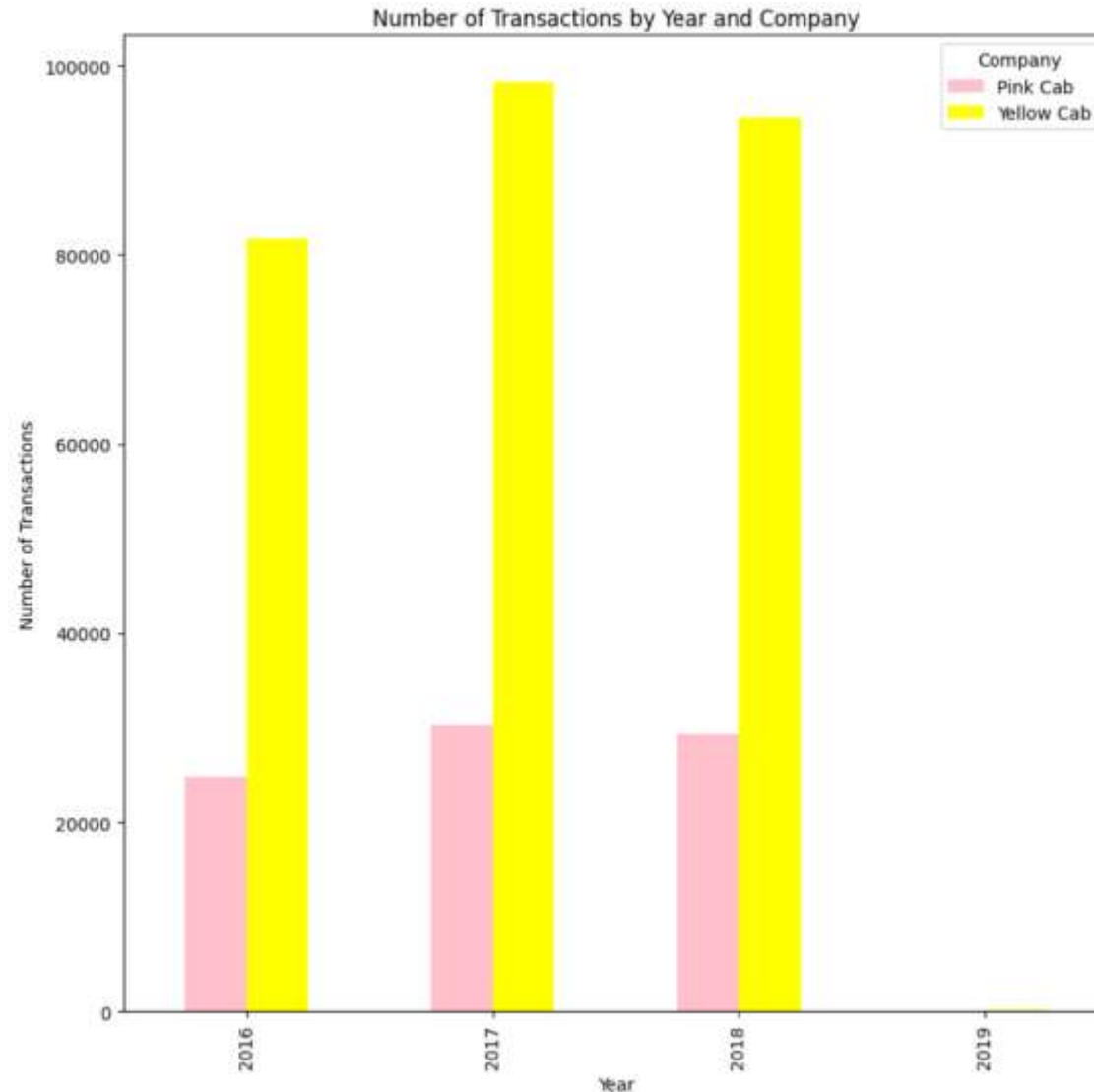
- Yellow Cab 13.200564873435
- Pink Cab 10.998602306666196
- We Calculate ratio of average cost of trip per km to average price charged per km for each company.

ratio of average cost of trip per km to average price charged per km for each company



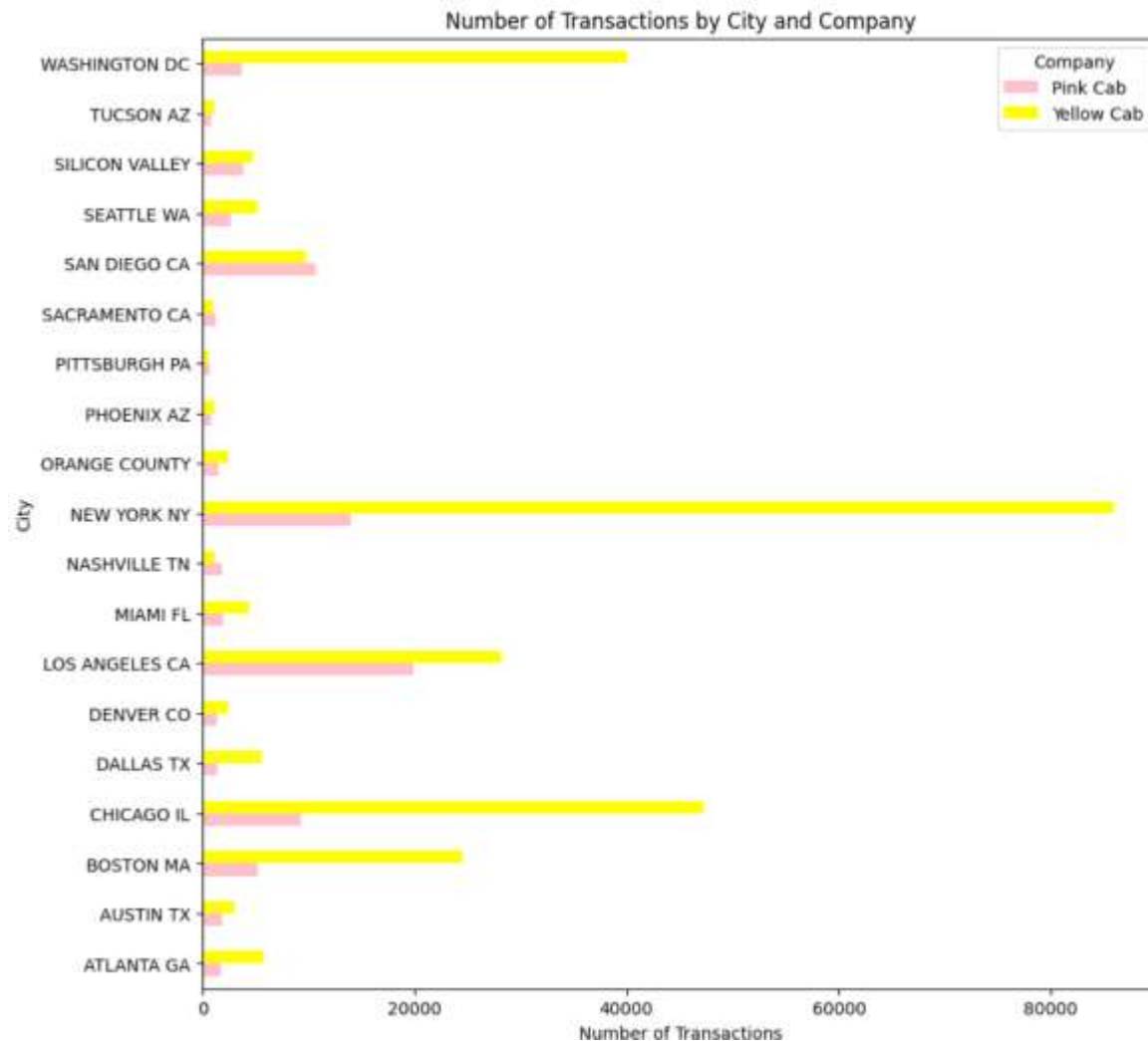
- Pink Cab's ratio is higher than Yellow Cab's ratio. Larger ratio indicates that Pink Cab does not charge its customer enough to afford their cost of travel. Therefore, this situation causes Pink Cab's failure to get more profit.

Number of Transactions by Year and Company



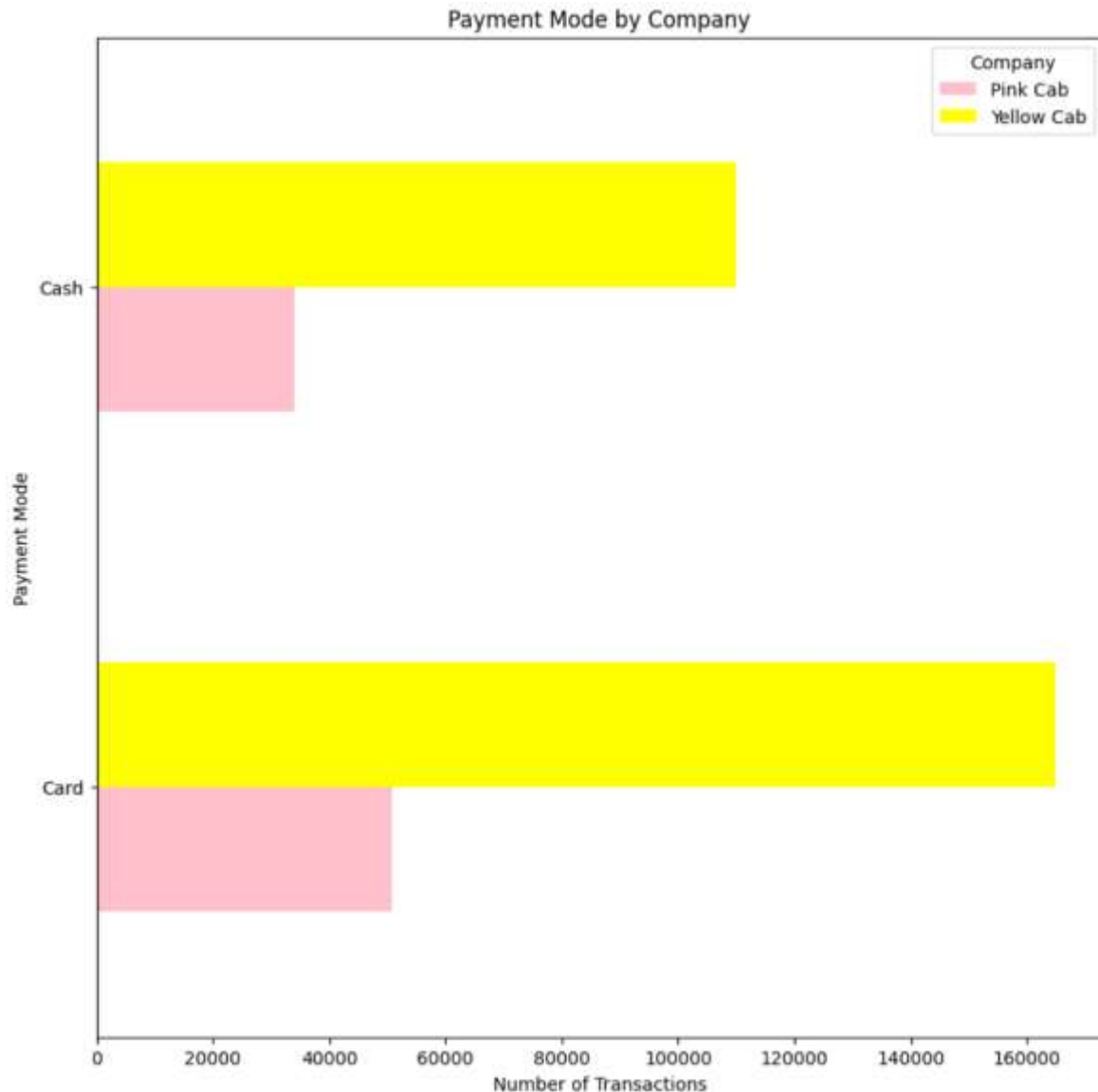
- Number of transactions are very low for both of the cab companies in 2019. We can barely observe the values on bar chart.
- However, we observe that Yellow Cab's number of transactions are more than Pink Cab for each each year.

Number of Transactions by City and Company



- In most of the cities, number of transaction of Yellow Cab is more than number of transactions of Pink Cab.
- The only cities that Pink Cab has more number of transaction is Nashville TN, Pittsburgh PA, Sacramento CA, San Diego CA.
- There are 19 unique cities. And this bar chart shows that Yellow Cab's number of transaction is more than Pink Cab's number of transaction in 15 cities.

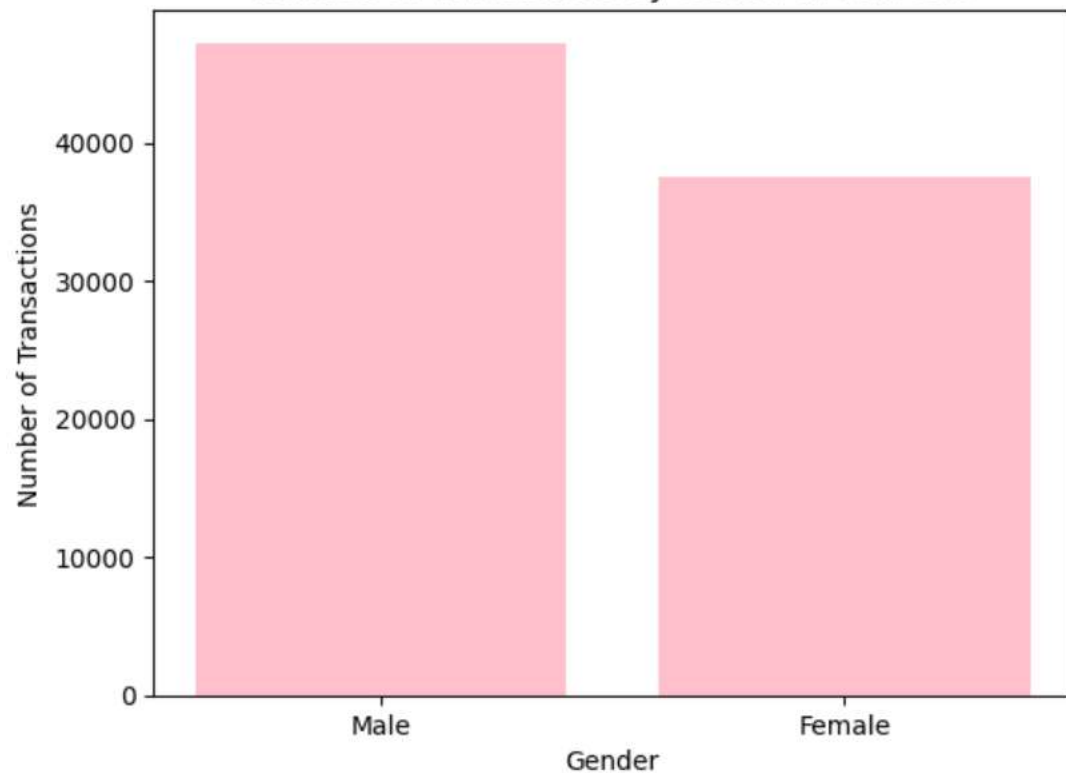
Payment Mode by Company



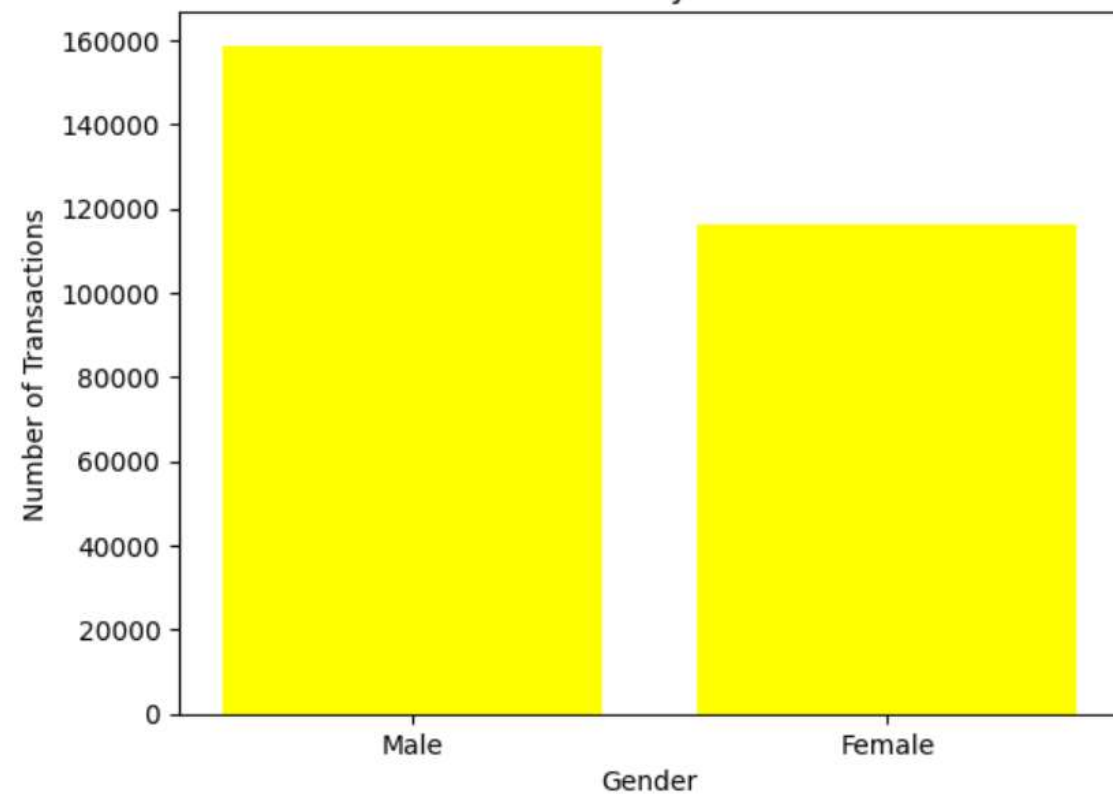
- Number of transactions that is paid with card is more than number of transaction that is paid with cash for both of the companies.

Number of Transactions by Gender

Number of Transactions by Gender in Pink Cab



Number of Transactions by Gender in Yellow Cab





Conclusion

After EDA, we concluded that investing in Yellow Cab would be a smarter choice considering several reasons:

- Yellow Cab has more users than Pink Cab
- Yellow Cab's average profit per customer is more than Pink Cab's average profit per customer.
- Pink Cab does not charge its customers enough to afford their cost of travel.
- Yellow Cab's monthly, yearly and total profit is much more than Pink Cab.
- In most of the cities, number of transaction of Yellow Cab is more than number of transactions of Pink Cab.

One thing to keep in mind is that, while Yellow Cab's profit is decreasing in 2017-2019; Pink Cab's profit decreases in 2017-2018 but starting to increase after 2018.

If we consider all of the above points , we will recommend Yellow cab for investment.