



**Data Glacier**

Your Deep Learning Partner

# **G2M insight for Cab Investment firm**

**Company Name : XYZ**

**Location: USA**

**Team: Data and Analytics**

**Date: 24-Dec-2022**

# Statement of Problem:

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, it is planning for an investment in Cab industry.

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

The analysis has been divided into four parts:

- Data Understanding
- Forecasting profit and number of rides for each cab type
- Finding the most profitable Cab company
- Recommendations for investment

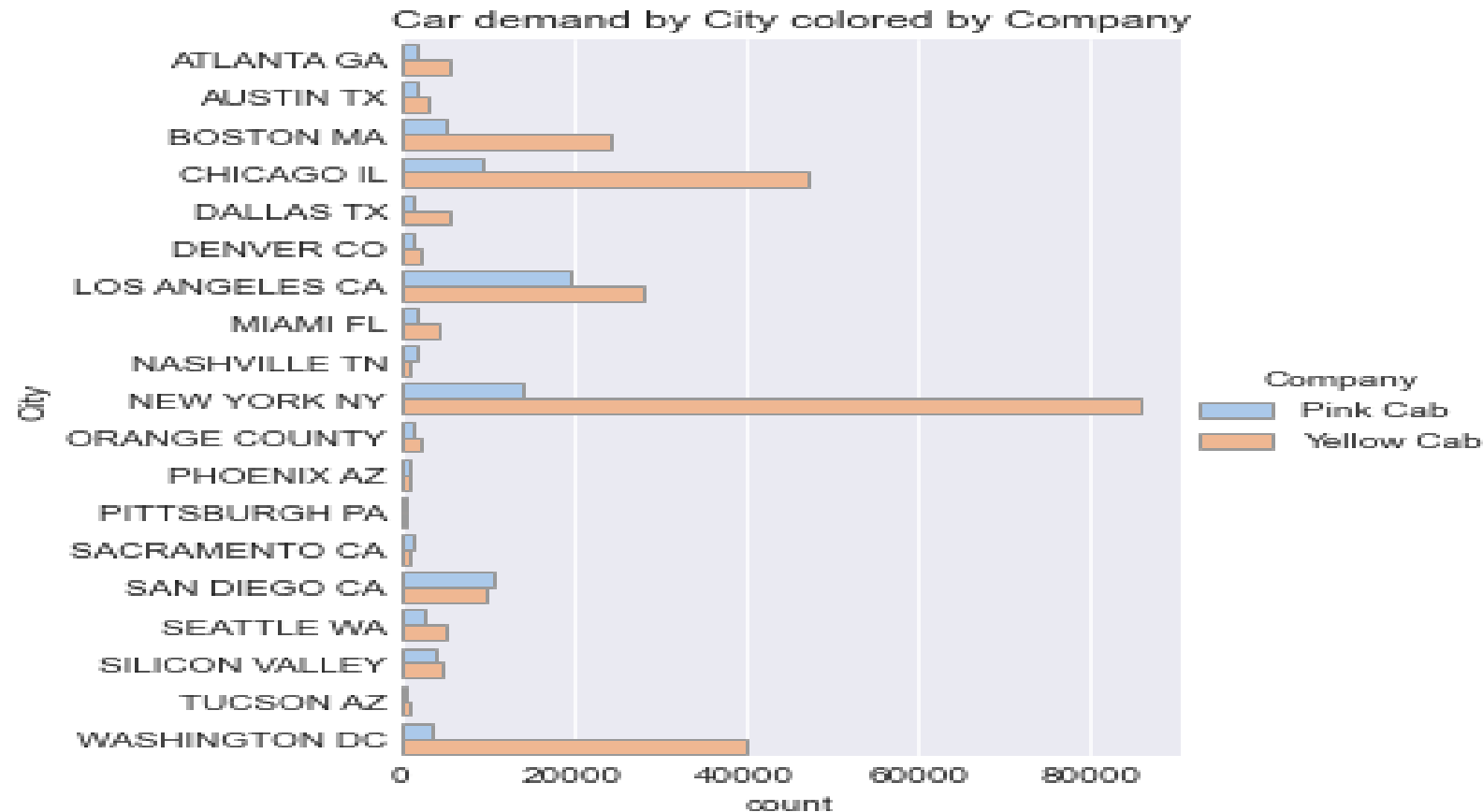
# Data Description:

## There are 4 datasets:

- **Cab\_Data.csv** – this file includes details of transaction for 2 cab companies.
- **Customer\_ID.csv** – this is a mapping table that contains a unique identifier which links the customer's demographic details.
- **Transaction\_ID.csv** – this is a mapping table that contains transaction to customer mapping and payment mode.
- **City.csv** – this file contains list of US cities, their population and number of cab users.
- **Data.csv** – created by joining Cab\_Data, Customer\_ID and Transaction\_ID.

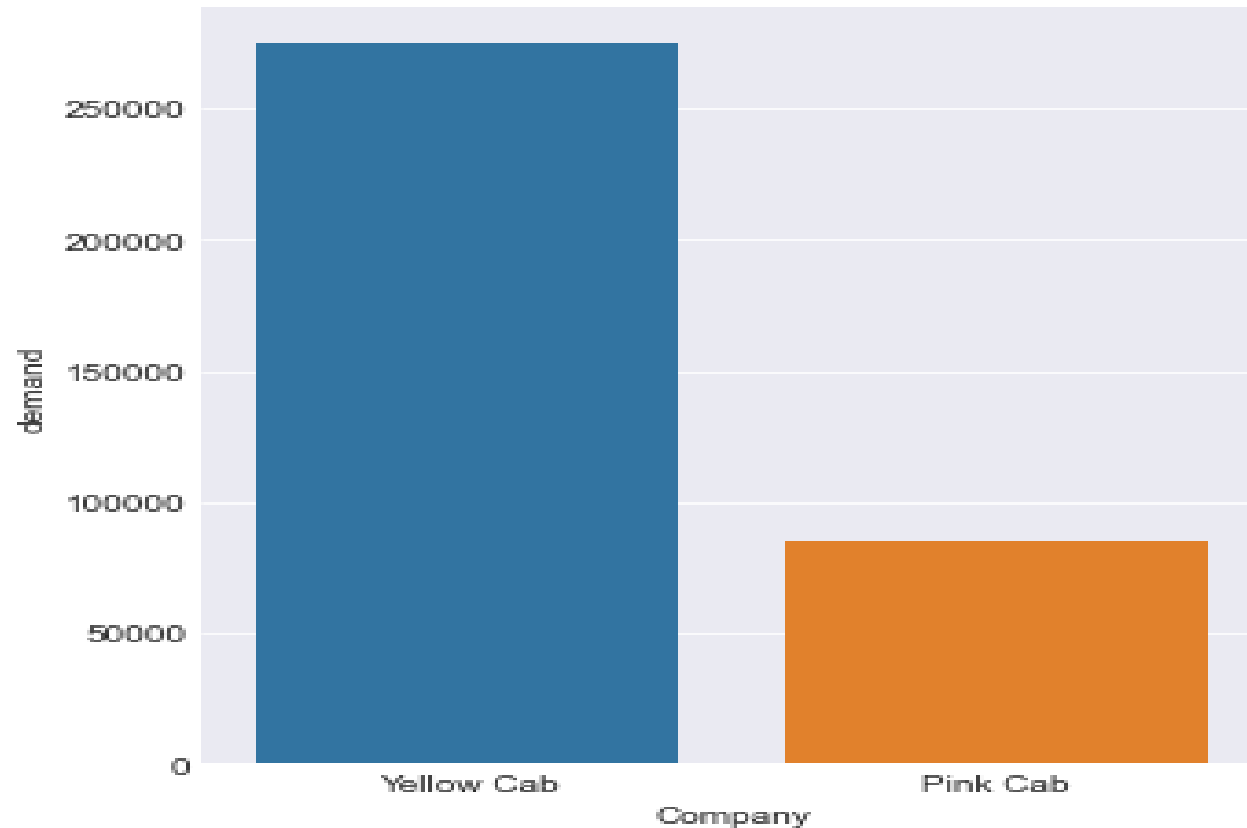
# **EXPLORATORY DATA ANALYSIS**

# Cab Demand by City:



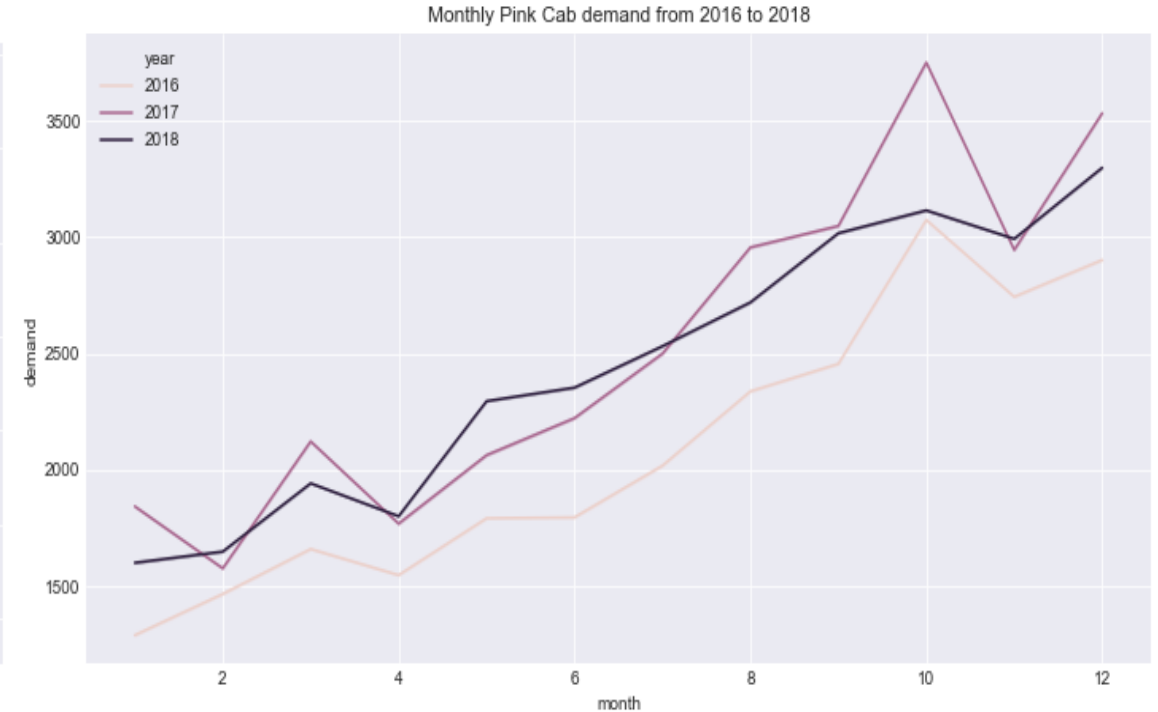
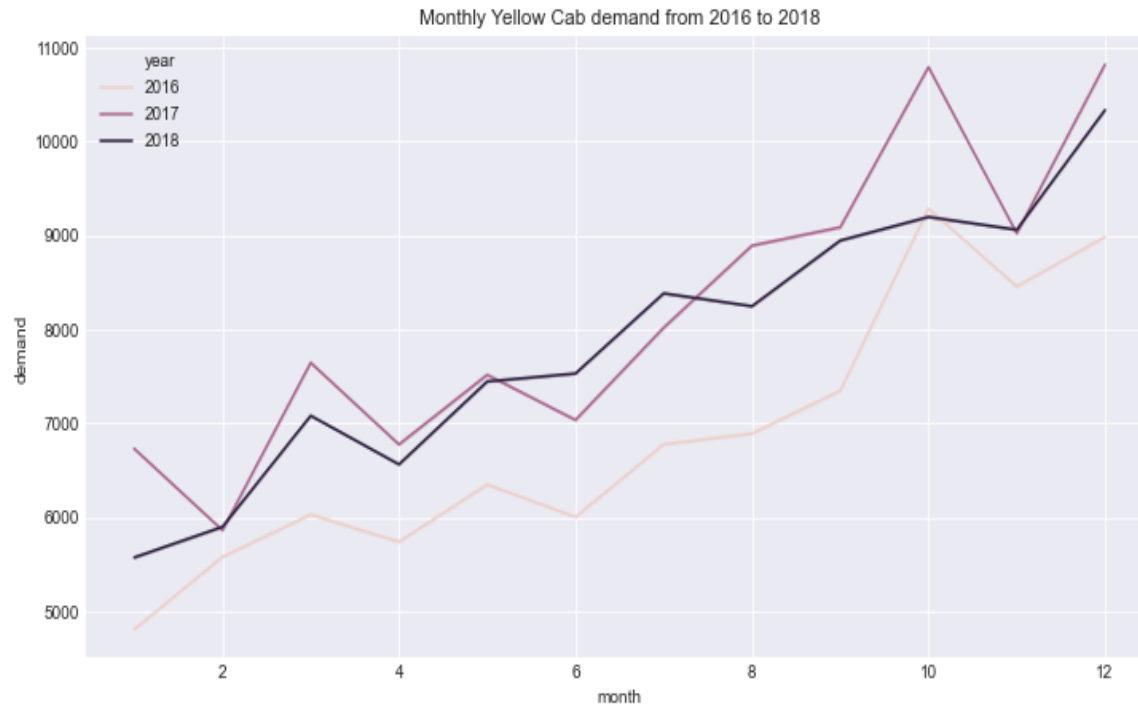
- From the above graphs, we can see that New York has the highest demand for Yellow Cab while the highest demand for Pink Cab came from Los Angeles. Overall, the Yellow has a higher demand in each city aside in Sacramento and San Diego where the pink Cab has a slightly higher demand

# Total Cab Demand by Company from 2016 to 2018



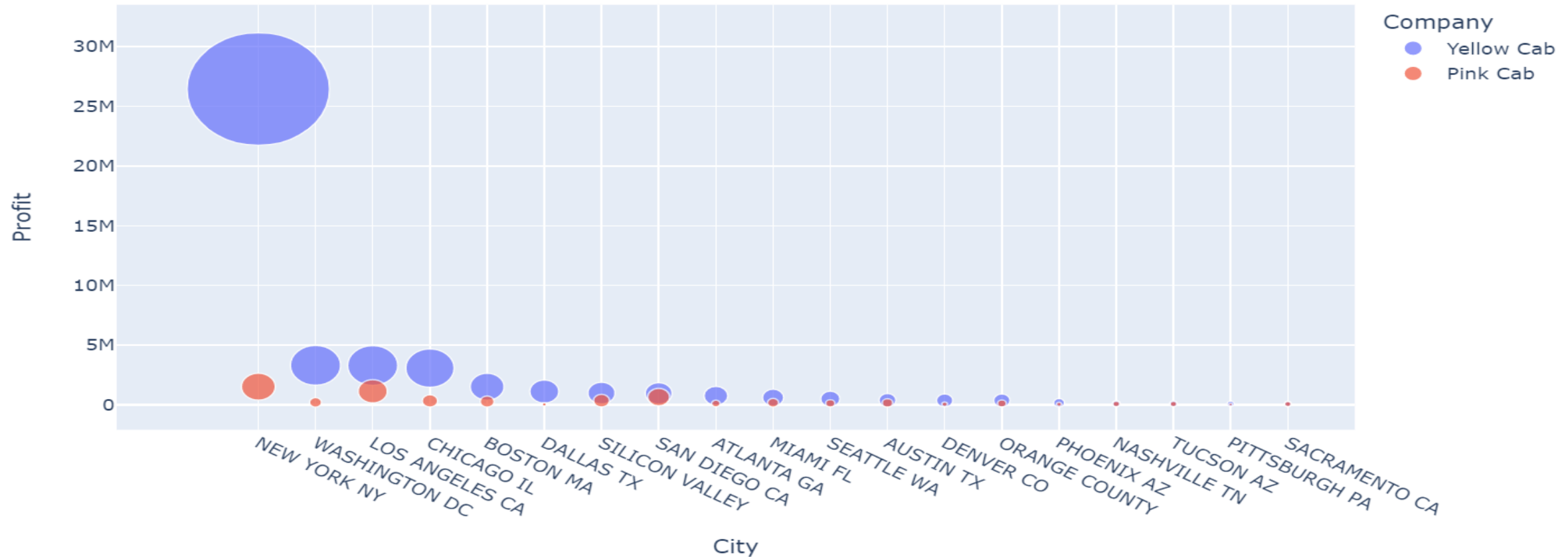
❑ The demand for the Yellow Cab across the 3 years is more than 3x larger the demand for the Pink Cab.

# Monthly Demand Trend across 3 years for the Companies



- ❑ Demand peaked in October in each year with the maximum demand coming in October 2017 for both bikes. There is also a reasonable increase in demand in December.
- ❑ Both Cabs show similar monthly demand trend

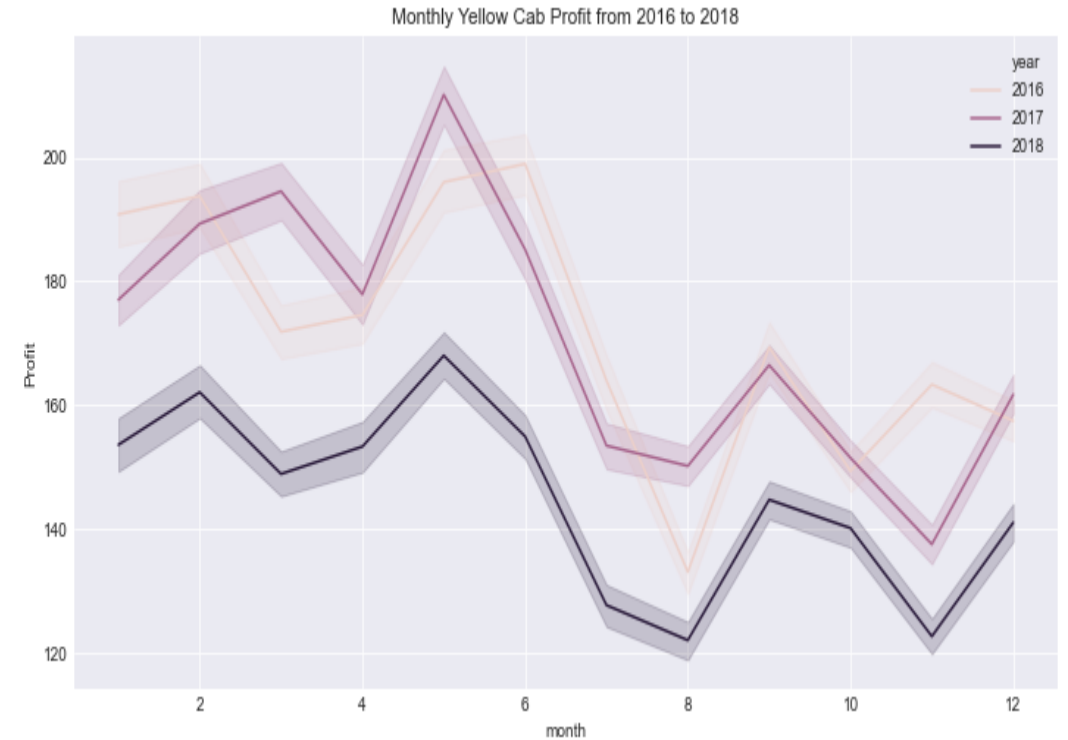
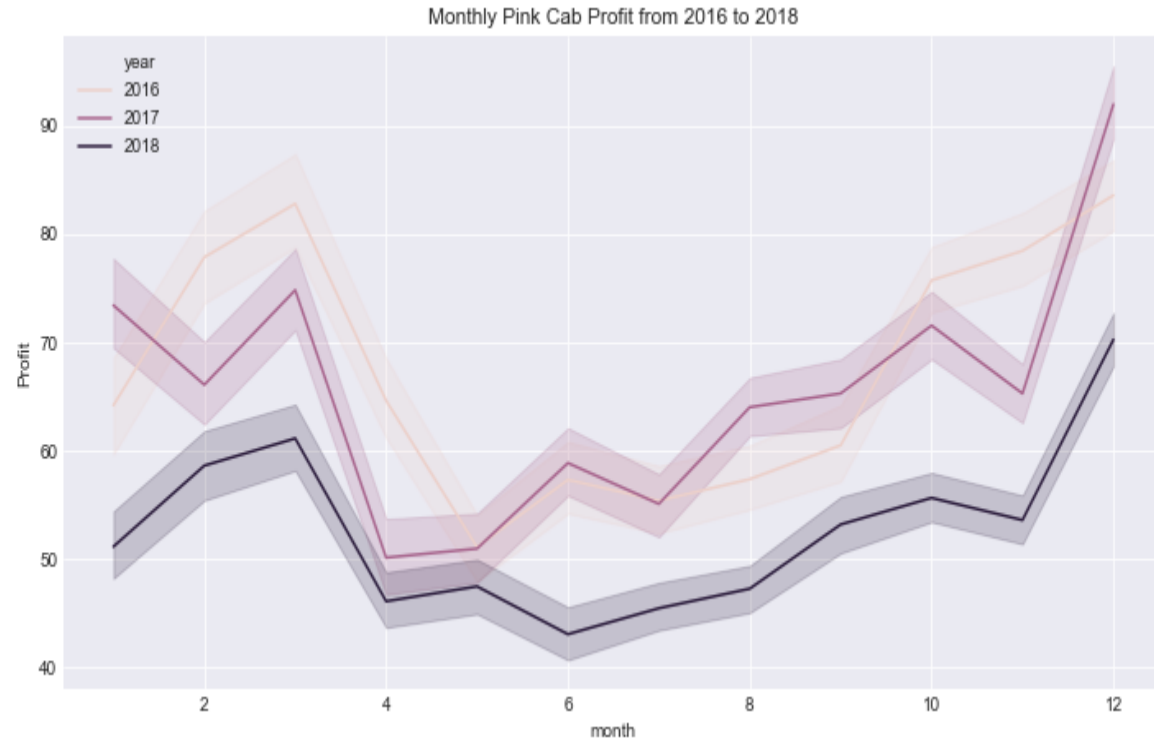
# Total Profit by City over from 2016 to 2018:



- ❑ The Yellow Carb had the highest total profit across all cities
- ❑ The Maximum Profit for both Cab came from New York



# Monthly Profit Trend from 2016 to 2018:



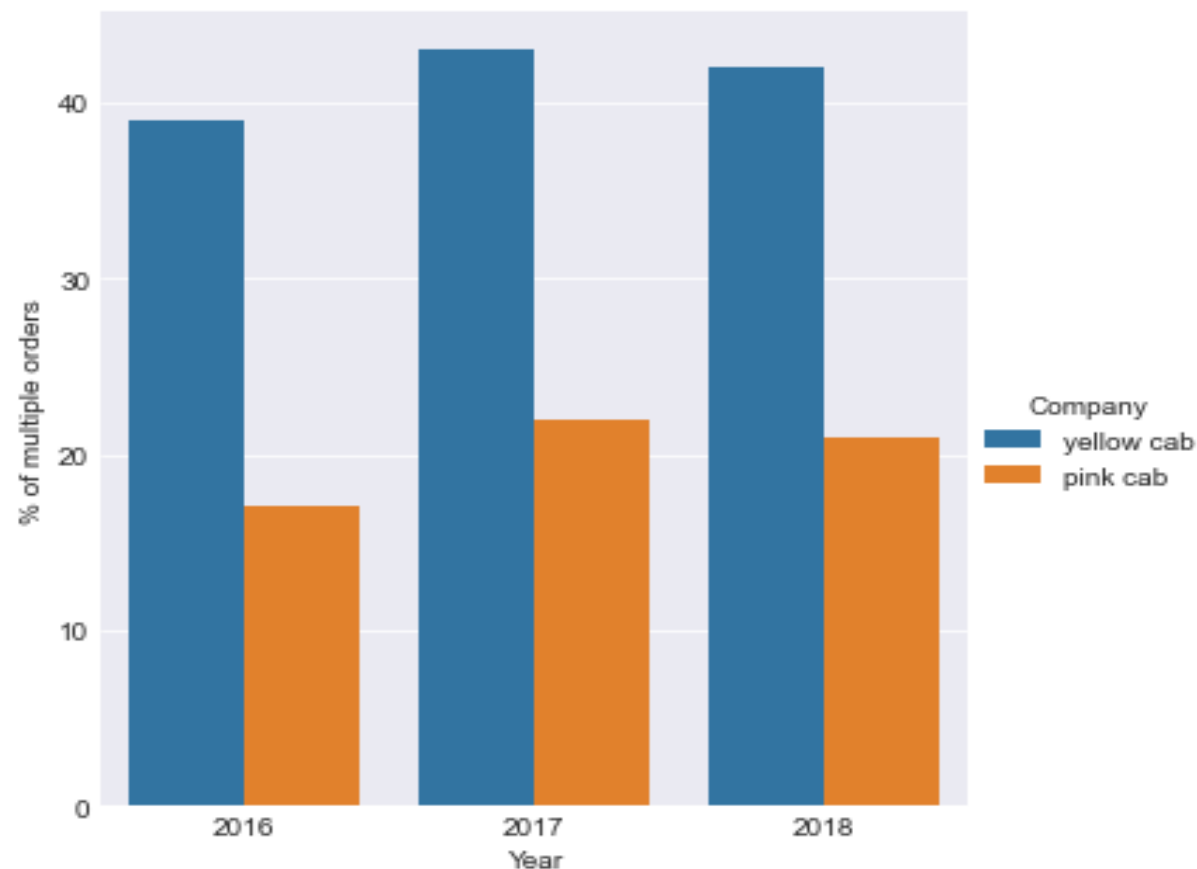
- ❑ For the Pink Cab, there was a sharp increase in profit every March of each year with Profit peaking in December of each year. There seems to be an uptrend in profit.
- ❑ For the Yellow Cab, Profit peaked by May each year aside 2016 that peaked in June. There seems to be a downward trend in profit.

# Customer Retention for Both Cabs



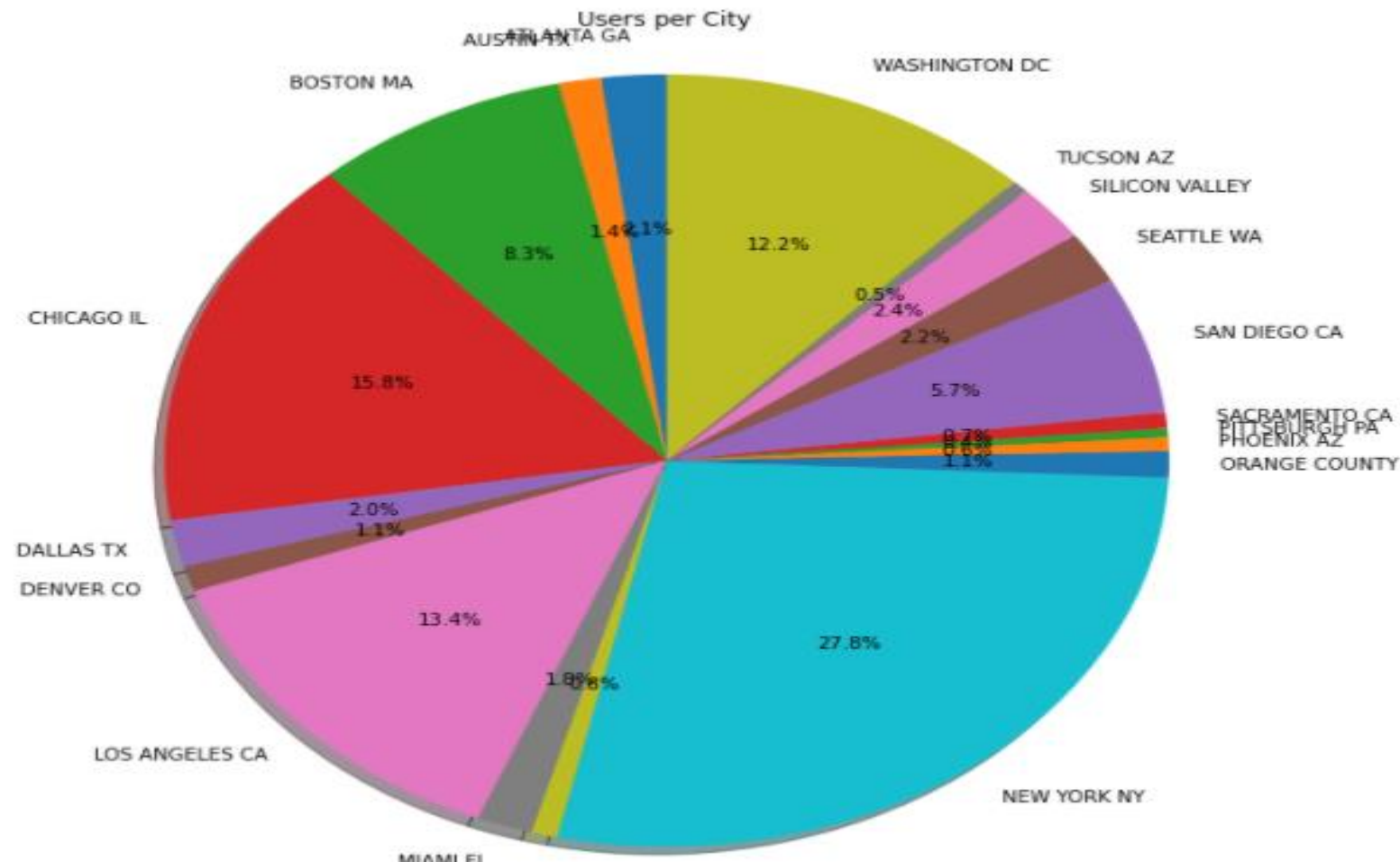
- ❑ **About 57% of Pink Cab customers made more than one order over the 3 years while about 70% of Yellow cab made more than 1 order over 3 years.**
- ❑ **This plot shows that Yellow cab has more customer with over 10 orders over the 2 years.**

# Customer Retention by Company



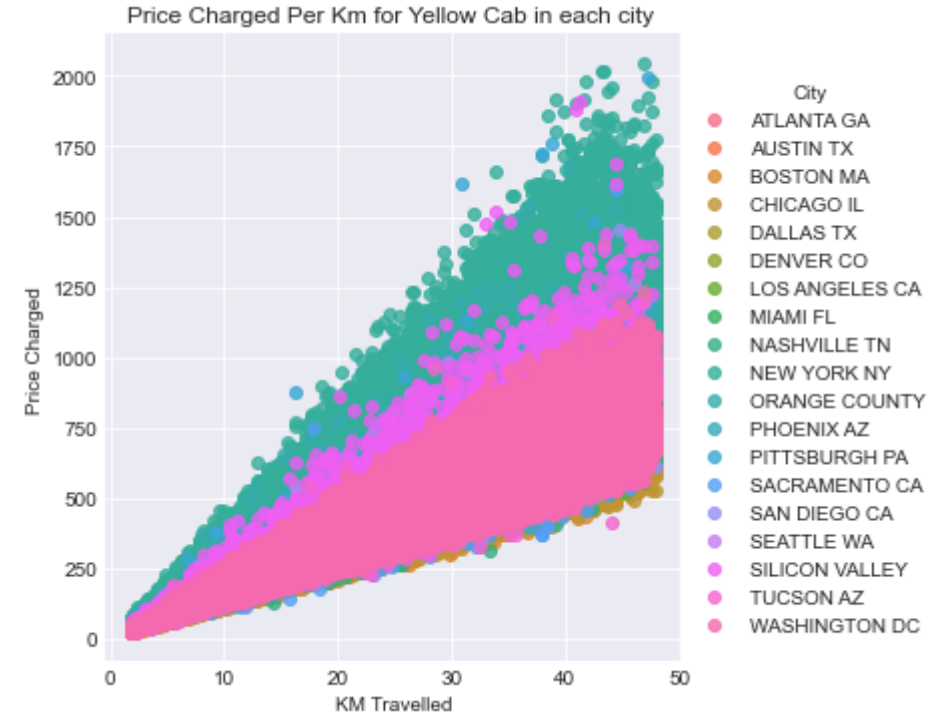
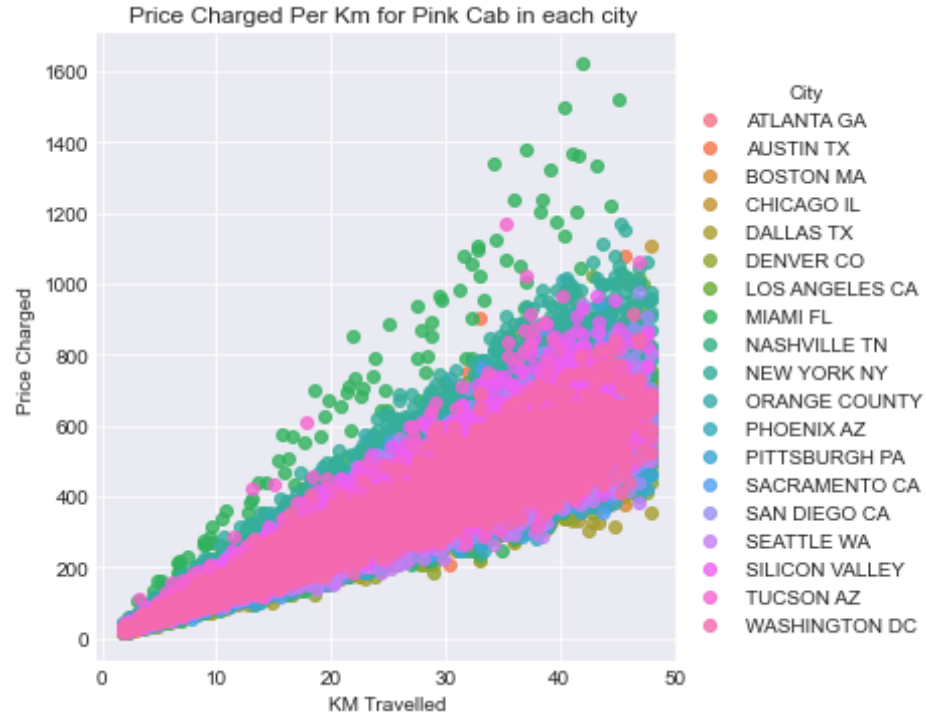
- ❑ From 2016 to 2018, yellow cab had a about 8% increase in customers that ordered more than once.
- ❑ The same period the Pink cab had about 24% increase in customer that made more than one other. This is 3x the growth rate of Yellow Cab

# Cab Users per City:



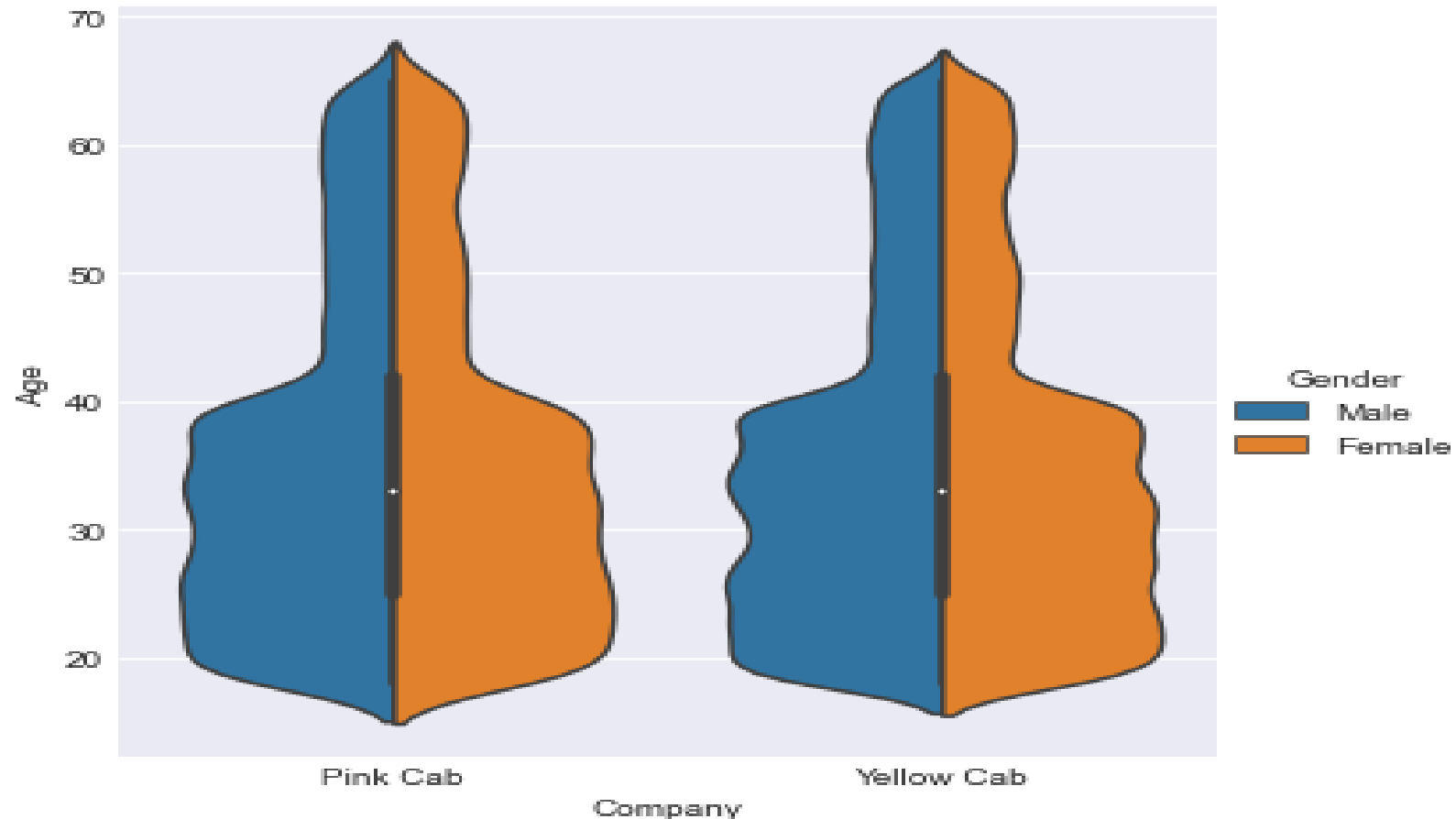
□ **New York City** has the highest Cab users with **28%** followed by **Chicago** with **16%** and **Los Angeles** with **13%**

# Transaction per City for both Cabs:



- ❑ Price Charged is positively correlated with the KM travelled in both cabs.
- ❑ New York and Nashville have charged the highest Price per Km travelled

# Price Distribution of Age and Gender in Cab Companies



- ❑ This shows that there's almost same proportion of Male and Female using both Cab company
- ❑ The Age distribution are similar in both cabs too most users aged between 20-40 years

# EDA SUMMARY

## Pink Cab



- ❑ **84711 total orders from 2016 to 2018.**
- ❑ **Peak demand came in October 2017**
- ❑ **Average profit from 2016 to 2018 is \$63.**
- ❑ **Transaction per year:**

<b>2016: 25080</b>	
<b>2017: 30321</b>	<b>+21%</b>
<b>2018: 29310</b>	<b>- 3%</b>
- ❑ **Highest demand came from Los Angeles.**

## Yellow Cab



- ❑ **274681 total orders from 2016 to 2018 .**
- ❑ **Peak demand came in October and December 2017.**
- ❑ **Average Profit from 2016 to 2018 is \$160.**
- ❑ **Transaction per year:**

<b>2016: 82239</b>	
<b>2017: 98189</b>	<b>+19%</b>
<b>2018: 94253</b>	<b>-4%</b>
- ❑ **Highest demand came from New York.**



## Pink Cab



- ❑ **Have less demand in all cities aside Sacramento and San Diego.**
- ❑ **Have a less total profit across all cities with its maximum total profit coming from New York.**
- ❑ **Average Profit per year:**

<b>2016: \$68</b>	
<b>2017: \$67</b>	<b>-1.5%</b>
<b>2018: \$53</b>	<b>- 21%</b>

## Yellow Cab



- ❑ **Have more demand in all cities aside Sacramento and San Diego.**
- ❑ **Have a higher total profit across cities with its maximum coming from New York.**
- ❑ **Average Profit per year:**

<b>2016: \$169</b>	
<b>2017: \$169</b>	<b>0%</b>
<b>2018: \$143</b>	<b>- 15%</b>

## Pink Cab



- ❑ **Surge in Profit in March of each year with peak profit coming in December each year.**
- ❑ **Profit seem to be in upward trend.**
- ❑ **Customer percentage with more than one Transaction:**

<b>2016: 17%</b>	
<b>2017: 22%</b>	<b>29%</b>
<b>2018: 21%</b>	<b>-5%</b>

## Yellow Cab



- ❑ **Peak profit in May/June each year**
- ❑ **Profit seem to be trending downwards.**
- ❑ **Customer percentage with more than one Transaction:**

<b>2016: 39%</b>	
<b>2017: 43%</b>	<b>10%</b>
<b>2018: 42%</b>	<b>-2%</b>

# Conclusion

**The Yellow Cab has over 300% the total transaction in the Pink Cab each year. The Yellow Cab has more demand in each of the cities aside Sacramento and San Diego and also has more total profit across each city. The Yellow Cab have more average profit across the 3 years.**

**Both Cabs had a drop in average profit over the 3 years with the Pink cab witnessing more drop in 2017 and 2018.**

**Profit peak in March and December for the Pink Cab while Profit peaked in May/June for the Yellow. The Profit plot for the Pink Cab while that for the Yellow cab shows a down trend with possibility of a reversal.**

**In conclusion, the Yellow Cab seem to be a bigger company with a larger Market cap while the Pink Cab seem to be a growing company. From most of the indicators, the Yellow Cab seem more profitable but there seem to be a huge potential for growth for the Pink Cab with the right Investment and promotion.**

# Thank You



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