



Data Glacier

Your Deep Learning Partner

Exploratory Data Analysis

G2M Case Study

8/01/2022

Agenda

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Executive Summary

XYZ is a private firm in US that plans to invest in Cab Industry. They have seen the growth in last few years and multiple key players in the market. As per their Go-to-Market(G2M) strategy they want to understand the market before deciding whether to invest. In order to do this, they need to answer the following research questions.

- Which cab company has more profit?
- Which cab company has more users?
- Are there more cab users during a particular time period?
- Is the number of cab users affected by factors such as age, gender and location?
- Does the profit margin proportionally increase with increase in number of customers?
- What are the attributes of the customers that are retained by the cab companies?

Approach

The data was loaded then number of observations and features, file type and size were recorded

The data was checked for missing values and duplicates

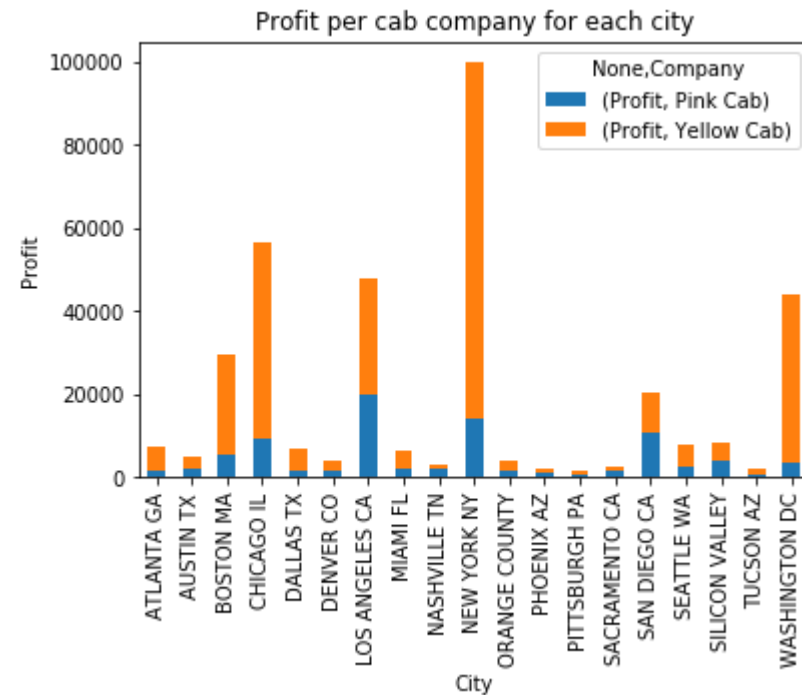
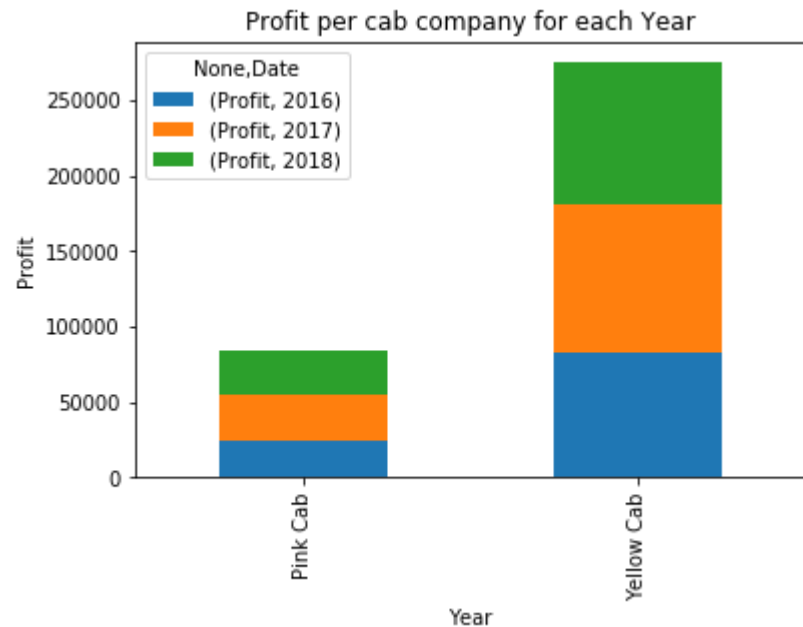
Statistical analysis:

- Numerical data: Quantile statistics, descriptive statistics
- Categorical data

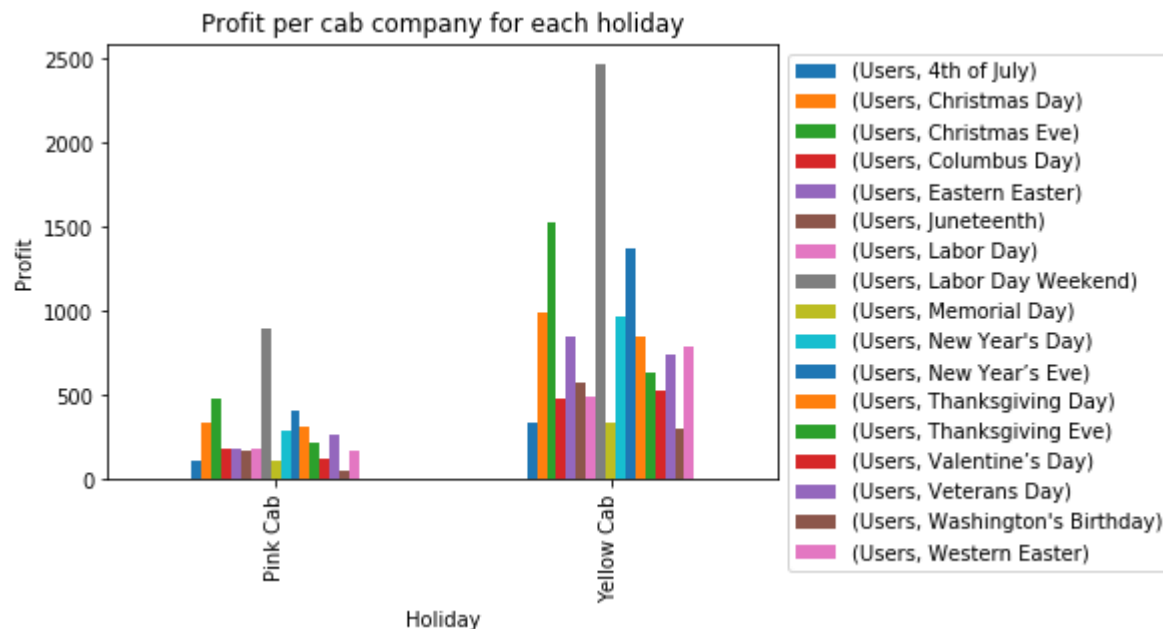
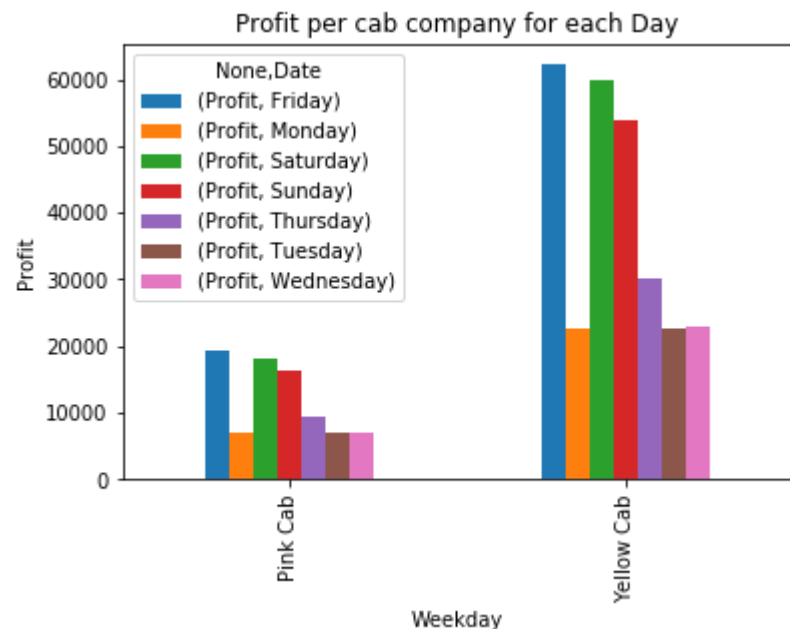
Transformations:

- Cost of Trip and Price Charged are used to calculate Profit
- Percentage of Cab users was determined from population and Users

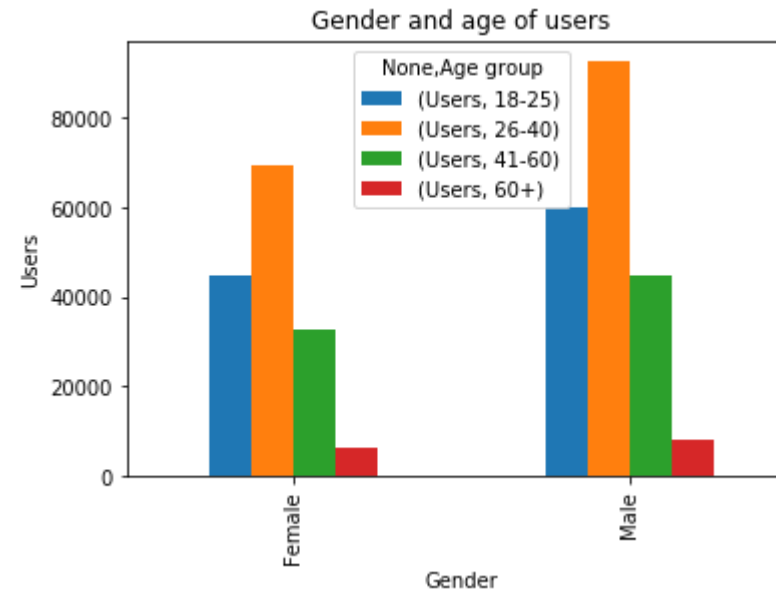
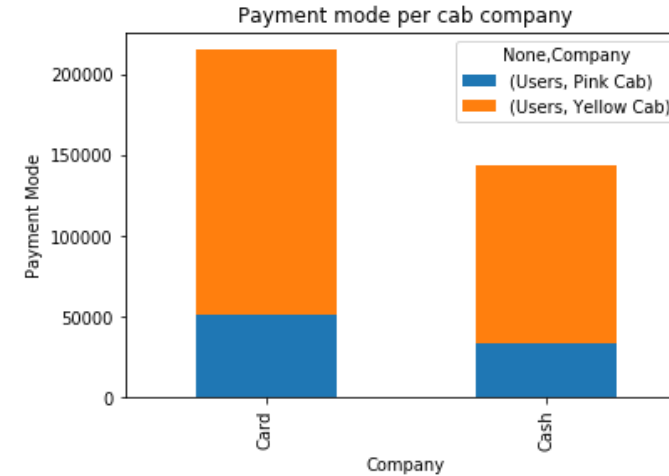
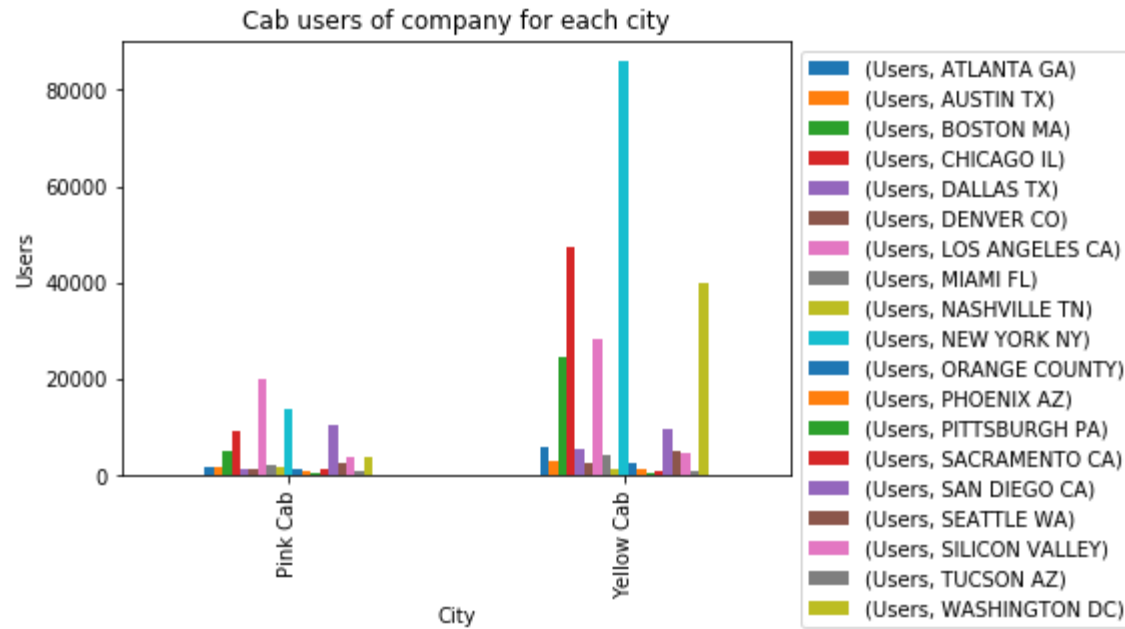
Profit analysis: Yearly profit



Profit analysis: Holiday and weekday

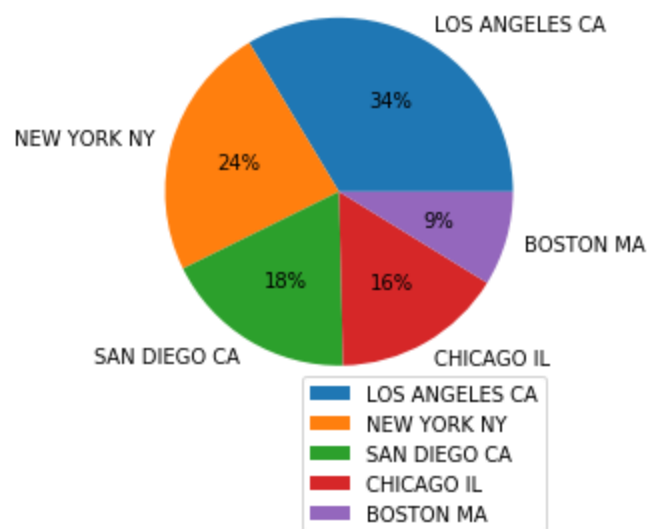


Cab Users analysis

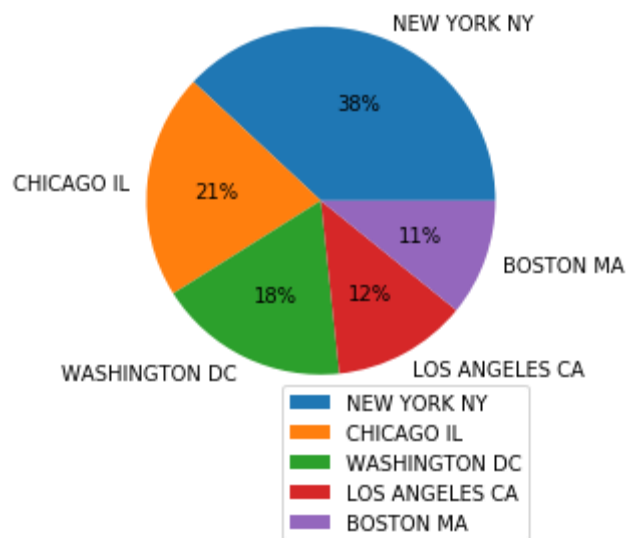


Top cab users by city

Top 5 cities that use Pink Cab

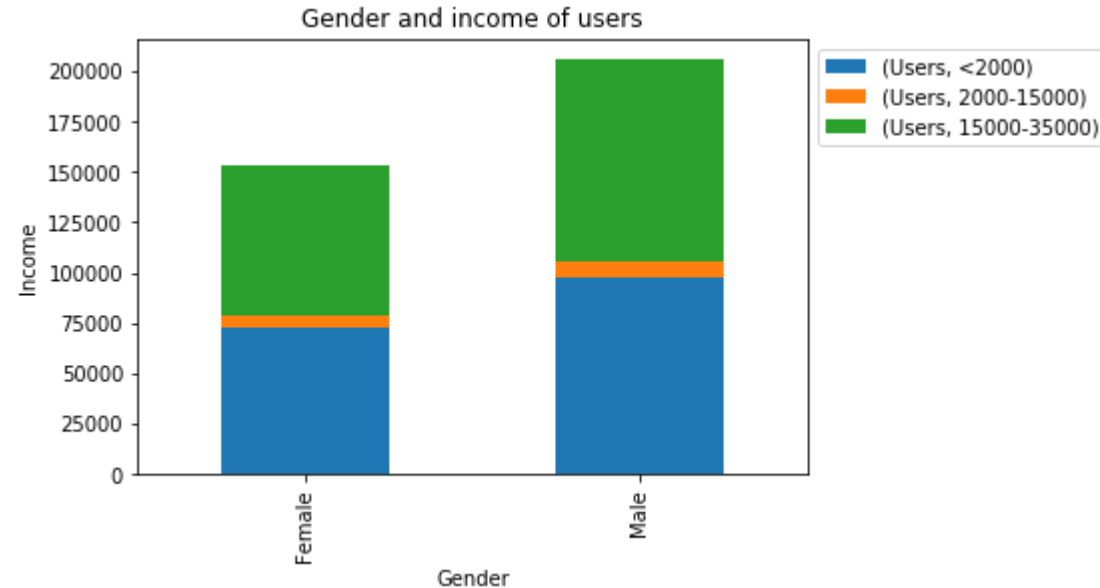
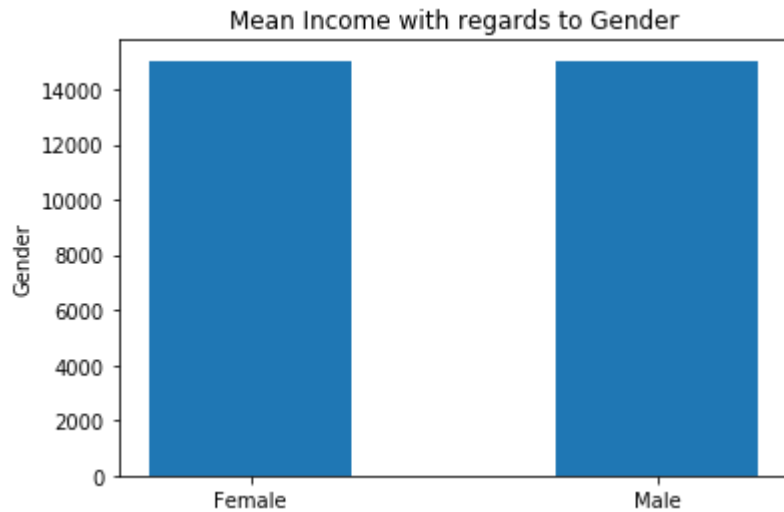


Top 5 cities that use Yellow Cab



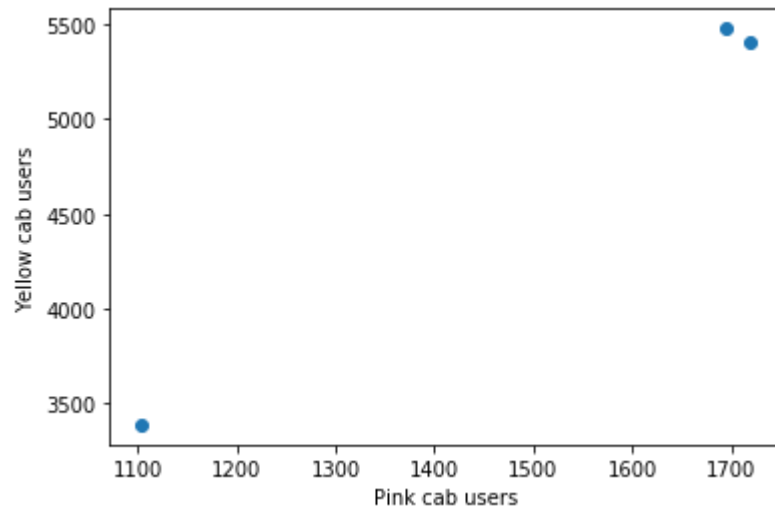
- Yellow Cab is slightly more popular in New York while Pink Cab is slightly more popular in Los Angeles
- In terms of top cab users Pink Cab and Yellow cab have similar coverage except in Washington where Pink Cab users are low

Customer analysis:



- Gender has no significant influence on average income
- The majority of cab users are from middle income and high income ranges

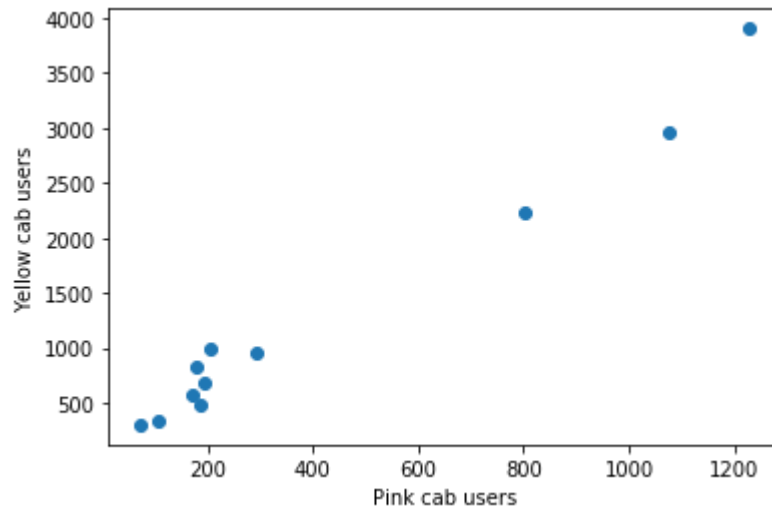
Customer retention



- Over the 3 years studied both Cab companies experienced a huge loss in average cab users from 2017 to 2018.
- The customer retention was studied for more than 3000 users per year
- Pink cab did not retain more than 3000 users over all three years
- Yellow Cab had high customer retention in 2016 and 2017 but it dropped significantly in 2018

	Users		
Date	2016	2017	2018
Company			
Pink Cab	1694	1719	1103
Yellow Cab	5476	5400	3389

Customer retention

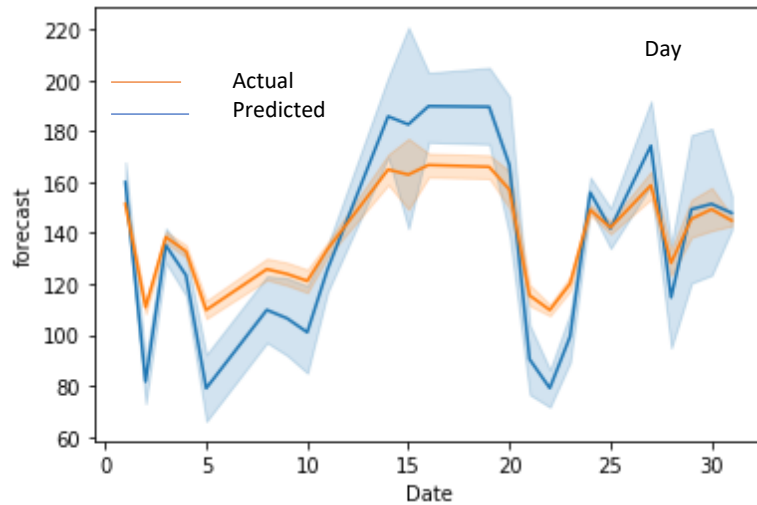


Customer retention per month was considered for less than 500 cab users per month

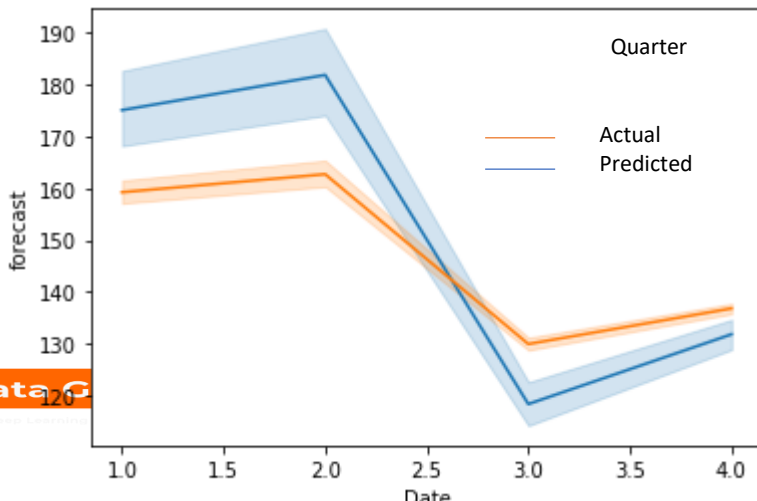
- Pink Cab had less than 500 users for 8 months while Yellow Cab only had less than 500 cab users for 3 months
- Yellow Cab was able to retain more users per year than Pink Cab

Date	Users										
	1	2	3	4	5	6	7	9	10	11	12
Company											
Pink Cab	294	177	71	205	192	172	108	1077	188	804	1228
Yellow Cab	966	824	304	1001	681	575	339	2953	485	2237	3900

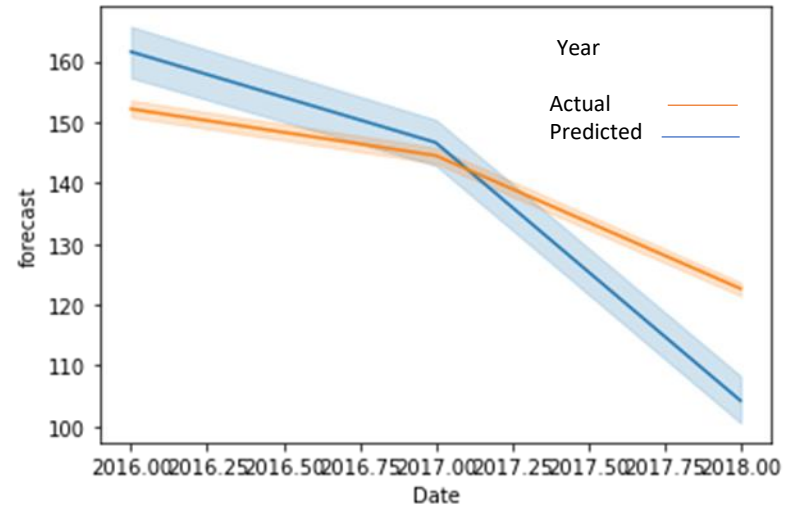
Profit trends



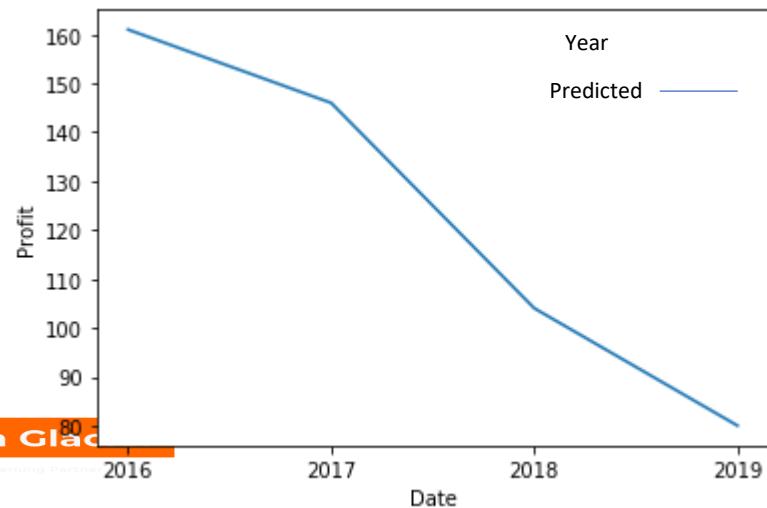
- The seasonal trend indicated that the profit increases after 3 days in a repetitive weekly cycle
- The profit increased from the first quarter to the second quarter by 1.84%, then decreased sharply in the third quarter by 8.12% before bouncing back in the fourth quarter by 1.01%



Profit forecast for 2019



Year	Profit
2016	16M
2017	14M
2018	10M
2019	8M



The profit decreased yearly from 2016 to 2018 and was predicted to decrease to 8\$M by 2019

Findings for cab company market

The following findings can help XYZ to understand the cab company market

- New York and Los Angeles are the cities where both cab companies are most popular, these two cities account for more than 50% of users
- There are more cab users on normal weekends and holiday weekends with Labor day weekend, Thanksgiving weekend, Christmas weekend and New Year's weekend being popular
- Customers prefer paying by card instead of using cash
- There are slightly more male cab users than female
- The predominant age group for cab users is from 26 to 40 years old

XYZ can use these insights to better plan their marketing and business decisions

Recommendations

Yellow Cab makes more profit per km than Pink Cab

Both companies have a high number of users on weekends and popular holidays, but Yellow Cab has more users than Pink Cab

Yellow Cab has more cab users across US cities

Yellow Cab has higher customer reach across gender, age and income class than Pink Cab

Yellow Cab retained more customers than Pink Cab over the period studied

Although both companies are predicted to make a loss in profit in 2019, Pink Cab is predicted to have higher profit loss than Yellow Cab

Based on the points listed above it is recommended that XYZ invests in Yellow Cab company

Thank You