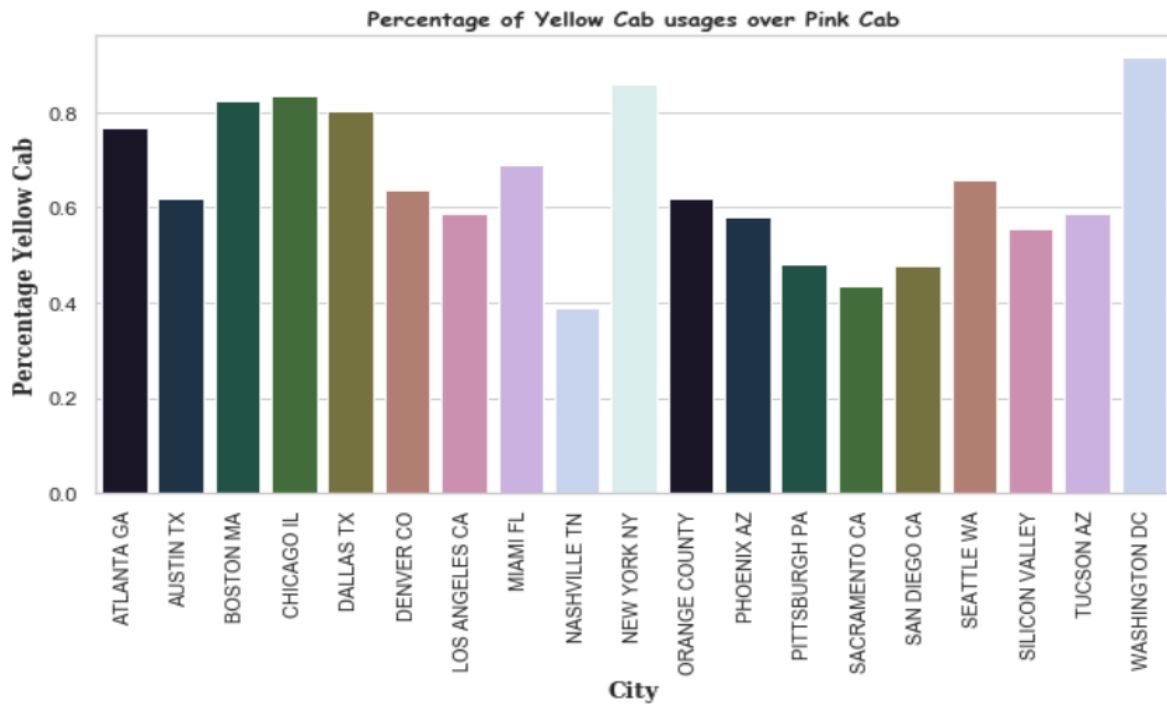


Hypothesis

- See whether there is a preference for Yellow Cab when travelling by taxi around each city.

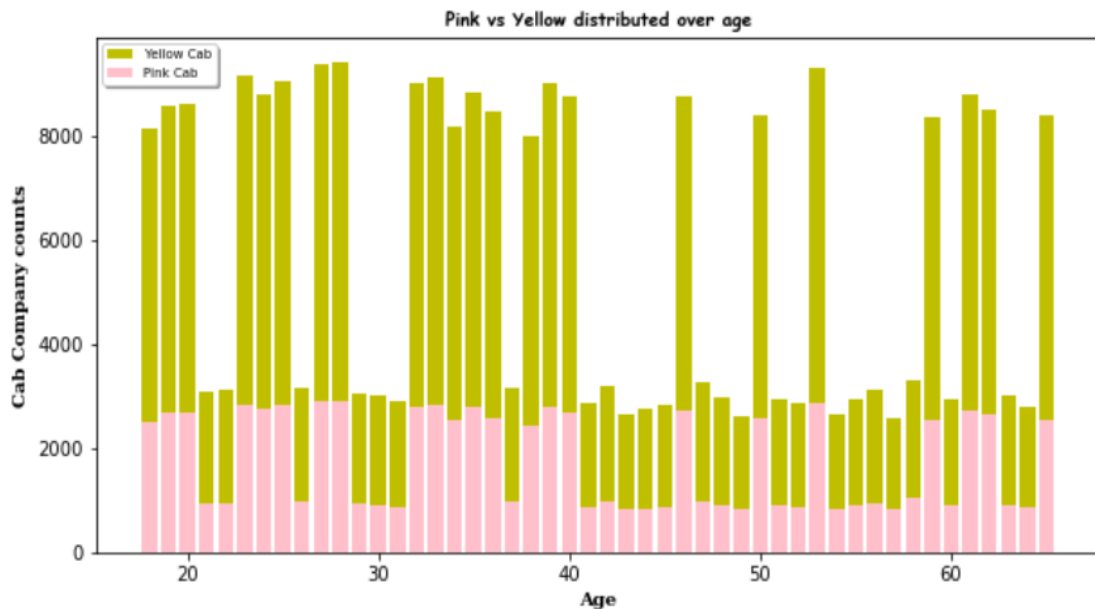


According to the distribution of the two companies in every cities, in some cities, like New York, Washington DC, Boston, Chicago, Dallas the most popular ones, the Yellow Cab is over 80% more preferable over Pink Cab.

On the other hand, in cities like Nashville, Sacramento, San Diego, Pink Cab is around 60% more preferable than Yellow Cab.

Yellow Cab seems to in the first place in cities distributions.

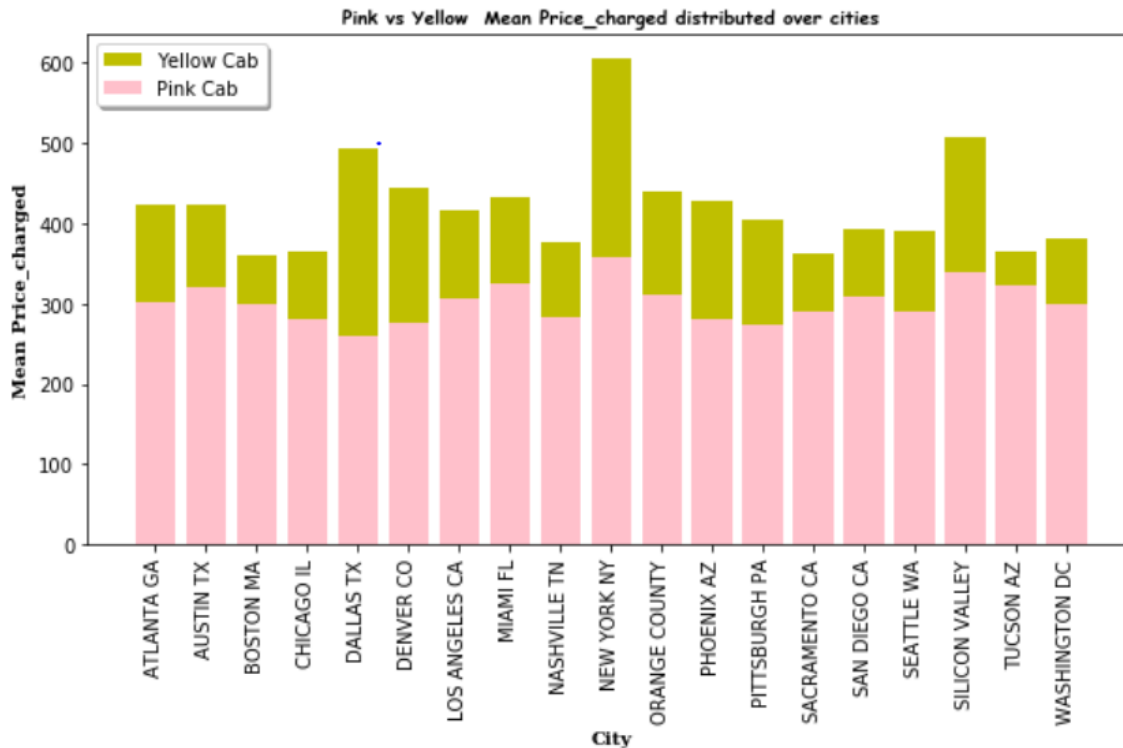
- Is any company preferred by a certain category of age?



Yellow Cab is preferred by everyone, no matter the age.

Price analysis

- What is the mean price_charged /km in every city for each company?



Yellow Cab – km travelled

```
city
ATLANTA GA      22.248247
AUSTIN TX       22.512840
BOSTON MA       22.543649
CHICAGO IL      22.659493
DALLAS TX       22.599395
DENVER CO       22.444097
LOS ANGELES CA  22.688117
MIAMI FL        22.635606
NASHVILLE TN   22.968837
NEW YORK NY     22.496362
ORANGE COUNTY   22.364597
PHOENIX AZ      22.529450
PITTSBURGH PA   22.670523
SACRAMENTO CA   22.949719
SAN DIEGO CA    22.391995
SEATTLE WA      22.583783
SILICON VALLEY  22.696391
TUCSON AZ       22.267527
WASHINGTON DC   22.625514
Name: km_travelled, dtype: float64
```

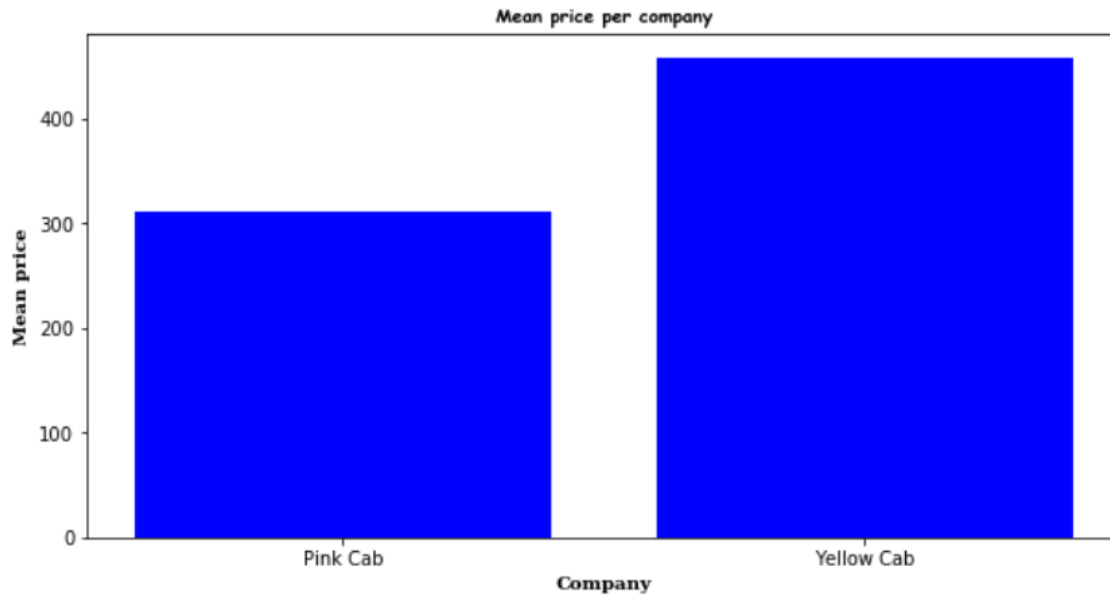
Pink Cab – km travelled

```
city
ATLANTA GA      22.539824
AUSTIN TX       21.969176
BOSTON MA       22.740746
CHICAGO IL      22.511070
DALLAS TX       22.021203
DENVER CO       22.459218
LOS ANGELES CA  22.635629
MIAMI FL        22.299925
NASHVILLE TN   22.528066
NEW YORK NY     22.622415
ORANGE COUNTY   22.213153
PHOENIX AZ      21.747384
PITTSBURGH PA   22.581613
SACRAMENTO CA   22.604303
SAN DIEGO CA    22.554710
SEATTLE WA      22.694133
SILICON VALLEY  22.791838
TUCSON AZ       22.556909
WASHINGTON DC   22.480756
Name: km_travelled, dtype: float64
```

In every city, with both company the km_travelled mean is 22 km. The price for the same km_travelled in different cities, the price is really different, even a significant difference is noticed when using Yellow Cab company.

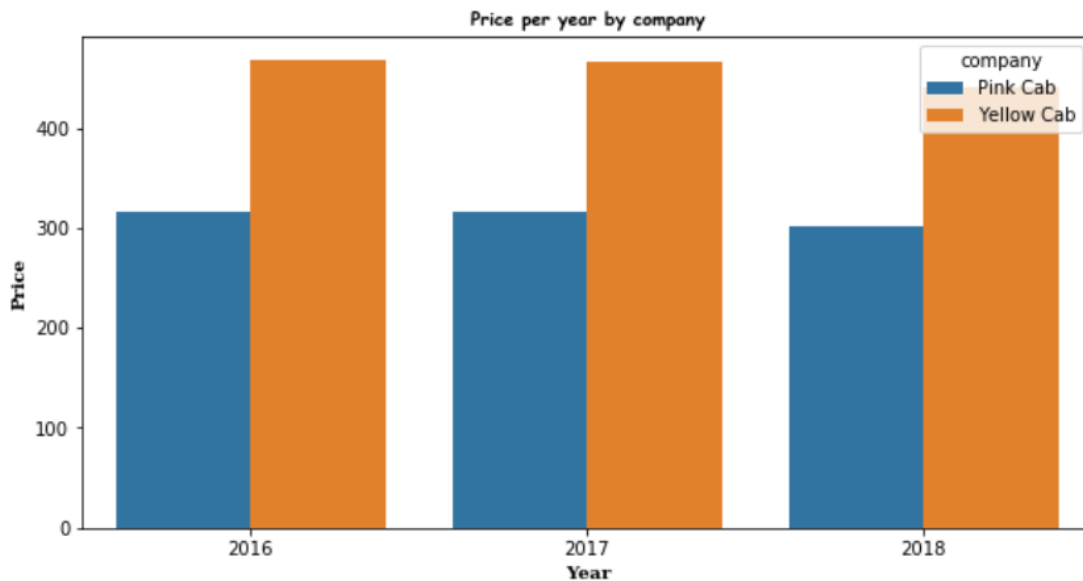
New York, Silicon Valley and Dallas seems to be the most expensive cities.

- Mean price per company



Yellow Cab is the most expensive company.

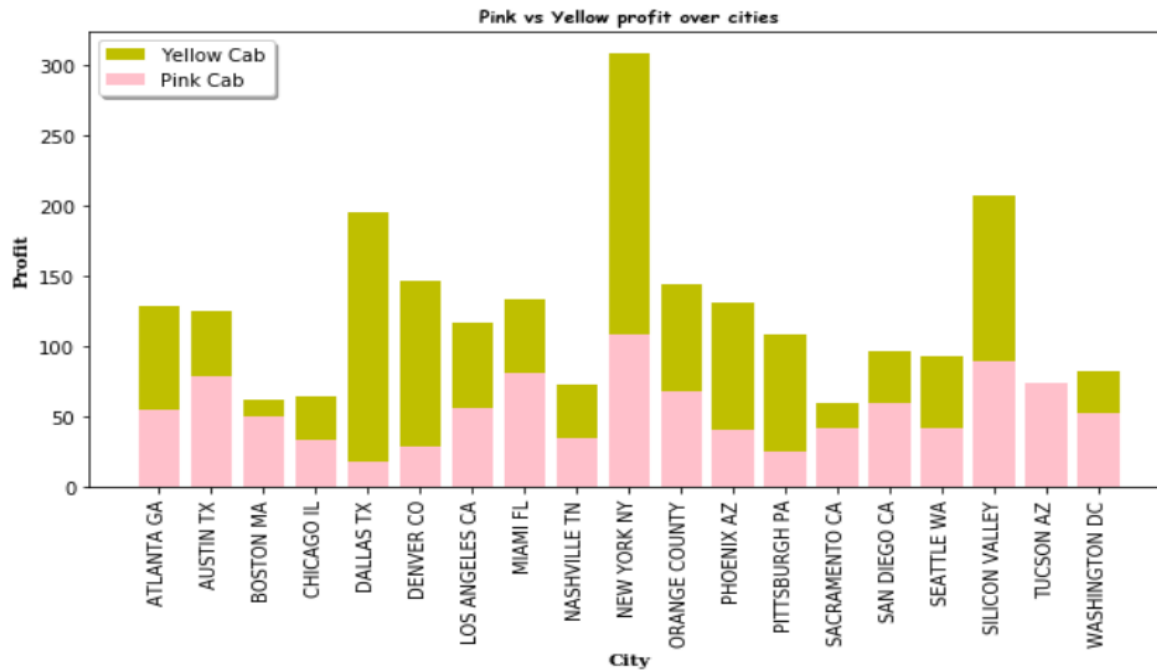
- Evolution of price along years by company



Along years, price and profit was in the same range, In 2018, it was noticed a decrease for both companies.

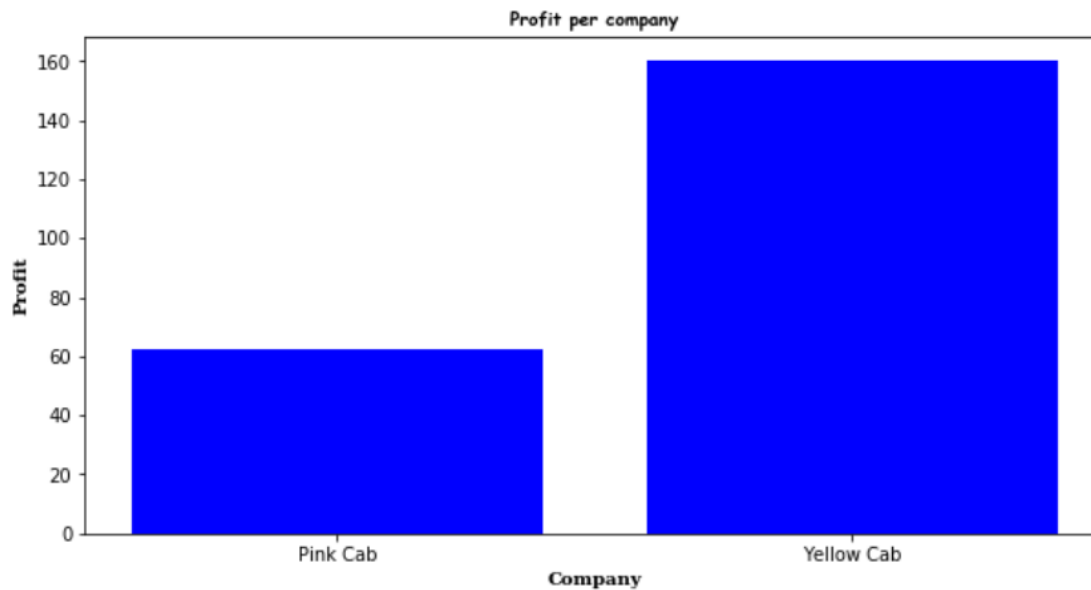
Profit analysis

- Profit of both companies over cities

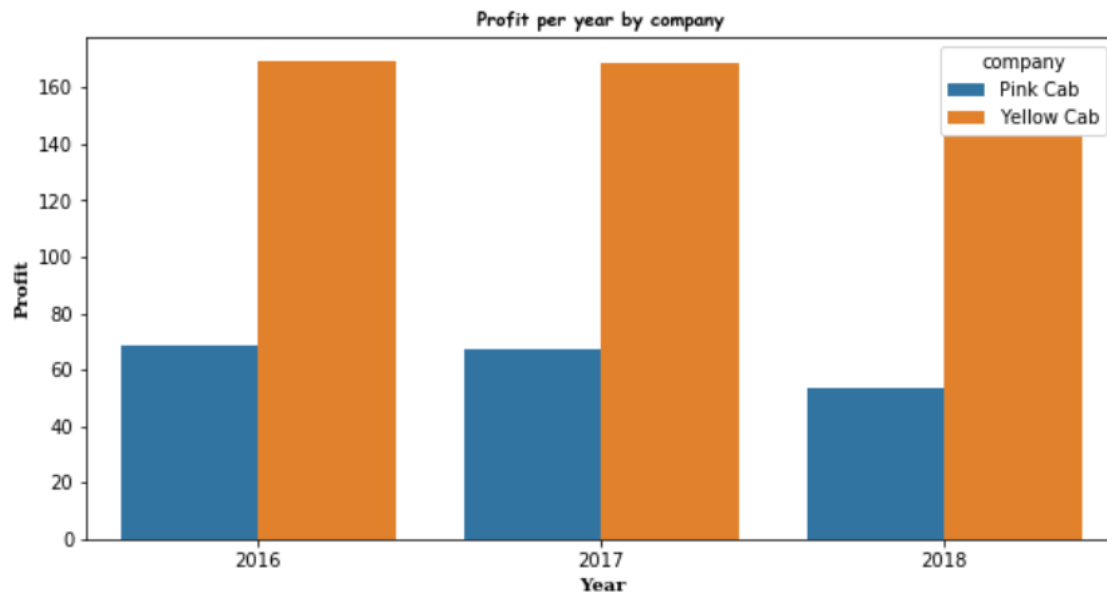


In the most expensive cities, the profit is higher.

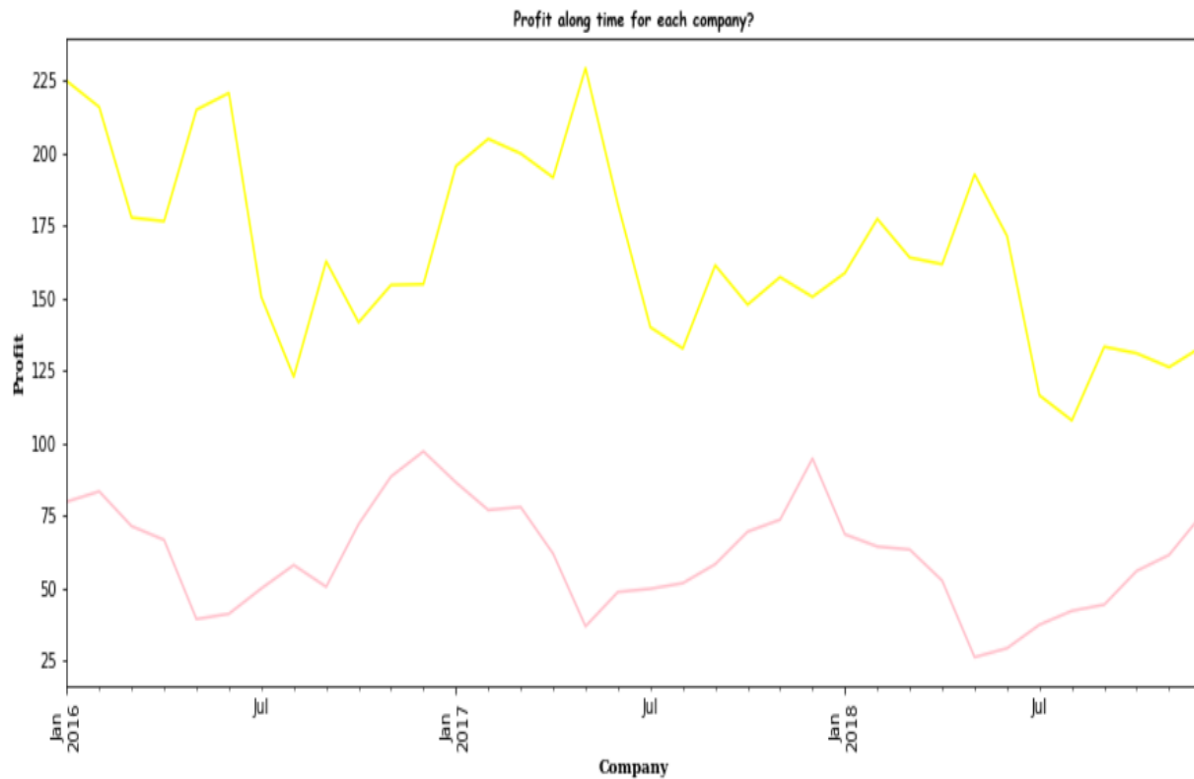
- Profit per company



- Profit along years

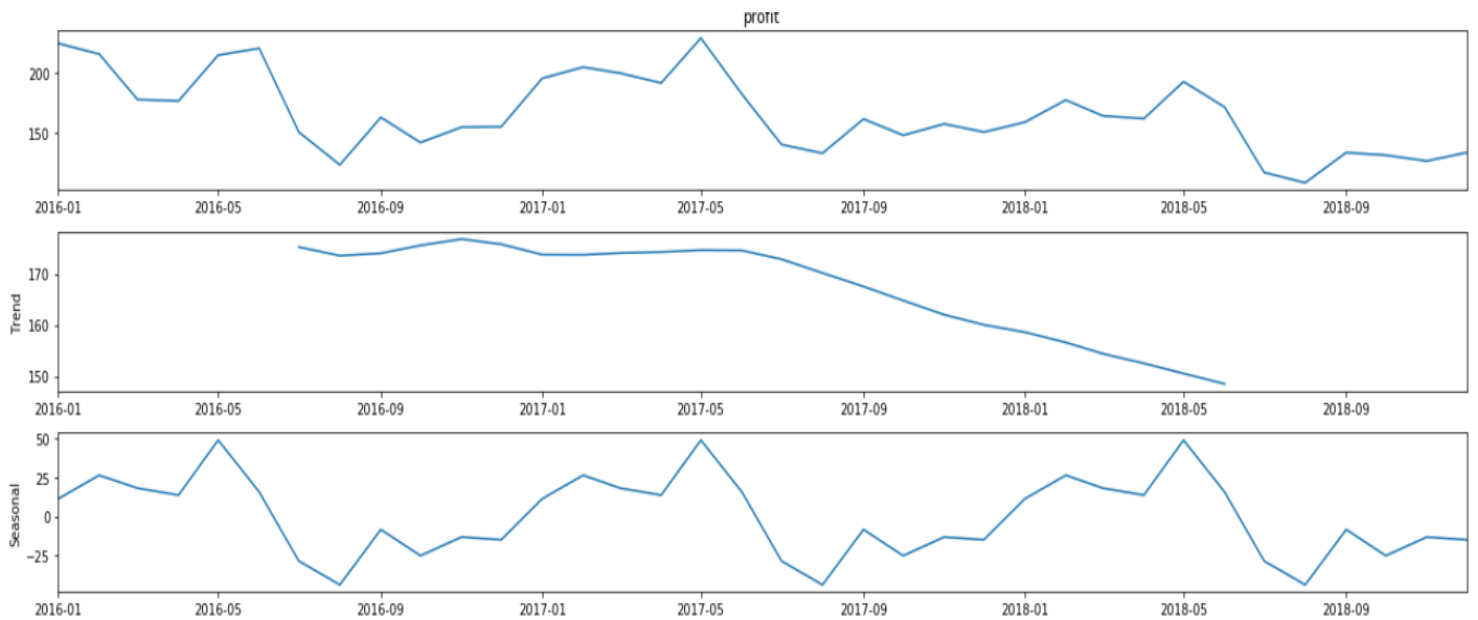


Yellow Company has brought the highest profit along years.



It is obviously that no matter the time, Yellow Company has the highest profit.

- Yellow Cab – evolution profit & Trend & Seasonality



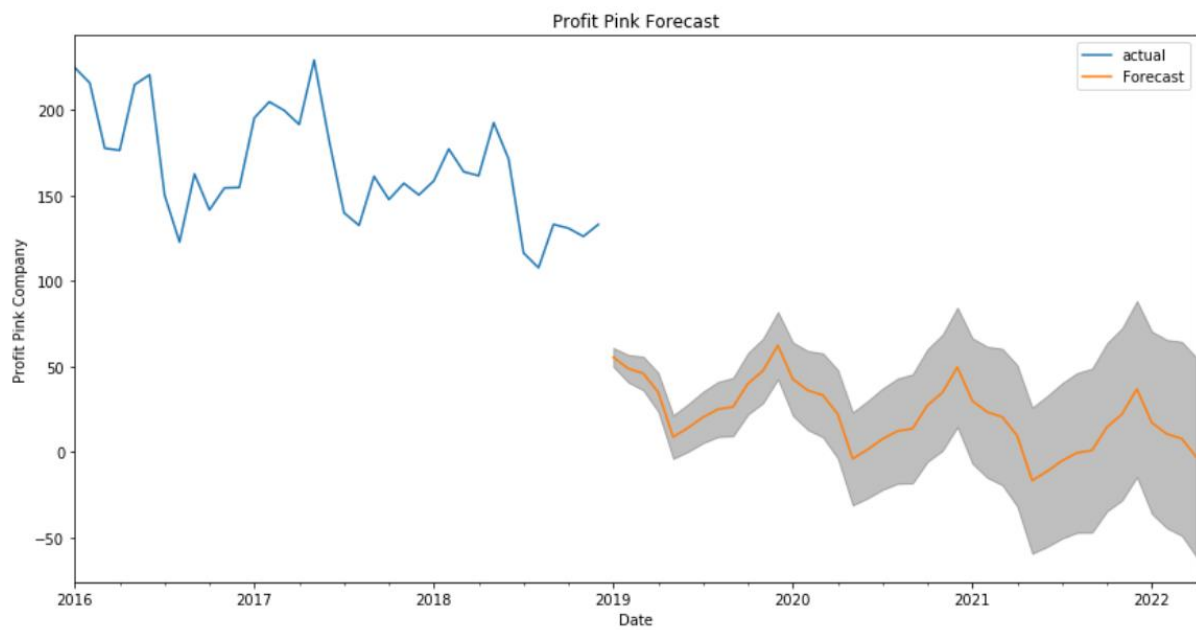
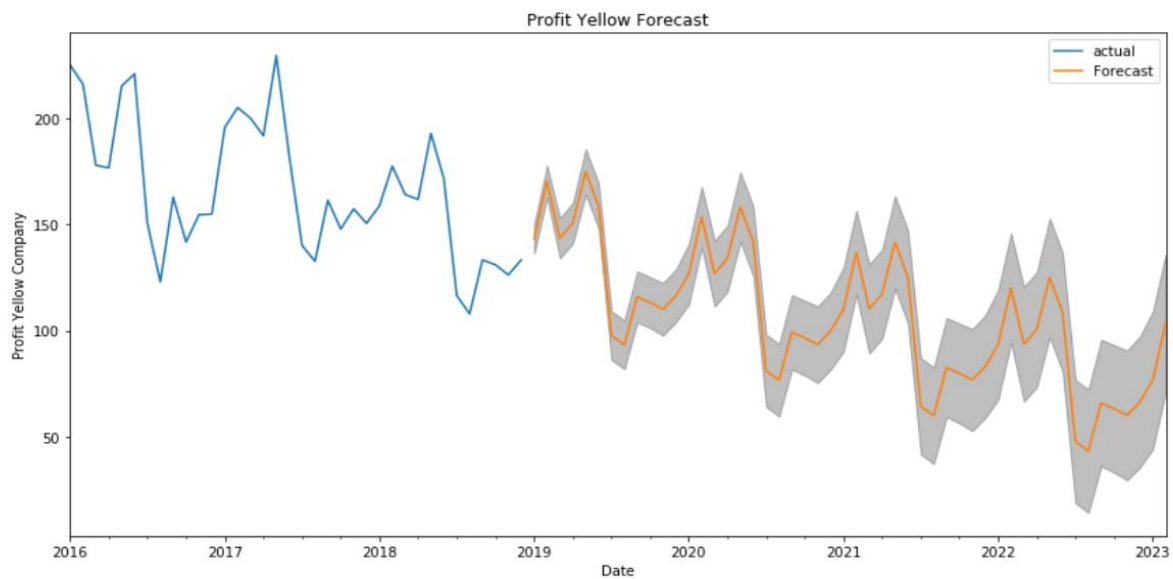
- Pink Cab – evolution profit & Trend & Seasonality



We may notice that on May time, every year, Yellow Company has the highest profit. On the other hand, on May time, every year, Pink Company has the lowest profit. Pink Company seems to have the higher profit during winter holidays. Yellow Company have the lowest profit during end of summer.

Starting from 2017 May, to the summer of 2018, there was a tendency of profit decreasing for both companies.

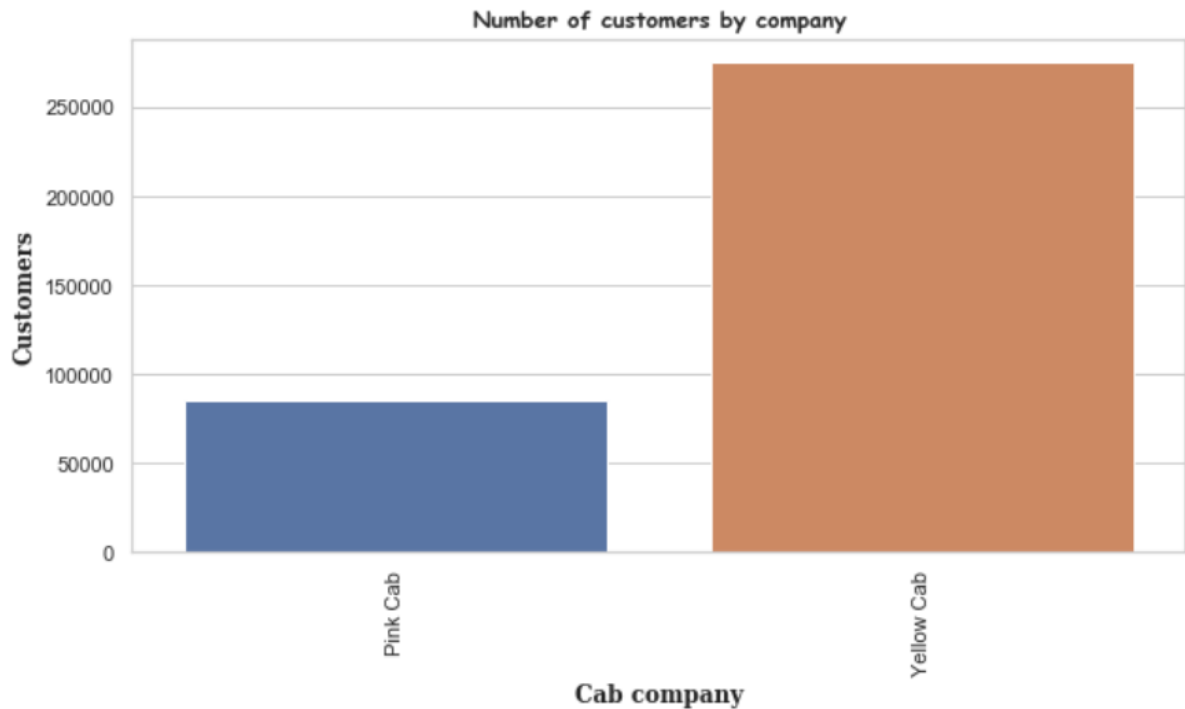
- Forecasting



Considering the forecast plots above for both companies, the profit for both companies tend to decrease in the following years, but the rate is different. It would not be so much loss considering Yellow Company.

Customer analysis

- Customers per company

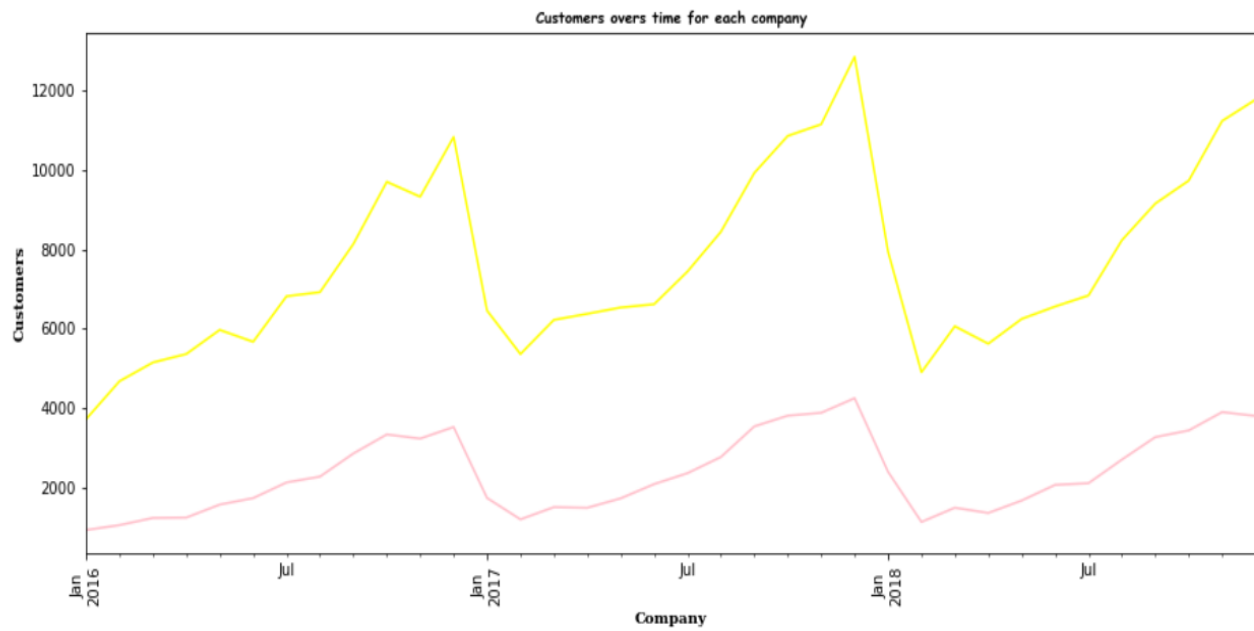
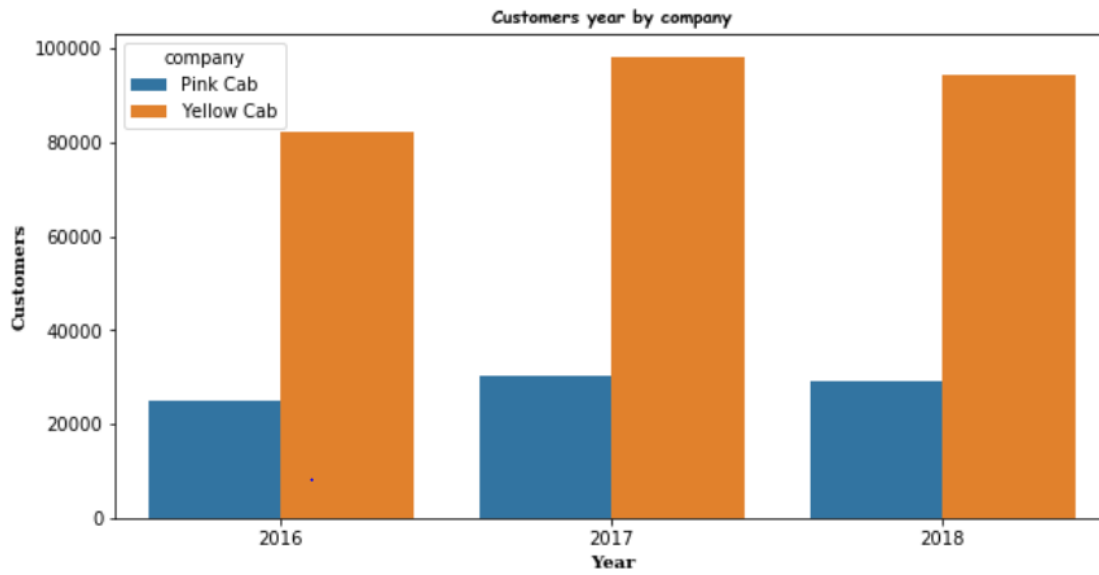


- Same customers travel by both companies. What is their preference?

	customer_id	company	size
0	1	Pink Cab	4
1	1	Yellow Cab	25
2	2	Pink Cab	4
3	2	Yellow Cab	36
4	3	Pink Cab	6
...
72221	59998	Yellow Cab	6
72222	59999	Pink Cab	2
72223	59999	Yellow Cab	6
72224	60000	Pink Cab	4
72225	60000	Yellow Cab	14

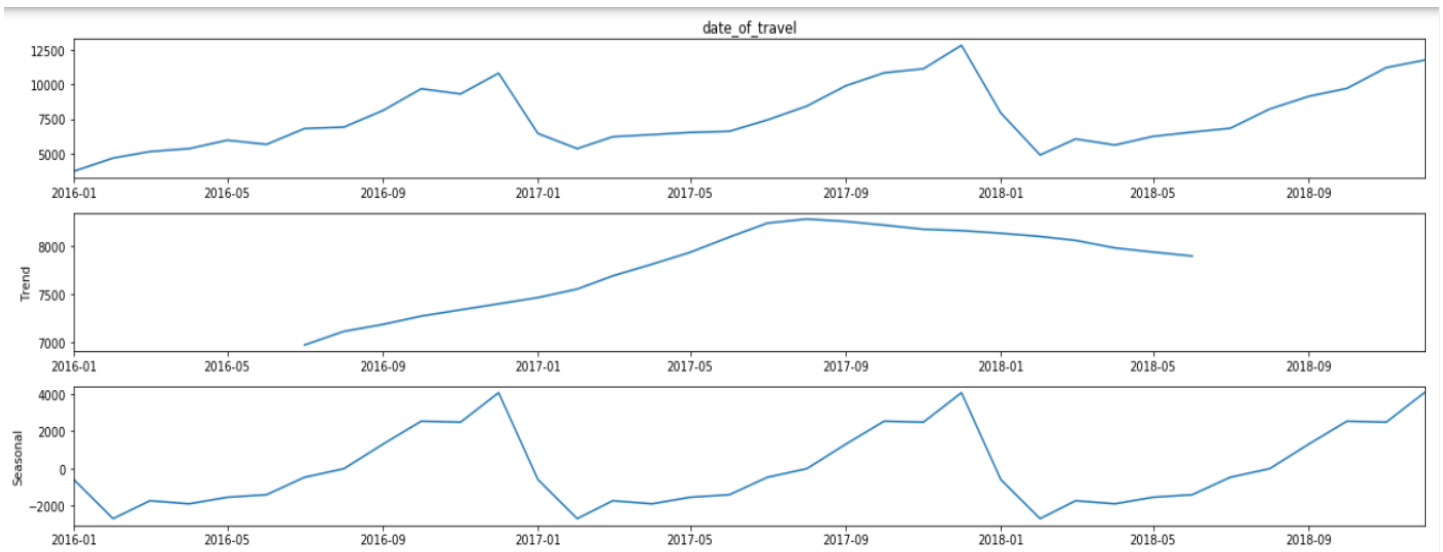
Clearly, they prefer Yellow Company.

- Customers along time for each company

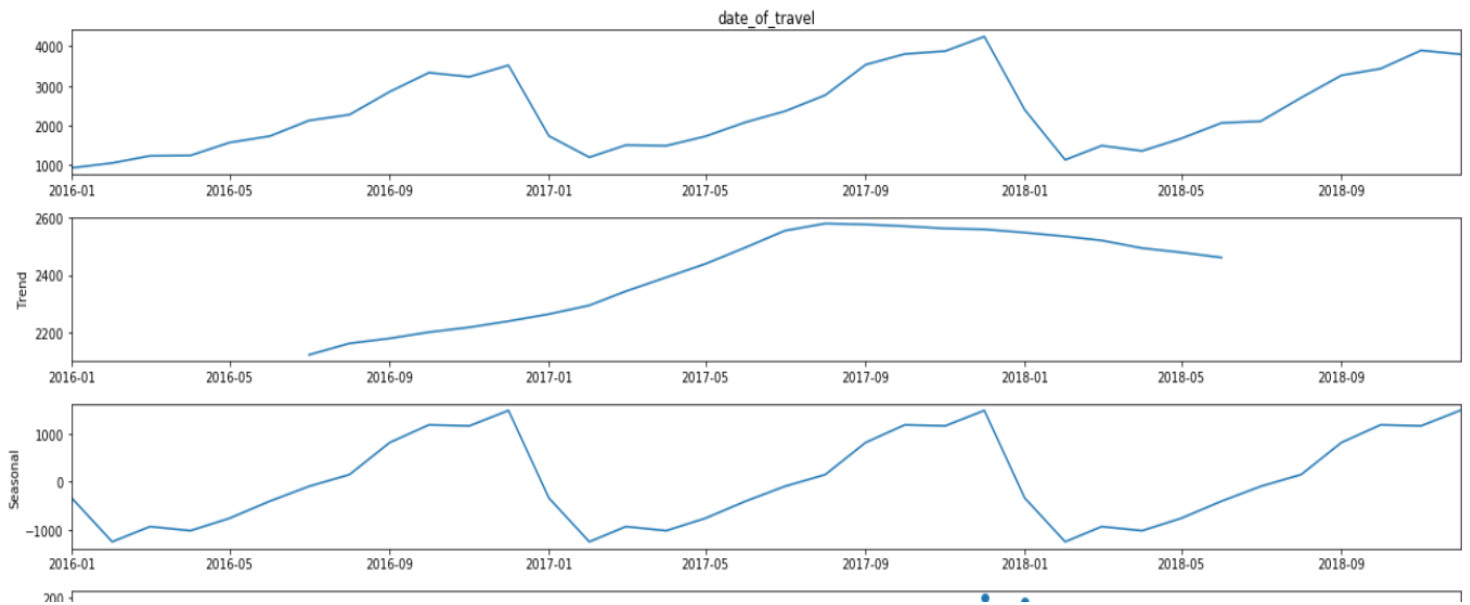


Number of customers is lowest near the end of each year.

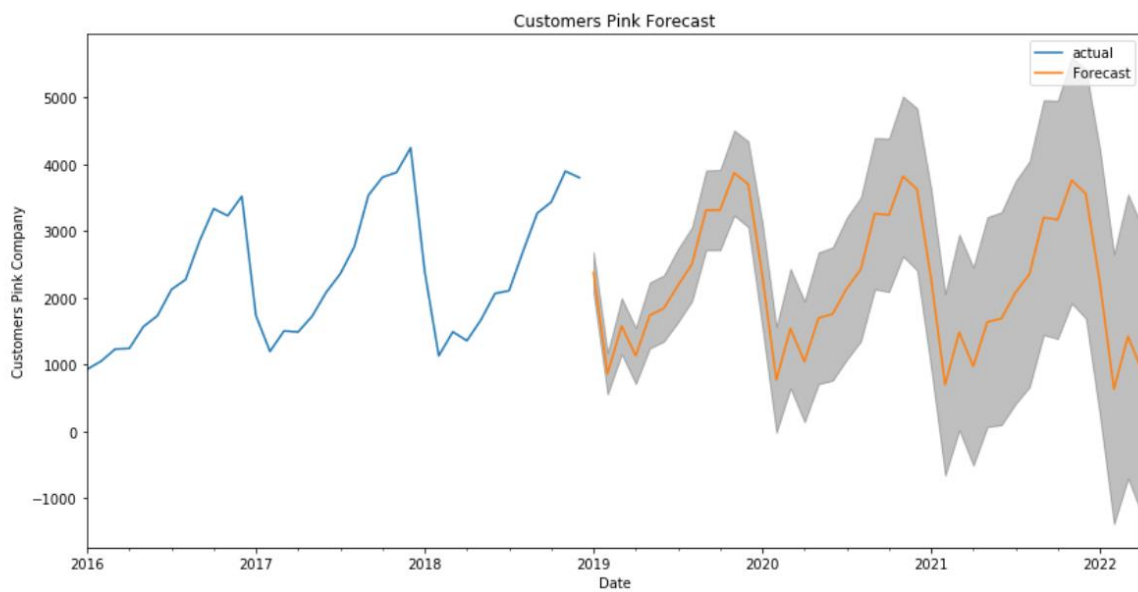
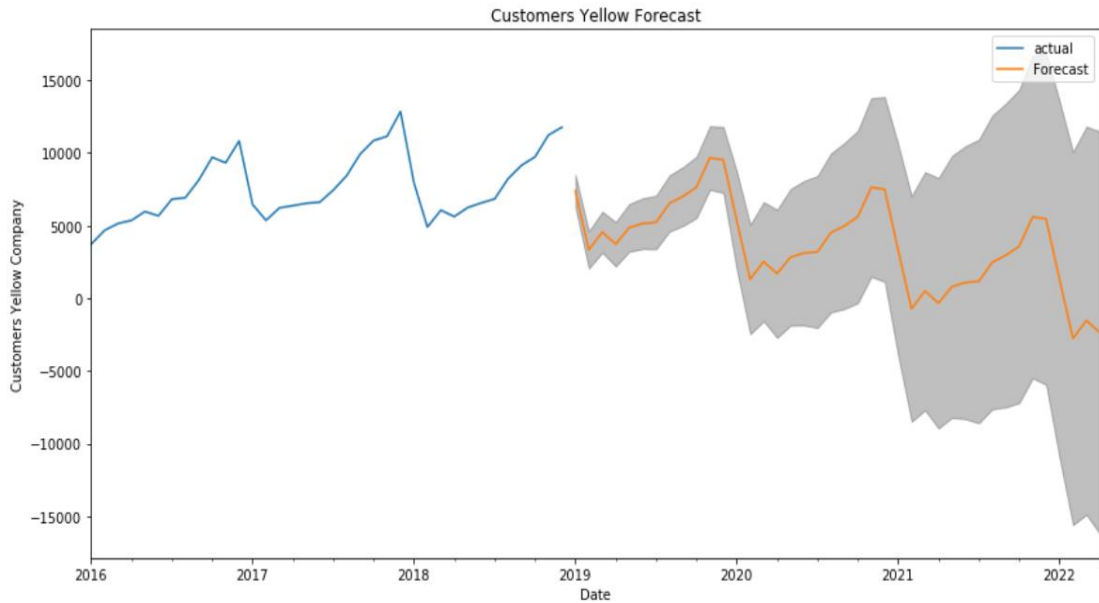
- Yellow Cab – evolution customers & Trend & Seasonality



Pink Cab – evolution customers & Trend & Seasonality



- Forecasting



Recommendation

Yellow Company because:

- ✓ it is mostly used no matter the season
- ✓ it has the higher profit
- ✓ it is preferred by everyone, no matter the age
- ✓ it has great popularity along most of the cities