G2M CASE STUDY

VIRTUAL INTERNSHIP PROGRAM

MAY 13TH 2024

MADE BY GLEN MIASNYCHENKO

PROGRAM BACKGROUND

- XYZ is a private equity firm in the US looking to invest into the Cab Industry.

- We were given a dataset with the objective of analyzing the industry, and identify the best company to invest in.

ANALYSIS STRUCTURE

The analysis consists of these parts:

Profitability Analysis

- Understanding Volatility
- Average profit per kilometer
- Average profit per ride
- Geographical Analysis of Profits
- Profit Forecast

Customer Analysis

- Payment Method Analysis
- Age Distribution
- Income Distribution
- Correlation Analysis

Recommendation

PROFITABILITY ANALYSIS

- The Pink Company makes significantly less profit than the Yellow Company;

- The Profits of Yellow Company are much more volatile;

- Both companies experience some seasonality, as the profits tend to rise in December.

Monthly Profit by Company
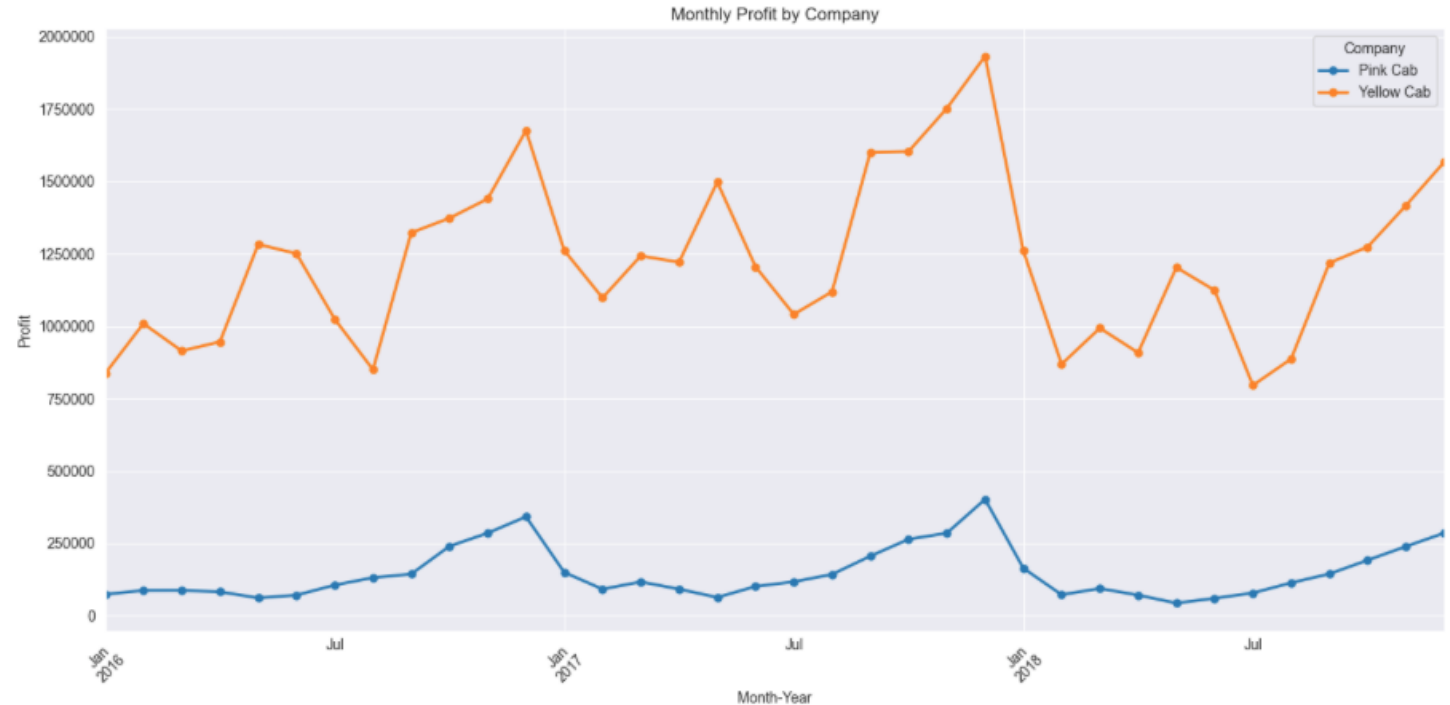
ADDITIONAL METRICS

Volatility in Monthly Profits (st. Dev.)		Difference in average profit per kilometer	
Pink Company	$90,063.96	Pink Company	$2.77
Yellow Company	$282,089.04	Yellow Company	$7.10

| Average Profit per Ride	
Pink Company	$62.65
Yellow Company	$160.26

GEOGRAPHICAL DISTRIBUTION OF PROFITS

- The image shows that the Yellow Cab Company is heavily dependent on New York City and has some diversifications.

- However, it is almost impossible to see the distribution of profit for the Pink Cab Company.


Profit by City and Company
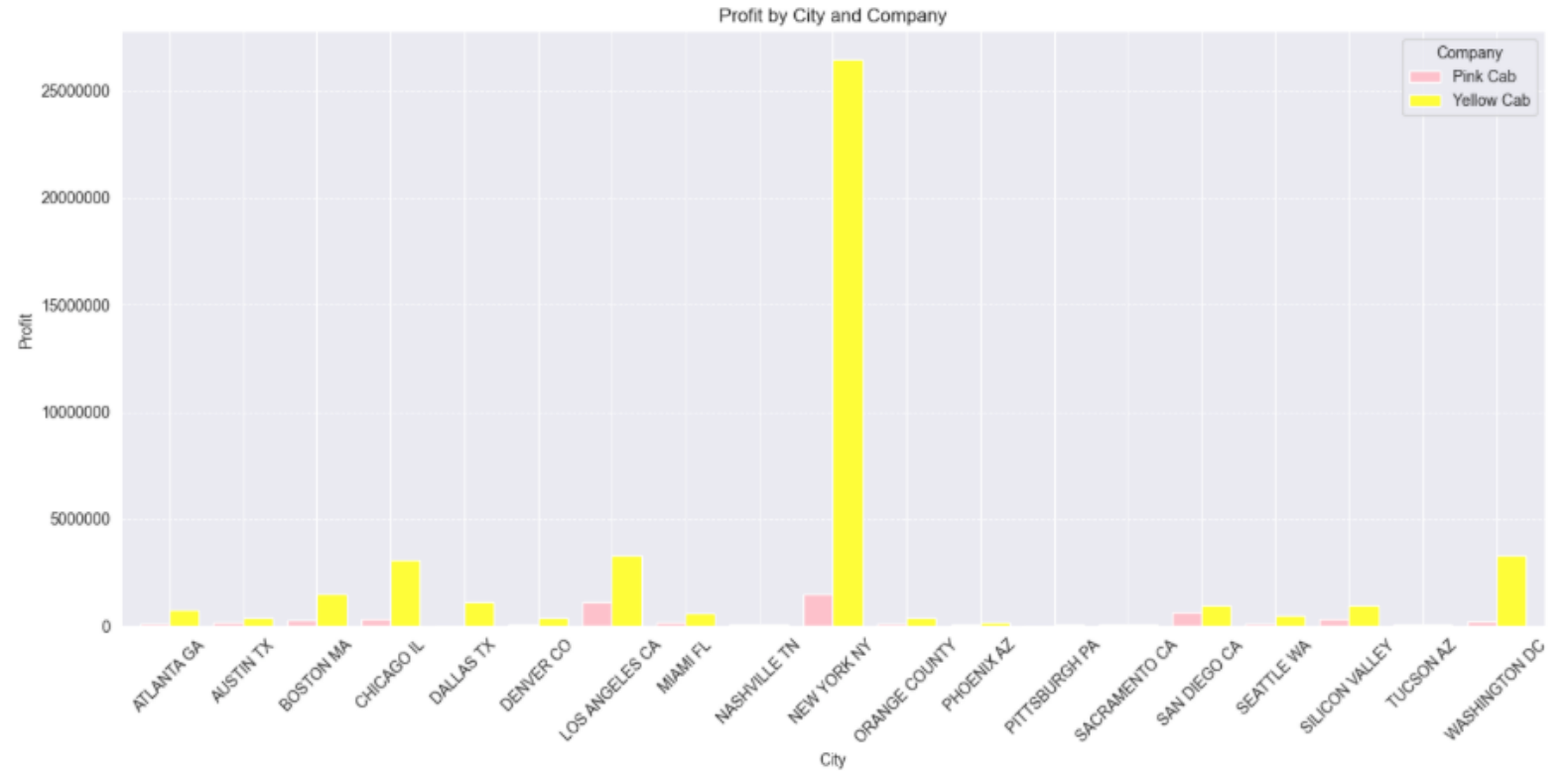
RELATIVE GEOGRAPHIC DISTRIBUTION OF PROFITS

- Now that is much better. We can make the following conclusions:

  o 60% of profits of the Yellow Cab company are generated in New York;

  o The Pink Company is much less dependent on the NY;

  o However, the Pink Company has significant portion of its profits coming from the West Coast.

Percentage of Total Profit by City and Company
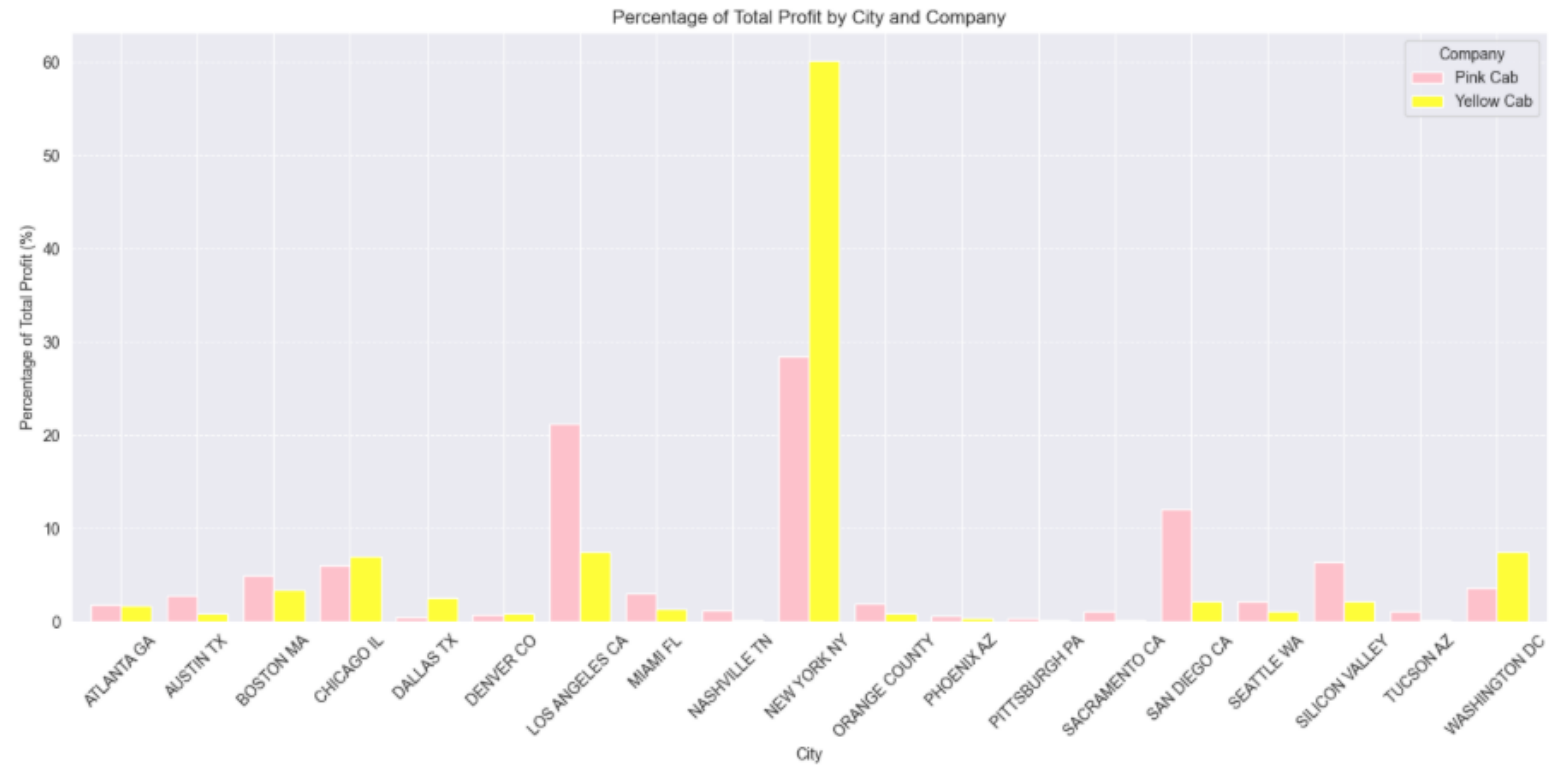
PROFIT FORECAST

■We are going to use Holt-Winters Exponential Smoothing model to forecast our data. It will yield the best results as our data is highly seasonal.
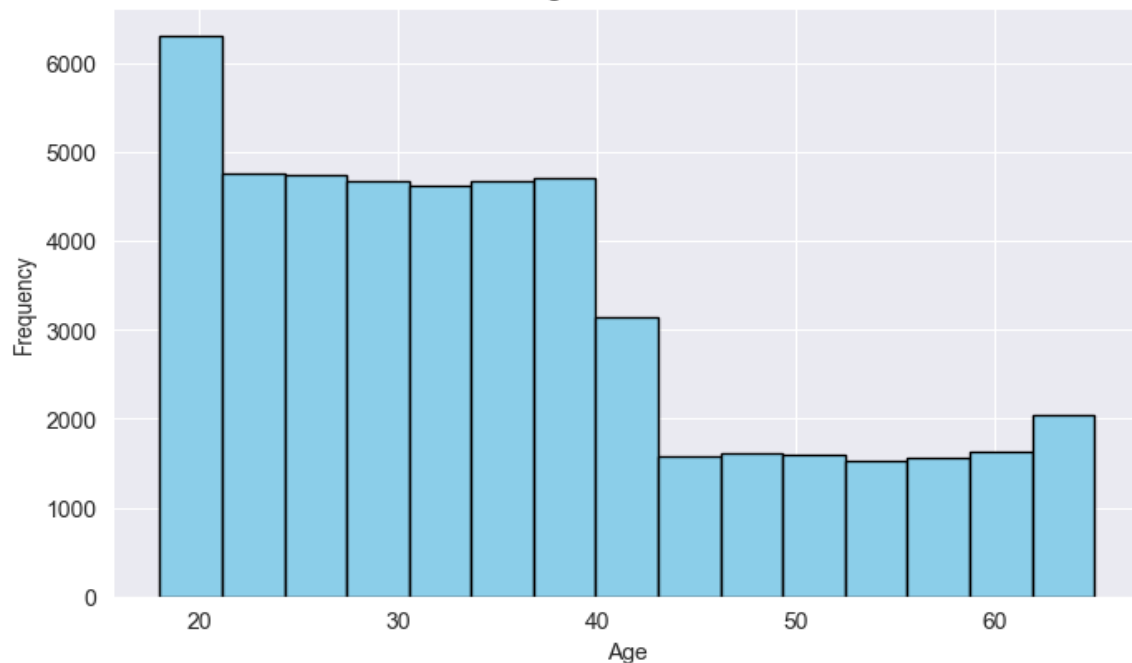

Monthly Profit Forecast for the Cab companies
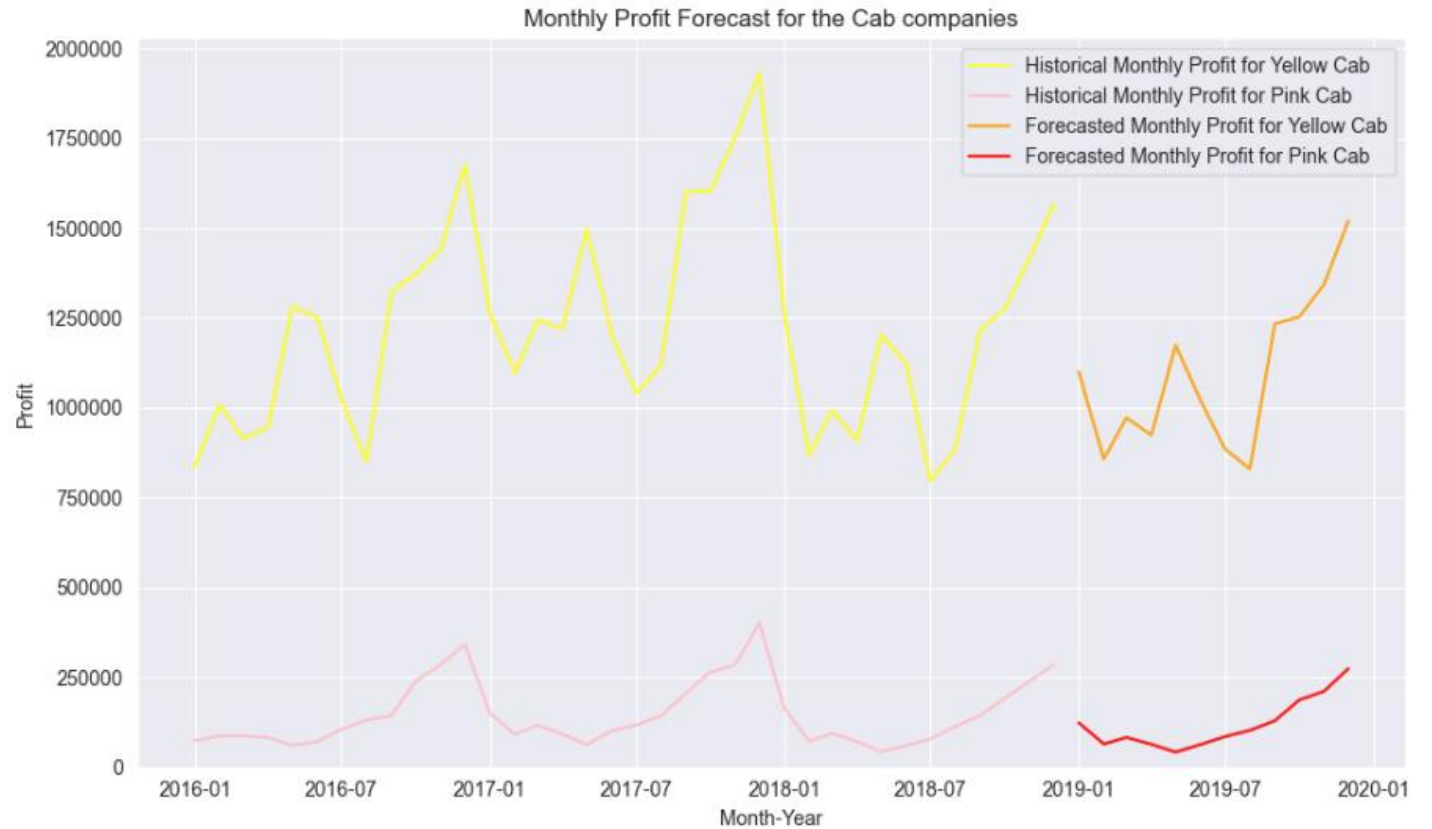
CUSTOMER ANALYSIS

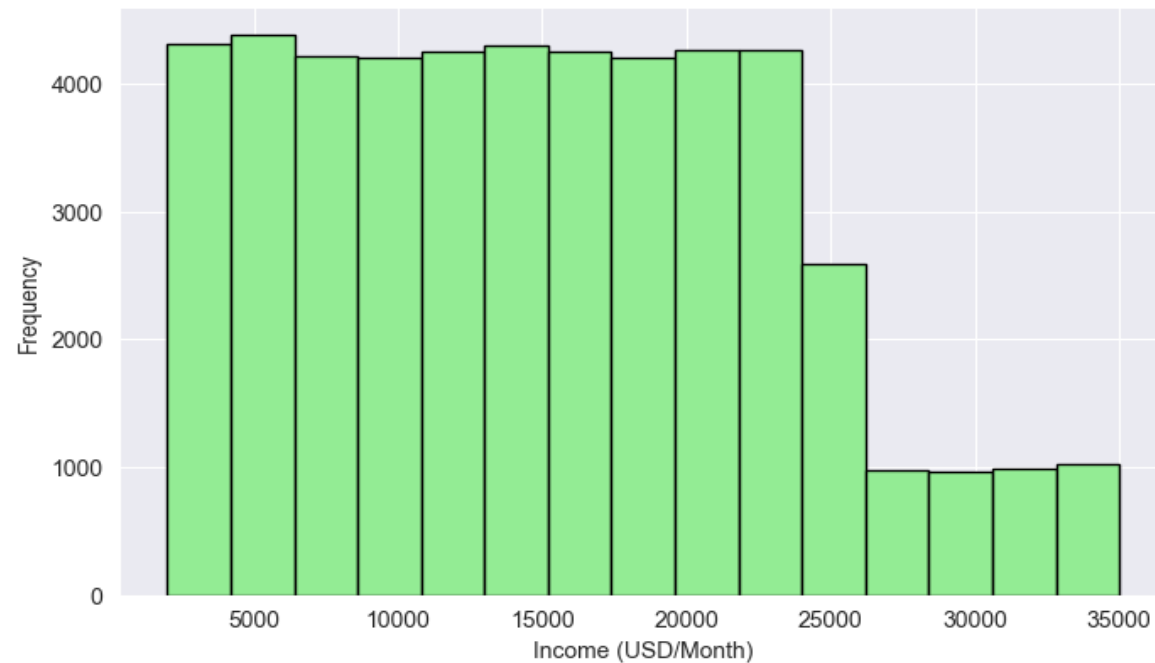| Payment Method Distribution	
Card	59.98%
Cash	40.02%

| Gender Distribution	
Male	54.02%
Female	45.98%

Age Distribution

Income Distribution

CORRELATION MATRIX

■We found out that:

■ there are almost 50 thousands users;

■ 54% of them are male, and 46% are female;

■ 60% of the transactions were paid by card, and 40% by cash;

■ majority of users are below age of 40 y.o.;

■ most of the users earn below $25,000 a month, with the distribution being uniform;

■We would expect that there are some correlations. For example, it may be the case that male customers would correlate with higher income, or that age would be positively correlated with income.

■Yet, the correlation matrix is telling us that there are no correlation between any of these metrics.

Correlation Matrix including Company Choice
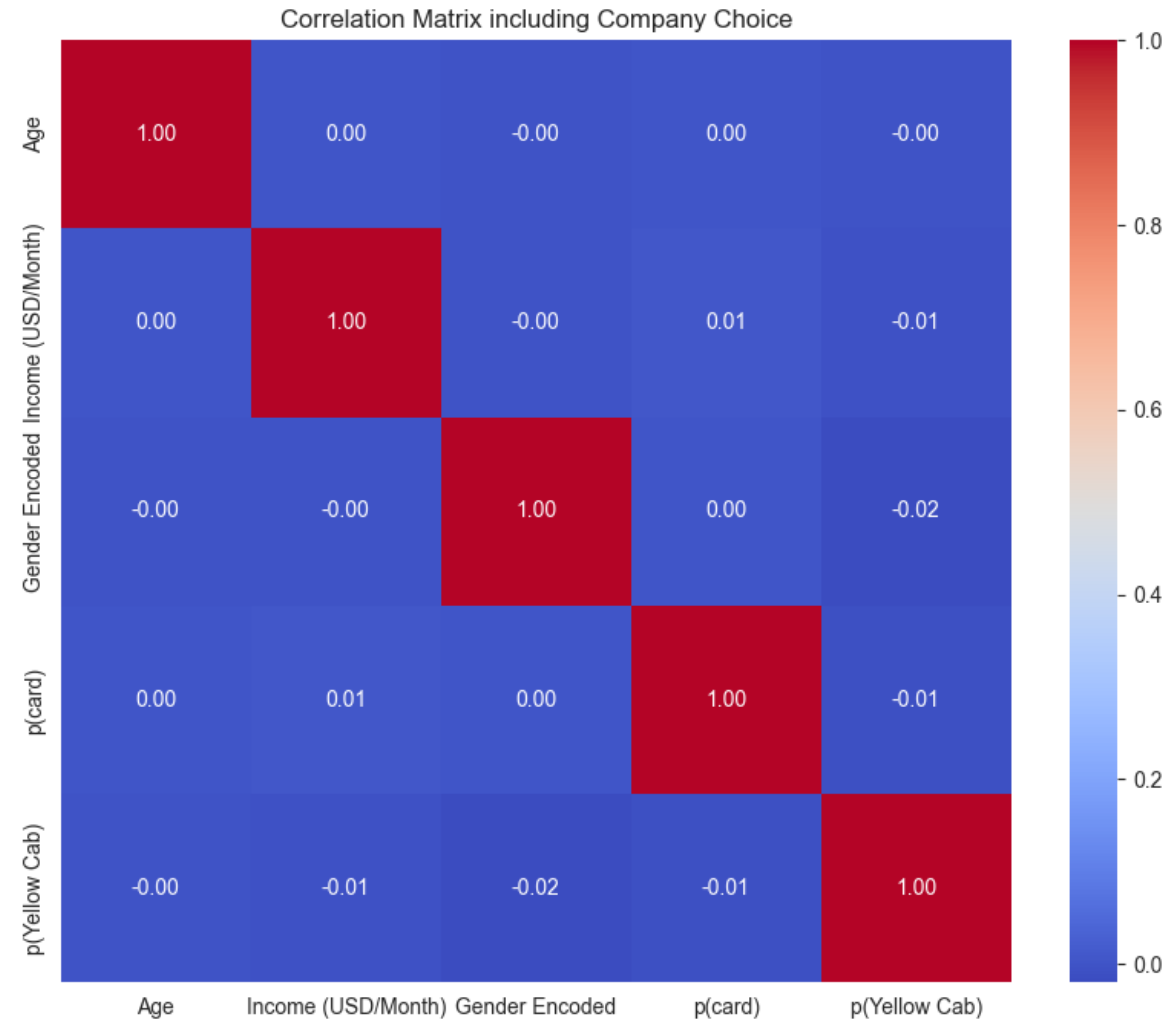
RECOMMENDATION

- After the presented analysis we conclude that the Yellow Cab Company would be a better investment:

    - Yellow Cab Company has higher reach in the cities, while is more depended on New York;

    - Yellow Cab Company makes more profit per kilometer;

    - Yellow Cab Company has higher forecasted profit.

- In order to diversify the investment portfolio, it may be beneficial to allocate some percentage into more stable, and more diversified (even though less profitable) Pink Company.

THANK YOU