

G2M Insight for Cab Firm Investment Virtual Internship

06/17/2024

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EDA Summary

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Executive Summary

Perform an Exploratory Data Analysis on data of 2 cab firms to determine which one is a better investment for XYZ firm.



Problem Statement

Background: XYZ is a private 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 and as per their Go-to-Market(G2M) strategy they want to understand the market before taking final decision.

Objective: Analyze the current key players that XYZ is planning to invest into to help identify which company is the best investment for XYZ.

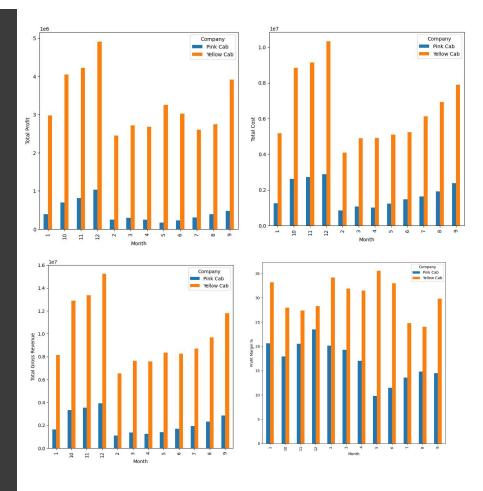


Approach

- From one of the final datasets, we are able to derive 353,434 data points with 17 features.
- From the other dataset, we are able to derive 20 data points with 3 features.
- The timeframe of the data is from 01/31/2016 to 12/31/2018
- Assumptions:
 - The Price_charged feature is the total revenue made on the transaction
 - (including any tips)
 - The Price_charged feature is only affected by the Cost of the Trip feature
 - and the Kilometers Travelled feature
 - The Cost of the Trip feature considers all costs associated with the trip
 - The date_of_travel feature uses mm/dd/yyyy format
- Using these 2 datasets, perform an EDA to reveal trends and patterns in customer base and profit for both companies



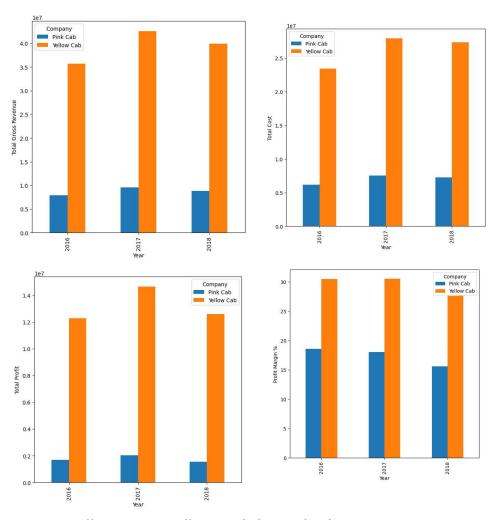
Profit and Cost Analysis



Across all 12 months, Yellow Cab generates a higher gross revenue, total profit, and profit margin % than Pink Cab.



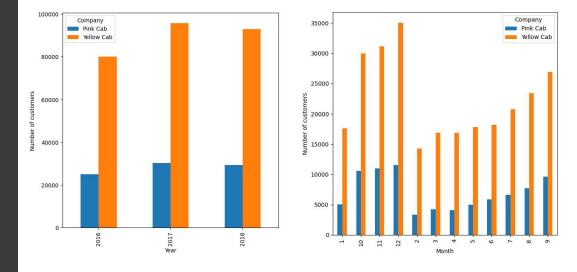
Yearly Profit and Cost Analysis



Across all 3 years, Yellow Cab has a higher gross revenue, profit generated, and profit margin % than Pink Cab



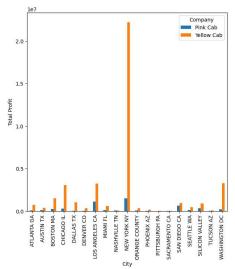
Seasonality Analysis

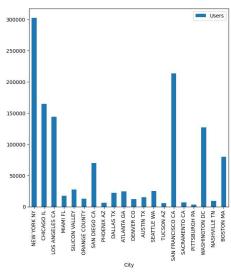


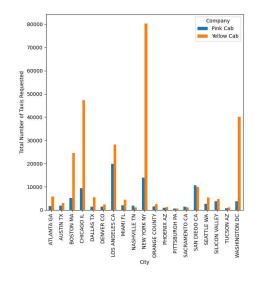
For both companies, they attract the most customers in 2017 and in the fall/winter season. In addition, across all 3 years and all 12 months, Yellow Cab on average attracts more customers than Pink Cab.



City wise Analysis



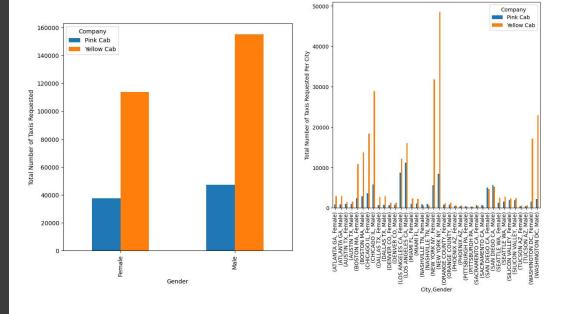




On average, across all the cities, Yellow cab generates more profit and attracts more customers than Pink Cab. In addition, Yellow Cab seems to be the prime pick for cities with a high density of Users, with the exception being San Francisco, which doesn't use either cab company.



Customer base analysis based on City and Gender



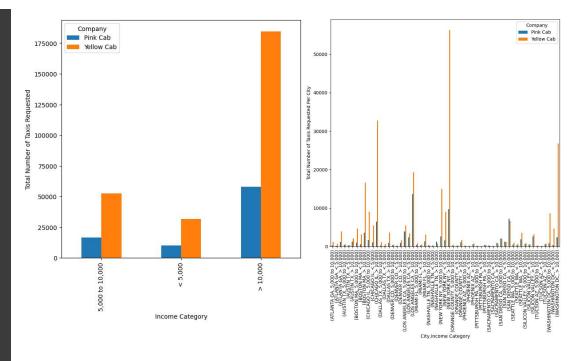
For both companies, they attract on average more males than females, and this holds true across all cities. For Yellow Cab, they attract significantly more males than females, while for Pink Cab, the difference is more marginal. Across all cities, Yellow Cab attracts on average more female and male customers than Pink Cab.



Customer base analysis based on Income and City



Data Glacier



For both companies, there is a large discrepancy between how many customers they attract for each income group. For both companies, they attract the most customers from people who have an income greater than 10,000 USD/month and the least amount from people who have an income less than 5,000 USD/Month. This holds true across all cities, and on average, across all the cities, Yellow Cab attracts more customers from all income groups than Pink Cab.

Summary

<u>Seasonality</u>-There is some seasonality in the number of customers and profit made for each company. It seems that the total profit and number of customers for each company is higher in the winter season. One key thing to notice is that the total profit and number of customers is substantially higher year-round across all 3 years for Yellow Company than it is for Pink Company.

<u>Profit Margin</u> - While the average yearly profit margin for both companies is uniform respectively, the average monthly profit margin varies a lot more. Across all 3 years, and all the months, Yellow Company has a higher average profit margin across all transactions than Pink Company.

<u>City wise Reach</u> - For Yellow Company, they on average have more taxis requested and generate more profit in all cities. In addition, Yellow Company seems to attract more customers than Pink Company in cities such as NY, LA, DC, Chicago, and Boston, which are amongst the cities with the highest amount of users. The only city where Pink Company attracts more customers is San Diego, which also has a relatively smaller amount of users.

<u>Gender wise Reach -</u> For both companies, there seems to be a higher number of males requesting taxis than females. In addition, For both genders, Yellow Cab has a higher outreach than Pink Cab. Even across all cities, Yellow Cab remains the dominant choice for both genders, with the only exception being San Diego, where customers of both genders request slightly more taxis from Pink Company than Yellow Company.

Income wise Reach - For both companies, there seems to be an income bias towards customers with highly monthly incomes, who tend to ride more than customers with lower monthly incomes. This is true across all cities as well, where users with lower incomes tend to request a less number of taxis than users with a higher income. In addition, it seems that across all income groups and a majority of cities, Yellow Company attracts more customers than Pink Company. Pink Company only attracts more customers than Yellow Company in San Diego, and with customers who make more than 10,000 USD Monthly.



Recommendation

Yellow Company generates more revenue and more profit than Pink Company, and has a higher outreach of customers from various demographics and various cities than Pink Company. Based on this information, I would recommend to Invest in Yellow Company



Thank You

