



Data Glacier

Your Deep Learning Partner

Exploratory Data Analysis

G2M Cab Investment Case Study

21-June-2024

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Executive Summary

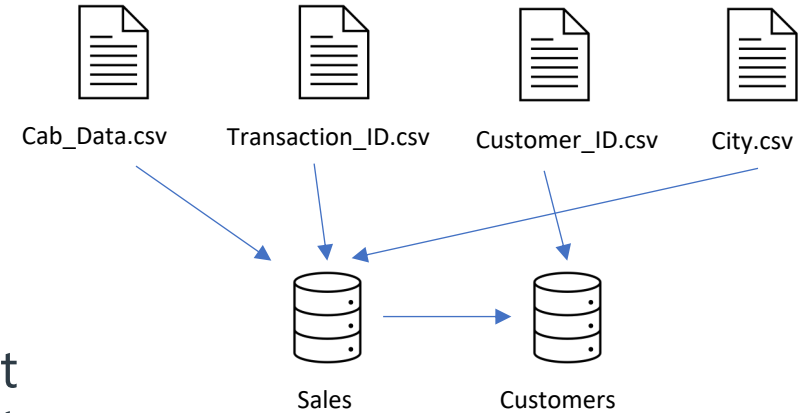
- XYZ is a private firm in US. Due to remarkable growth in the Cab Industry in last few years and multiple key players in the market, it is planning for an investment in Cab industry.
- Go-to-Market(G2M) strategy to enter the market.
- *Problem Statement:* Thoroughly understand the market dynamics before making a final investment decision.
- *Objective:* Provide actionable insights to assist XYZ firm in identifying the most suitable company for investment.

Approach

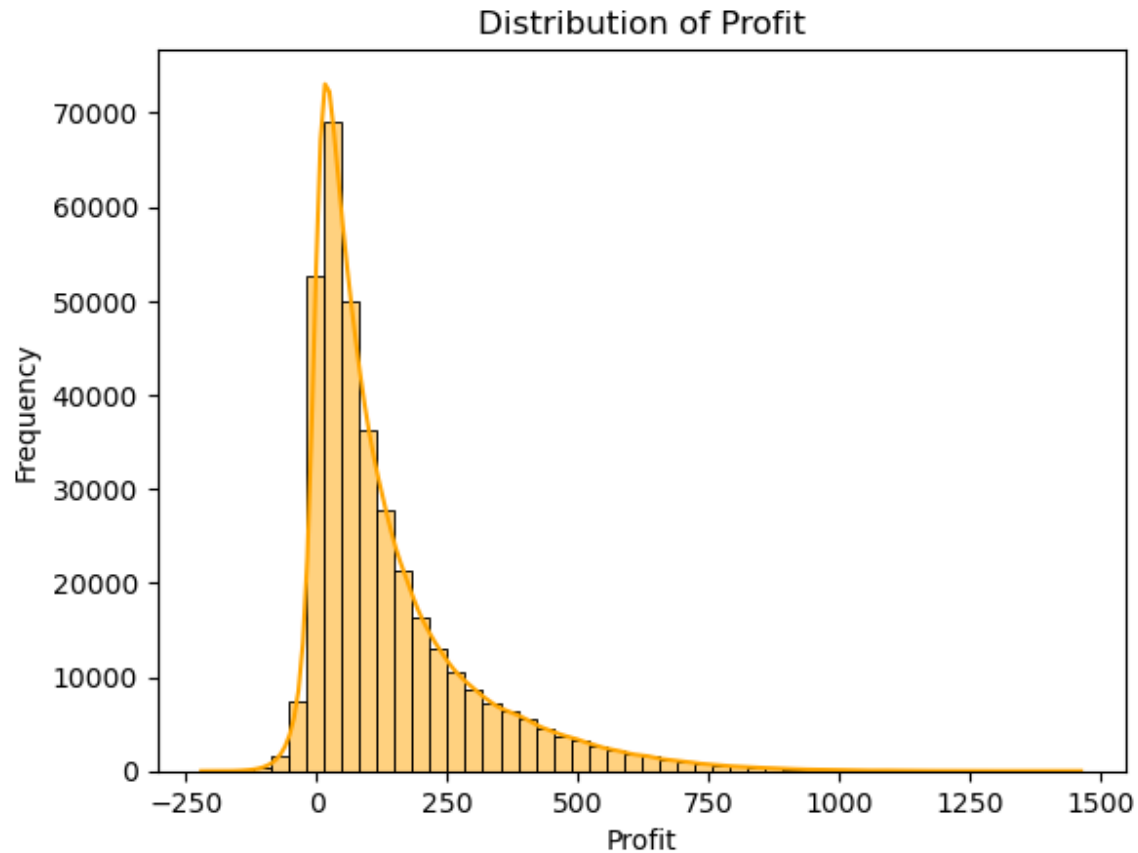
- Data Analysis: An in-depth analysis of provided datasets to uncover trends, patterns, and key metrics relevant to the cab industry.
- Visualizations: Clear and meaningful visualizations that illustrate findings and support our analysis.
- Actionable Insights: Analyze actionable insights and recommendations to guide XYZ in identifying most suitable company for investment.
- Presentation: Interactive presentation to XYZ's Executive team, highlighting our analysis, visualizations, and strategic recommendations.

Dataset Description

- Two datasets: Sales and Customers
- Time period: 2016-01-31 to 2018-12-31
- Outliers are present in Sales dataset and Customers dataset for Price_Charged feature which impacts the Cost and Profit analysis but since the rides are taking long journeys they are not treated as outliers.
- Defined new features for both Sales and Customers datasets for Profit-wise and Income-wise analysis respectively.
- One assumption is that one customer is not on the same company cab ride at the same duration of the day.

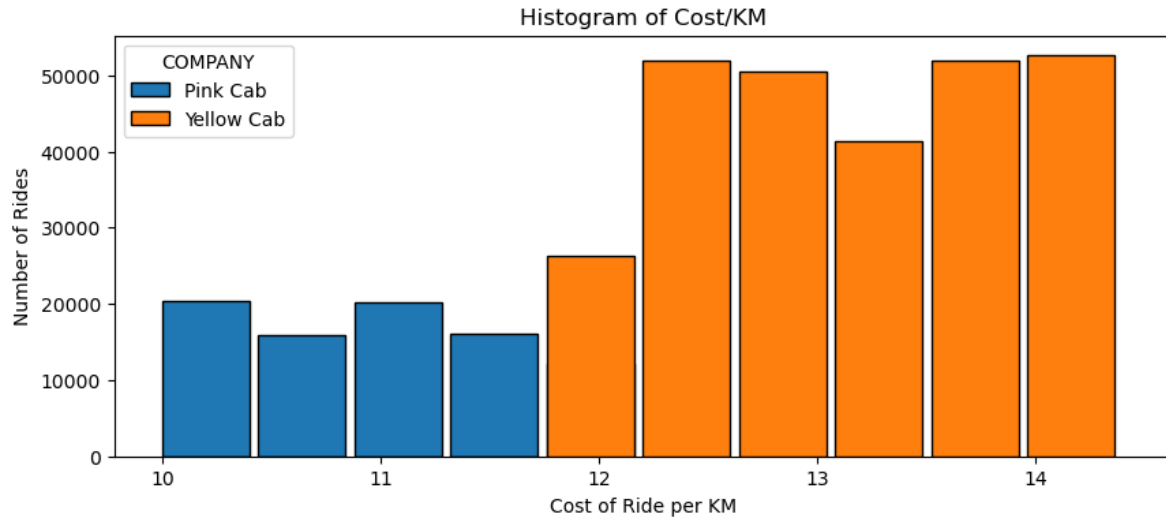


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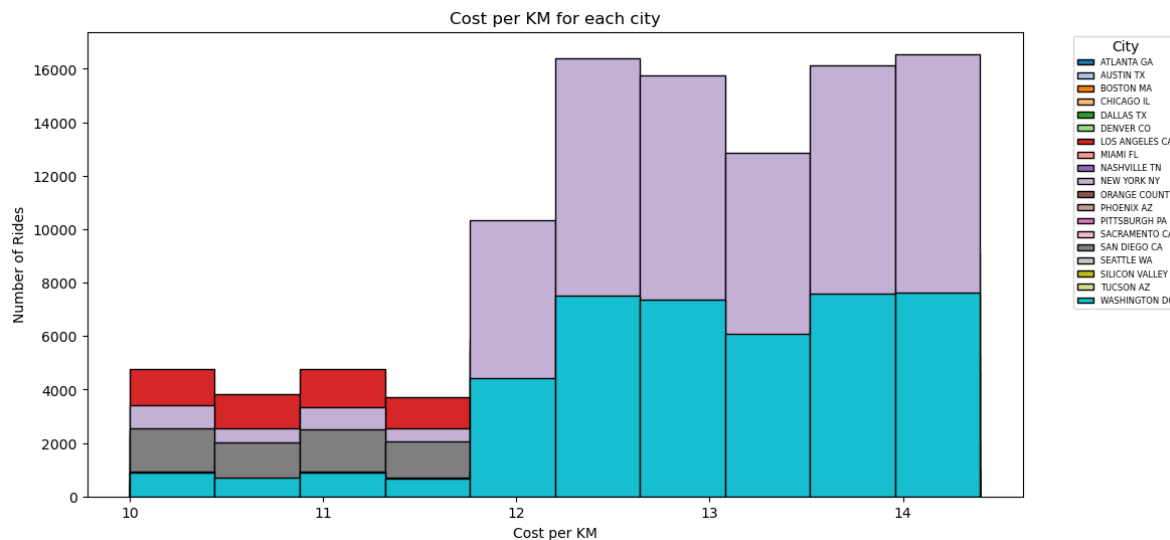


- From the left histogram plot we can notice that the mean profit in the cab business for the period 2016-2018 is around 150 which shows that cab business is good and worth investing into in this market.

EDA: Sales-wise Analysis

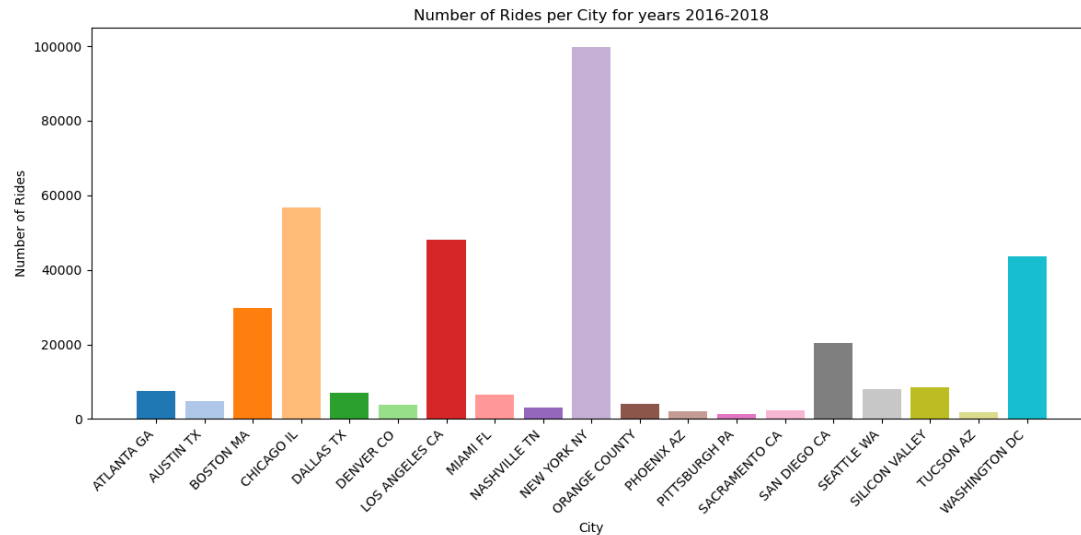


- The first histogram of Cost per KM of ride shows that Yellow cabs have higher Cost/KM rate but not very high as compared to the Pink cabs.

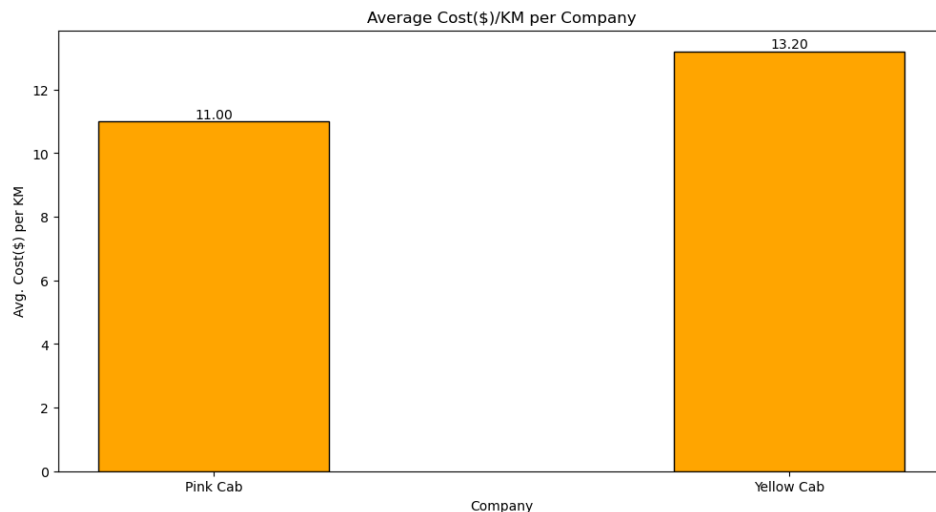


- The below bar char shows the Cost per KM in various cities. It justifies that Washington DC and New York NY has the highest Cost per KM rate and number of rides for both of the cab companies.

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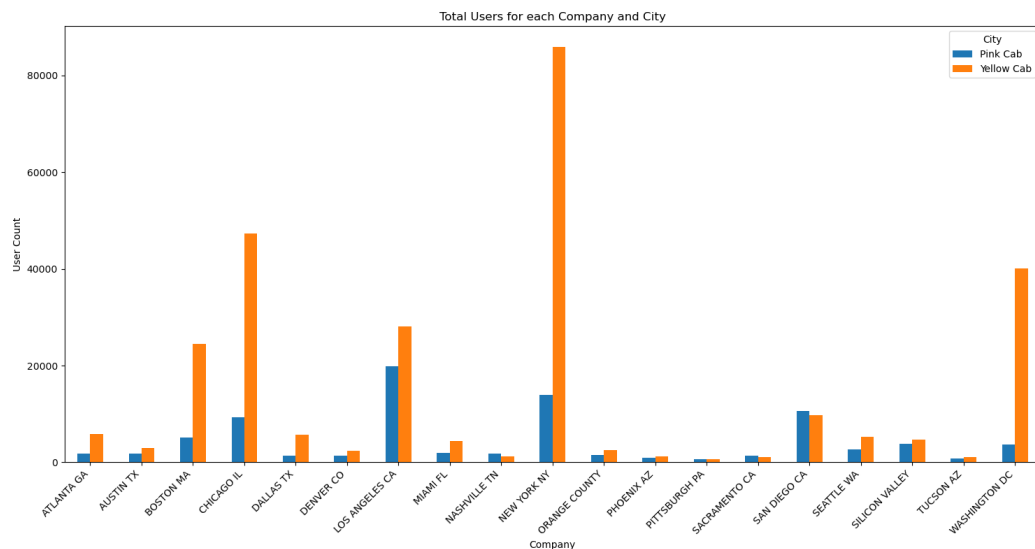
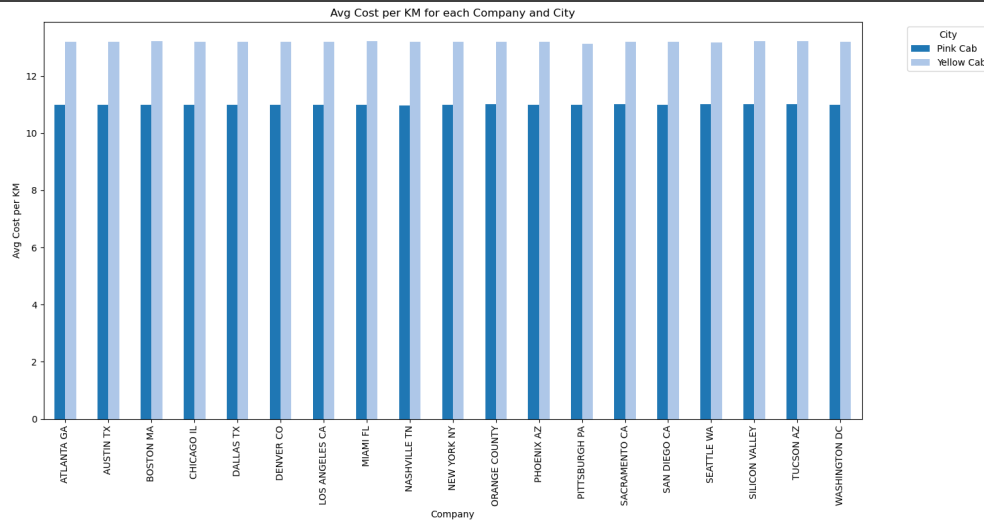


- As we dive into city-wise analysis, we also identified that the number of rides were significantly higher in New York NY state and other cities Boston, Chicago, Los Angeles and Washington DC were among other cities where the number of rides were high and growing.



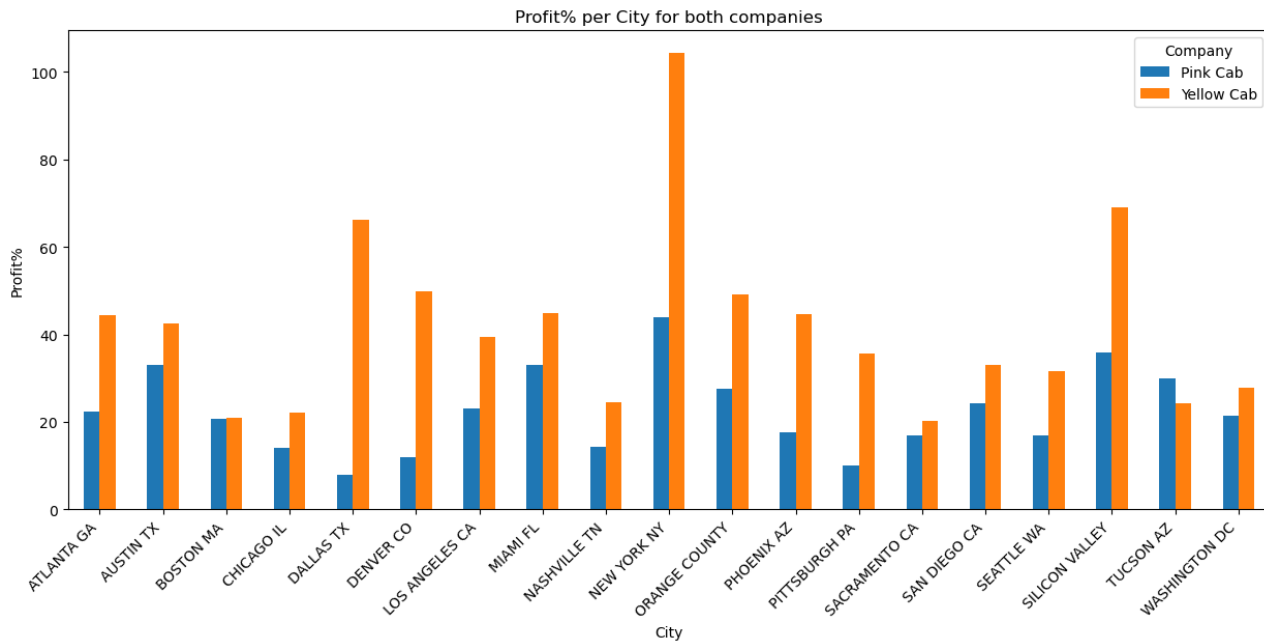
- As mentioned earlier, the Yellow cabs have higher Cost/KM rate with mean \$13.20 and Pink cabs have slightly lower rate with mean \$11.00.

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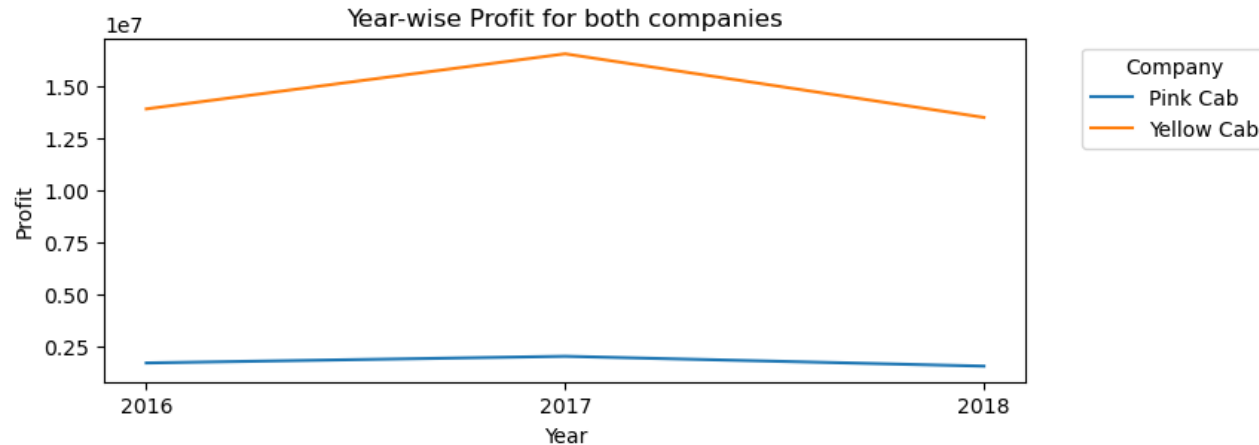
- From the above bar chart, we finalized that Yellow cabs indeed has higher average cost/KM rate for each city and Pink cabs have slightly lower cost/KM rate.
- As per the above bar chart, we can see that number of customers are significantly higher in metropolitan cities like New York, Washington DC, Chicago and Los Angeles. It is also noticeable that Yellow cabs have captured the market well with more number of customers riding with them, however there are few exceptions such as cities Sacramento CA, San Diego CA and Nashville TN.

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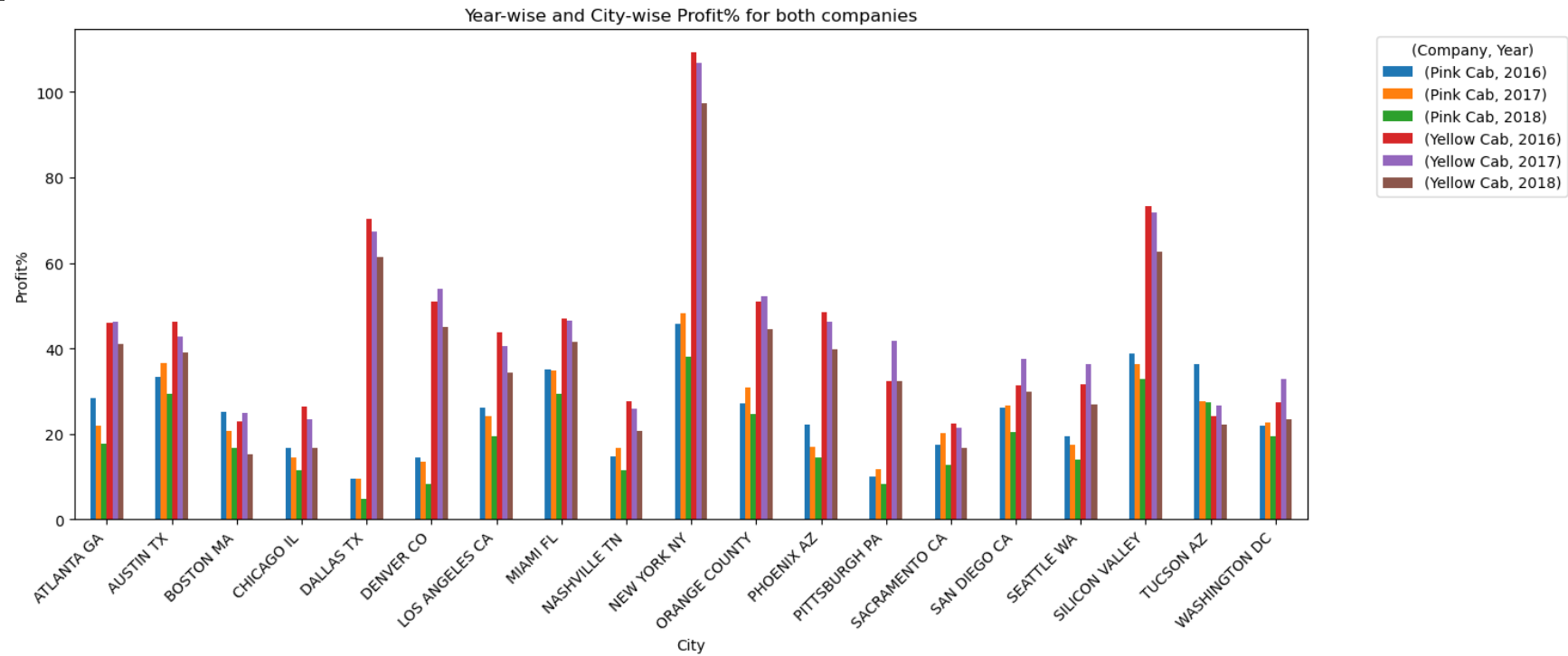
- Even though number of customers are very high in metropolitans, we can see that profit share is distributed among all cities with metropolitans giving best returns. Also, Yellow cabs are more profiting from cab rides as we can notice from the plot.

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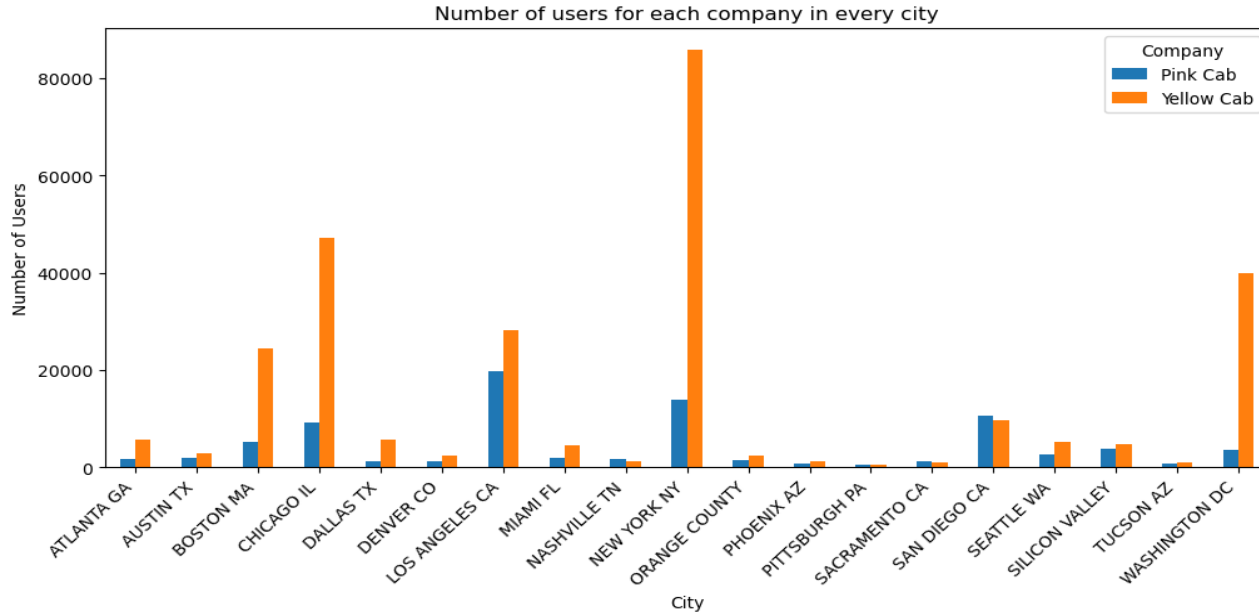
- As we dwelve deep into the profit share, from the above plot we can analyze that yea-r wise profit for Yellow cabs are significantly higher than Pink cabs. But there is a dip in the profit after 2017 for both the cab companies which might be due to market situations.

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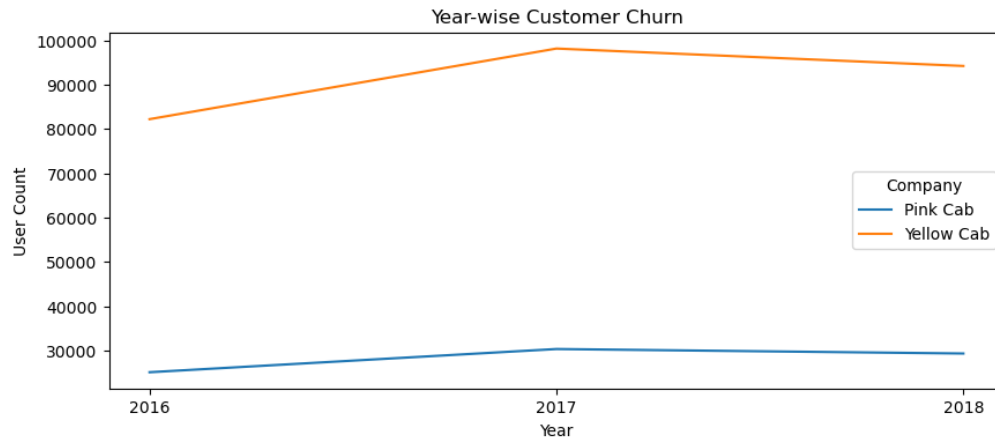


- The above plot shows the % profit gain for each year in each city for both the cab companies. We can notice that Yellow cabs profit is going down from 2017 to 2018 at higher rate than Pink cabs but still the market is very well captured by the Yellow cabs which suggest with some business strategies the profit can be gained and Yellow cabs can be potential company to invest into.

EDA: Customer-wise Analysis

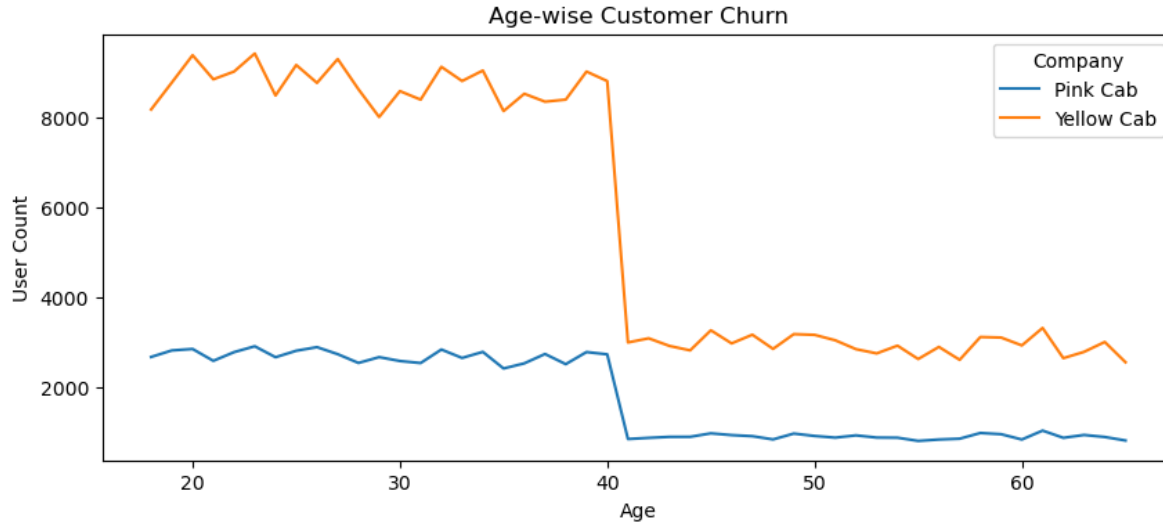


- From the above bar plot, it can be noticed that Yellow cabs capture the market by more number of users especially in the metropolitans.

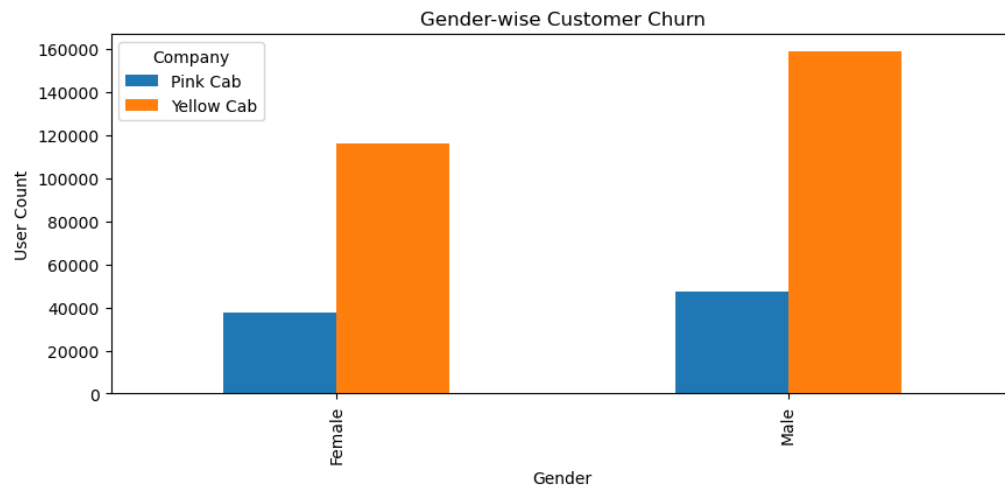


- The customer segment of both the companies are quite different with Yellow cabs having almost 3 times the number of customers. The higher market capture of Yellow cabs suggest it is worth investing into.

EDA: Customer-wise Analysis

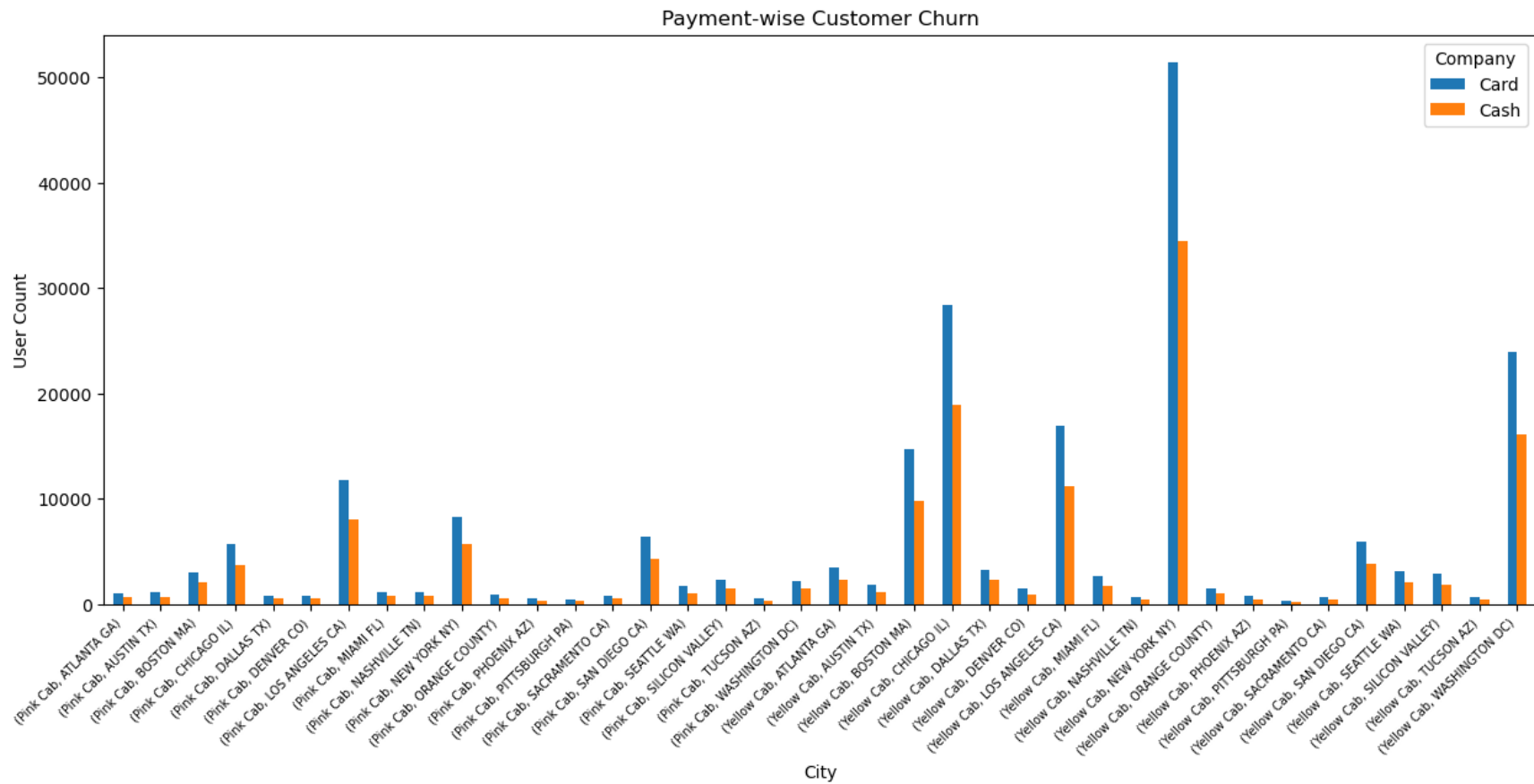


- From the above line chart, we can notice that both the companies have similar age group range travelling but there is downfall of number of customers after age 40. Yellow cabs have more diversity in the age groups as seen by various fluctuations in the age groups from 18 to 40.



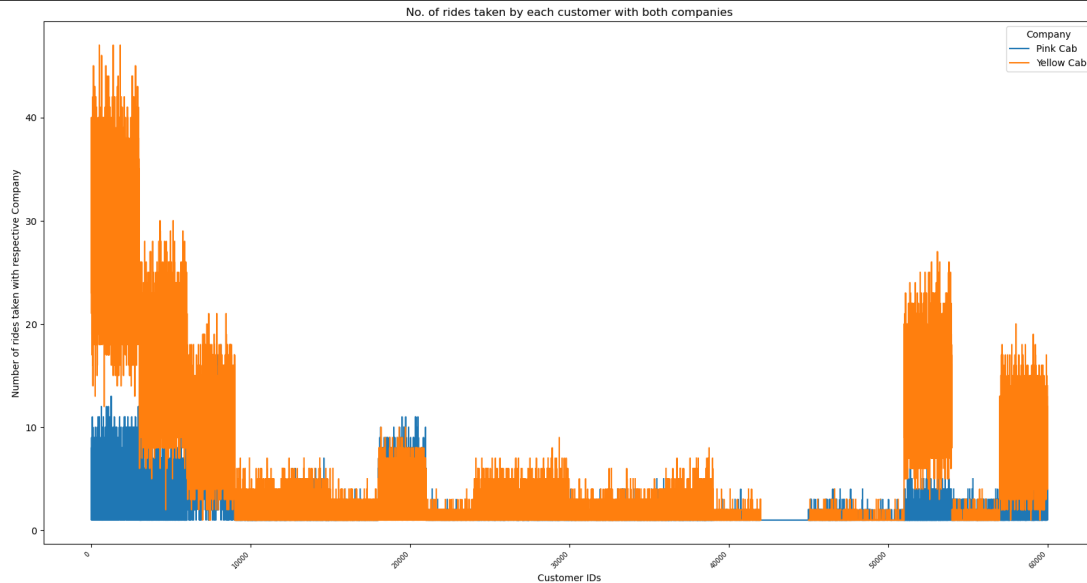
- Male cab riders are significantly more compared to Female riders in the case of Yellow cabs but not in case of Pink cab. For pink cabs we can notice the count is pretty much similar.

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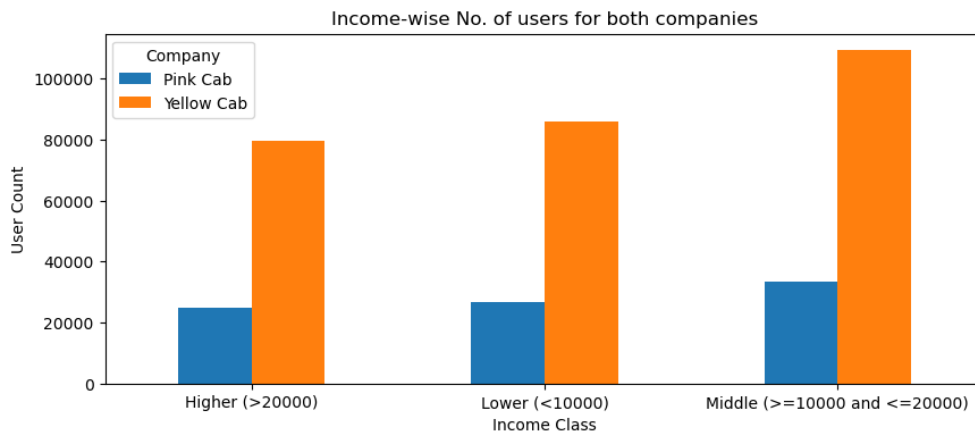


- As we analyze the Payment-wise Customer churn plot, we notice that there are higher number of card payments for both Pink and Yellow cab customers in all cities

EDA: Customer-wise Analysis

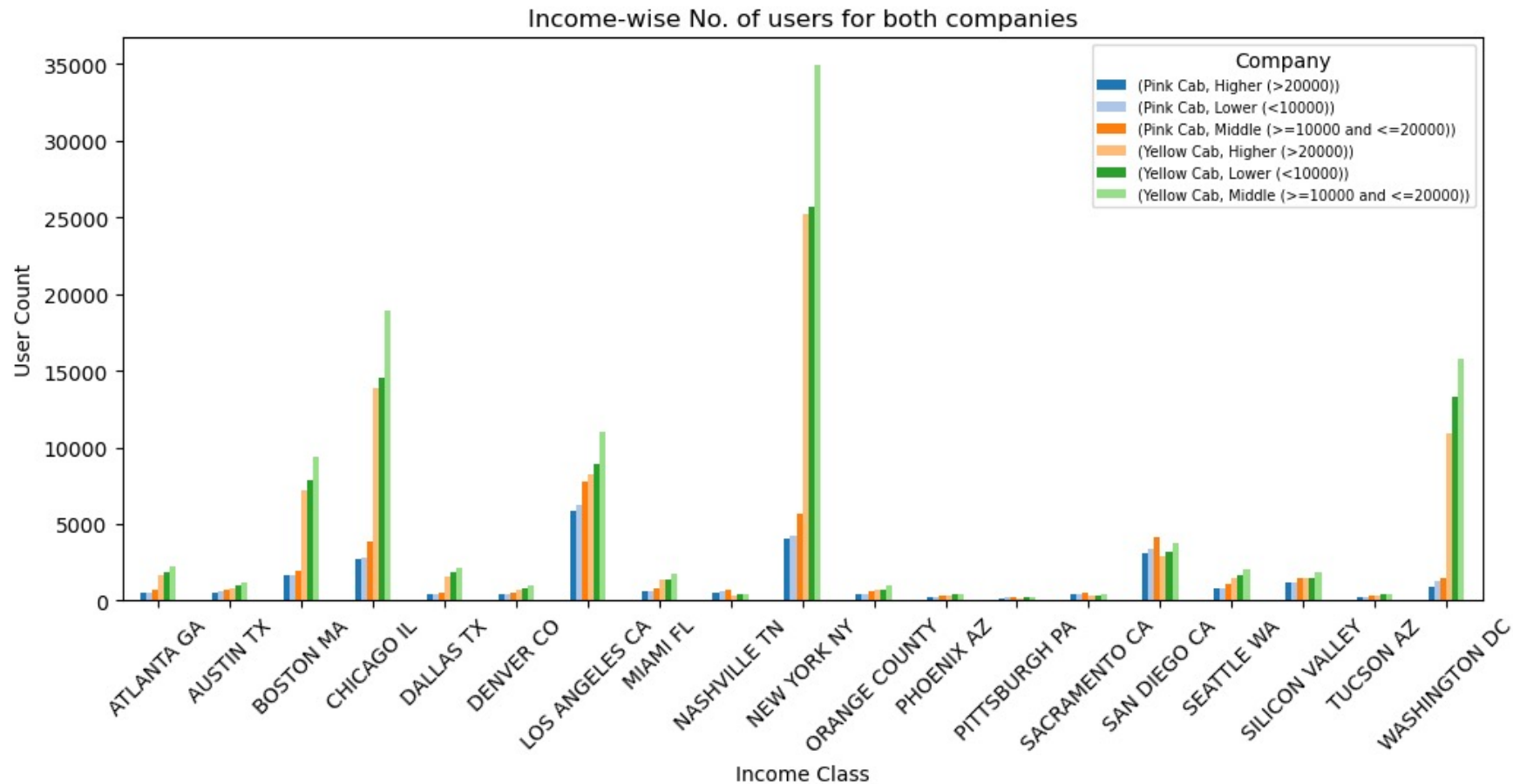


- From above line plot we can notice that customers are using both Yellow and Pink cabs and are preferring to use Yellow cabs more for most of the times.



- This bar plot shows that in Pink cabs the number of customers are pretty similar from all income classes. However, in case of Yellow cabs the number of middle-class customers are quite high which again shows that Yellow cabs are more potential investment option to make profits in future.

EDA: Customer-wise Analysis



- As we can notice in this chart the Yellow cabs have higher number of users as well as highest number of middle-class customers which signifies Yellow cabs to be the better option.

Recommendation

- In both the Sales-wise and Customer-wise analysis we understood that Yellow cab outperforms Pink cab company in almost all critical metrics.
- Hence, after thorough evaluation on both the company's performances in the market, the Yellow cab company suits as an ideal choice for investment to make higher profits.
- **Yellow cab is recommended.**

END.

Thank You