

XYZ Investment Decision in Cab Industry

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Virtual Internship - 2023



Data Glacier

Your Deep Learning Partner

Background

The world of transportation has seen remarkable growth in the Cab Industry over the last few years, with multiple key players emerging in the market. In this landscape, XYZ, a private equity firm based in the United States, is faced with a strategic decision—to make an investment in the Cab industry. XYZ's objective is to capitalize on the opportunities presented by this burgeoning industry while ensuring a prudent investment strategy.

Objective

The primary objective of this analysis is to provide actionable insights that will guide XYZ in identifying the right company to invest in within the Cab industry. To achieve this goal, we have undertaken a comprehensive examination of multiple datasets and conducted an in-depth analysis to make an informed recommendation.

The Analysis

Data Understanding: We have carefully examined the available datasets to gain a deep understanding of the information at our disposal. This includes studying the features, timeframe of the data, and the total volume of data points.

Forecasting Profit and Number of Rides: To assess the profitability and performance of cab companies, we have engaged in forecasting profit and the number of rides for each cab type.

Finding the Most Profitable Cab Company: By evaluating key metrics such as profitability and customer reach, we aim to identify which cab company stands out as the most profitable.

Recommendations for Investment: Based on our analysis, we will present clear and data-driven recommendations regarding which company represents a better investment opportunity for XYZ.

Assumptions

Handling Outliers

The presence of outliers in the "Price Charged" feature, which we have not treated as outliers due to unavailability of trip duration details.

Ride Profitability Calc.

Calculations of ride profitability were made keeping other factors constant, with a focus on the "Price Charged" and "Cost of Trip" features.

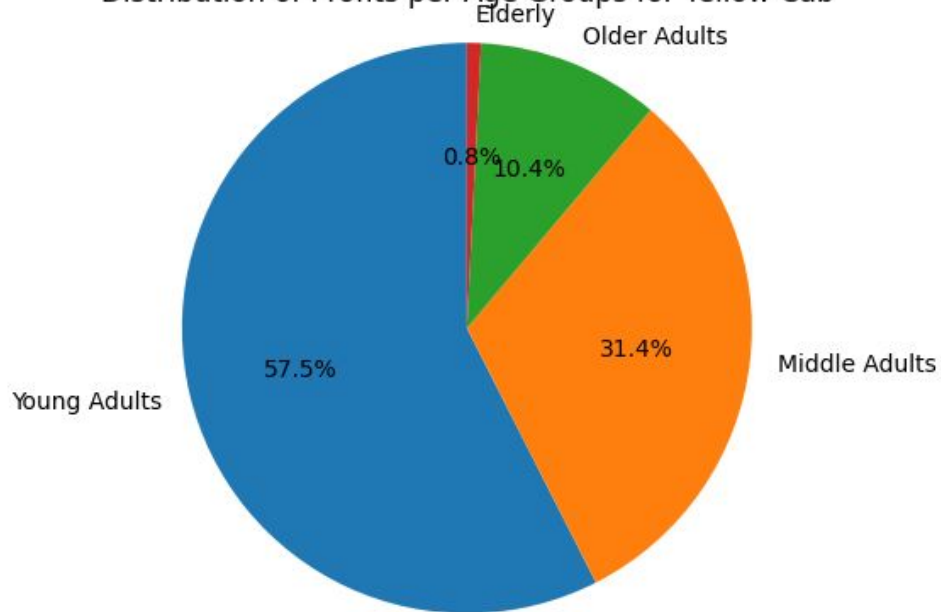
City User Count

The "Users" feature in the city dataset is considered as the number of cab users in the city, including users of both Yellow and Pink cabs.

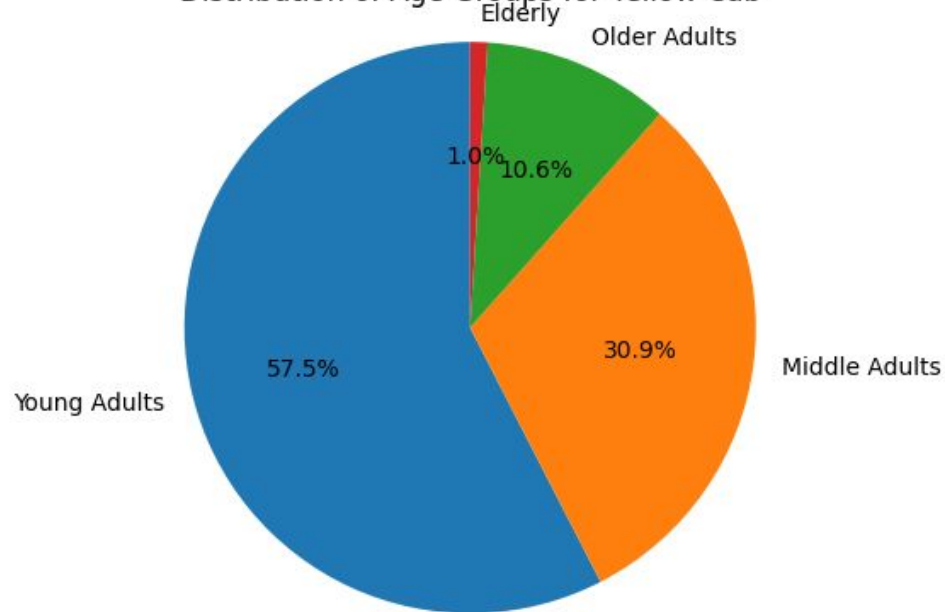
Age Group Distribution (Yellow Cab)

- ❖ Yellow Cab's customer base is evenly distributed across age groups, appealing to a wide range of demographics, but primarily towards younger audiences.

Distribution of Profits per Age Groups for Yellow Cab



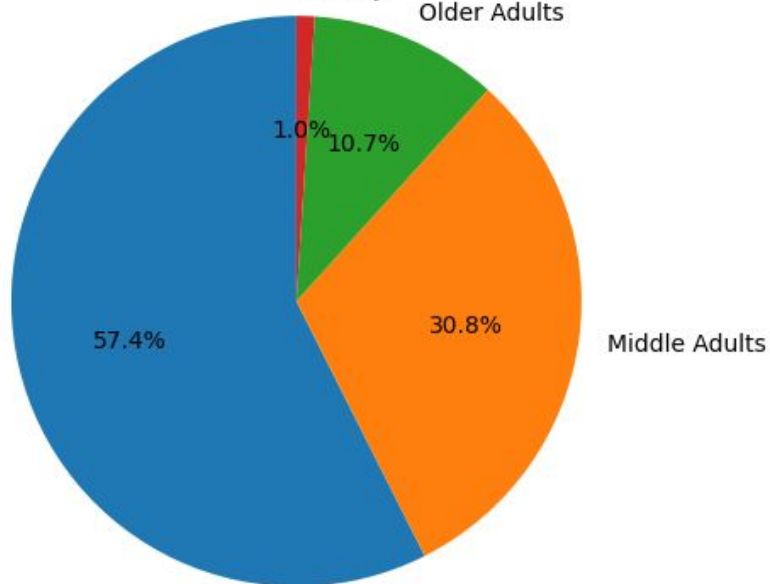
Distribution of Age Groups for Yellow Cab



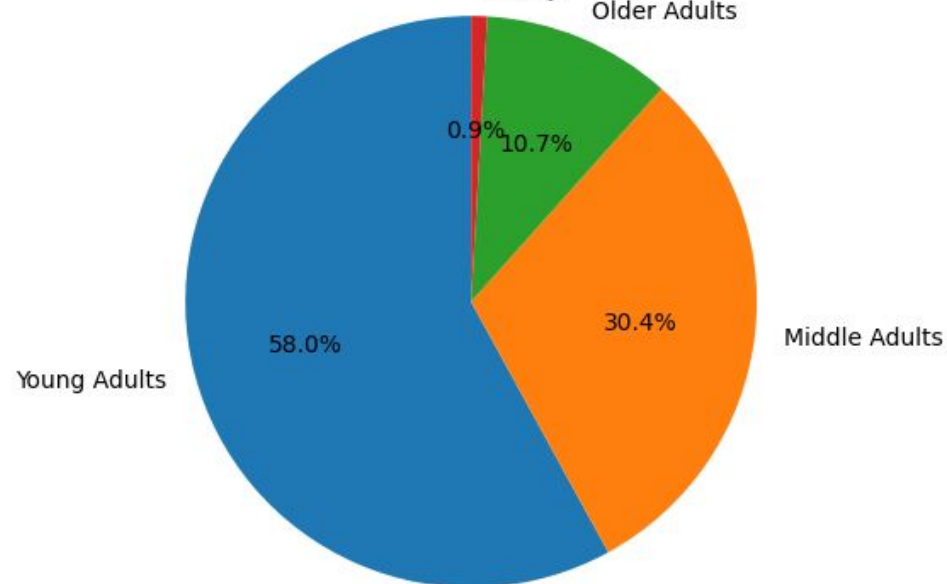
Age Group Distribution (Pink Cab)

- ❖ Pink Cab primarily attracts customers in the 26-35 age group, signifying a strong presence among young adults.

Distribution of Age Groups for Pink Cab



Distribution of Profits per Age Groups for Pink Cab



Hypothesis Testing

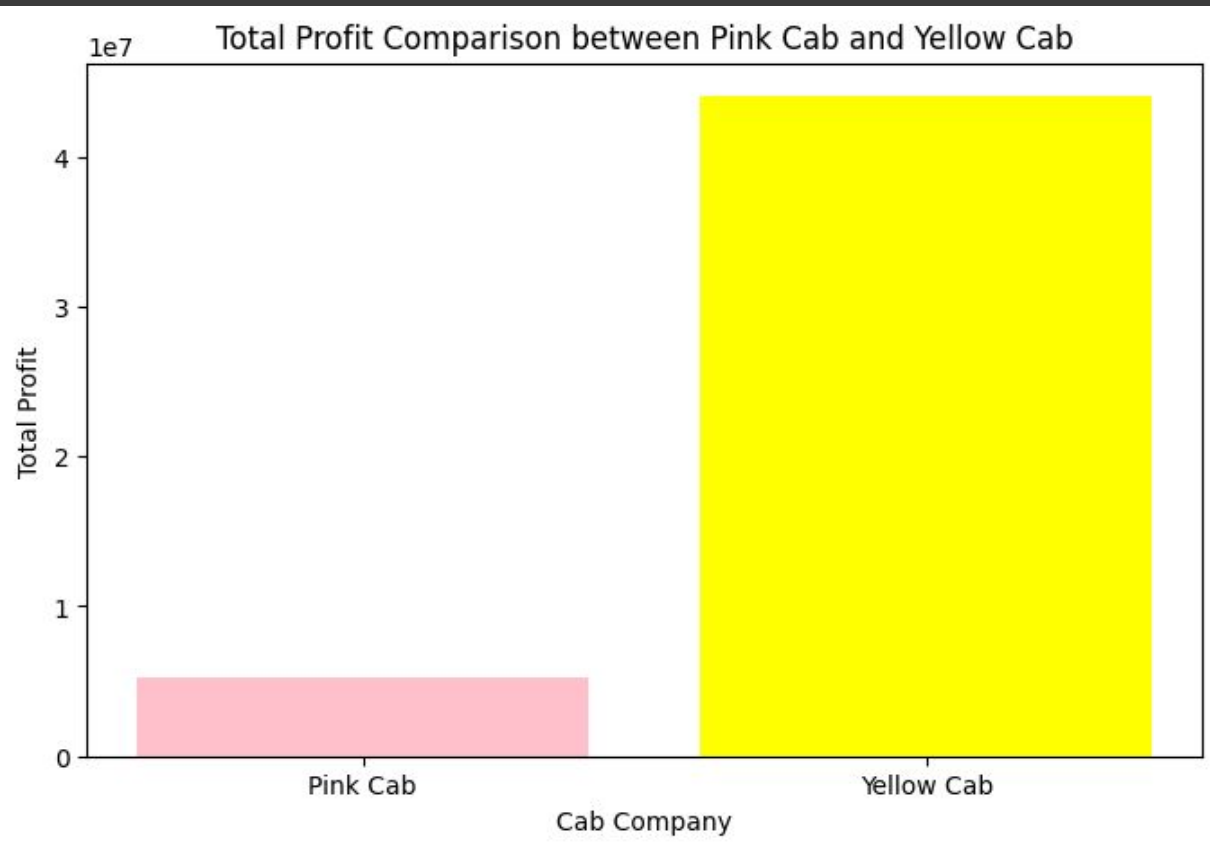
In our quest to uncover insights from the data, we formulated a hypothesis for testing. Our hypothesis is as follows:

“The average profit per ride for Yellow Cab is higher than the average profit per ride for Pink Cab.”

To test this hypothesis, we conducted a statistical analysis on the profit data for both cab companies. Our analysis involved comparing the means of profit per ride between Pink Cab and Yellow Cab.

Stay tuned as we reveal the results of this hypothesis test and its implications on our investment recommendation.

Company Comparison



The bar chart to the left provides a comparison of the total profit generated by Pink Cab and Yellow Cab during the specified time period. The chart highlights significant differences in profitability between the two cab companies.

Recommendations

Our analysis has provided valuable insights into the performance of Yellow Cab and Pink Cab within the cab industry.

Based on the data and key metrics, we recommend that **XYZ** invest in **Yellow Cab**.

Reasons for Recommendation:

Higher Profitability: Yellow Cab has nearly three times the profit of pink cab possibly because they have been able to reach a younger audience more efficiently. The Younger Audience needs more transportation to places such as sports, school, work, etc. while they prepare to purchase a vehicle of their own.

Broader Customer Reach: As mentioned, Yellow Cab has been able to reach a younger demographic much better than pink cab.

Conclusion

Findings

In conclusion, our analysis of the cab industry data has revealed several critical findings:

Yellow cab is not only more profitable, but is also able to reach younger audiences better which has proven to be a better-long term customer.

After careful consideration, we recommend that XYZ invest in Yellow Cab.

This decision is based on solid data-driven insights, ensuring a prudent investment strategy for XYZ.

We believe that this investment holds great potential for XYZ in the dynamic cab industry landscape.

Thank you!