



Data Glacier

Your Deep Learning Partner

Exploratory Data Analysis

G2M(cab industry) case study

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8/19/24

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EDA Summary

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Executive Summary –G2M(cab industry) case study

Background:

XYZ, a U.S.-based private equity firm, is considering an investment in the rapidly growing cab industry.

Objective:

To identify the most promising cab company for investment based on data-driven insights.

Approach:

The analysis focused on:

- 1. Profitability & Market Share** - Identifying top-performing cab companies.
- 2. Holiday Impact** - Evaluating company performance during holidays.
- 3. Customer Demographics** - Understanding usage patterns across different demographic segments.
- 4. Seasonal Trends** - Analyzing company performance across different seasons.
- 5. Population Growth & Cab Usage** - Exploring growth opportunities in various cities.

Approach

MASTER_DATA DETAILS	
Details	Description
Number of Features	32 (including 10 derived features)
Timeframe of the Data	2016-01-31 to 2018-12-31
Total Data Points	497,913

DATASETS DETAILS							
Assumption	Transaction Data	Customer Data	City Data	Cab Company Data	Population Data	Weather Data	Holiday Data
1	All transactions are correctly recorded.	Customer demographic data is up-to-date and accurate.	Population figures are accurate for the analysis period.	Profit and trip data is accurately attributed to the respective cab companies.	Population growth rates are consistent across sources and years.	Weather conditions are correctly matched to travel dates in the transaction data.	All major holidays affecting cab usage are included.
2	The Profit per Trip is accurately calculated based on provided data.	Income categories are correctly classified.	Market share data reflects the true distribution of users among cities.	All trips within the period are included in the dataset.	The data covers all cities relevant to the cab companies.	Weather severity indices are accurately represented.	Holidays are correctly categorized (national, local).
3	Data represents all trips taken by both companies during the specified period.	Customer data covers all active users during the analysis period.	Data is comprehensive for all cities in which the cab companies operate.	Data accurately reflects the performance metrics of both cab companies.	Population figures are rounded to the nearest thousand for simplicity.	Data covers all relevant weather events during the analysis period.	The impact of holidays on cab usage is uniformly assumed across cities.

Master_Data Overview

Dataset Provided

- Transaction Data
- Customer Data
- City Data

External Sources

- Holiday Data
- Weather Data
- Population Data

Market Share Insights

G2M INSIGHT FOR CAB INVESTMENT FIRM (Profitability and Market Share Insights)

Pink Cab

Yellow Cab

2016

2017

2018

88.07M

Sum of Profit per Trip

176.88

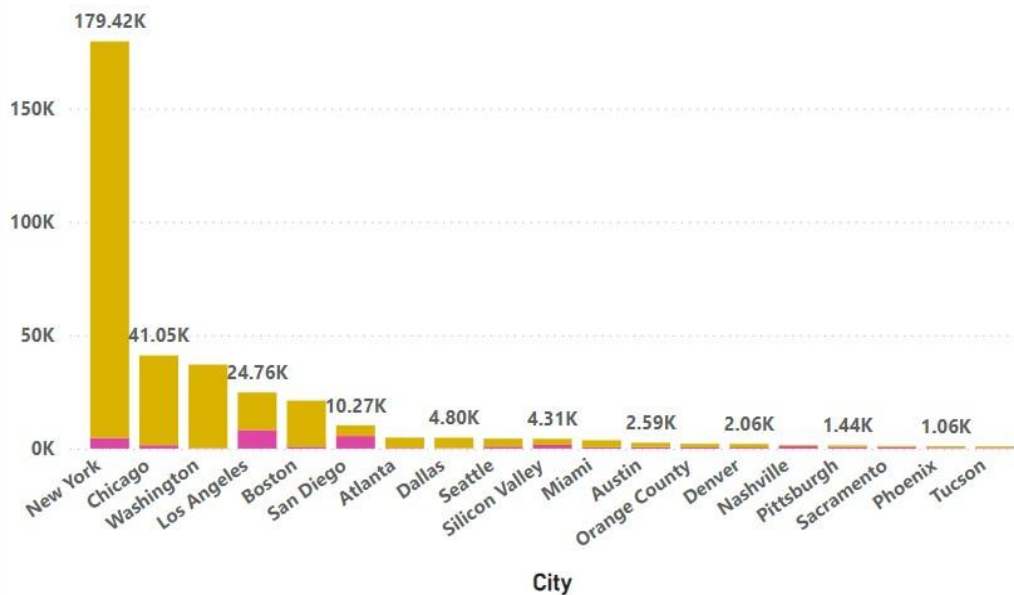
Average of Profit per Trip

11.24M

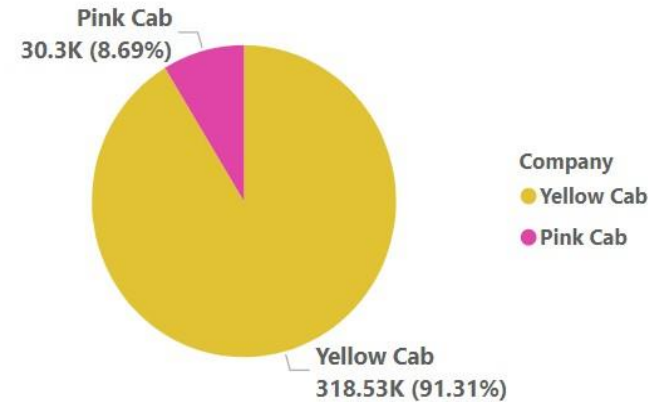
Sum of KM Travelled

Profit per Trip by City and Company

Company ● Pink Cab ● Yellow Cab

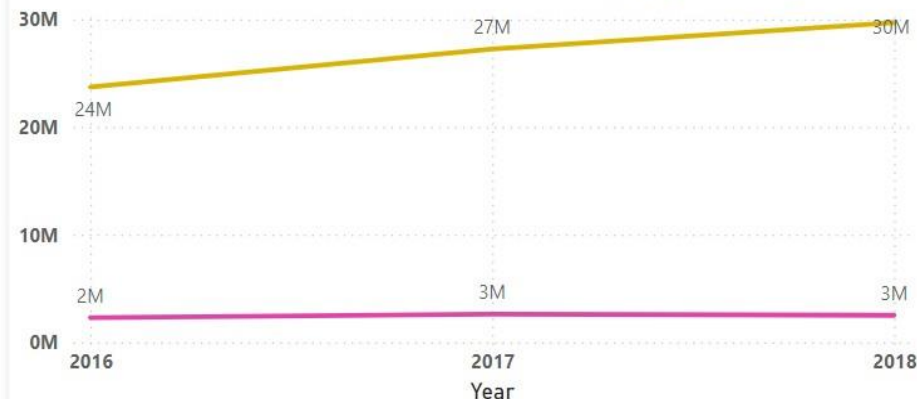


Aggregated Market Share by Company (2016-2018)



Yearly Profit Trend by Company

Company ● Pink Cab ● Yellow Cab

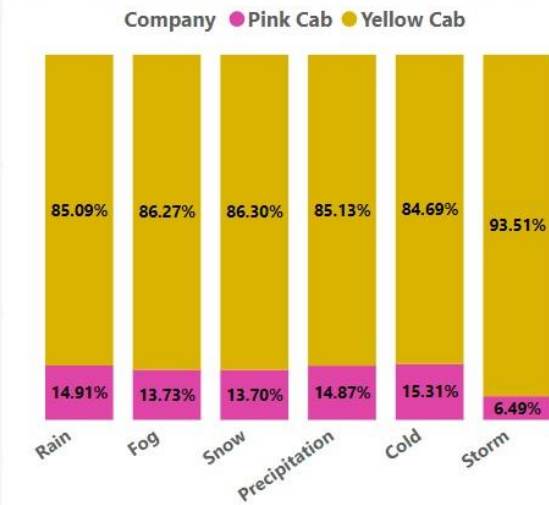


- These insights collectively point to **Yellow Cab** as the stronger and more profitable option for investment.
- The company's dominant market share, high profitability in key cities, and consistent profit growth make it an attractive choice for investors.

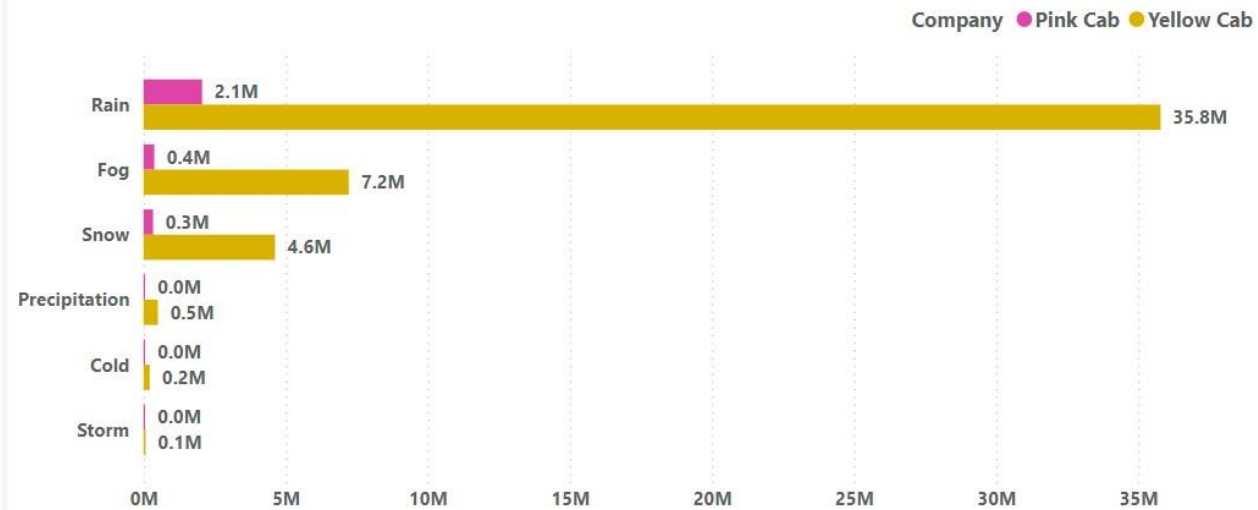
Weather Impact Insights

G2M INSIGHT FOR CAB INVESTMENT FIRM (Weather Impact Analysis)

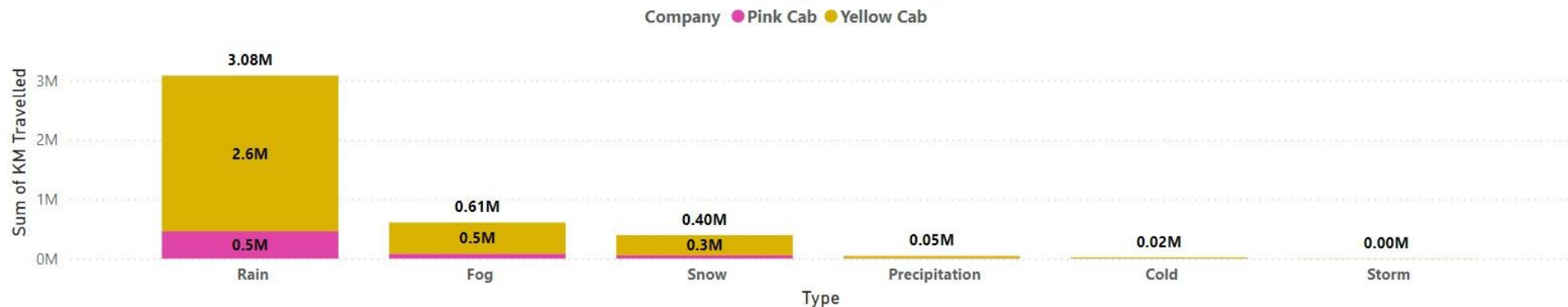
Percentage of Trips by Weather Condition and Com...



Profit per Trip by Type and Company



KM Travelled by Type and Company

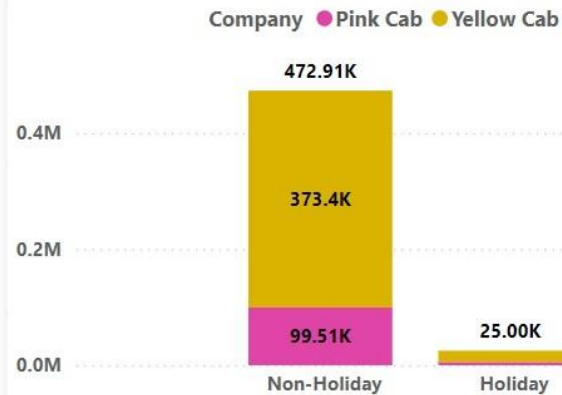


- XYZ should consider investing in Yellow Cab due to its strong performance in both profitable trips and total kilometers traveled across varying weather conditions.
- This resilience to weather variability makes Yellow Cab a safer and more profitable investment, particularly in regions prone to rain.

Holiday Impact Insights

G2M INSIGHT FOR CAB INVESTMENT FIRM (Holiday Impact Analysis)

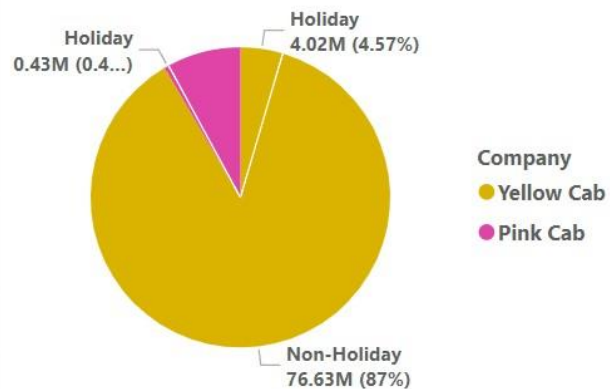
Number of Trips (Holiday vs. Non-Holiday)



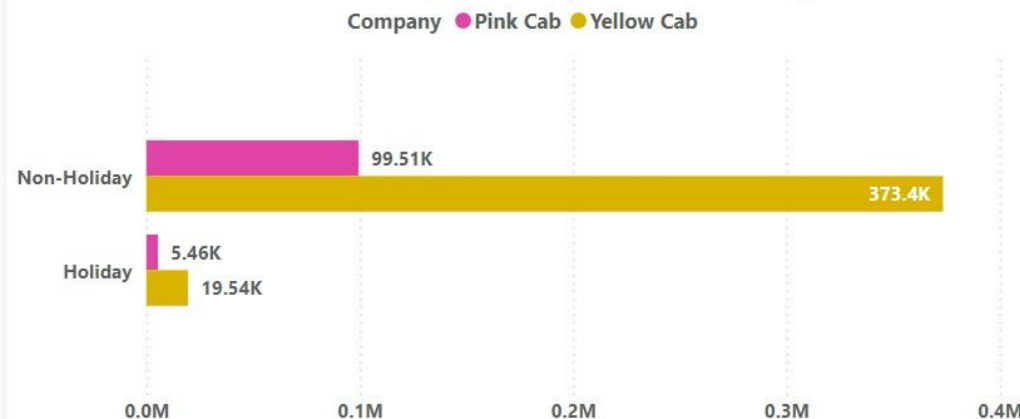
Profit per Trip



Total Profit



Number of Trips (Holiday vs. Non-Holiday)

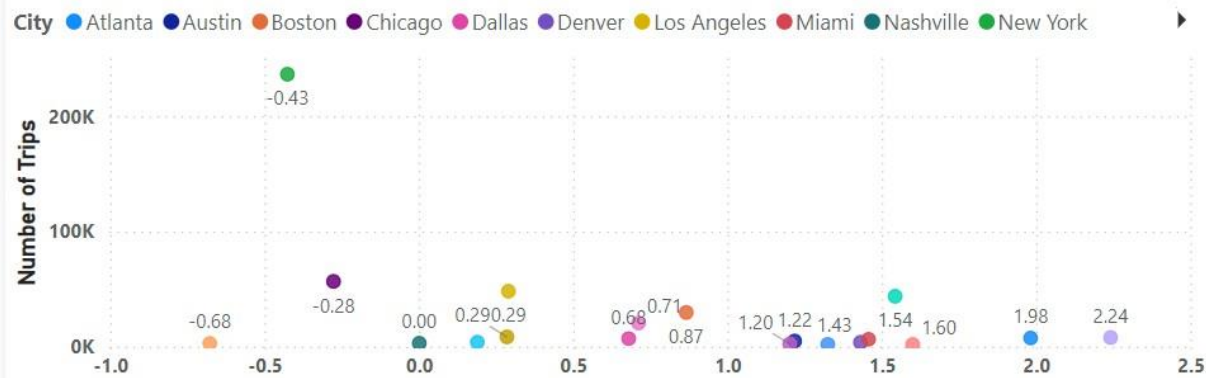


- XYZ should consider investing in Yellow Cab as it shows strong performance in both holiday and non-holiday periods.
- Yellow Cab has significantly higher trip volumes and profits during both holidays and non-holidays, demonstrating its robust market presence and consistent demand.

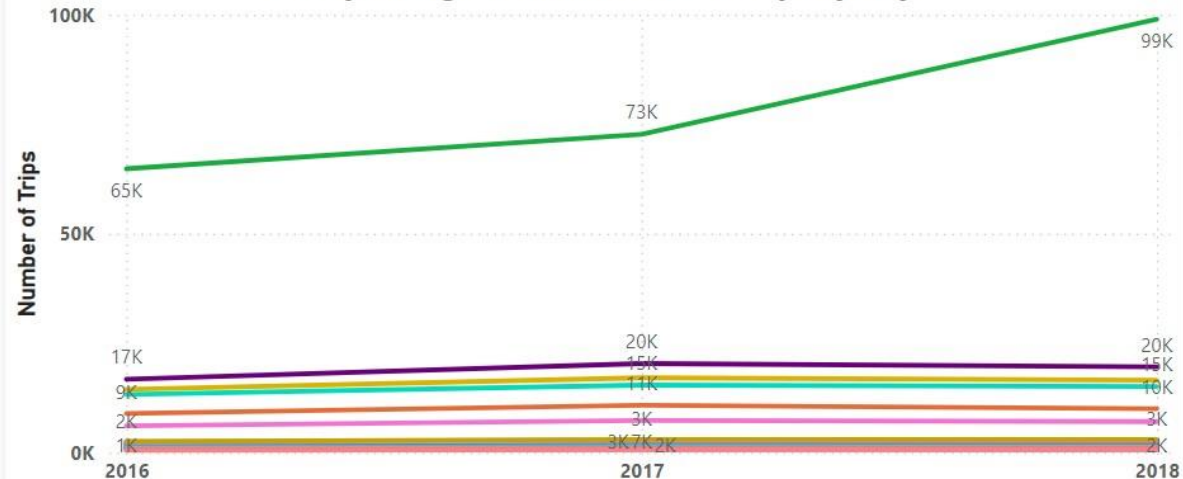
Population and Cab Usage Insights

G2M INSIGHT FOR CAB INVESTMENT FIRM (Population Growth & Cab Usage)

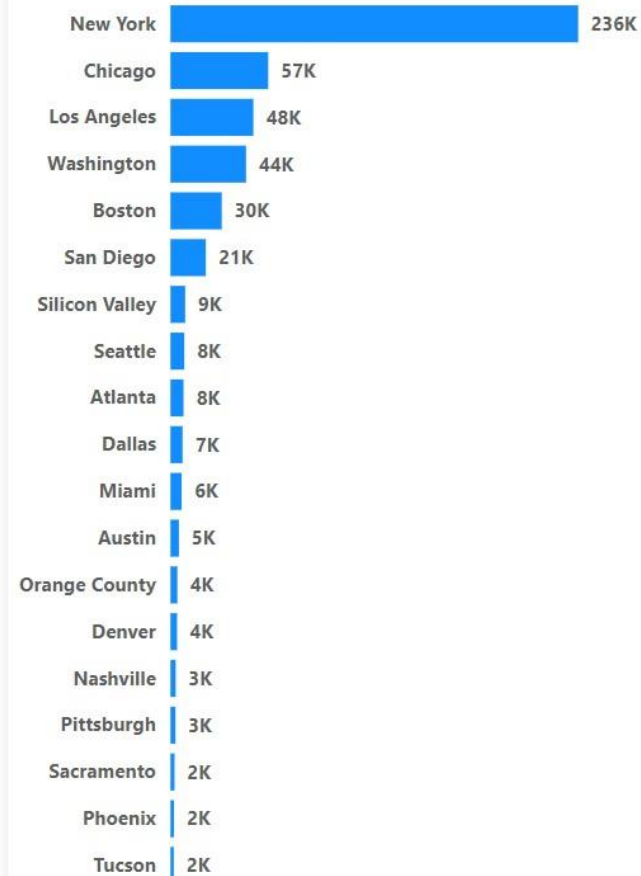
Relationship between Population Growth Rate and Number of Cab Trips by City



Yearly Change in Number of Cab Trips by City



Total Number of Cab Trips by City

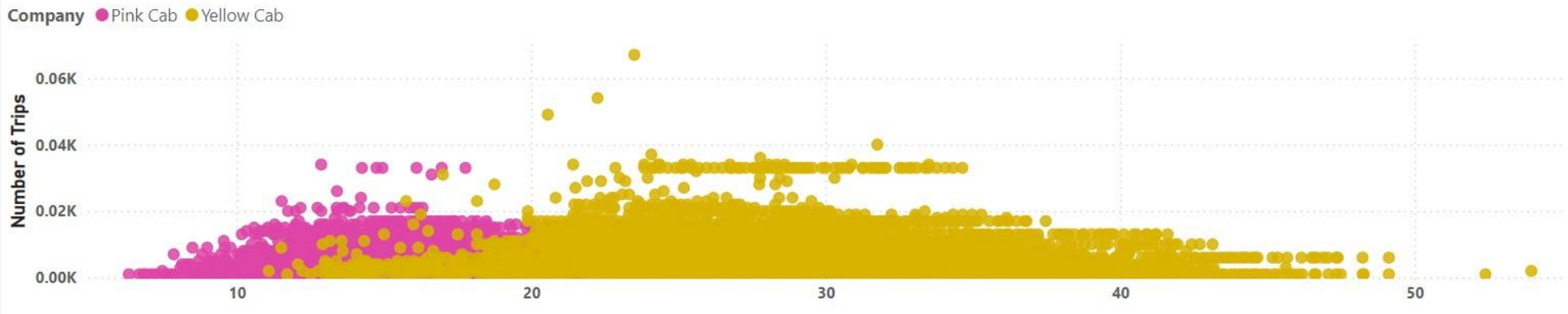


- Yellow Cab consistently leads in key metrics such as customer demographics, seasonal trends, and profitability across high-growth cities.
- Investing in Yellow Cab will likely offer the best return on investment.

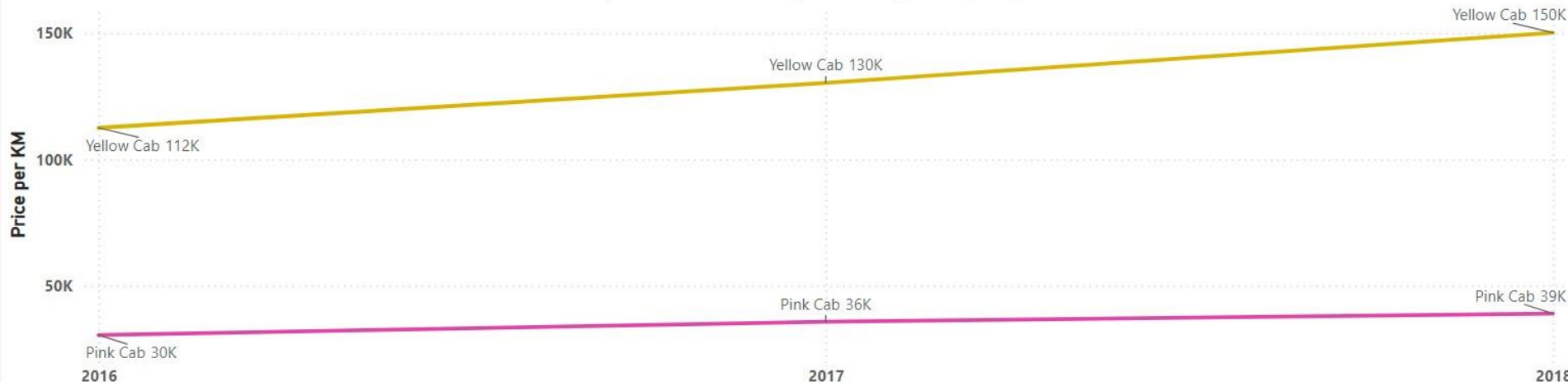
Price Sensitivity Analysis

G2M INSIGHT FOR CAB INVESTMENT FIRM (Price Sensitivity Analysis)

Price per KM vs. Number of Trips by Company



Yearly Trend of Price per KM by Company



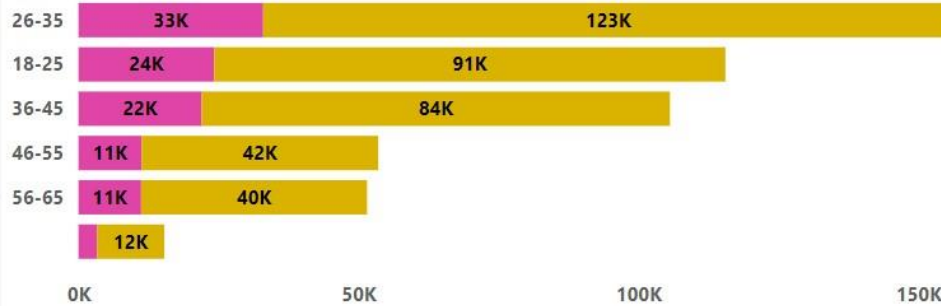
- WXY should Invest in Yellow Cab for its robust pricing power and profitability potential.
- This company aligns well with XYZ's objective to maximize returns on investment.

Customer Demographics Analysis

G2M INSIGHT FOR CAB INVESTMENT FIRM (Customer Demographics)

Trips by Age Group and Company

Company ● Pink Cab ● Yellow Cab



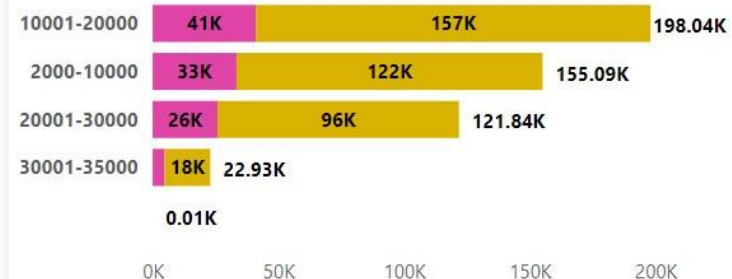
Trips by Gender and Company

Company ● Pink Cab ● Yellow Cab



Trips by Income Category and Company

Company ● Pink Cab ● Yellow Cab



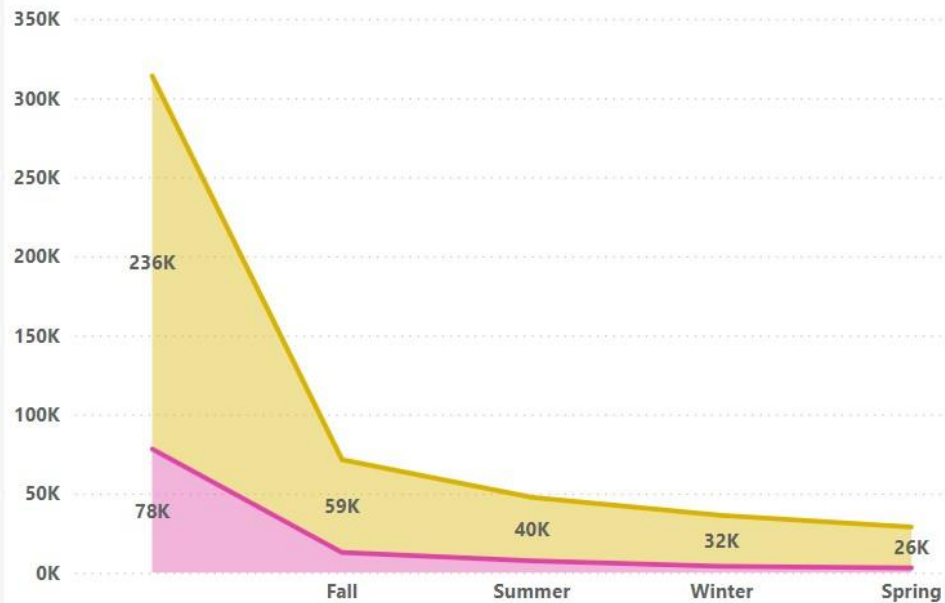
- Yellow Cab consistently outperforms Pink Cab across key demographic groups, including age, gender, and income categories.
- Specifically, Yellow Cab has a significantly higher number of trips in all age groups, and a strong presence across different income levels.

Seasonal trends

G2M INSIGHT FOR CAB INVESTMENT FIRM (Seasonal Trends)

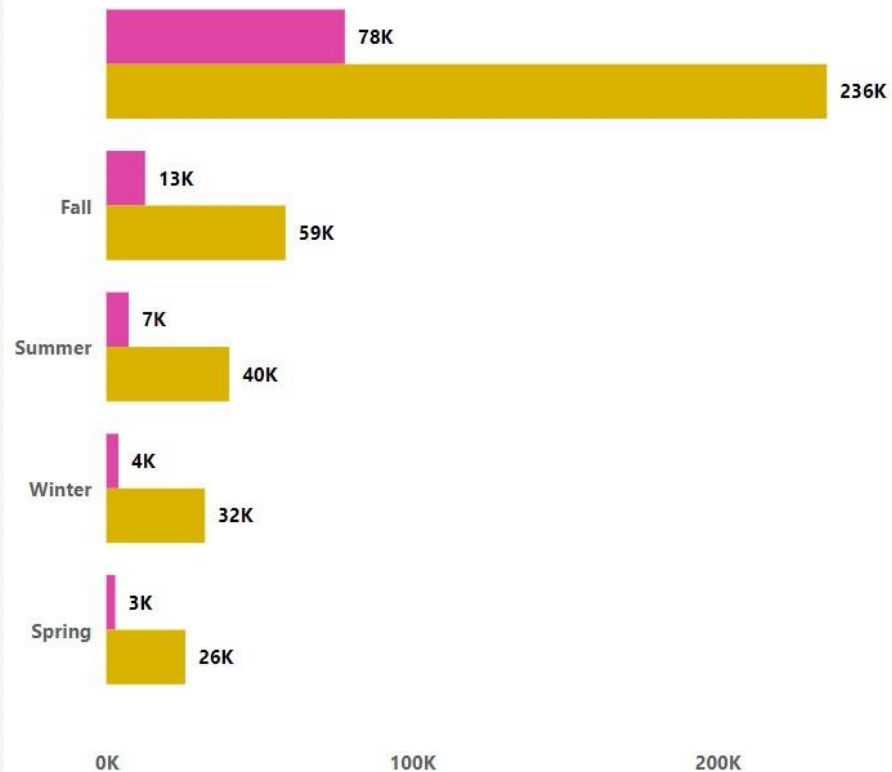
Trips by Seasons and Company

Company ● Pink Cab ● Yellow Cab



Trips by Season and Company

Company ● Pink Cab ● Yellow Cab



- XYZ should consider Investing in Yellow Cab for year-round consistency.
- The seasonal trends analysis shows that Yellow Cab consistently outperforms Pink Cab across all seasons, with significantly higher trip counts, particularly in the Fall and Summer.

Recommendations

Based on the outcomes of this comprehensive analysis, we recommend that XYZ invest in Yellow Cab. The company's strong market share, higher profitability, broad demographic appeal, and favorable seasonal performance make it the most promising option for maximizing returns on investment.

Thank You

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