



**Data Glacier**

Your Deep Learning Partner

# Exploratory Data Analysis

## G2M CASE STUDY

19/11/2024

# Agenda

Executive Summary

Problem Statement

Approach

EDA

EDA Summary

Recommendations

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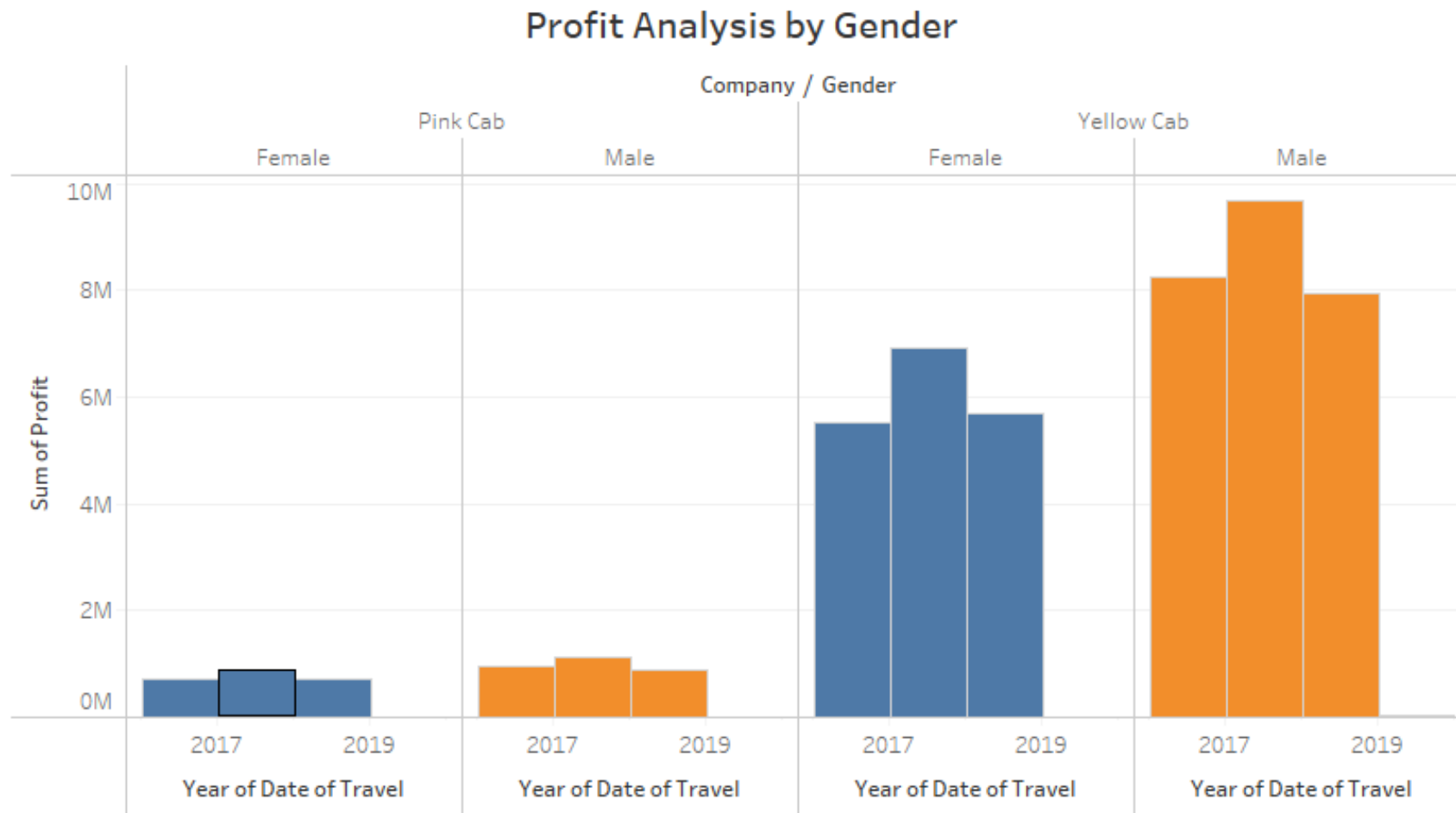
# Background

- XYZ is a private equity 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.
- • **Objective:** Provide actionable insights to help XYZ firm in identifying the right company for making investment.
- The analysis has been divided into four parts:
  - • Data Understanding
  - • Forecasting profit and number of rides for each cab type
  - • Finding the most profitable Cab company
  - • Recommendations for investment

# Data Exploration

- All four data sources have been combined into “All data.”
- **Assumptions**
- Profit is calculated as the difference between the price charged and the cost of the trip.
- The "users" feature is the number of customers willing to use either of the cabs.
- Any Nulls are treated as outliers.

# Profit analysis by gender



Gender

Female

Male

Summary

Count: 16

SUM(Profit )

Sum: 49,327,7...

Average: 3,082,981

Minimum: 3,535

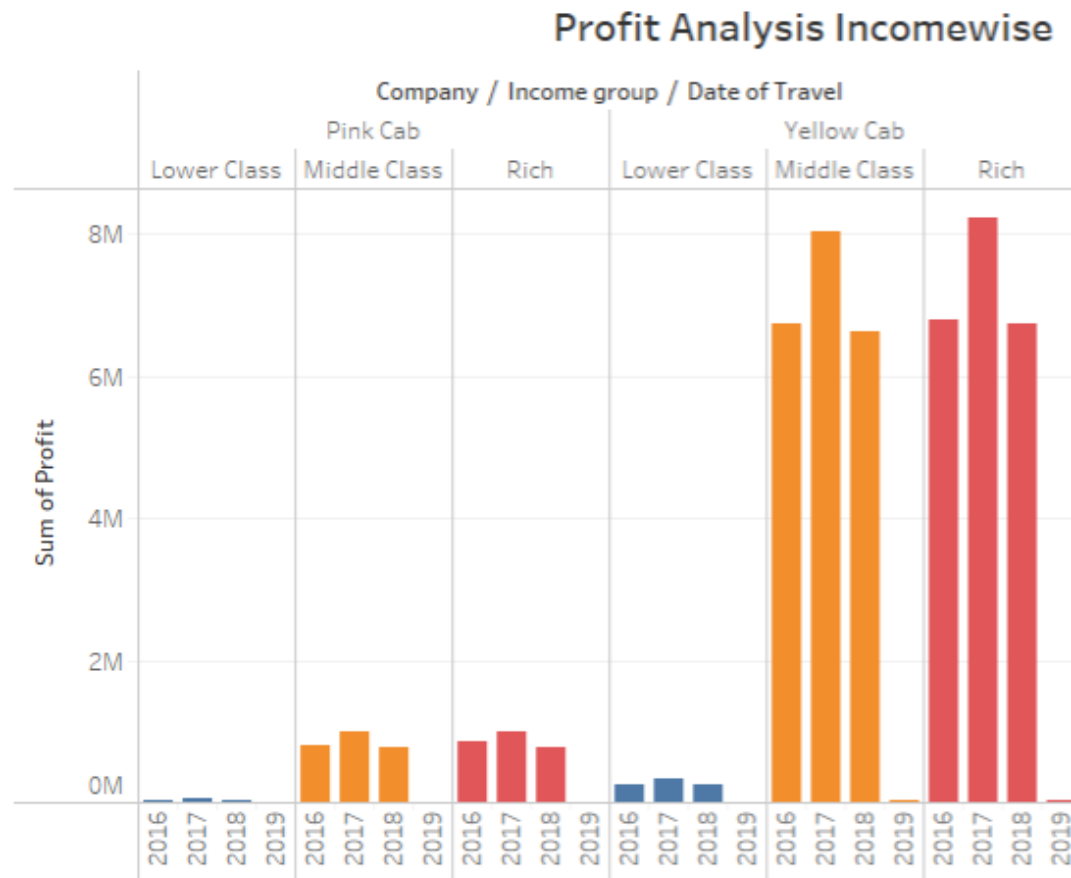
Maximum: 9,676,238

Median: 928,760

Caption

There is an equal distribution of profits across all the genders

# Profit Analysis Income wise



Income group

Lower Class

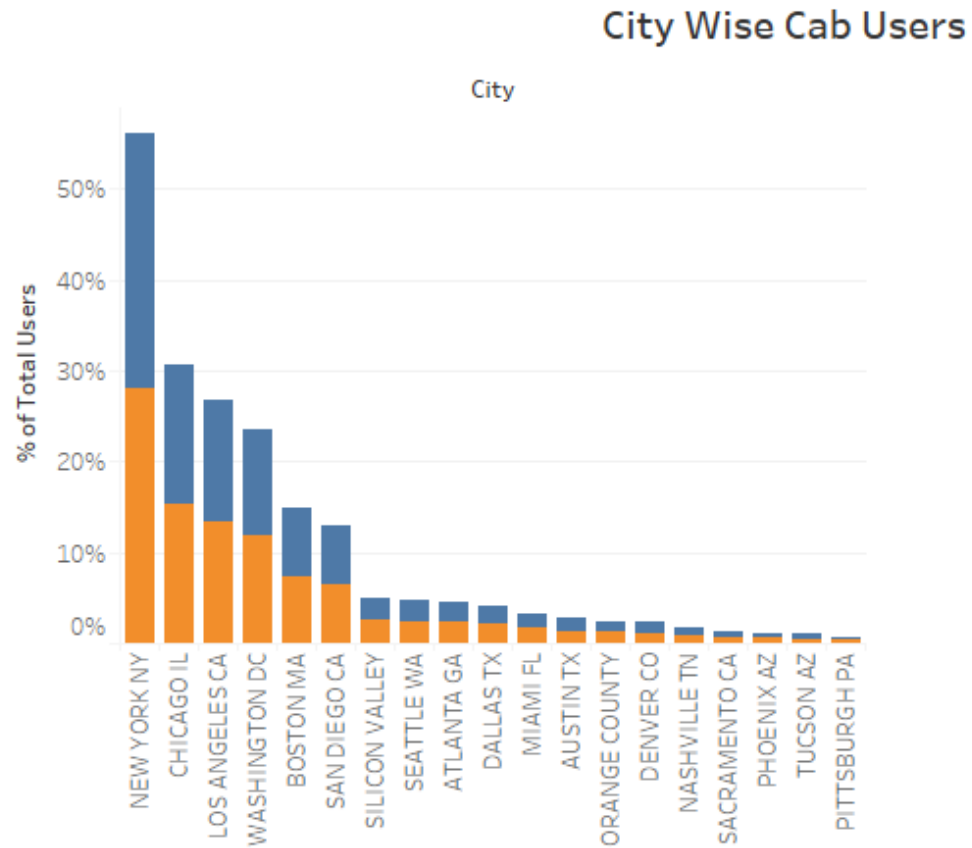
Middle Class

Rich

Caption

All income groups prefer the Yellow Cab. Middle class and the Rich seem to use the cabs more compared to the lower class.

# City Wise cab Users



Exclusions (City,Comp...

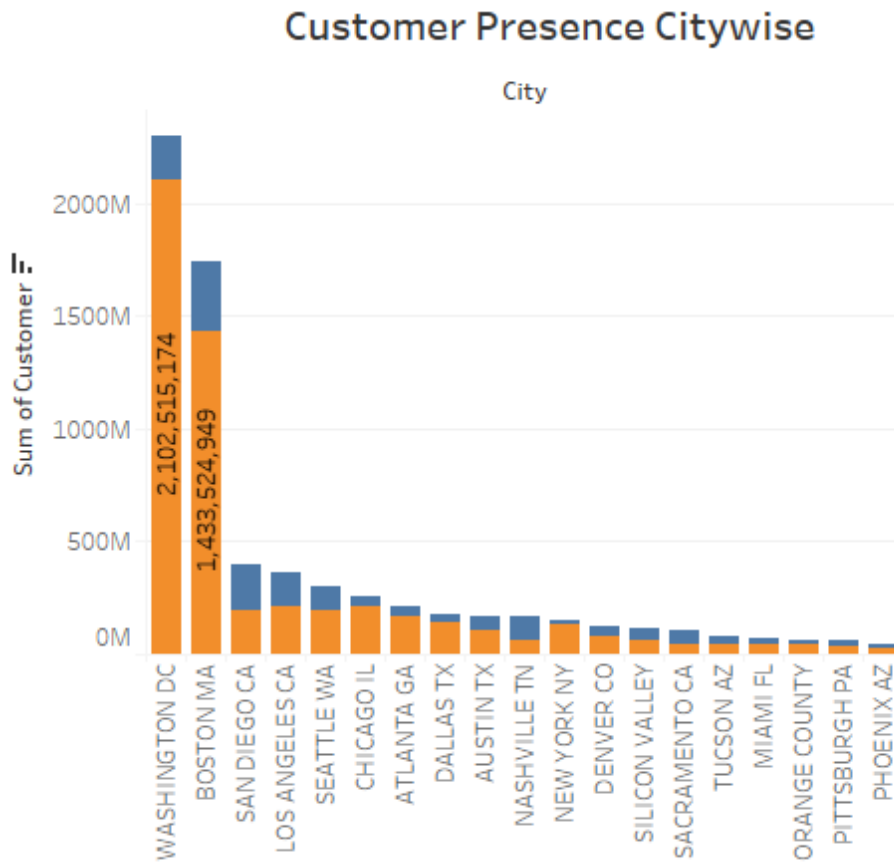
- ☒ (All)
- ☐ ATLANTA GA, Pi...
- ☐ ATLANTA GA, Yel...
- ☐ AUSTIN TX, Pink ...
- ☐ AUSTIN TX, Yello...
- ☐ BOSTON MA, Pin...
- ☐ BOSTON MA, Yel...
- ☐ CHICAGO IL, Pink...
- ☐ CHICAGO IL, Yell...
- ☐ DALLAS TX, Pink ...
- ☐ DALLAS TX, Yello...
- ☐ DENVER CO, Pin...
- ☐ DENVER CO, Yell...
- ☐ LOS ANGELES CA...
- ☐ LOS ANGELES CA...
- ☐ MIAMI FL, Pink C...
- ☐ MIAMI FL, Yello...
- ☐ NASHVILLE TN, ...
- ☐ NASHVILLE TN, ...

Company

- ☒ Pink Cab
- ☒ Yellow Cab



# Customer presence city wise



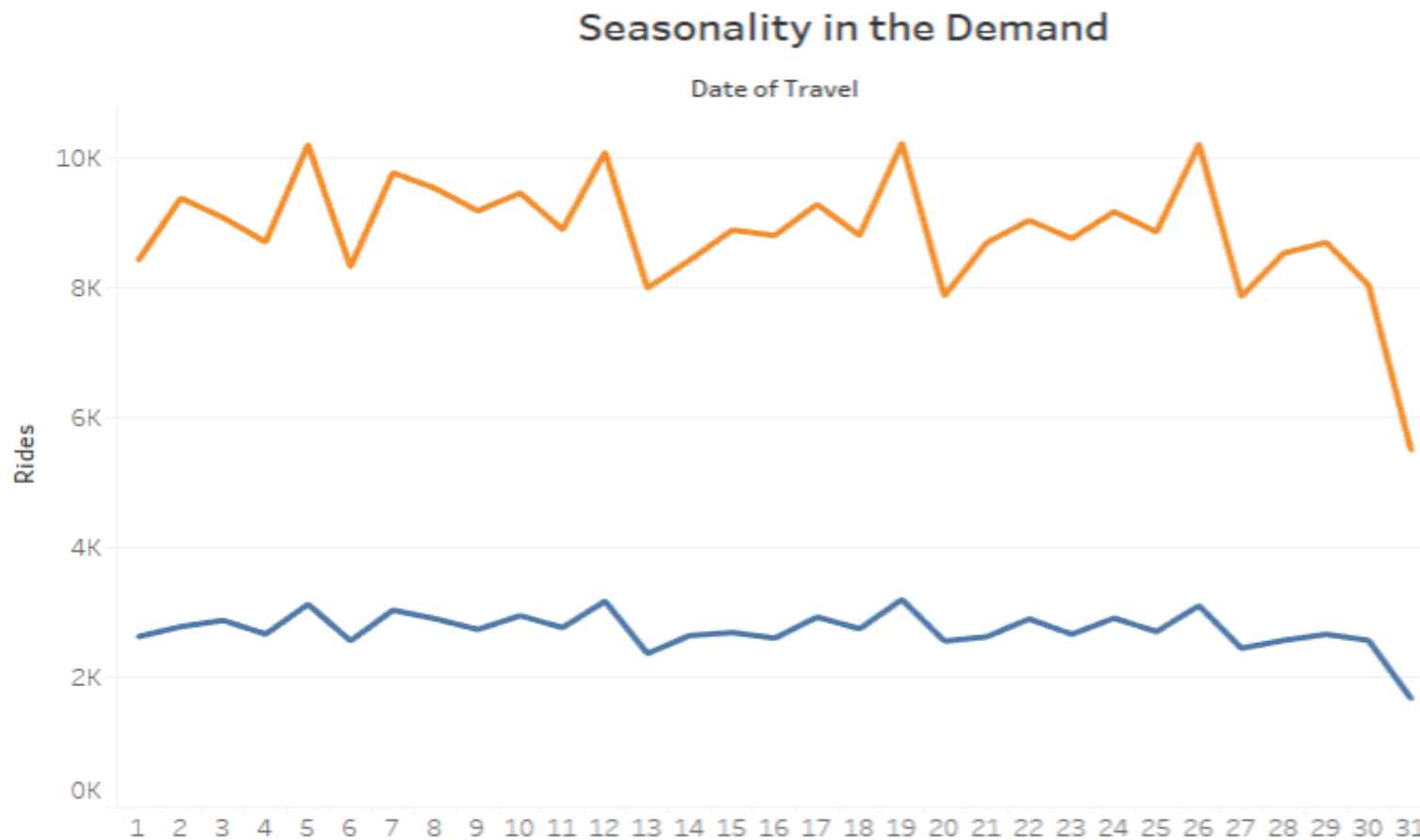
Caption

Out of the 19 cities, Yellow Cab seems to have a huge number of customers in Washington DC and Boston MA.

Company

Pink Cab  
Yellow Cab

# Seasonality in the demand



Company

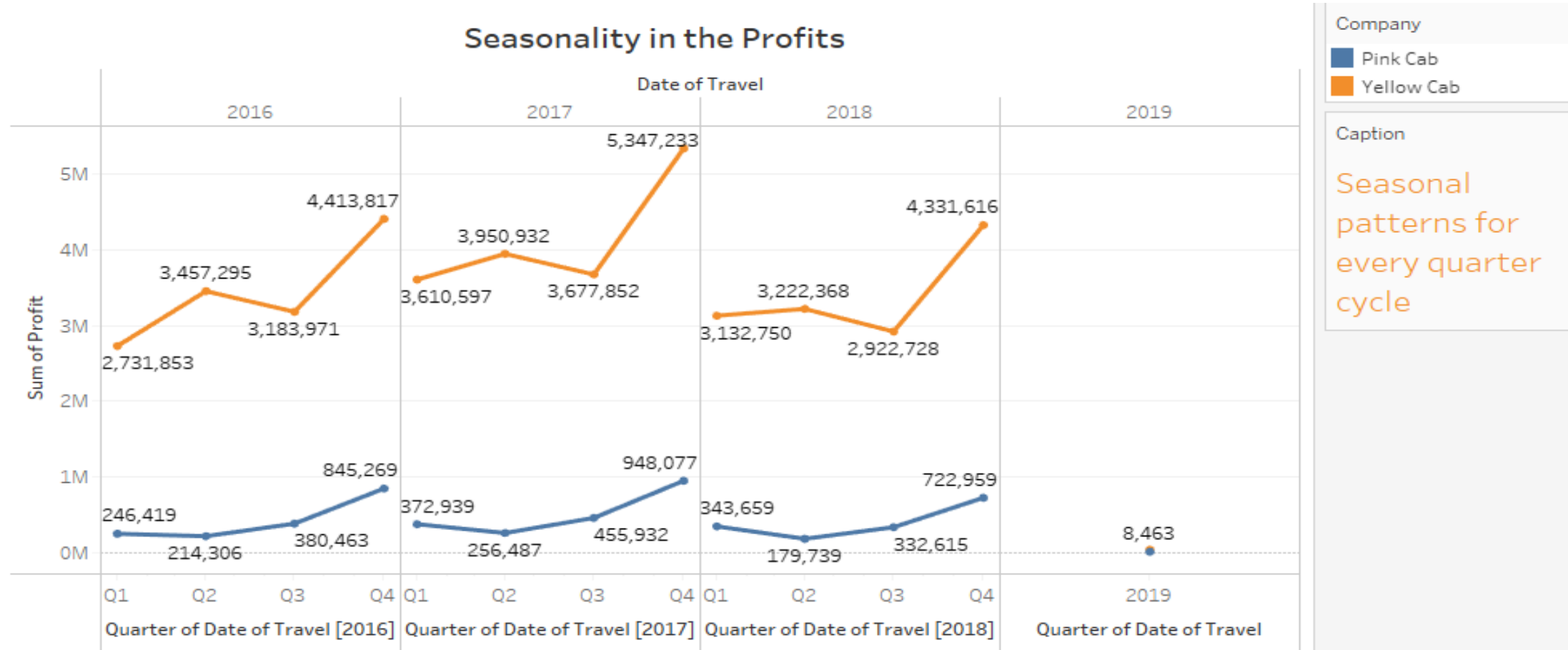
Pink Cab

Yellow Cab

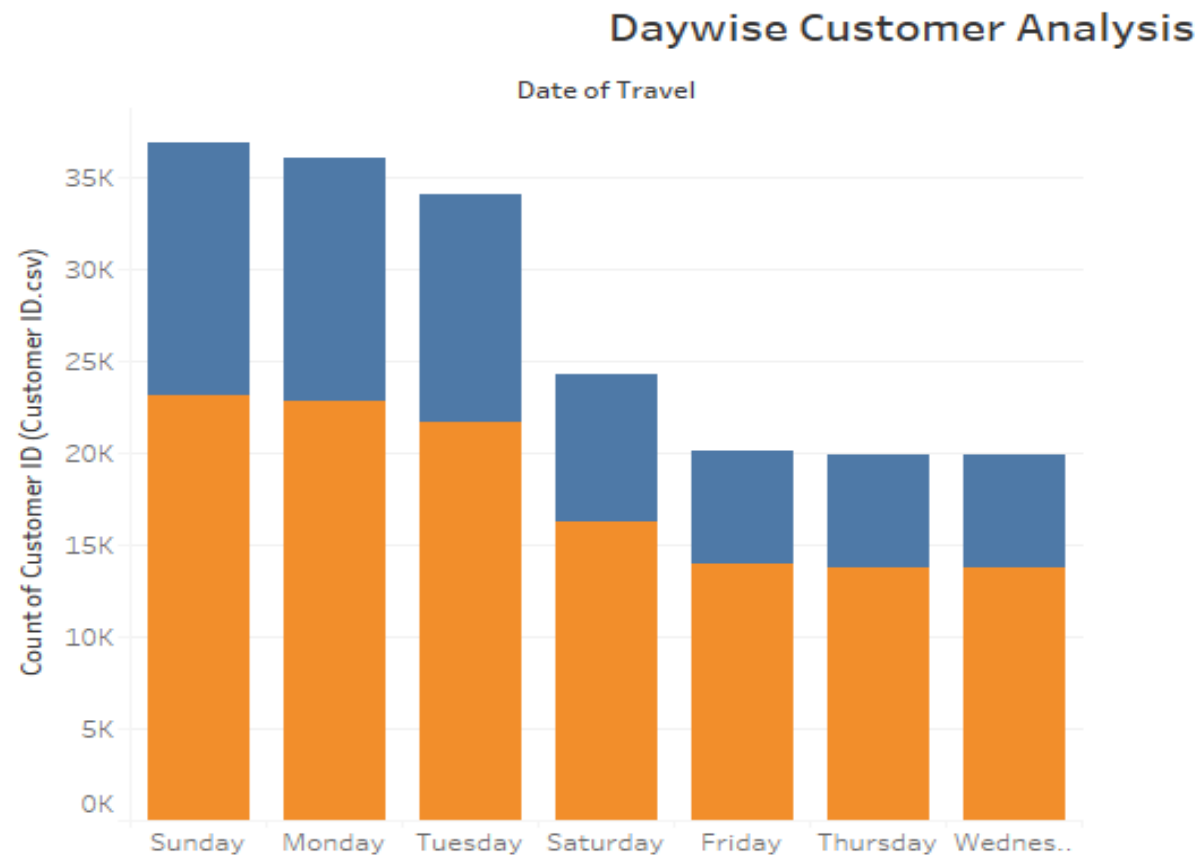
Caption

Both cabs have shown fluctuation in the seasonality of their rides

# Seasonality in the profits



# Day wise customer analysis

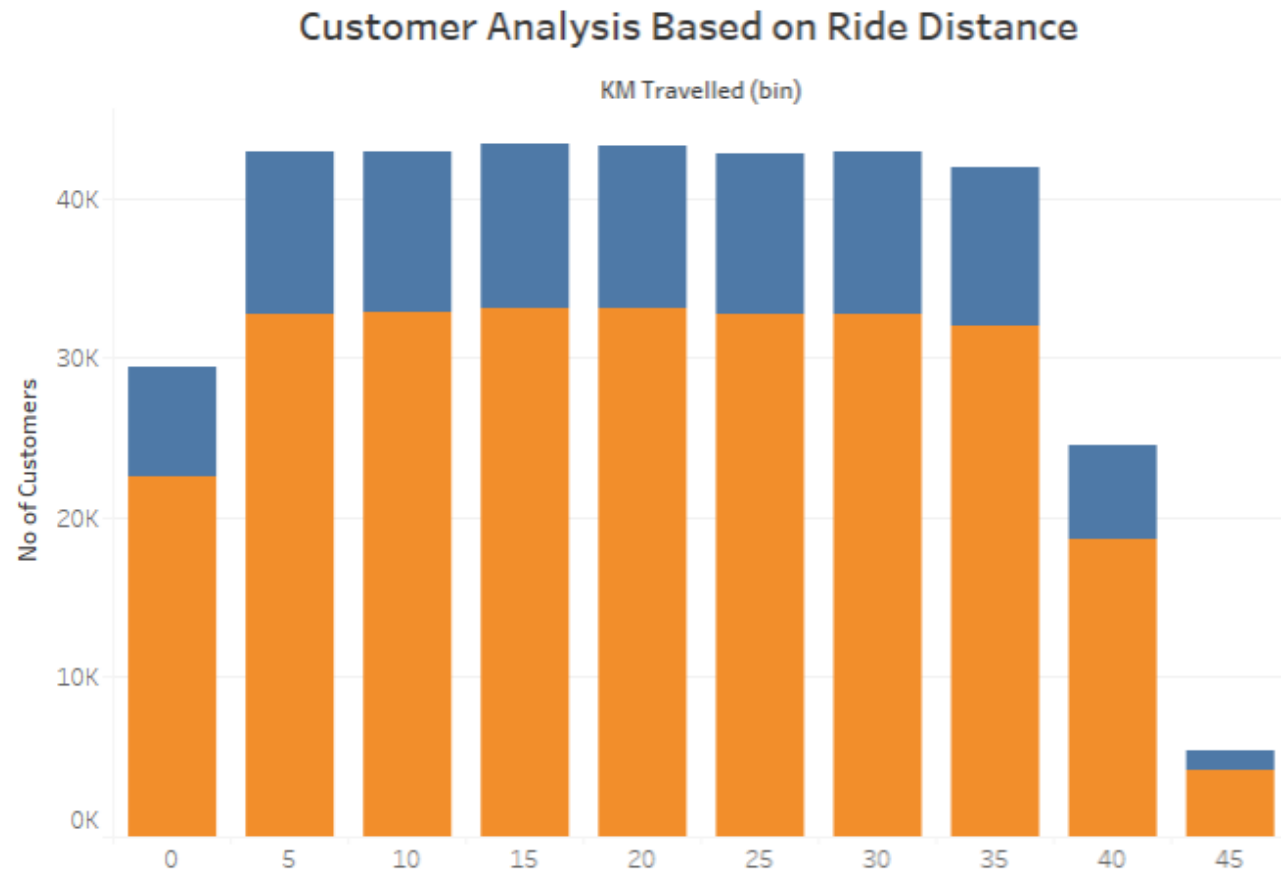


Company

Pink Cab

Yellow Cab

# Customer analysis based on ride distance



Company

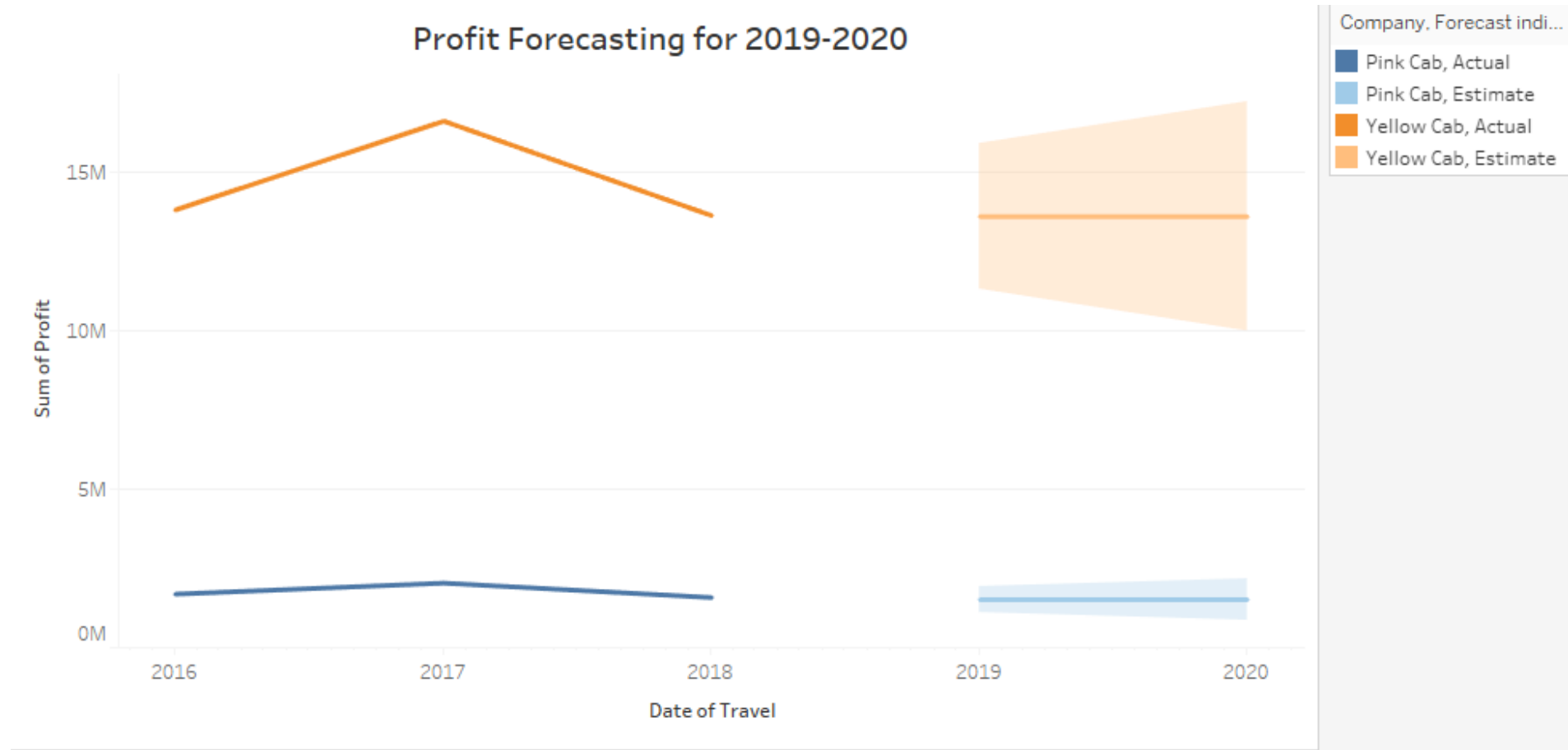
Pink Cab

Yellow Cab

Caption

Yellow Cab has a similar number of customers on all the trips regardless of distance, indicating it offers great devices. Less than 5 km and above 40 km have pretty low customers, indicating that the customers could be seeking alternatives.

# Profit forecasting for 2019-2020



# Recommendations

The following are the outcomes for both cabs

- ❖ **Profit:** Yellow Cab is doing better regarding profits and customer reach.
- ❖ **Income reach:** Cabs are preferred by the rich and middle class, with Yellow Cabs performing better in all income groups.
- ❖ **Profit forecasting** – Yellow Cab is projected to hit \$13,581,226 in profit by 2020.
- ❖ **Distance-** most customers prefer rides that are less than 35 kilometers.
- ❖ **Day-wise,** Sundays and Mondays have more requests than other days.
- ❖ **Cities such as Washington, DC, and Boston, MA,** have the highest number of users, with many customers preferring Yellow Cab.
  
- ❖ **Based on the analysis, Yellow Cab is a better investment option.**

# Thank You