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RevoU - Full Stack Data Analytics - May 2022

Uber User Behavior Analysis

Group O - Team 5 - Barcelona 

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Team Members

Meet our Teams!

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Data Analyst

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Viz & Presentation

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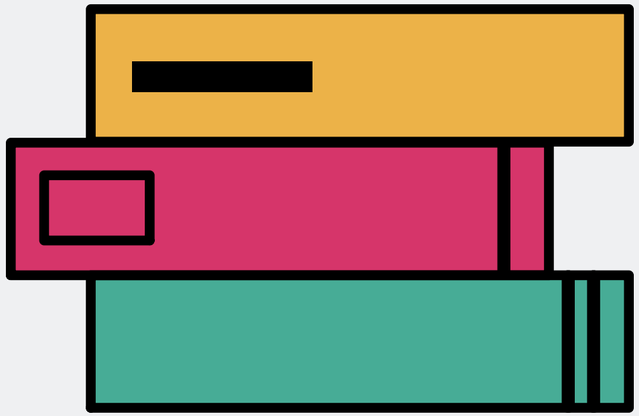


About Uber

Uber Inc. is a transportation company with an app that allows passengers to hail a ride and drivers to charge fares and get paid.

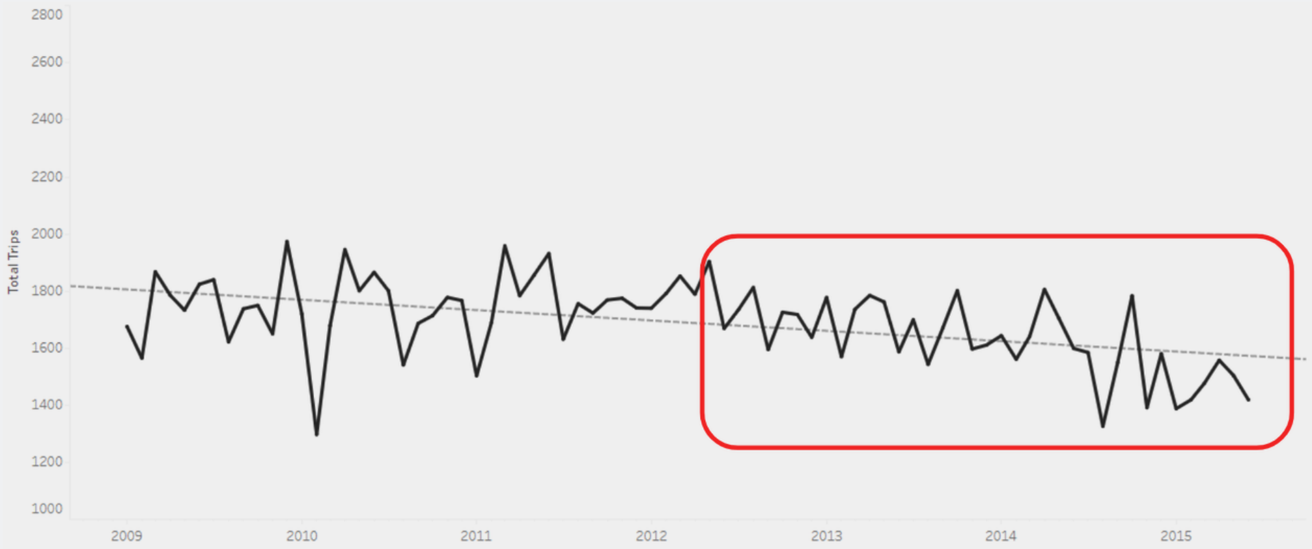
The company was founded in 2009 and is headquartered in San Francisco.

Dataset

The Dataset used is Uber Inc Order's data in New York City from January 2009 to June 2015.

Data Features consist of order id, fare of each trip, pickup datetime, passenger count, and coordinates of pickup and drop off location.

We found that..



Orders are having down trend!

As seen on the chart beside, from 2012 the number of orders is decreasing.

It is suspected that the decrease in orders occurred due to the emergence of a new competitor (Lyft) that was founded in Mid 2012.

So, this Analysis is created to suggest recommendation to increase orders.

To increase orders, Categorized Cluster are..

Group of 9-to-5 Workers

Promotion within 1 hour at 8 AM and 7 PM Weekdays for UberX.

Group of Long-Night Owl

Promotion for Trips more than 5 KM after 10 PM - 12 AM for UberX.

Group of Leisure Traveller

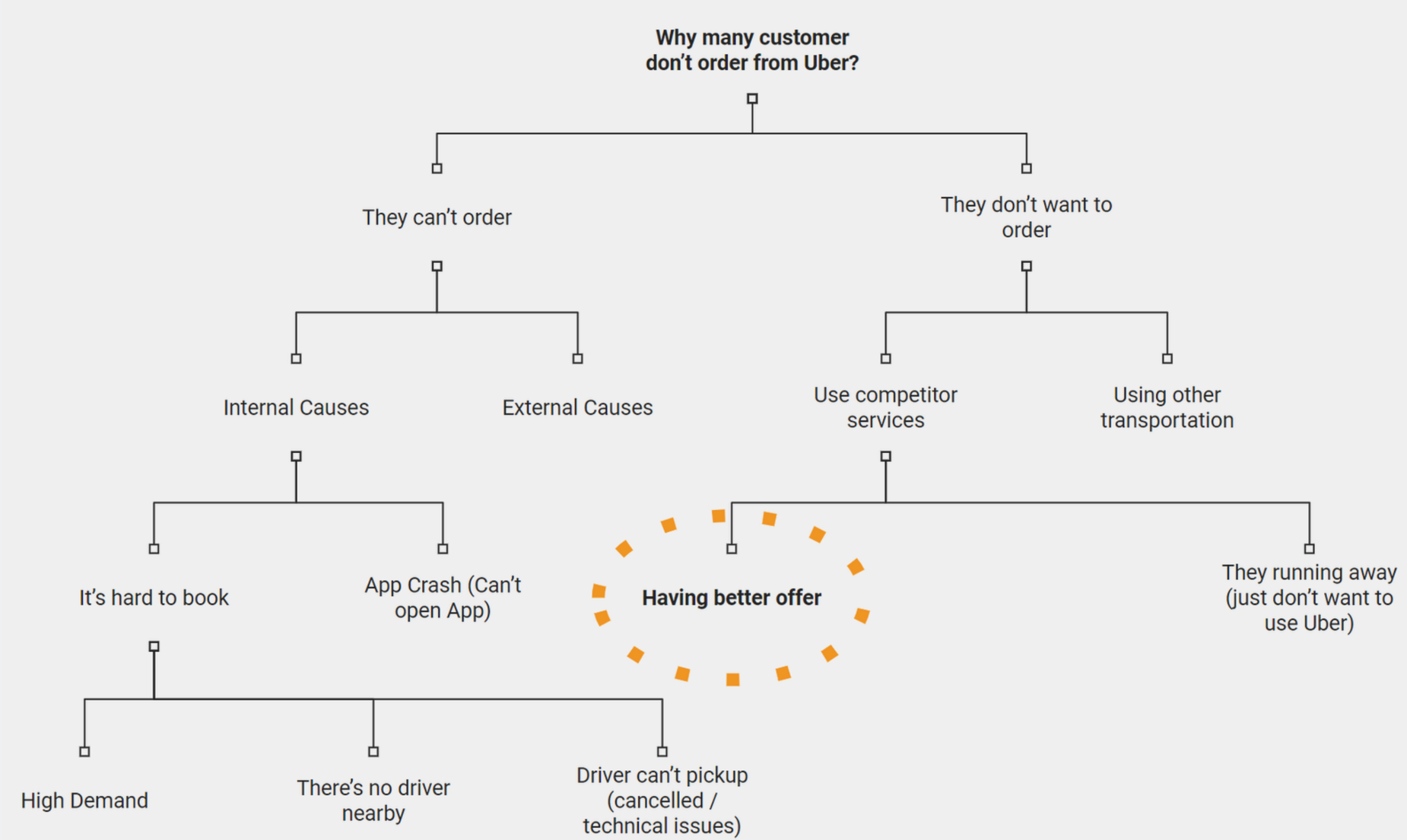
Promotion at 12 - 7 PM Weekend to and from Tourist Attractions for UberX.

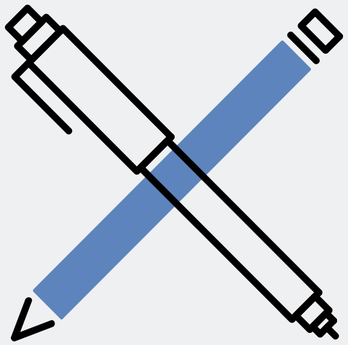
How to increase Uber’s order growth by 3% within a year from 2014?

The First Question is :

Why many customer **don’t order** from **Uber**?

Root Cause Analysis





Methodology

Data Preparation & Cleaning

Data Preparation, Outlier and Null Cleaning are fully done with Python (Google Collaboration)

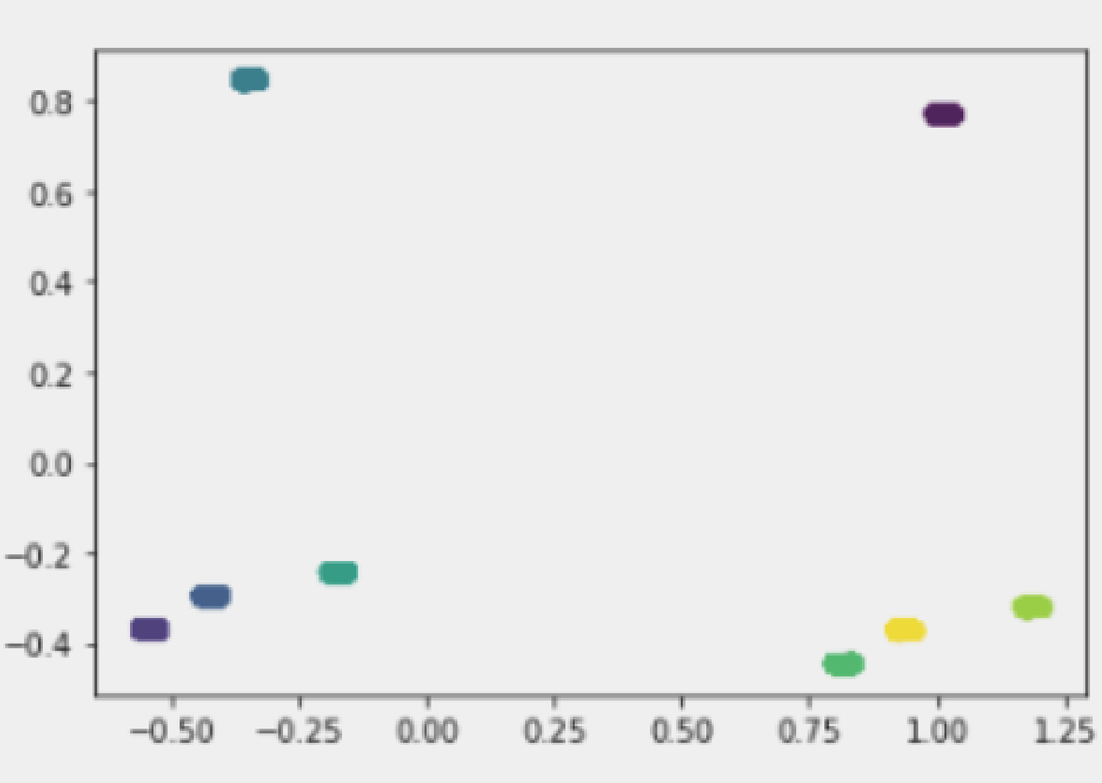
Data Analysis & Visualization

User's Behavior Segmentation done with Python and Visualize in Tableau

Recommendation & Expected Outcome

Recommendation actions and Expected outcome

By Cluster Analysis,

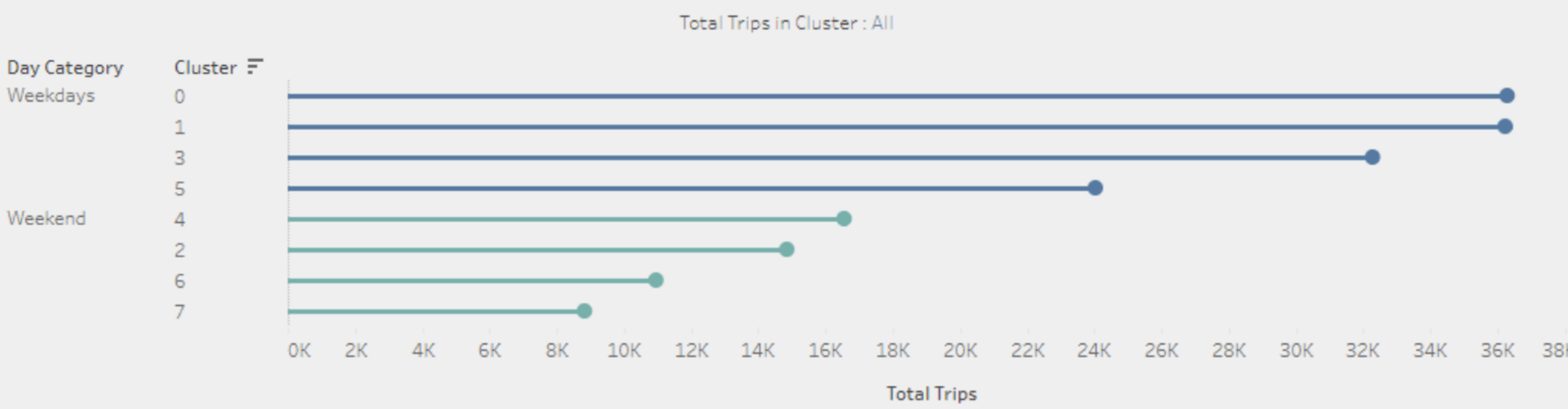


Users are distinguished as :

Cluster 0 : Trip in the weekdays afternoon
Cluster 1 : Trip in the weekdays morning
Cluster 2 : Trip in the weekend afternoon
Cluster 3 : Trip in the weekdays evening
Cluster 4 : Trip in the weekend night
Cluster 5 : Trip in the weekdays night
Cluster 6 : Trip in the weekend evening
Cluster 7 : Trip in the weekend morning

Total Trips in each Cluster

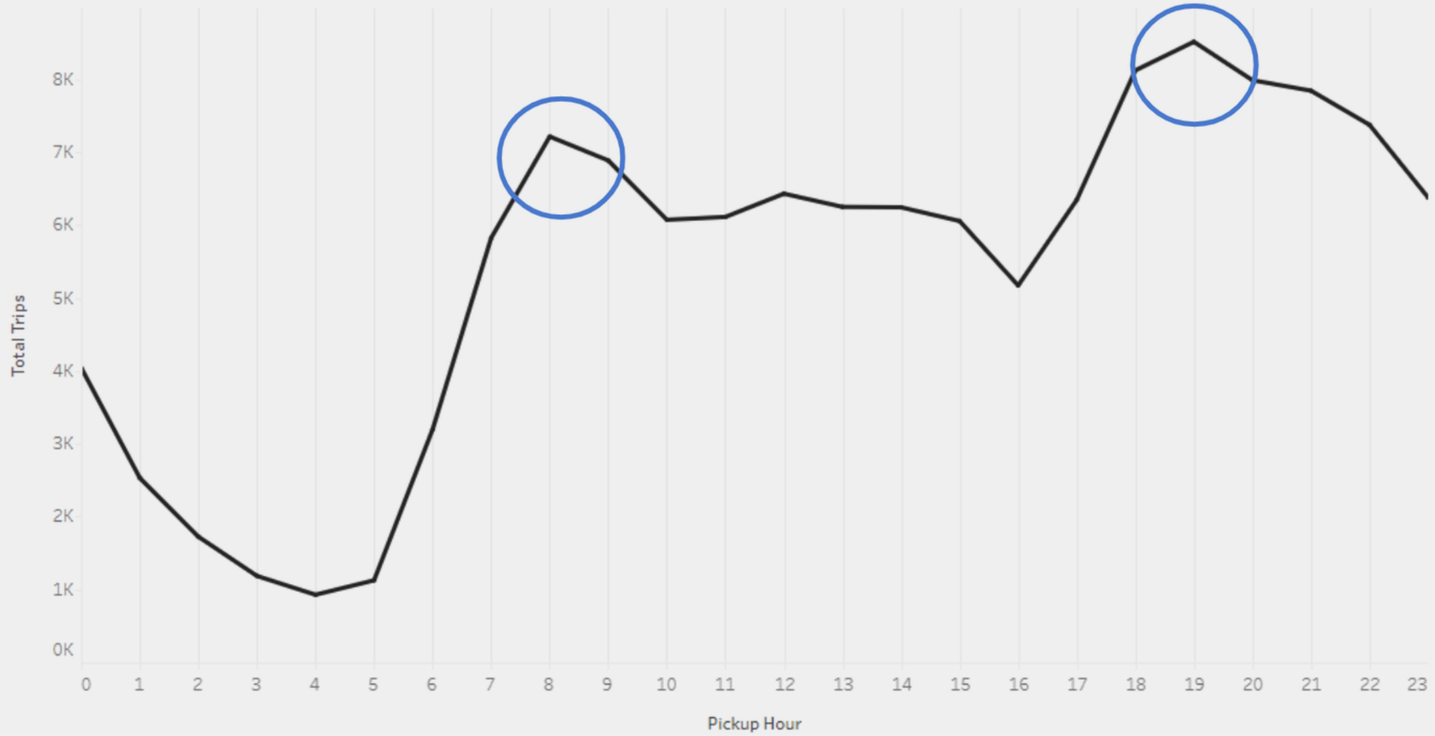
Trips dominated in weekdays



Each cluster shows that Uber is dominated by users who like to go trips in weekdays (typically as routine activities).

Total Trips for Each Pickup Hour in Weekdays

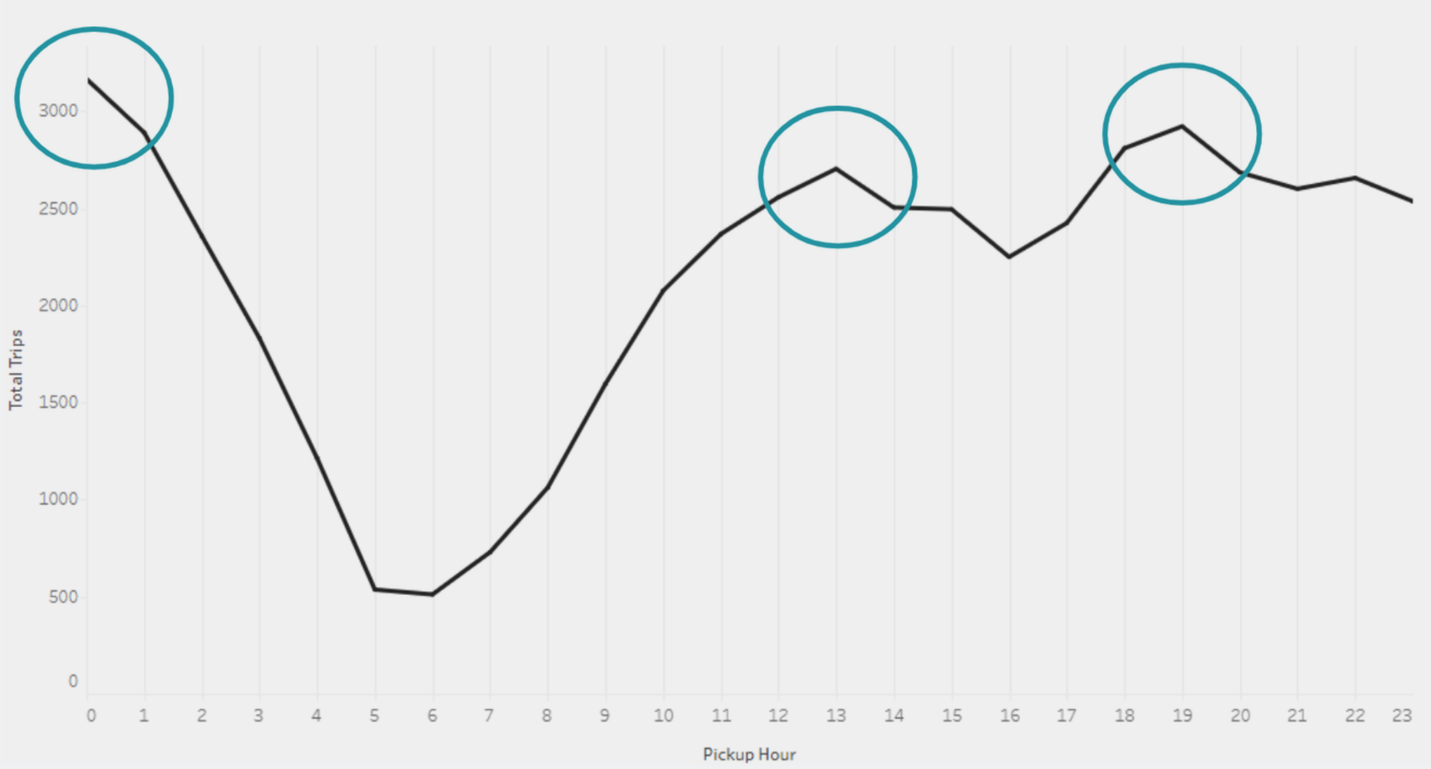
Weekdays Peak Hours are at 8 AM and 7 PM



Peak Hours are included in **Cluster 1** and **Cluster 3** respectively.

Total Trips for Each Pickup Hour in Weekends

Weekend Peak Hours are at 12 AM, 1 PM, and 7 PM

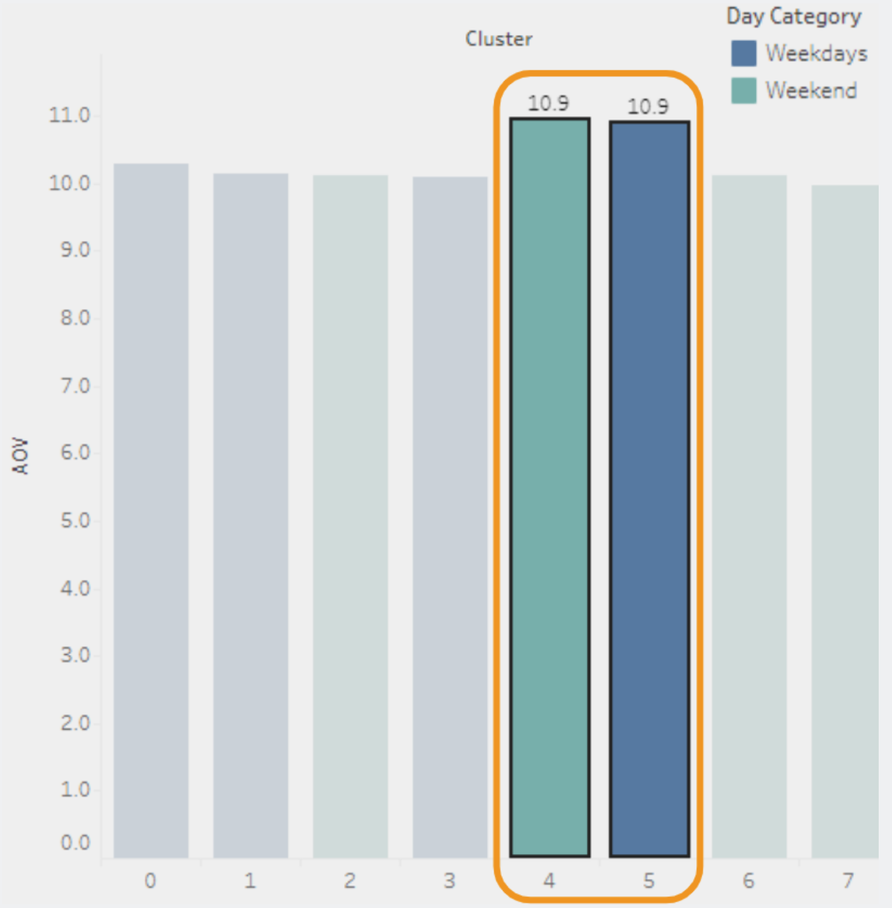


Peak Hours are included in **Cluster 4**, **Cluster 2,** and **Cluster 6** respectively.

Average Order Value for Each Cluster

AOV pretty much same, except..

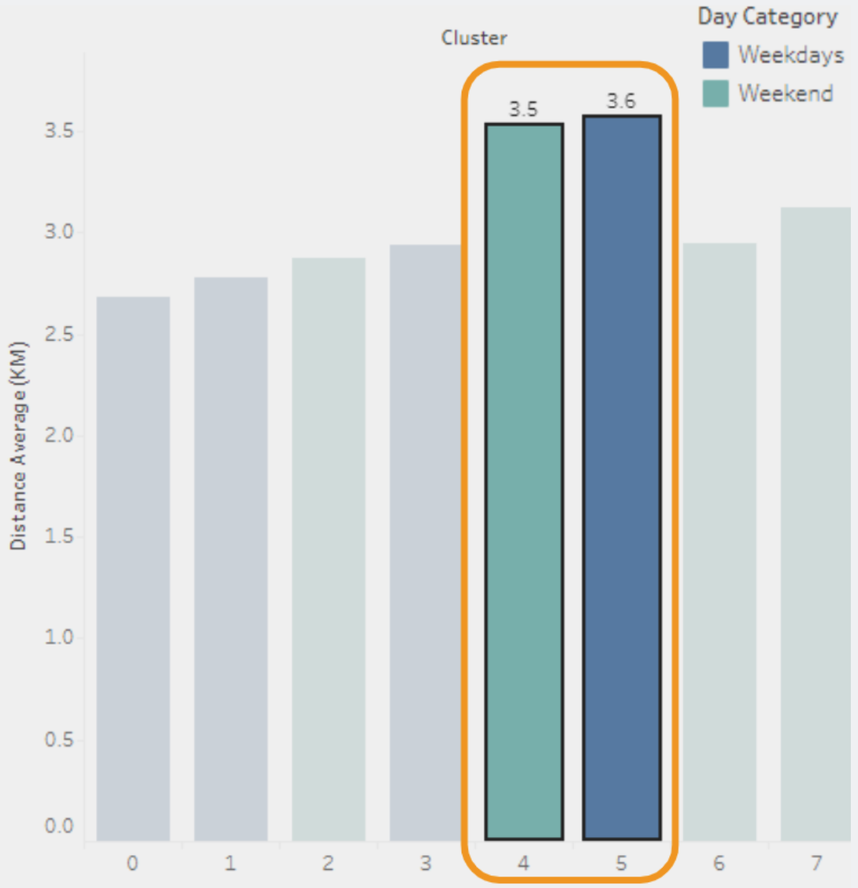
For **Cluster 4** and **Cluster 5** have slightly higher average trip value (~ USD 11) than other clusters.



Average Trip Distance for Each Cluster

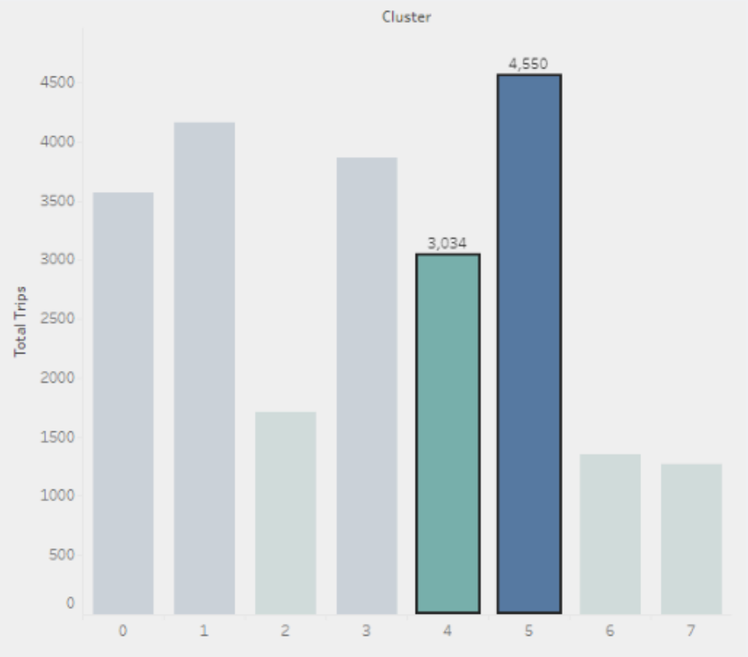
All Avg Distance are < 5 km (Near), but..

Cluster 4 and **Cluster 5** have slightly higher average trip distance (~ 3,5 km) than the others.

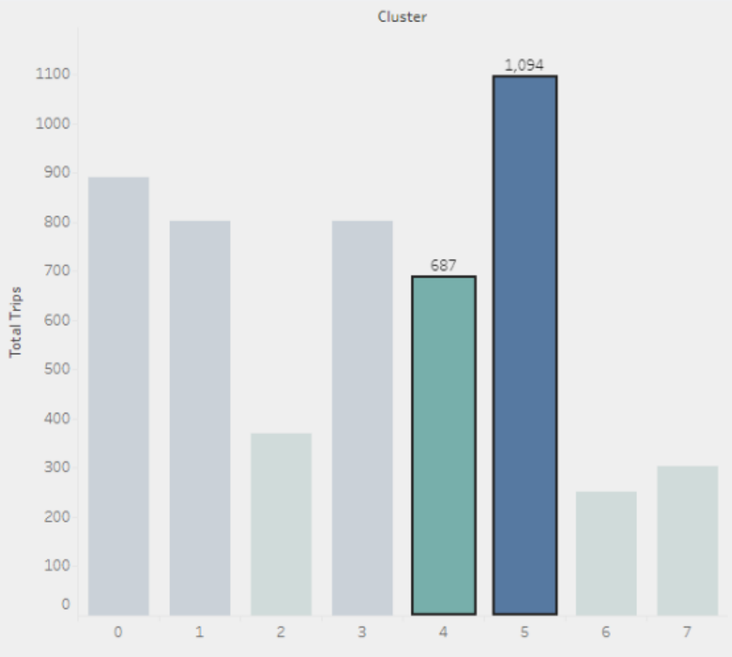


Trips by Distance Level for Each Cluster

For > 5 km (Moderate & Far) Trip,



Moderate

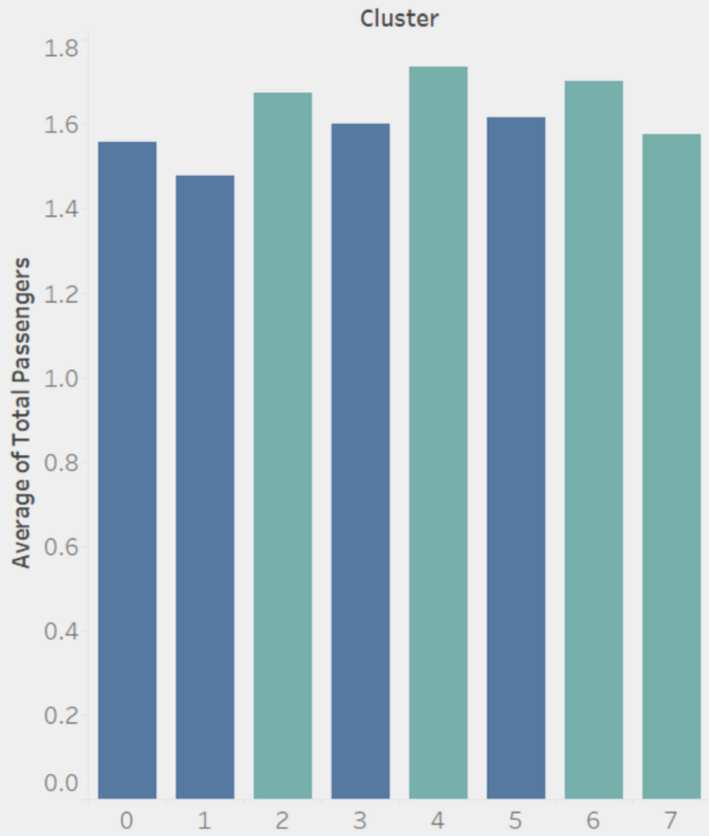


Far

Most Trips are made by user **Cluster 4** (for weekend) & **Cluster 5** (for weekdays).

Trips by Passenger for Each Cluster

Avg passenger is 2 people



It is suspected that # passenger is **correlated** with the **type of Uber's car** which user ordered.

We can group the cluster into,

Group of 9-to-5 Workers

Cluster 1 and Cluster 3 are have Peak Hours on Weekdays.

Group of Leisure Traveller

Cluster 2 and Cluster 6 are have Peak Hours on Weekends.

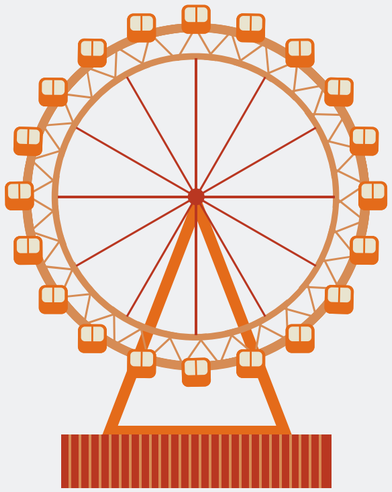
Group of Long-Night Owl

Cluster 4 and Cluster 5 are have the Most Trips for Moderate & Far at Night.

Suggested Campaign

Group of 9-to-5 Workers

Discount 20% up to $3 within 1 hour at 8 AM & 7 PM Weekdays for UberX.



Group of Leisure Traveller

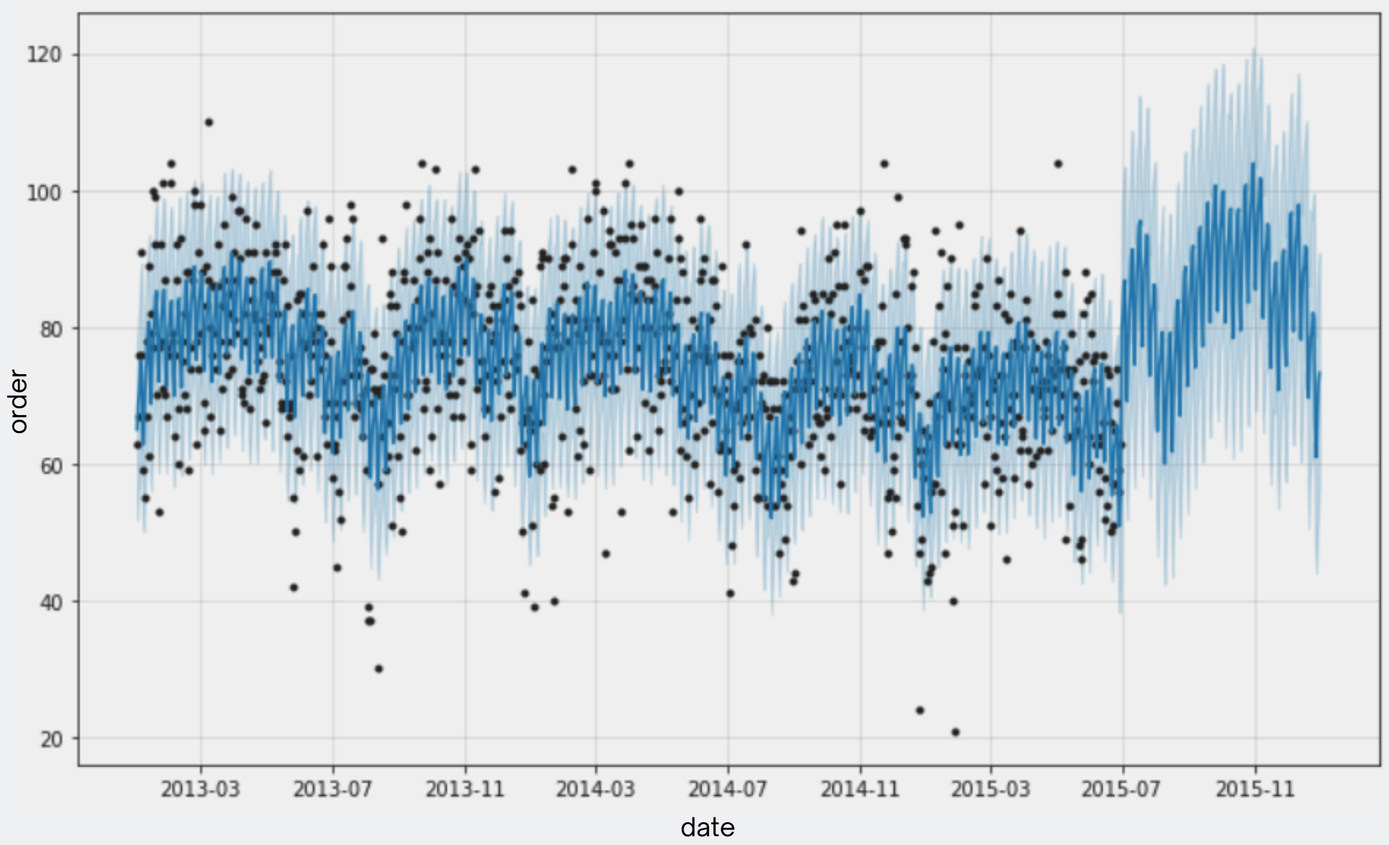
Discount 20% up to $3 at 12 - 7 PM Weekends to and from Tourist Attractions for UberX.

Group of Long-Night Owl

Discount 20% up to $3 for Trips more than 5 KM after 10 PM - 12 AM for UberX.

Expected Outcomes

By executing Promotions,



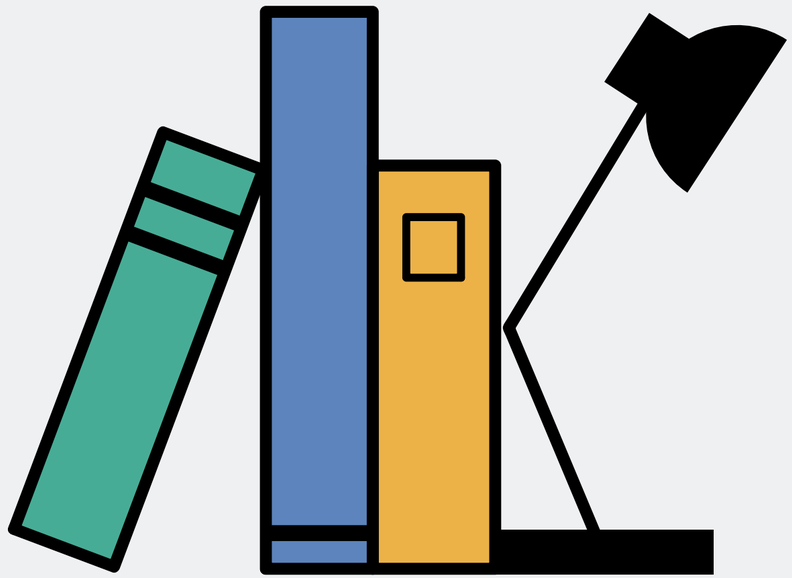
Uber may have a chance to realize a **positive annual growth** by **3%** in 2015.

Further Analysis

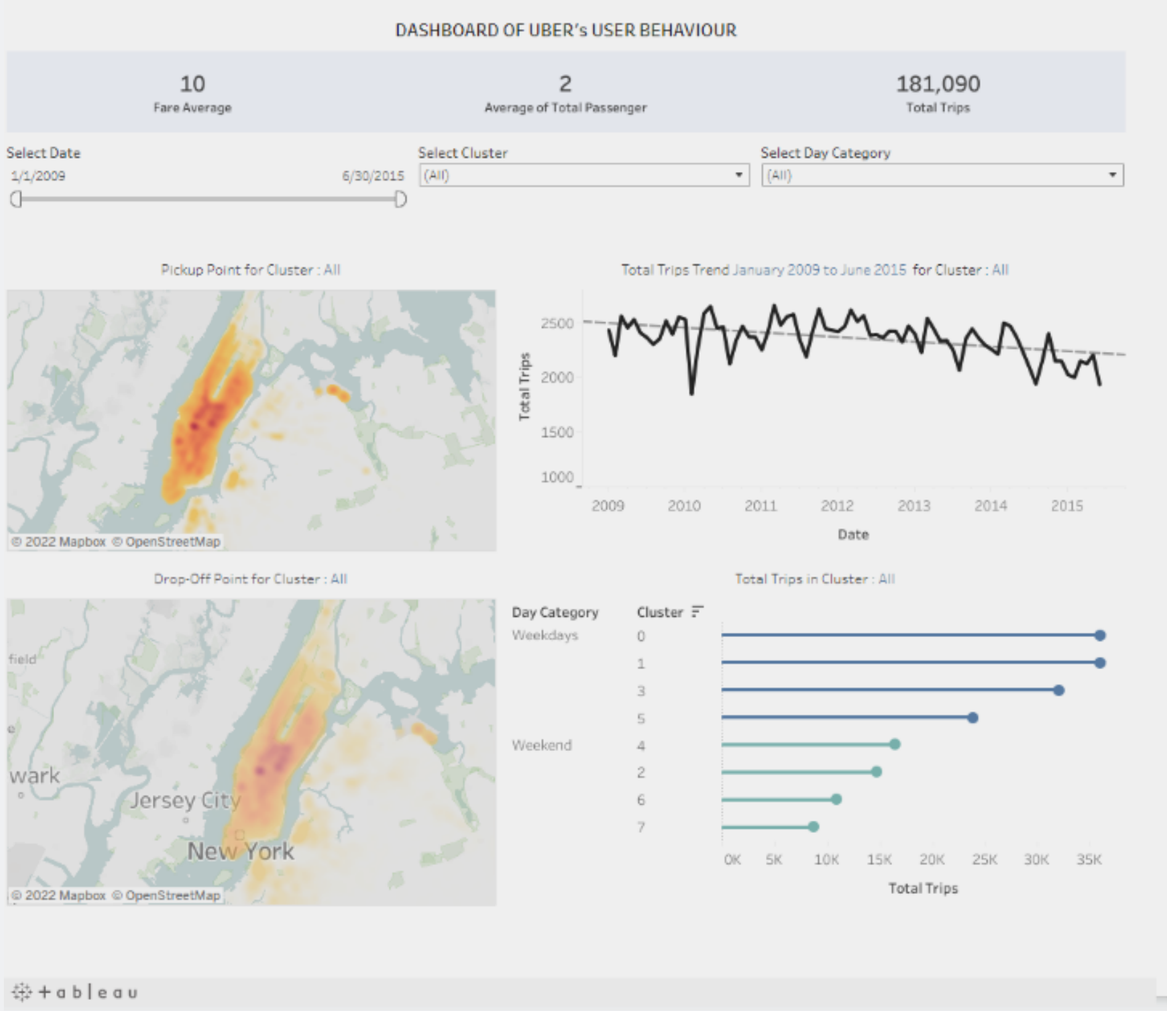
Analysis can be more comprehensive

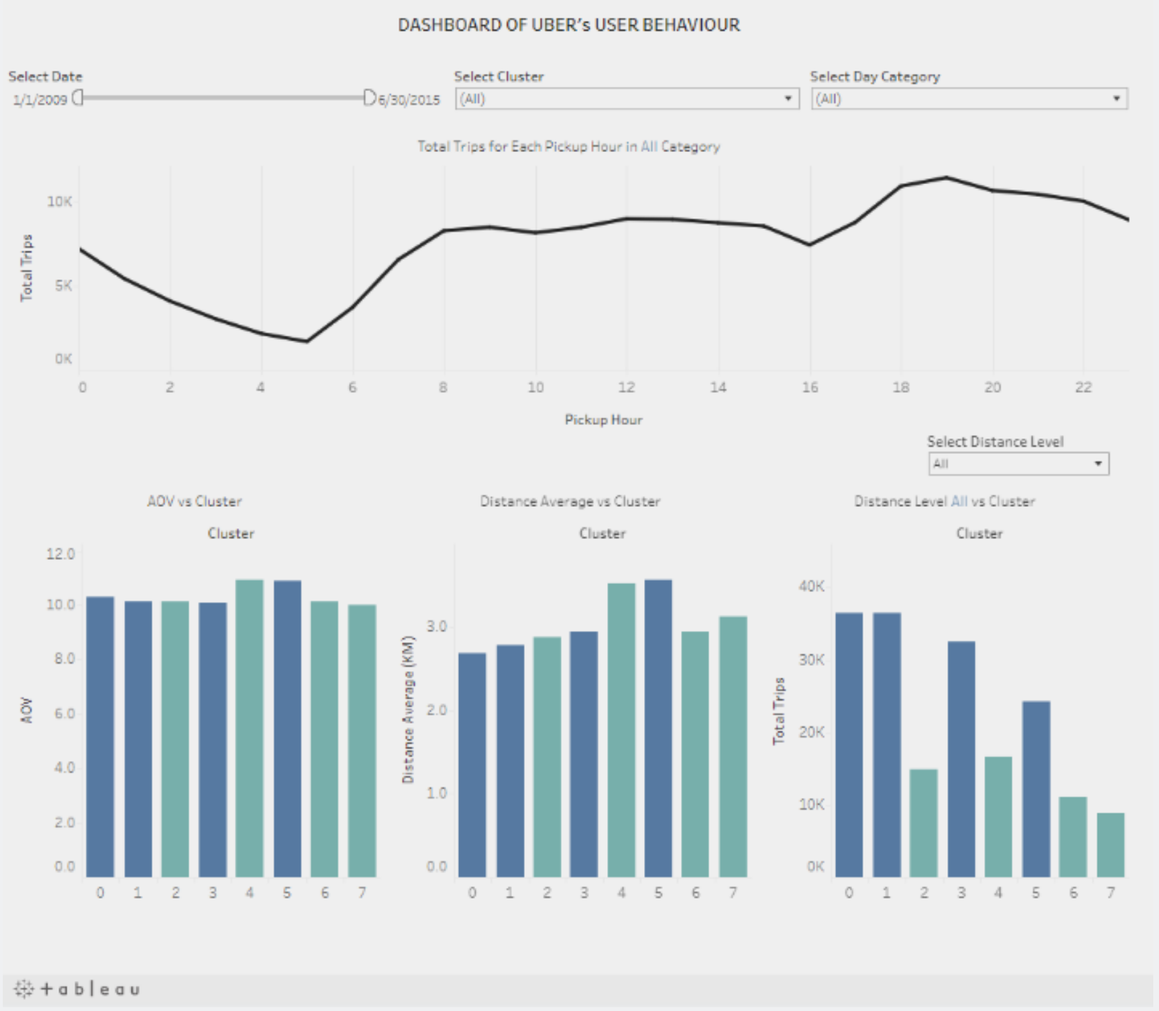
01 Need Revenue and Cost Data to do **Profit Analysis**

02 Need User Data for more detail targeted **Customer Segmentation**



Dashboard by Tableau





References

01 **Data Uber by Kaggle**

02 **Script Data Preparation, Segmentation, Prediction by Python**

03 **Dashboard by Tableau**

Thank You

" It's not about ideas.
It's about making ideas happen. "
- Scott Belsky

Thanks to Kak Arief as Our Beloved TL of Team 5, Kak Anggit as SM Barcelona, Kak Rahmat, Kak Darwin, Kak Mirza, Kak Auzan, Kak Wilsan and Kak Indah as Instructors, and All Barcelona TLs and Students.