



Uber Supply-Demand Gap Analysis



Business Problem

We avail Uber or any other cab services most of the times for travelling to and from the airport.

Many times, we face the problem of cancellation by the driver or non-availability of cars.

These problems faced by customers also impact the business of Uber as Uber loses out on its revenue .

Uber would like to address these problems of driver cancellation and non-availability of cars leading to loss of potential revenue



Business Objective

The aim of analysis is to identify the root cause of the problem (i.e. cancellation and non-availability of cars) and recommend ways to improve the situation.

We should be able to present to the client following:

- Root cause(s)
- Possible hypotheses of the problem(s)
- Recommend ways to improve them.

Business Data



We have masked business data set of Uber which contains trip booking request details for Uber.

Total number of Trip Requests = 6745

Total Number of attributes for each request = 6

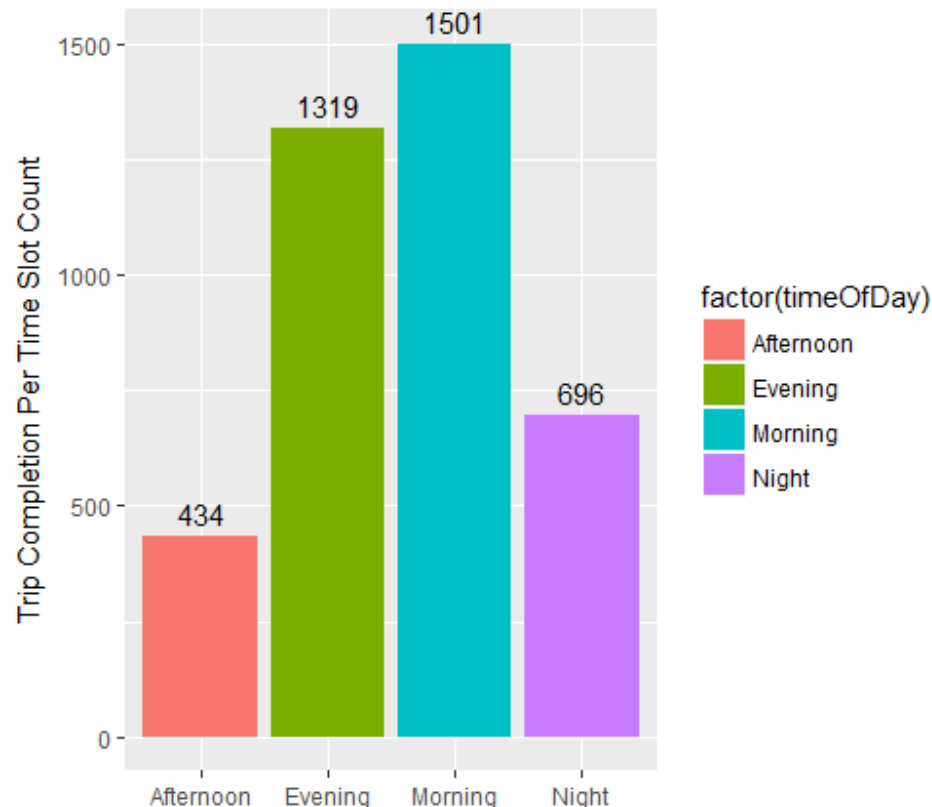
- Request id: A unique identifier of the request
- Time of request: The date and time at which the customer made the trip request
- Drop-off time: The drop-off date and time, in case the trip was completed
- Pick-up point: The point from which the request was made
- Driver id: The unique identification number of the driver
- Status of the request: The final status of the trip, that can be either completed, cancelled by the driver or no cars available

Root Causes : Trips not Completed Analysis

Trips not getting completed count is maximum in morning and evening hours but its evening and night percentage wise

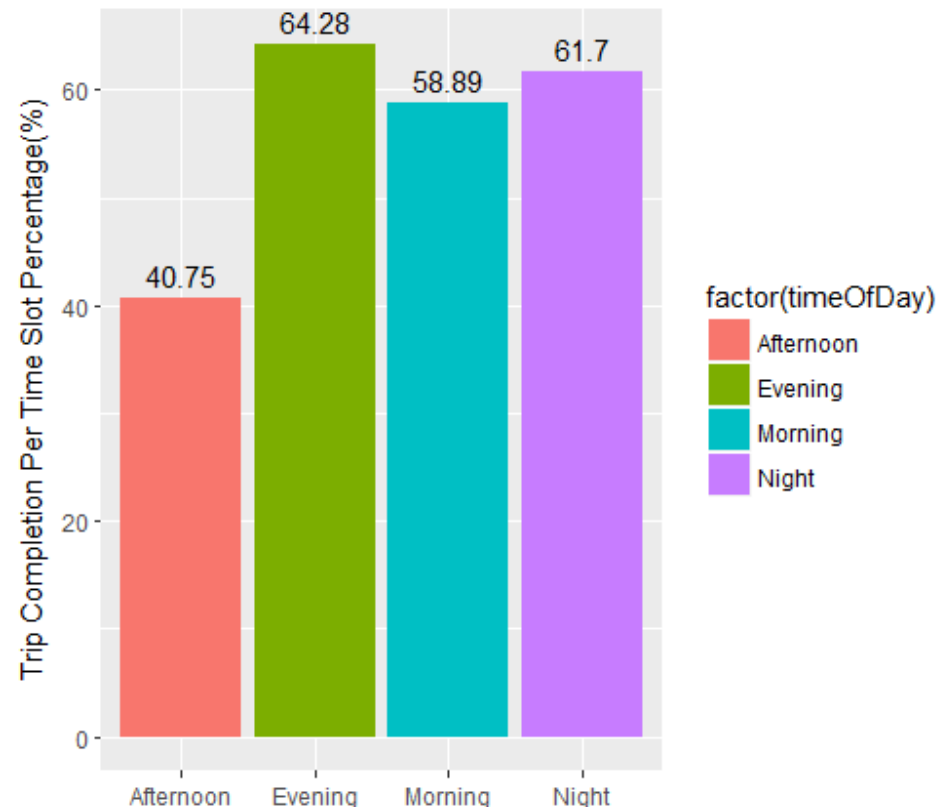
Bar Chart

Trips not Completed Count Per Time Slot Vs Time of Day



Bar Chart

Trips not Completed Percentage Per Time Slot Vs Time of Day

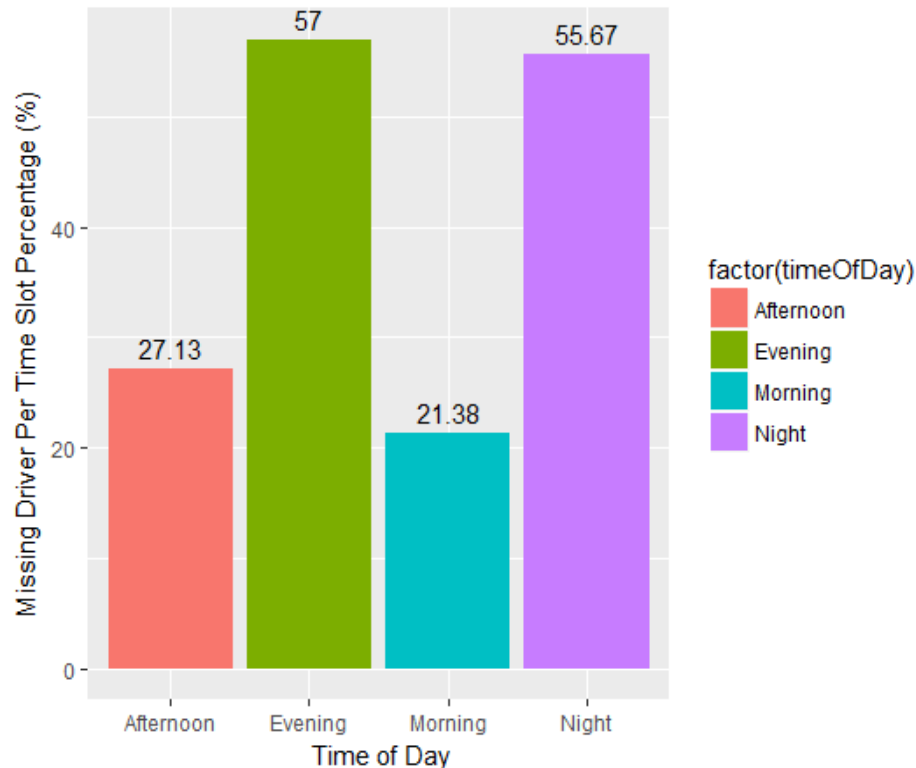


Root Causes : Missing Driver

Trips not getting completed is due to missing/less drivers in evening and night times. In morning, driver cancelling trips are very high.

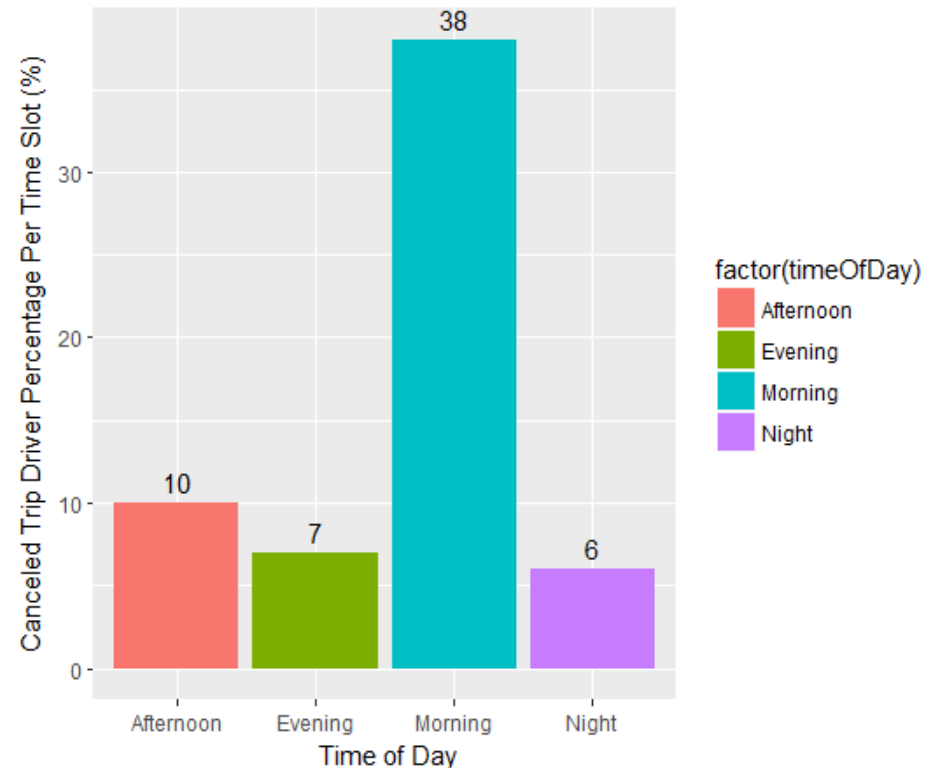
Bar Chart

Missing Driver Percentage Per Time Slot Vs Time of Day



Bar Chart

Canceled Trip Driver Percentage Per Time Slot Vs Time of Day

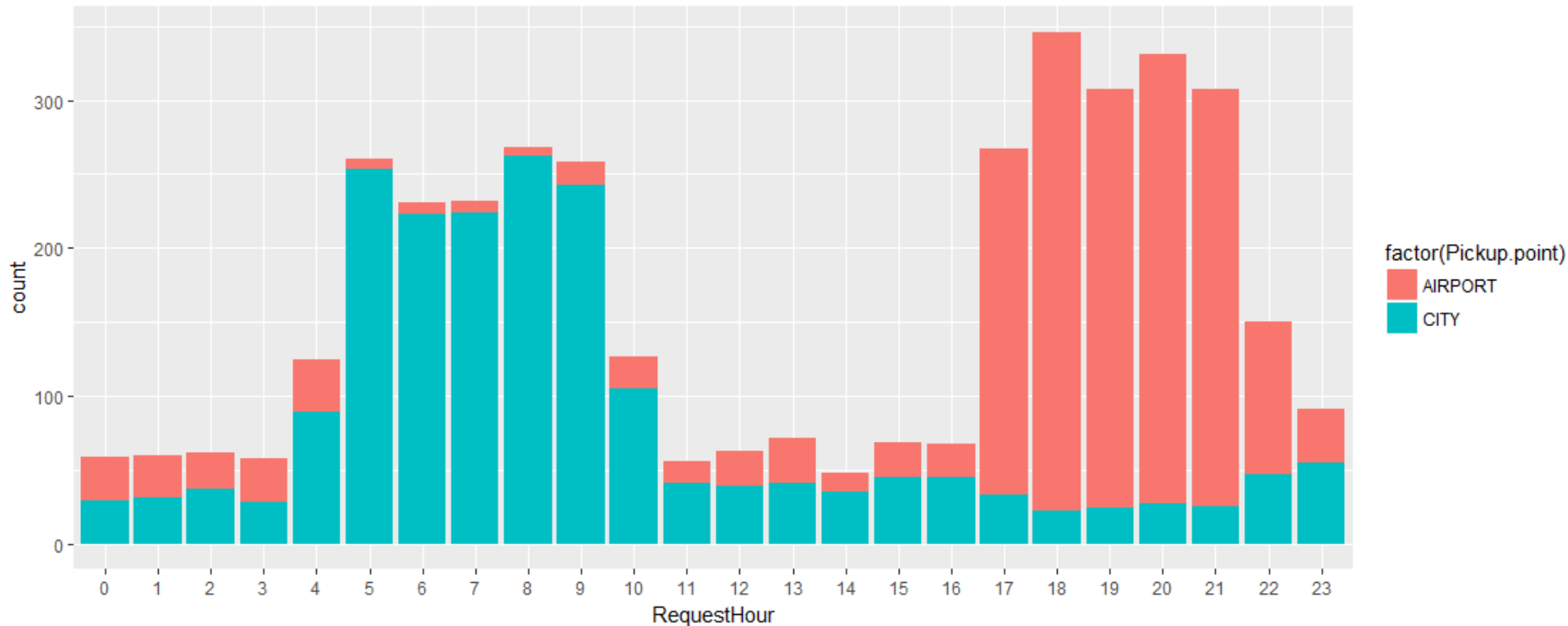


Root Causes : Impacted Routes

Trips not getting completed is high at Airport in evening and at City in Morning hours.

Bar Chart

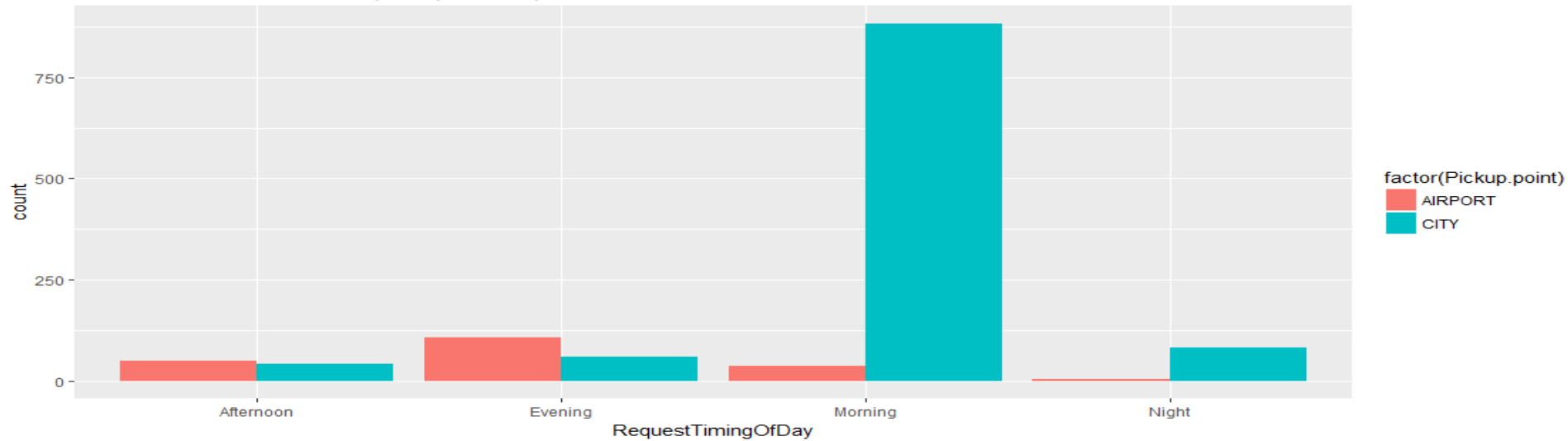
Hour wise distribution of pickup points for not completed trips



Root Causes : Impacted Routes by Status

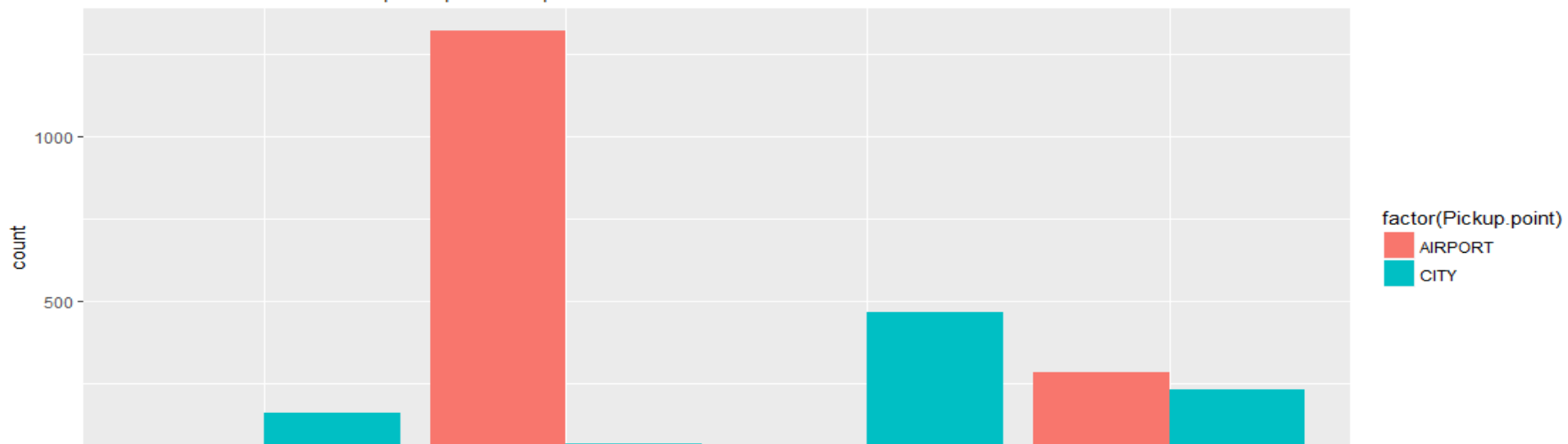
Bar Chart

Timeslot wise distribution of not completed trips for Pickup Points and status Cancelled



Bar Chart

Timeslot wise distribution of not completed trips for Pickup Points and status Cars not Available



Root Causes : Summary



Trips are not getting completed due to less drivers in morning and night times which is basically demand is high and less supply.

In morning, driver cancelling trips are very high .

Request are more during morning (5 am to 9 am) and evening (5 pm to 9 pm) causing more demand at peak time and less supply.

Root Causes : Hypothesis



Trips are not getting completed in evening is due to very high number of request and less number of drivers available. Actually 57% of requests are having no cars available which means missing drivers.

Cancellation of drivers are less during evening hours .

Trips are not getting completed in morning is due to very high number of trip cancellation by drivers. Actually 37.5% trips get cancelled in morning hours.

Night also has not completed trips due to less drivers available i.e. no cars available. Trips are not getting completed in evening is

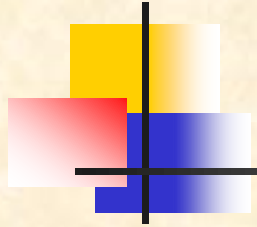
Root Causes : Improvements



Number of Cars/Drivers need to be increased during Evening and Night hours.

Assuming that same set of drivers being occupied during evening and night time, they are not able to sleep well and do lots of cancellation in morning.

Getting more drivers and providing relaxation time in night for drivers doing job in morning should improve the situation.



Q & A