



Uber Supply-Demand Gap

Analysis

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Uber Supply-Demand Gap Abstract

Project Brief

Uber wants to make identify root cause of problem and possible hypotheses of the problem(s) and recommend ways to improve the situation which are leading to loss of potential revenue.

Business and Data Understanding

- ➤ Only the trips to and from the airport are being considered.
- ➤ Data Ingestion:- Taken masked data set from uber

Business objective

Identify root cause of problem and possible hypotheses of the problem(s) and recommend ways to improve the situation

Goal of data analysis:-

- ➤ Cab status type analysis —Cancellation and non-availability of cars
- ➤ Supply and Demand Analysis Time slots and type of request(city to airport or airport to city) where highest gap exists





Data Extraction

Extract masked Data from Uber

Import them into
Python notebook as
data frames

Data Preparation

Initiate data cleanup processes

Formatting datetime in proper format

Check for duplicates and null values

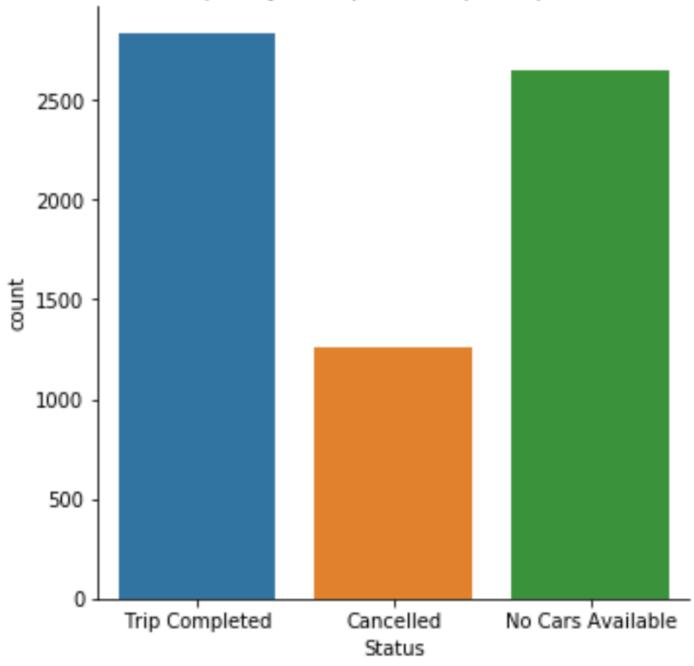
Data Analysis

Create plots to identify frequency of requests vs cab status, pickup point and time slots

Find Gap between Demand and Supply using time slots and pickup-point

Frequency of requests as per trip status

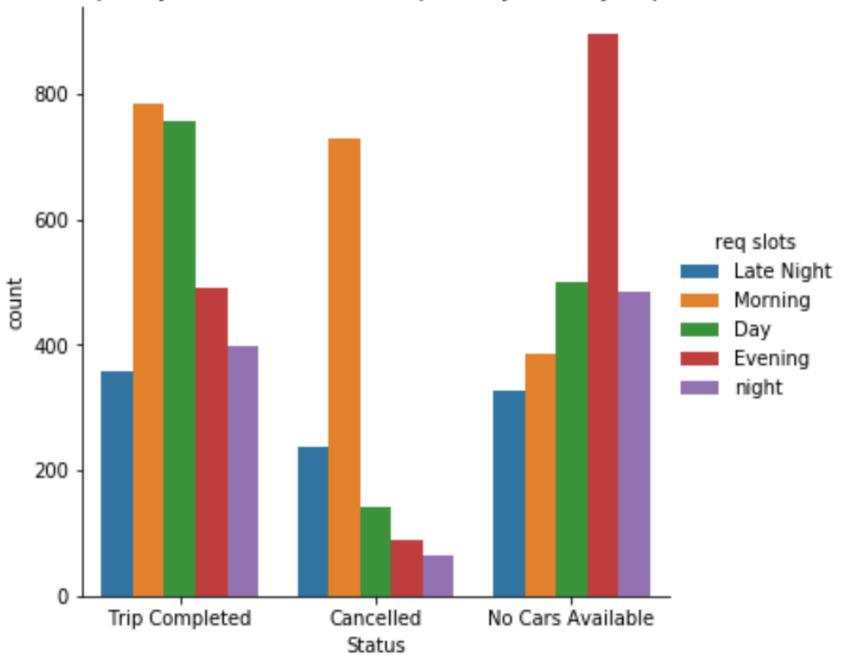




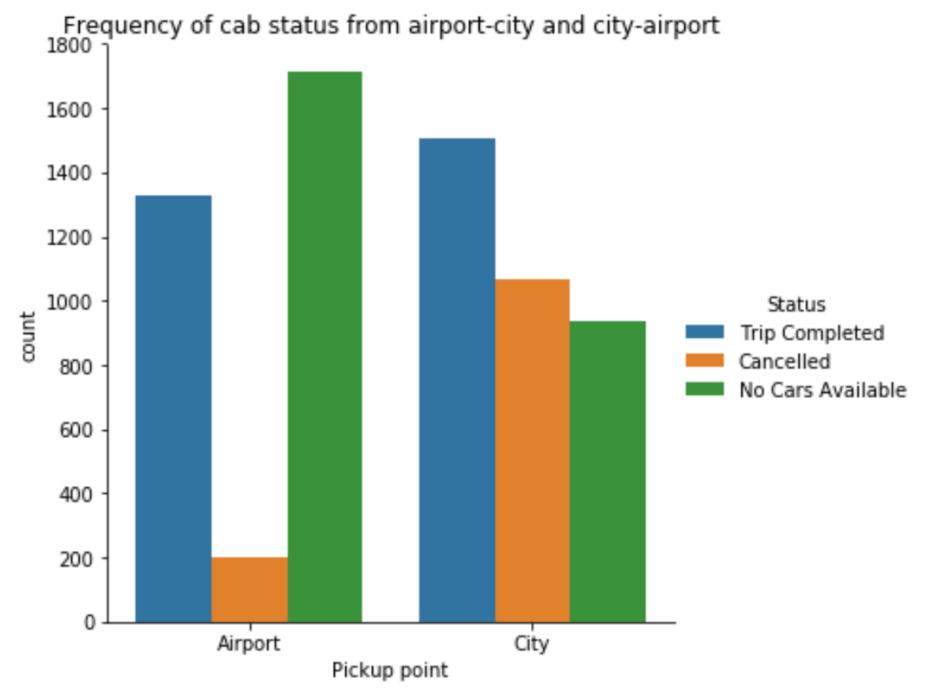


Frequency of time slots from airport-city and city-airport







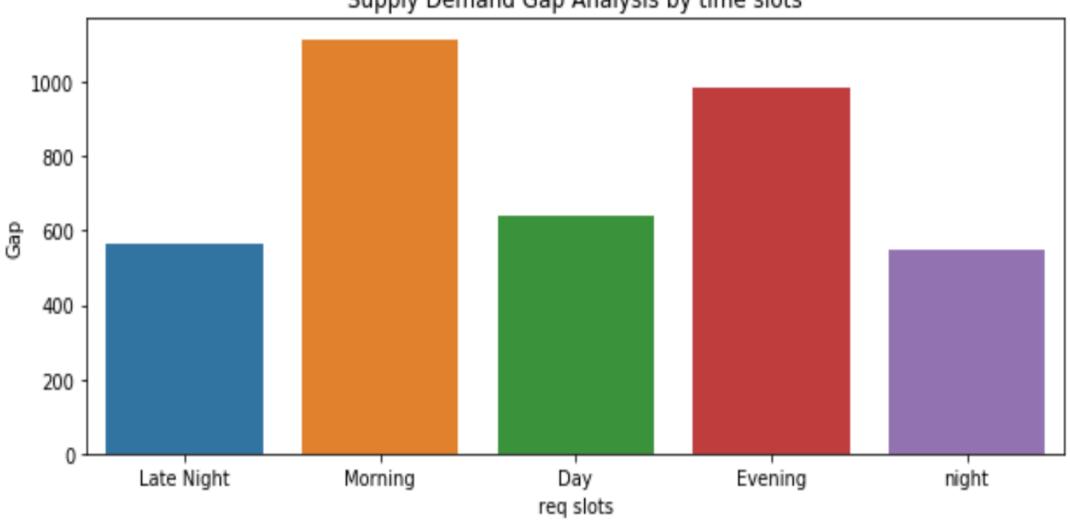








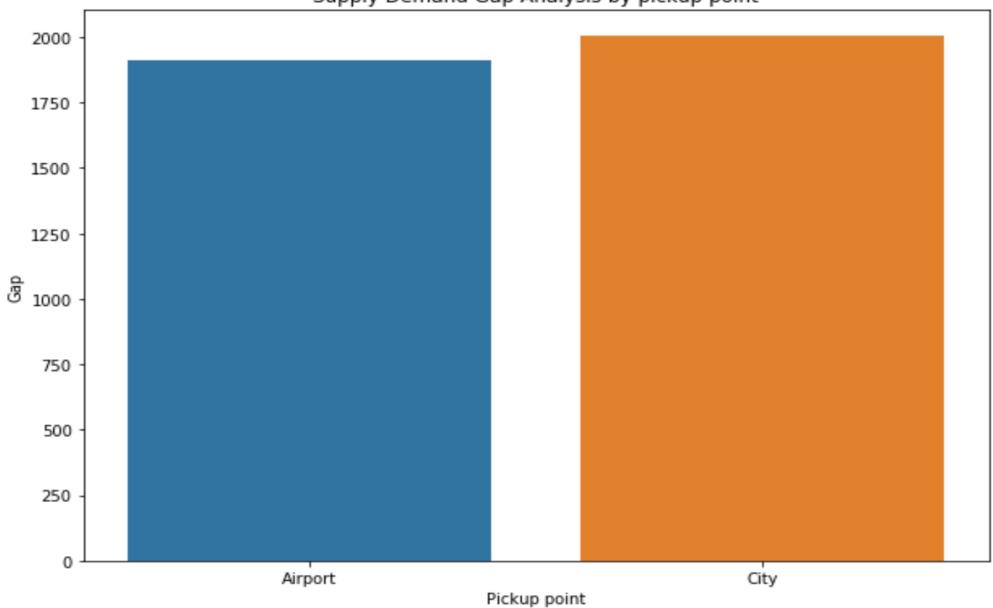






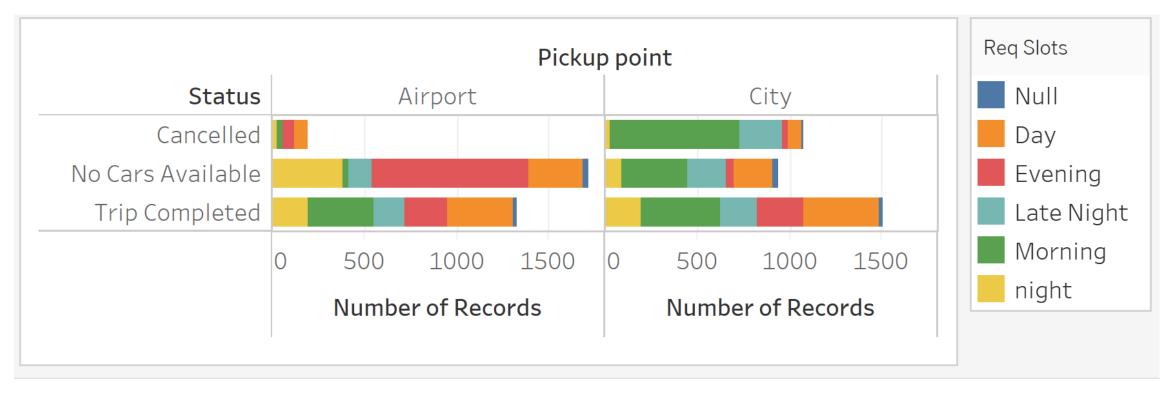


Supply Demand Gap Analysis by pickup point

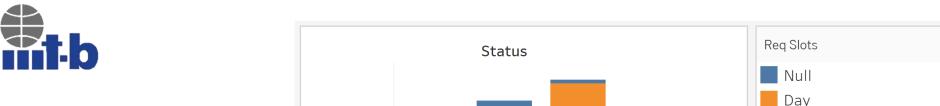




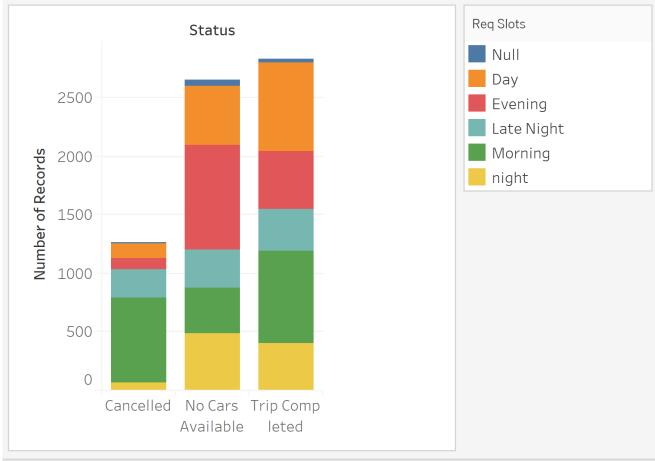




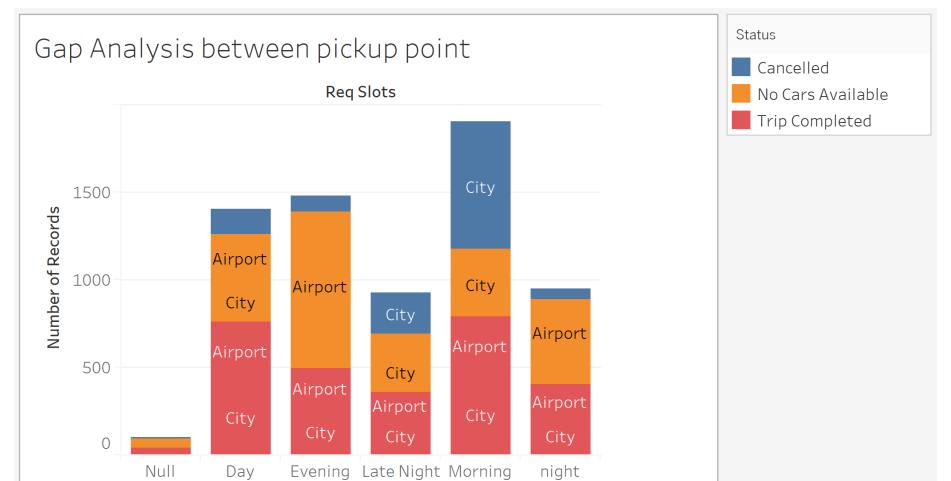


















Reasons for Supply Demand Gap

- From previous graph we can derive the conclusion that there is shortage of cabs from airport to city during evening time which may be due to high traffic jams in city or during this interval there are no flights scheduled either for arrival or departure.
- In morning maximum gap is from city to airport which may be due to large distance between city and airport for which drivers are cancelling the request coming from airport.
- Also it can inferred that maximum unavailability cars are from city only which may be due to large distance between city and airport.





Solution to resolve Supply Demand Gap

Some way to resolve this supply-demand gap is to create special category for airport cabs which are paid more than city cabs.

➤ We can have also have surge pricing during morning and evening time interval when demand is high.