UBER SUPPLY DEMAND GAP ASSIGNMENT

SUBMISSION

Presented By

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Abstract

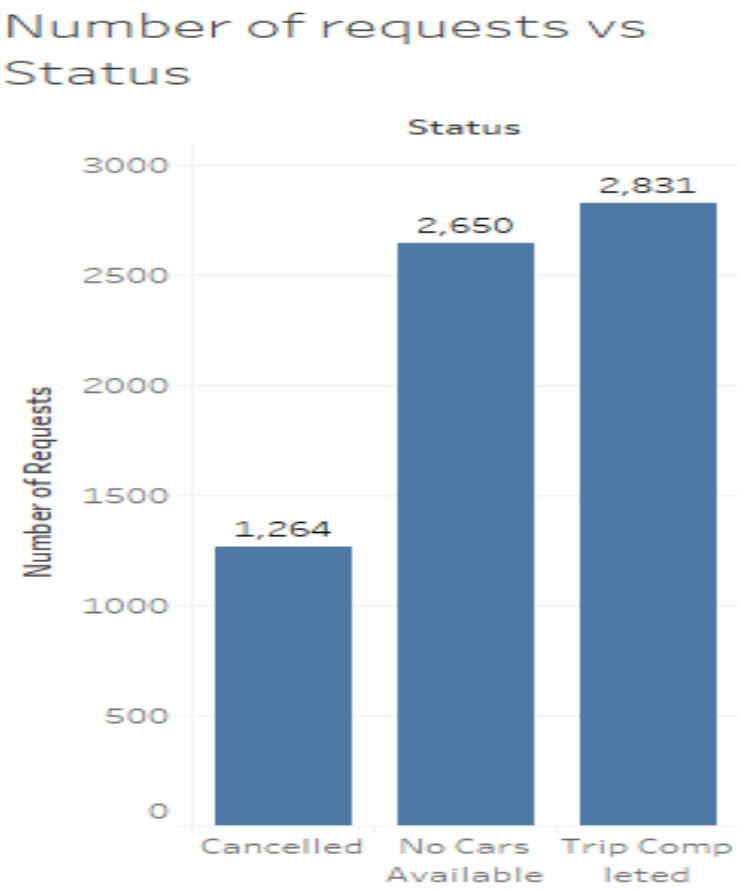
- The objective of this assignment is to find out the gap between supply and demand of Uber cabs plying between City and Airport.
- Analysis has been done based on Pickup point (City or Airport), the status of the trip, hour wise, and the time of the day.
- This presentation would help Uber in identifying the root cause of the problem.
- As a result, recommended ways to improve the situation also would be provided in this presentation.
- EDA and Data Visualisation techniques have been implemented in order to derive the hypotheses of the problem.

Problem solving methodology

- As the initial step, data was imported from the csv file and converted the timestamp variables into readable format.
- Added new columns- ‘Request Date’ and ‘Request time’, ‘Hour’ derived from the column ‘Request timestamp’, ‘Time of Day’ derived from ‘Request time’.
- Later, graph was plotted with various condition in order to identify the most problematic areas, whether the problems where there in the pickup points, or time of day or the hour of day.
- In the next page, we can see the different plots and the analysis deferred from the plot and the solution to the problem.

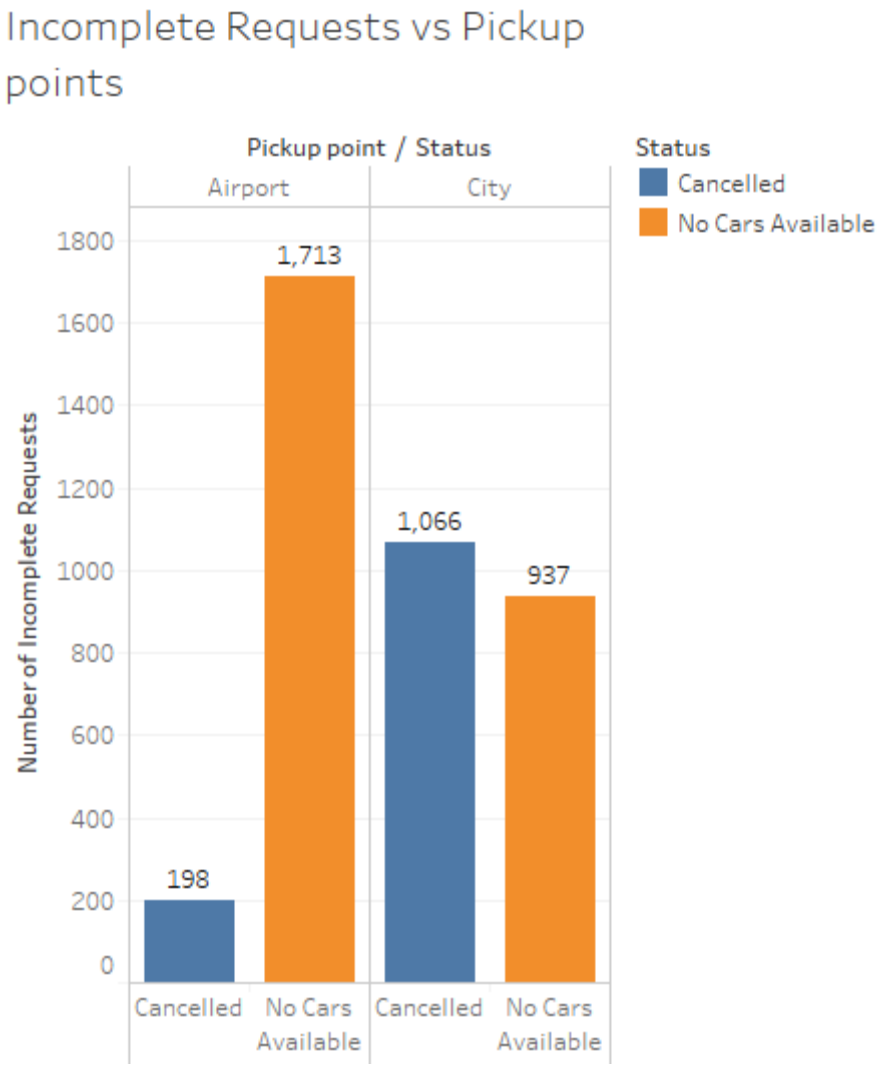
Analysis- Status

- In the adjoining graph, we can see that the trip completed has the highest number of records, post witch no cars available has the highest number of records.
- This means that, there is shortage of cabs in a particular area, compared to the number of requests cancelled.

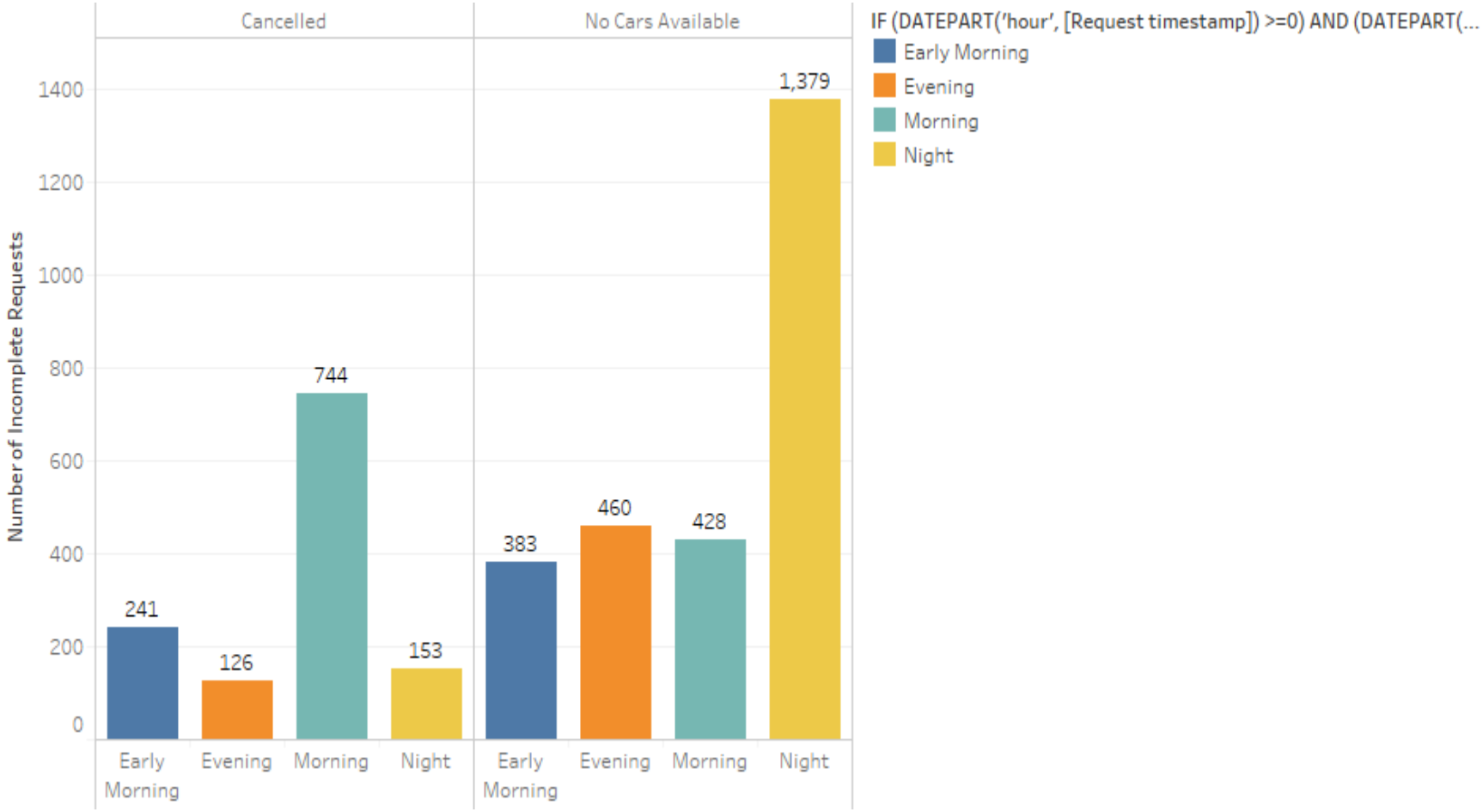


Analysis – Pickup point

- There is a huge difference when we compare the status with the pickup points.
- No cars available on Airport is higher than in city. The reason may be that the number of people booking the cabs may be higher but the cabs available in the airport are less.
- Also, the number of cabs cancelled is higher in the City compared to Airport.
- The drivers may be cancelling the trips from city to airport, as they may fear traffic jam or the distance is too big.



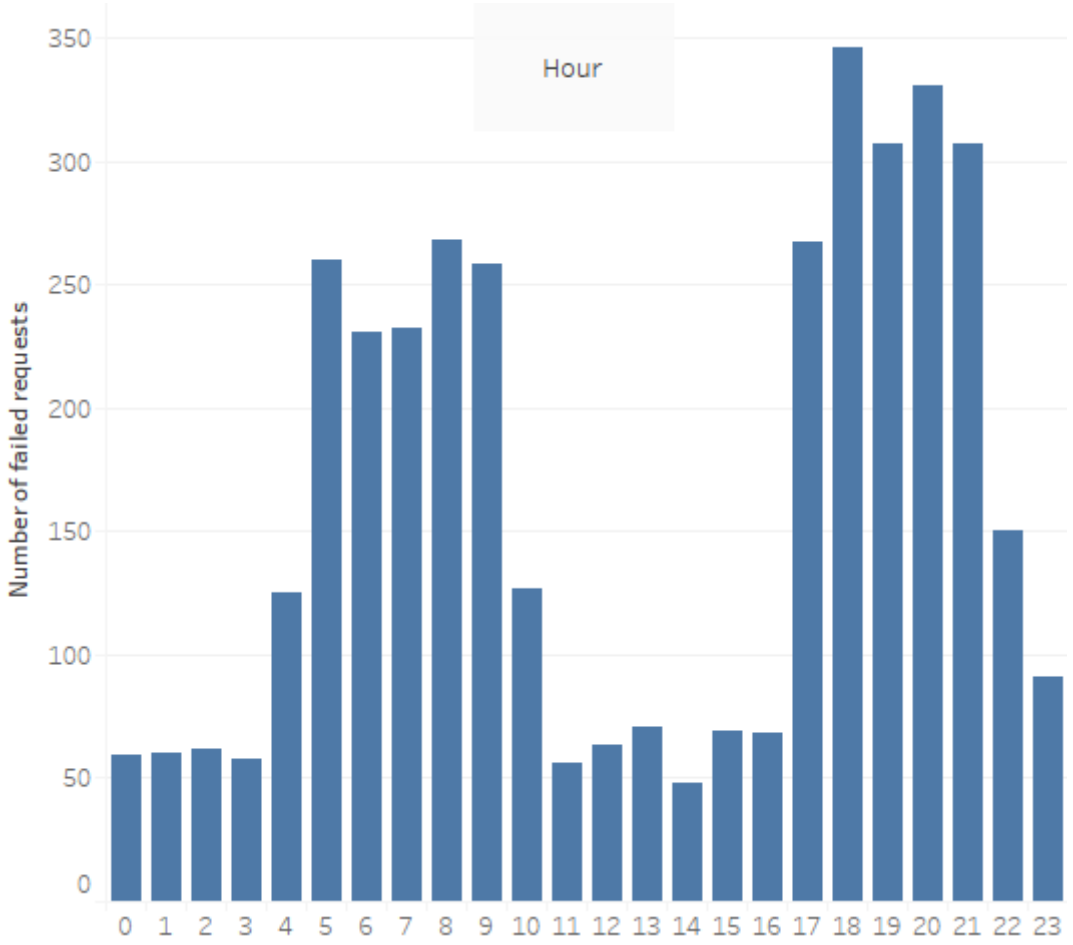
Analysis- Time of Day



- When we see the above graph, it is clear that the number of "No cars available" is highest during night time.
- The drivers may be unwilling to do night duty, or they may be afraid that they may not get much rides during the night and hence the number of no cars availability is less during the night.
- If we see the number of cabs cancelled, its highest during the morning times. Again, the drivers may fear traffic jam or they may not be able to reach the airport within time, or even if they reach the airport, not many flights land during the day and hence they may not get many rides back to the city, i.e, waiting time may be more.

Analysis – Hour of the day

- As we saw earlier, the number of cancelled cabs are more during the morning time, precisely between 4 am and 10 am. We also see that there are not many cars available during this time. The demand is more, but the supply is less.
- The number of cars availability falls down rapidly in the second half of the day, precisely between 5 pm in the evening to 11 pm in the night. Again, the demand is more and the supply is less.



Conclusions

- As we have seen in the previous plots, the number of cabs cancelled is high in city during the morning time and the number of no cabs availability is high in the night in the Aiport.
- Hence, appropriate measures have to be taken in order to resolve this supply demand gap.
- In the Airport, during the night, there should be more cabs made available to the passengers , hence there will not be much of loss due to less supply.
- In the city, during morning times, Uber should speak to its drivers regarding why these cabs are getting cancelled often and there should be some strict measures taken in order to reduce the number of cancelling of cabs.
- Hence, due to unavailability of cabs during the peak time of morning and evening in city and airport respectively, there is a gap in supply and demand. This problem should be addressed immediately and appropriate actions should be taken to rectify the same.