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**PG DEPARTMENT OF MATHEMATICS**

**PROJECT TITLE:**

**Voyage Vista : Illuminating Insights from Uber Expeditionary  
Analysis**

**SUBMITTED BY :**

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# 1.INTRODUCTION

## 1.1 OVERVIEW:

Uber is a ride-hailing company that relies heavily on data science and analysis to support its day-to-day operations and provide hassle-free rides and deliveries to customers. Data science is a critical component of Uber's operations, and the company invests heavily in its data science and technology capabilities. Some of the key use cases of data science in Uber include - dynamic pricing, driver assignment, safety, fraud, customer experience, etc. In this article, we will extensively explore a dataset of Uber rides.

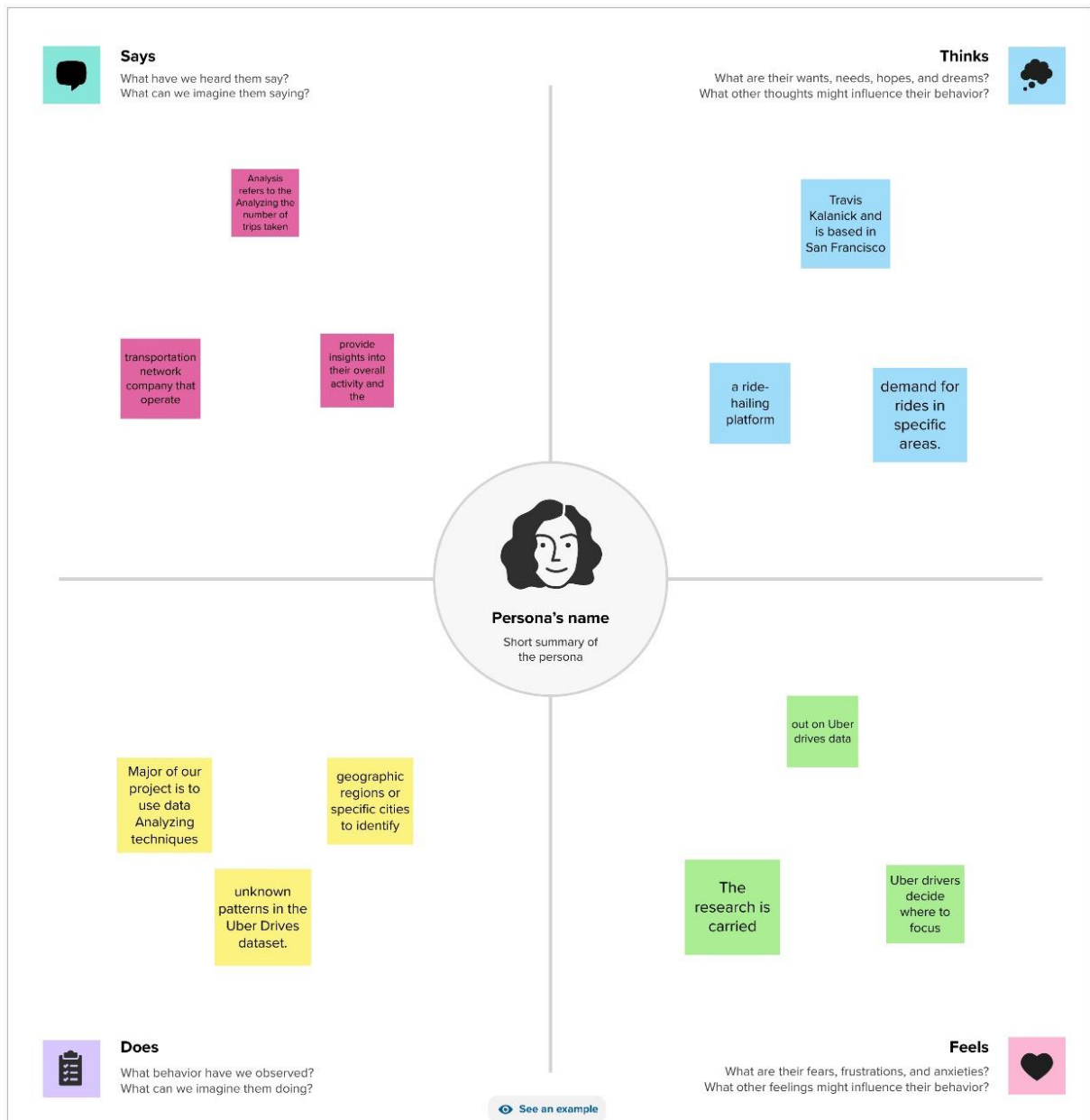
## 1.2 PURPOSE:

Uber is a ride-hailing company that relies heavily on data science and analysis to support its day-to-day operations and provide hassle-free rides and deliveries to customers. Data science is a critical component of Uber's operations, and the company invests heavily in its data science and technology capabilities.

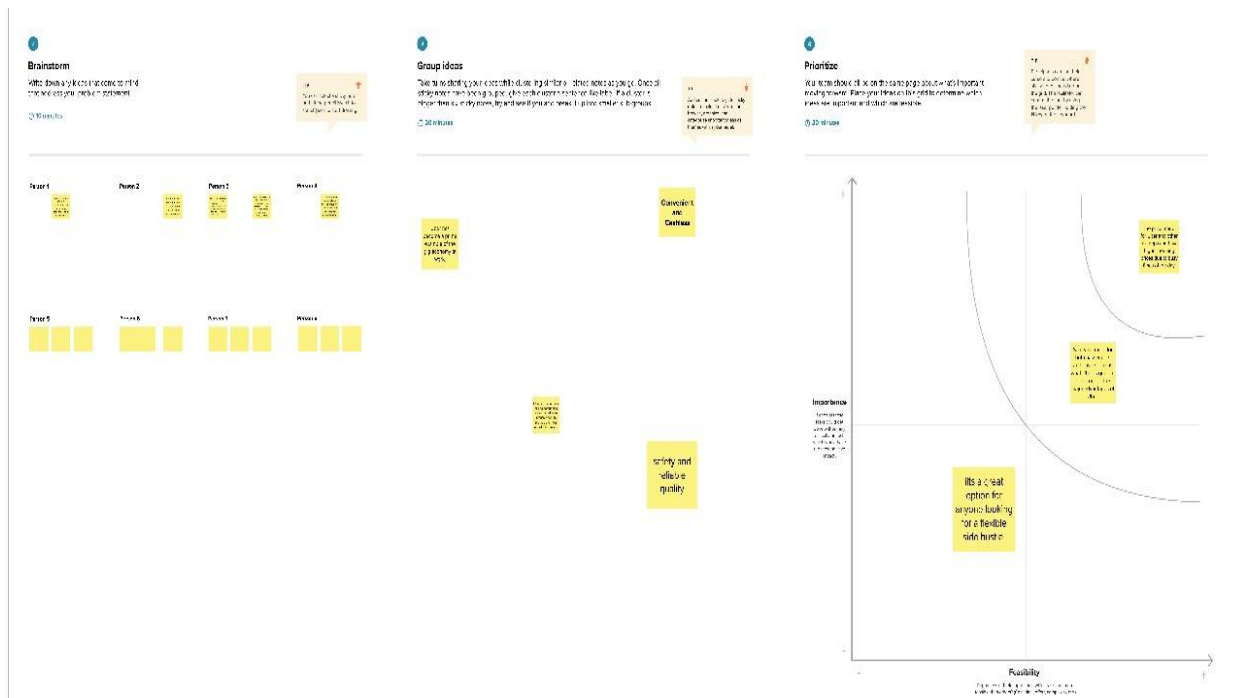
The purpose of it is to identify, transform, support decision making and bring a conclusion to a research. Data analysis on its own varies its name based on the domain 1 of the study ranging from business, science and social science. There are several ways in which the data analysis is completed.

## 2.PROBLEM DEFINITION & DESIGN THINKING :

### 2.1 EMPATHY MAP :

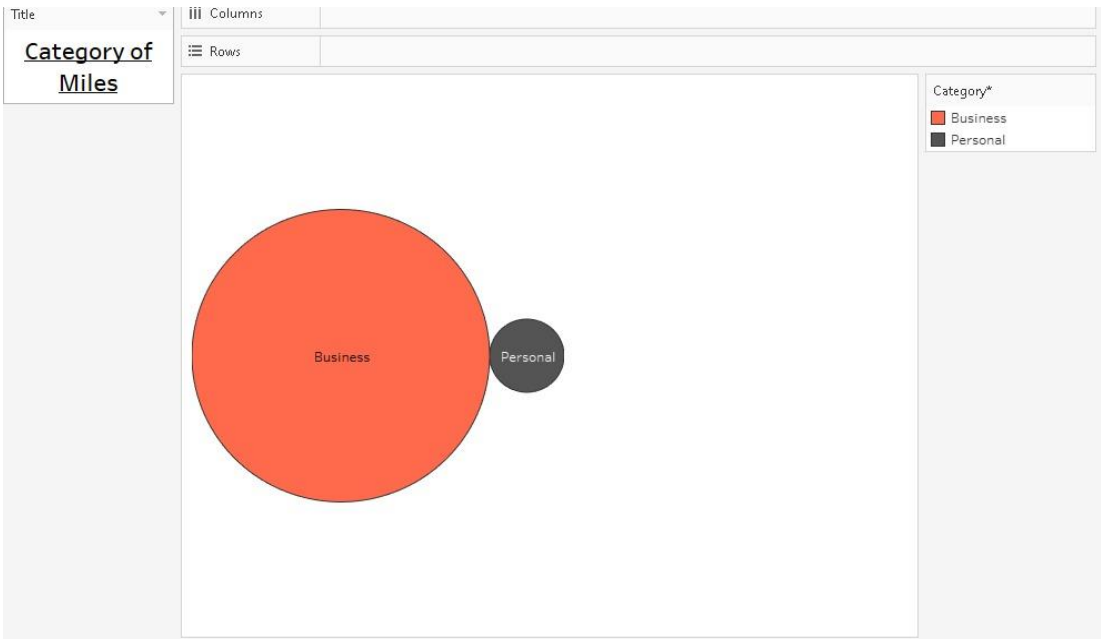
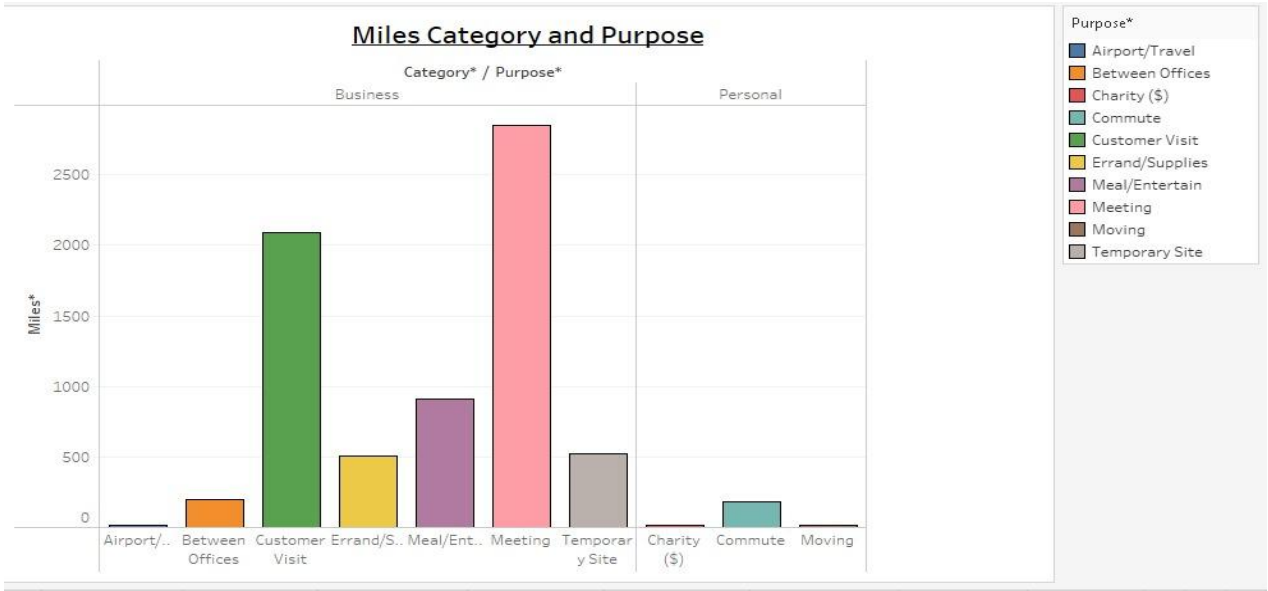


## 2.2 IDEATION AND BRAINSTORMING MAP:



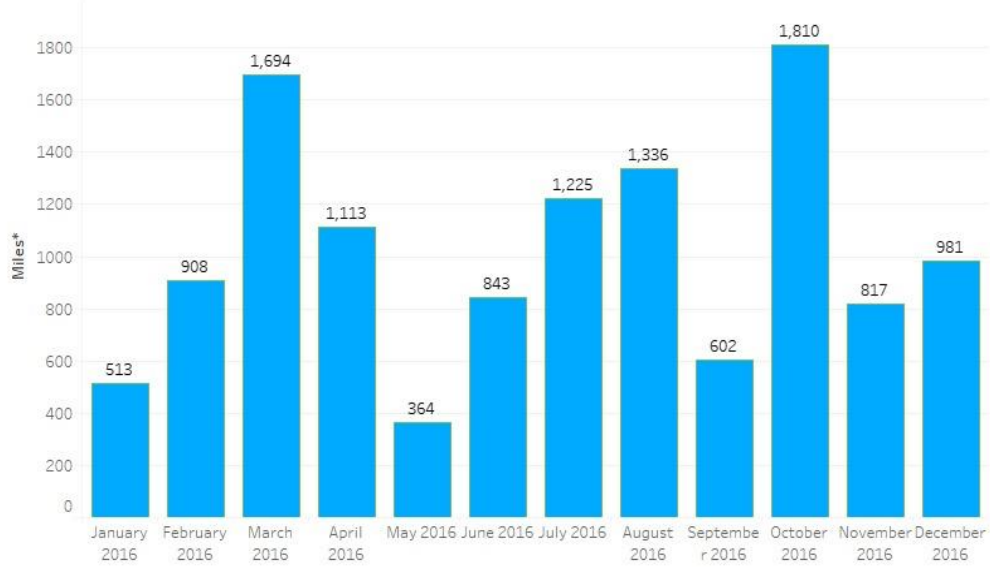
3. RESULT:

DASHBOARDS AND STORIES:



### Month wise Miles

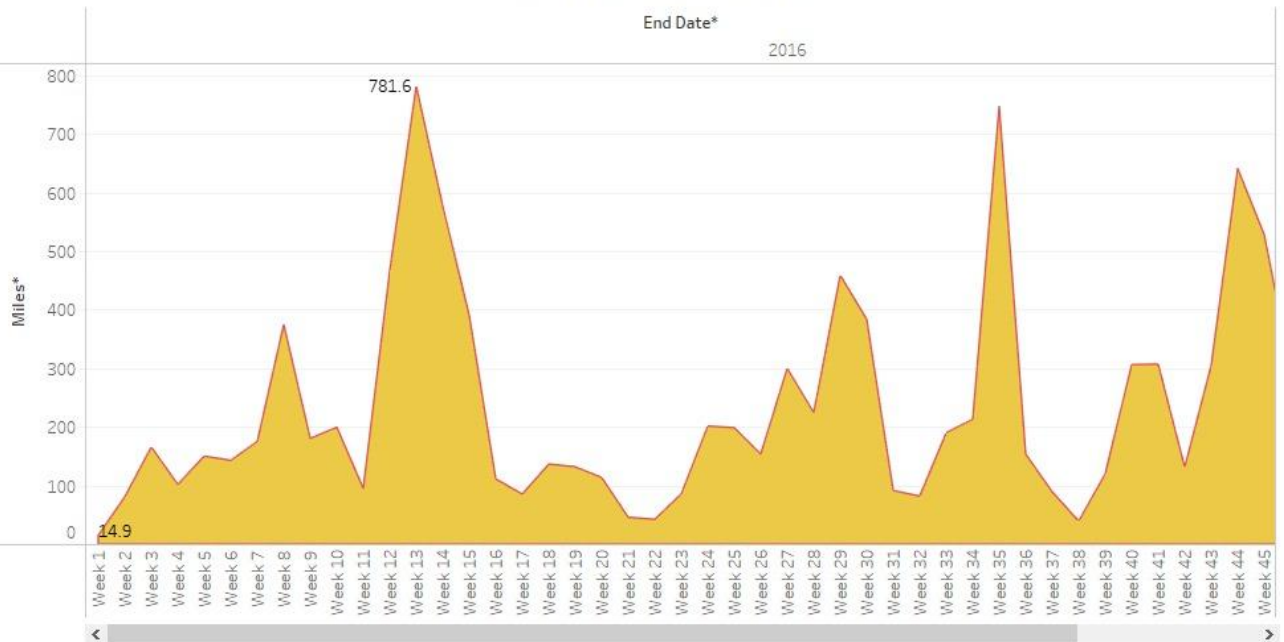
Month of End Date\*



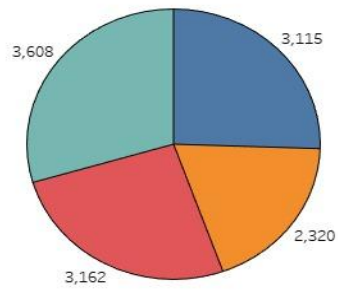
### Week wise Miles Covered

End Date\*

2016



### Quarter wise Miles



QUARTER(End Date\*)

- Q1
- Q2
- Q3
- Q4

SUM(Miles\*)

12,205

### Month wise Trips

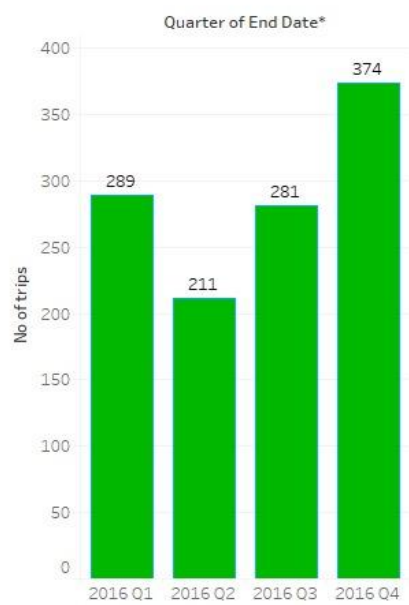
Month of End Date\*

January 2016	February 2016	March 2016	April 2016	May 2016	June 2016	July 2016	August 2016	September 2016	October 2016	November 2016	December 2016
61	115	113	54	49	108	112	133	36	106	122	146

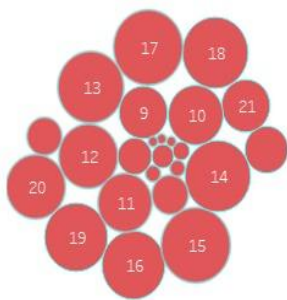
AGG(No of trips)



Quarter wise Trips



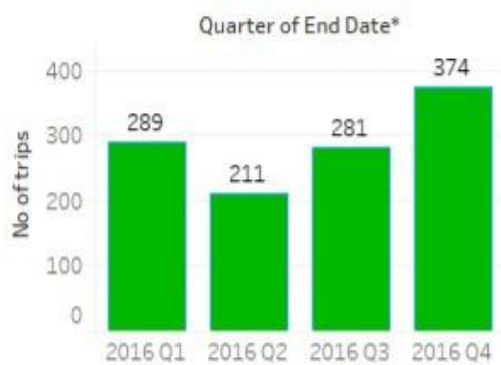
Hour wise Analysis





## Story 1

< In Q4 More Uber Trips has been tok place In December More Number of Uber Trips has been took place Uber is busy from 5-7pm >

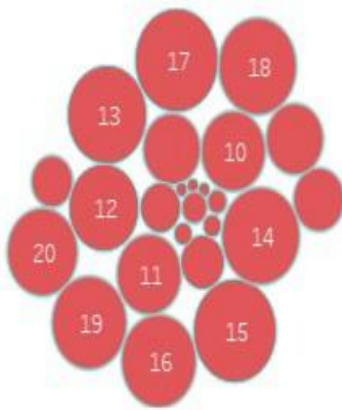


## Story 1

< In Q4 More Uber Trips has been tok place In December More Number of Uber Trips has been took place Uber is busy from 5-7pm >



## Story 1



## 4. ADVANTAGE & DISADVANTAGE :

### ADVANTAGES OF UBER:

Uber through E-hail has hired drivers easily and fast. Proprietary software in the app locates drivers circling nearby cheapest carpooling luxury wheels. The price is fixed.

- Convenient and Cashless

Instead of chasing a taxi on a street, or calling and waiting, app users can book a ride from any location and it arrives in minutes.

Passenger's credit or debit card is linked to the taxi app account, no cash changes hands.

After the completion of the ride, A receipt is sent via email, and some links to options for rating and tipping the driver.

- Professional Service

Drivers for Uber may use their own cars and bike. Drivers get incentives to keep their taxis clean and well-maintained.

The cheapest options for taxis are late-model compact cars and bikes.

The riders need to insert their destinations into the app, and the drivers use the taxi app navigational features to reach the rider which is provided by the taxi app development company.

The driver talks in a polite and well-spoken manner. Drivers don't get your destination details before picking you up.

A driver with a low rating will force a driver out of Uber or its competitors.

- Competitive Pricing

Uber is less expensive than other taxi services, but not always. Longer trips are always cheaper by Uber but short rides can be expensive.

The price model for Uber and other taxi apps can have higher booking prices due to busy times of the day.

It is impossible to come up with a fixed price for an uber ride. Its costing plans vary from one city to another and from one country to another.

But uber always show you the estimated fare before starting the ride.

- Safer and Flexible

Safety is crucial for both passengers and drivers. This is what Uber is good at it. It is one of the major advantages of Uber.

## **DISADVANTAGES OF UBER:**

Drivers are not assured of minimum pay to maintain their own vehicles. This topic is growing controversial in many cities because New York City mandated a \$17.22 minimum wage for drivers.

- **Surge Pricing**

“Surge pricing” or “rush time pricing” is not fixed in uber. It’s a free market principle of raising prices according to supply and demand.

This means how many taxis are available (supply) and how many customers want to ride(demand).

This automated system sometimes shows differences in pricing between any two same points.

At peak times, the price could be double or more. This means too costly during rush hour.

Although this benefits uber by increasing the supply of drivers. Drivers can be motivated to earn at this time.

- **Low Fares Worry Drivers**

Some Uber drivers say they struggle to earn minimum wage. Drivers have to pay the cost of fuel, maintenance, and repairs from their own pocket.

With competition from other taxi apps, the earnings of drivers can be driven downward.

This indicates that they need to work for longer hours to earn a certain income.

- **Price Competition**

Uber and other taxi-hailing companies are engaged in an intensive fight to provide the most affordable service.

They are competing with traditional taxi services for both customers and drivers. This has led to low earnings for taxi drivers.

## 5. APPLICATIONS:

The data is stored into the database for supply and demand algorithm analysis. Driver data is used for autonomous car research, surge pricing, tracking the location of drivers, monitoring driver's speed, motion and acceleration and identifying if a driver is working for a competing cab sharing company.

## 6.CONCLUSION:

Exploratory Data Analysis is no small feat! It takes a lot of work and patience, but it is certainly a powerful tool if used properly in the context of your business.

After analyzing the various parameters, here are a few guidelines that we can conclude. If you were a Business analyst or data scientist working for Uber or Lyft, you could come to the following conclusions:

- Uber is very economical; however, Lyft also offers fair competition.
- People prefer to have a shared ride in the middle of the night.
- People avoid riding when it rains.
- When traveling long distances, the price does not increase by line. However, based on time and demand, increases can affect costs.
- Uber could be the first choice for long distances.

## 7. FUTURE SCOPE :

We can use this data for training a model using ML and building a smart AI based predictive system.

Model can automatically send the insights to the authorities or drivers related to areas having most trips and passenger count in certain areas.

This big data can be used to study passenger's behavior.