# FLIGHT SATISFACTION ANALYSIS

IST-687 GROUP

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# BUSINESS QUESTIONS

**1**

What are the factors that will affect customer satisfaction?

**2**

What are the characteristics of the customers with low satisfaction?

**3**

What are the recommendations for improving the satisfaction of the customers?
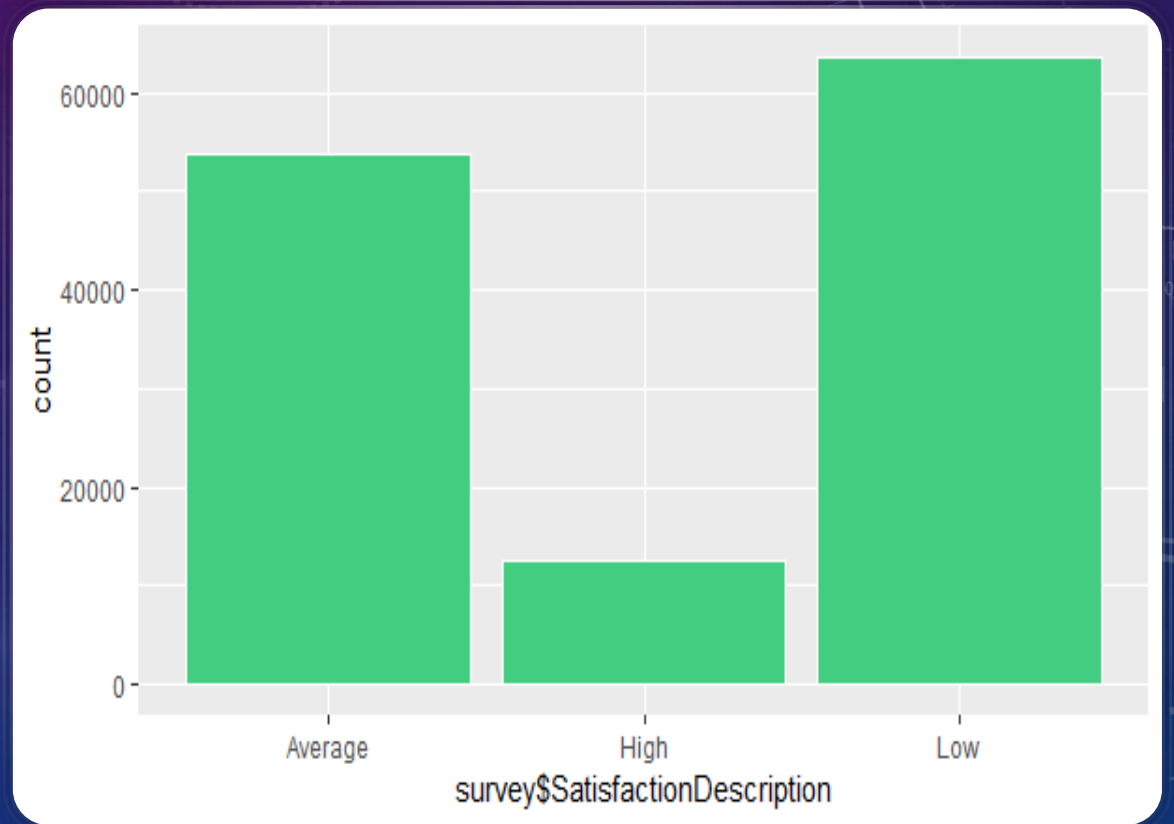
# DATA CLEANING

## Complete Data Set

- Total Number of Survey Responses = 129889
- Total Number of Attributes = 28

## Cleaned Data Set

- It was observed that NAs accounted to 6% of the entire dataset.
- Instead of omitting the NAs, replaced the NAs with mean values.
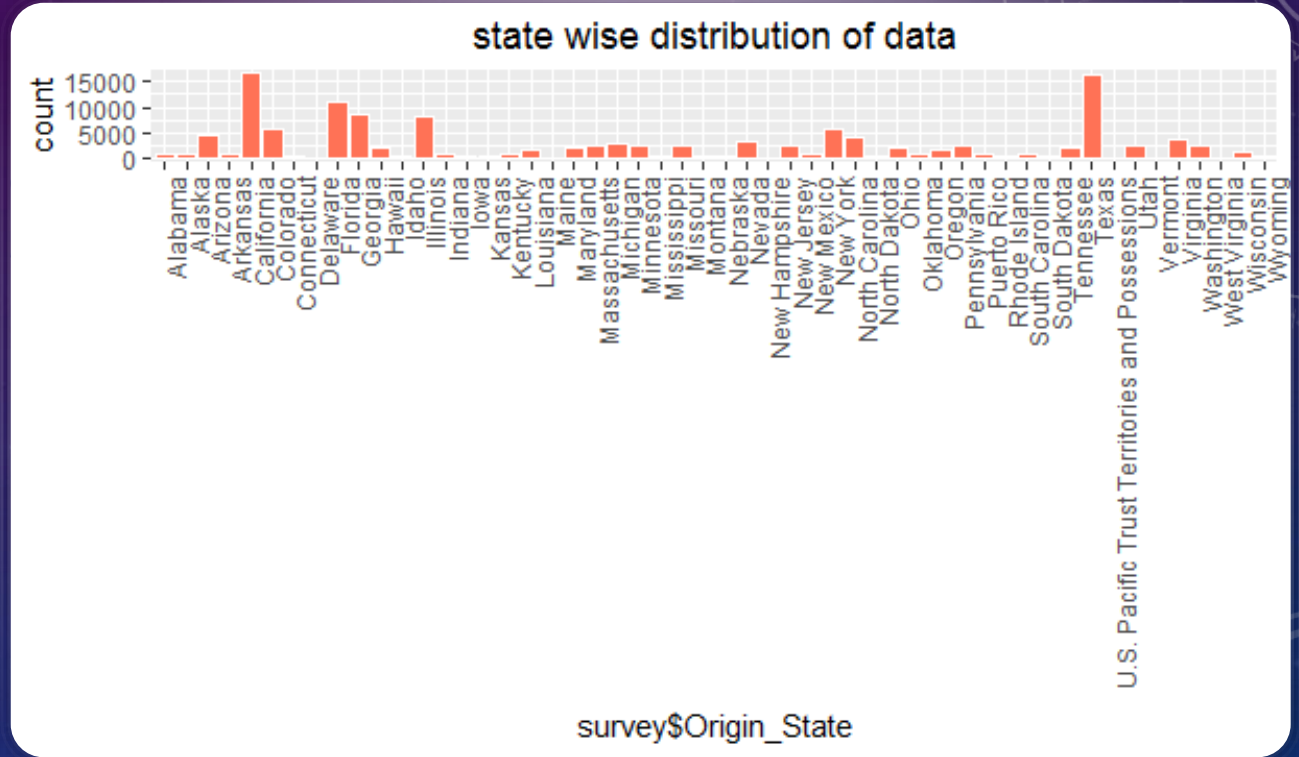- From Flight_time_in_minutes, Arrival_delay_in_minute & Departure_delay_in_minutes
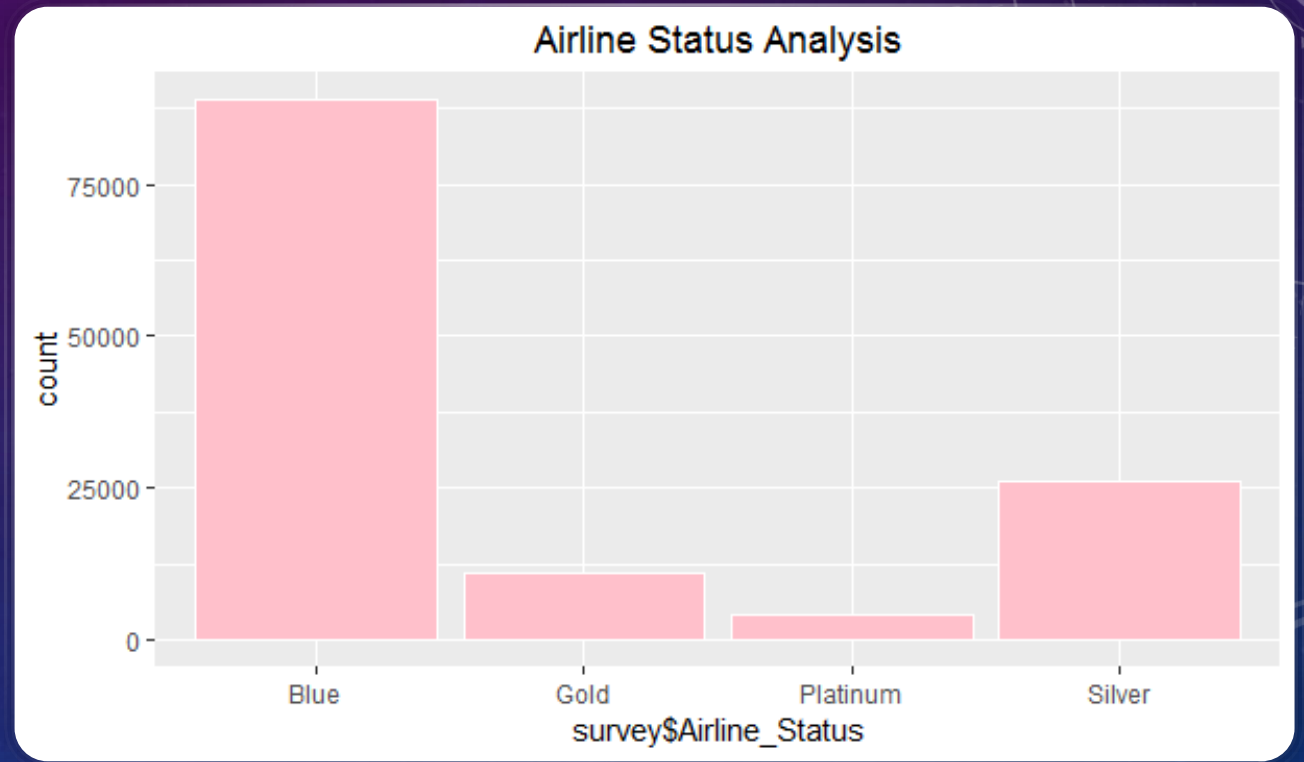
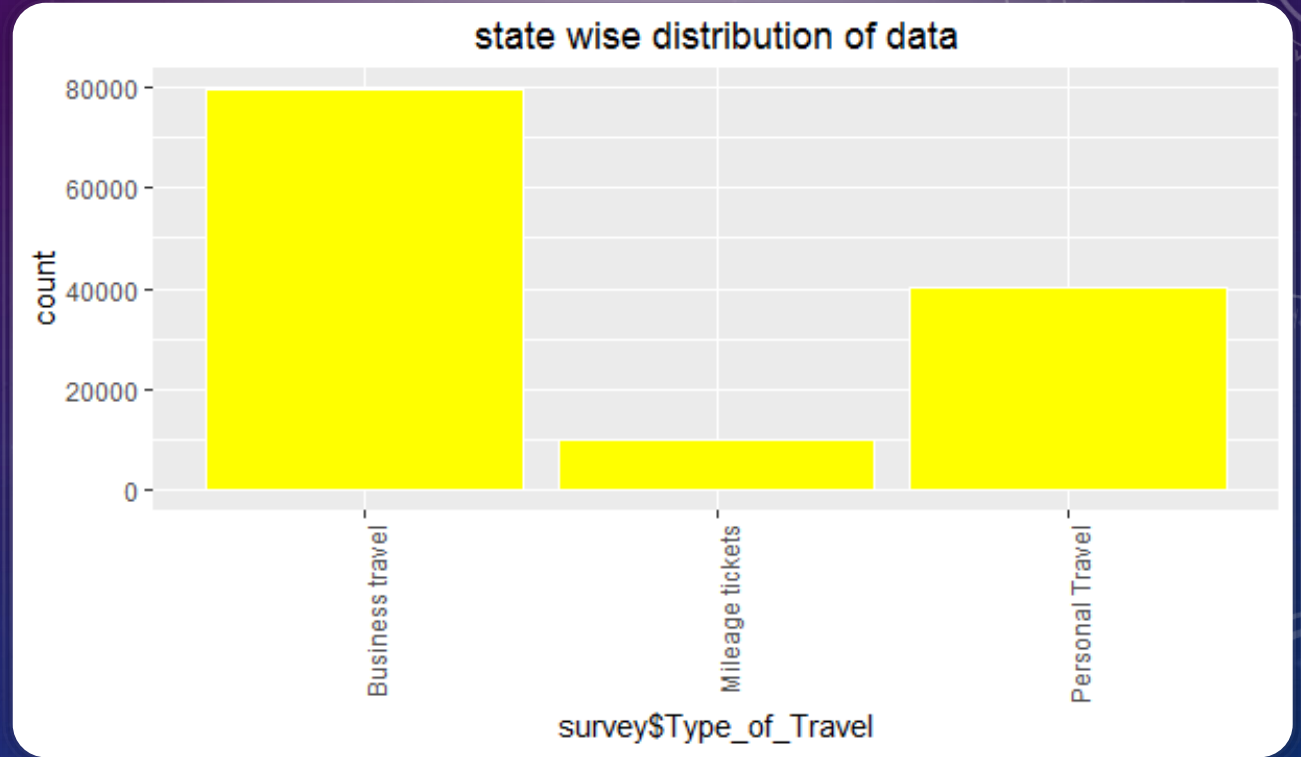# DATA DESCRIPTION :- BASED ON THE FLIGHT

Origin State

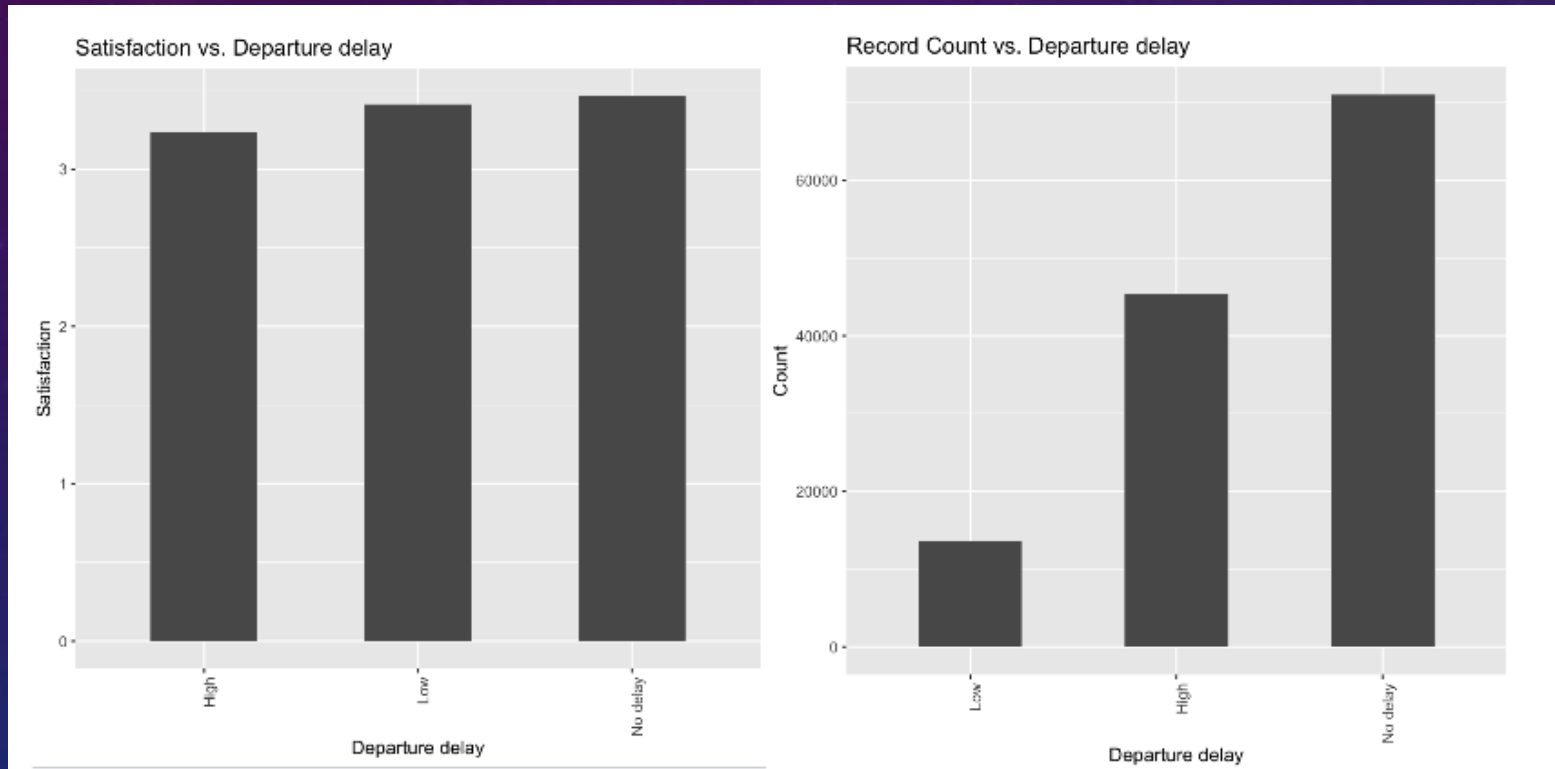# DATA DESCRIPTION :- BASED ON THE FLIGHT

Airline Status

# DATA DESCRIPTION :-
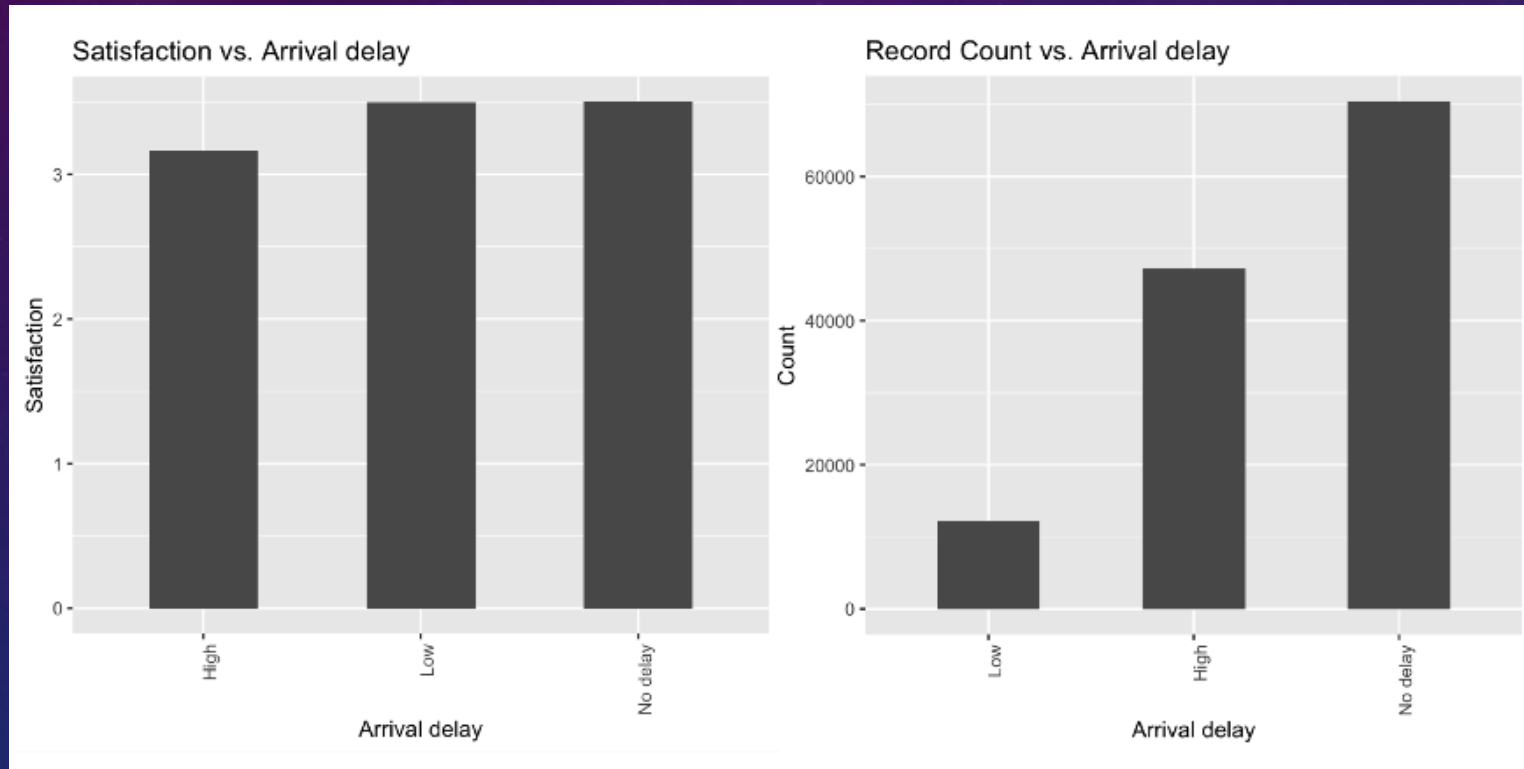# BASED ON THE FLIGHT

Type of Travel

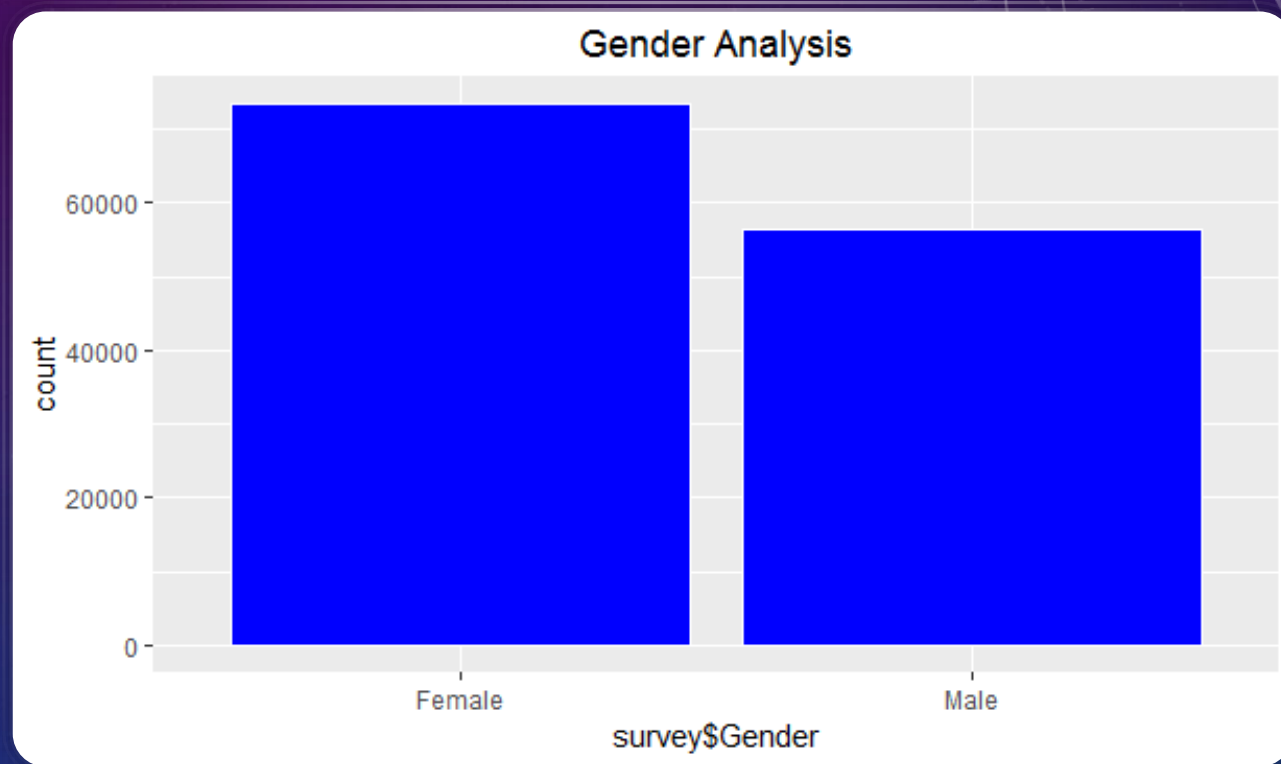# DATA DESCRIPTION :- BASED ON THE QUALITY

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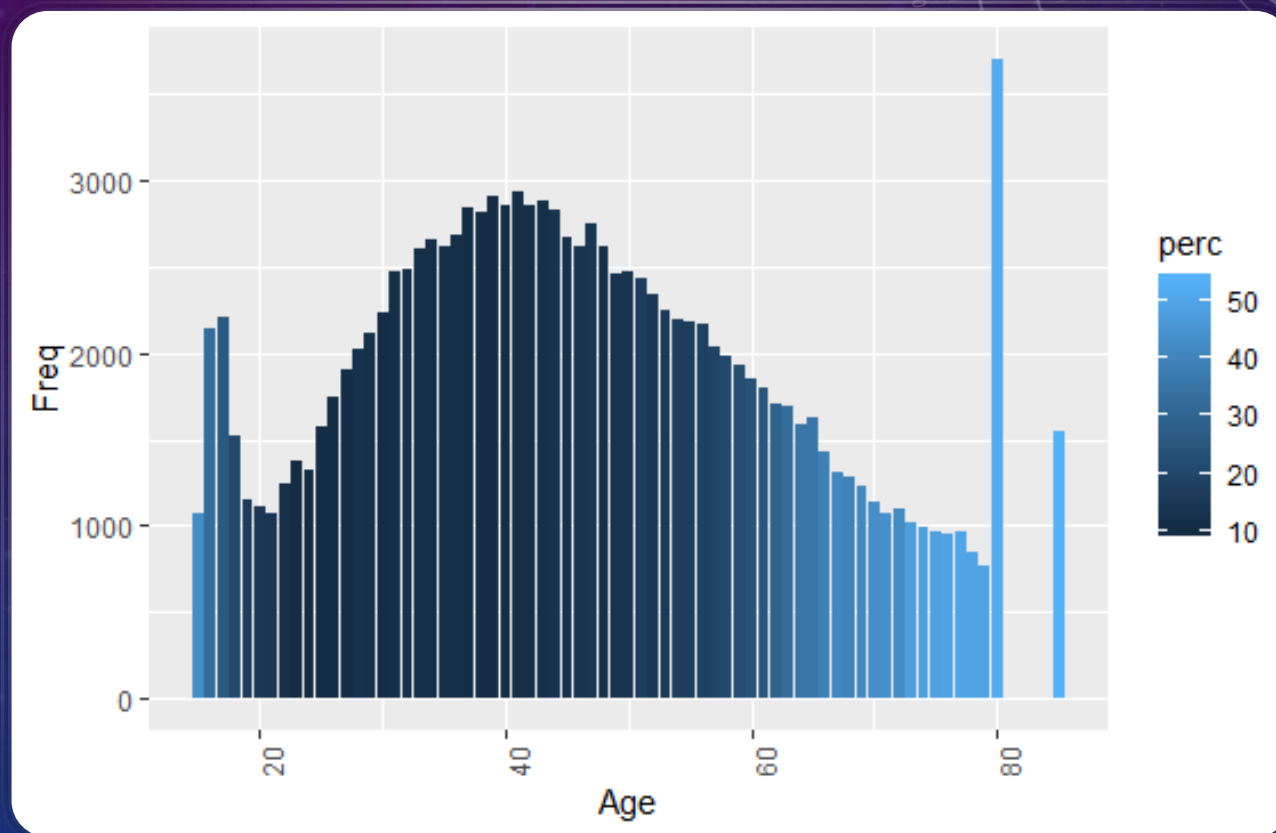
## DATA DESCRIPTION :- BASED ON THE ATTRIBUTES RELATED TO THE DEMOGRAPHICS

Gender

# DATA DESCRIPTION :- BASED ON THE ATTRIBUTES RELATED TO THE DEMOGRAPHICS

Age
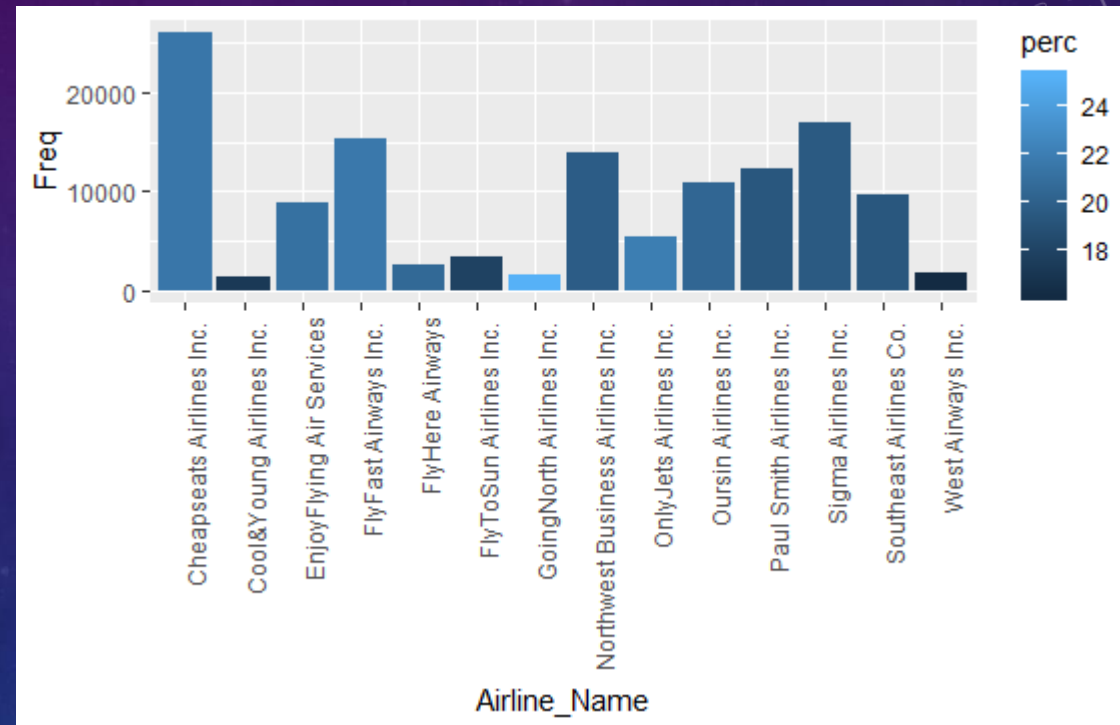
# AIRLINE ANALYSIS

Objective –

To find out the percentage of unhappy customers in each airline.

Result –

•FlyFast Airways Inc. had the most number of unhappy customers with a reasonable number of total customers.

# DESCRIPTION OF THE TWO DATASETS

Flyfast Airways Co. 15,407

SouthEast Airlines Inc 9,577

# ANALYSIS MODELS USED

Linear Regression Model

Association Rule Mining

# LINEAR REGRESSION MODEL

**Comparison of attributes dependent on customer satisfaction**

| Flyfast Airways | SouthEast Airlines |
|---|---|
| Airline Status | Airline Status |
| Age | Age |
| Gender | Gender |
| Arrival delay greater than 5 mins | Arrival delay greater than 5 mins |
| Type of Travel | Type of Travel |
| Flights cancelled | Flights cancelled |
| Year of first flight | |

# ASSOCIATION RULE MINING

___

**Comparison of attributes dependent on customer satisfaction**

| Flyfast Airways | SouthEast Airlines |
|---|---|
| Airline Status | Airline Status |
| Class | Class |
| Type of Travel | Type of Travel |
| Flights cancelled | Flights cancelled |
| Gender | |

# VARIABLE IMPORTANCE ANALYSIS - SVM

**FlyFast Airways Inc.**

**Southeast Airlines Co.**

COMPARISON OF AIRLINES BASED ON SVM ACCURACIES

# COMMON ATTRIBUTES

**Comparison of attributes dependent on customer satisfaction**

**Flyfast Airways**

Airline Status

Type of Travel

Flights cancelled

**SouthEast Airlines**

Airline Status

Type of Travel
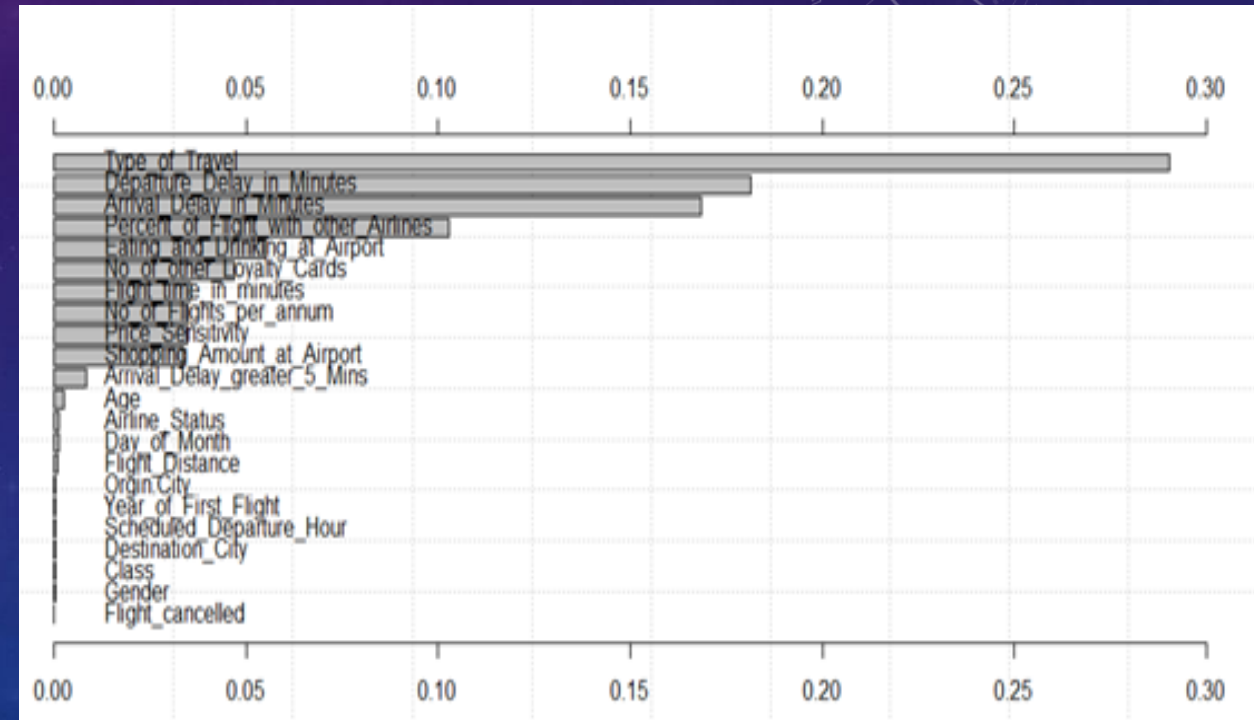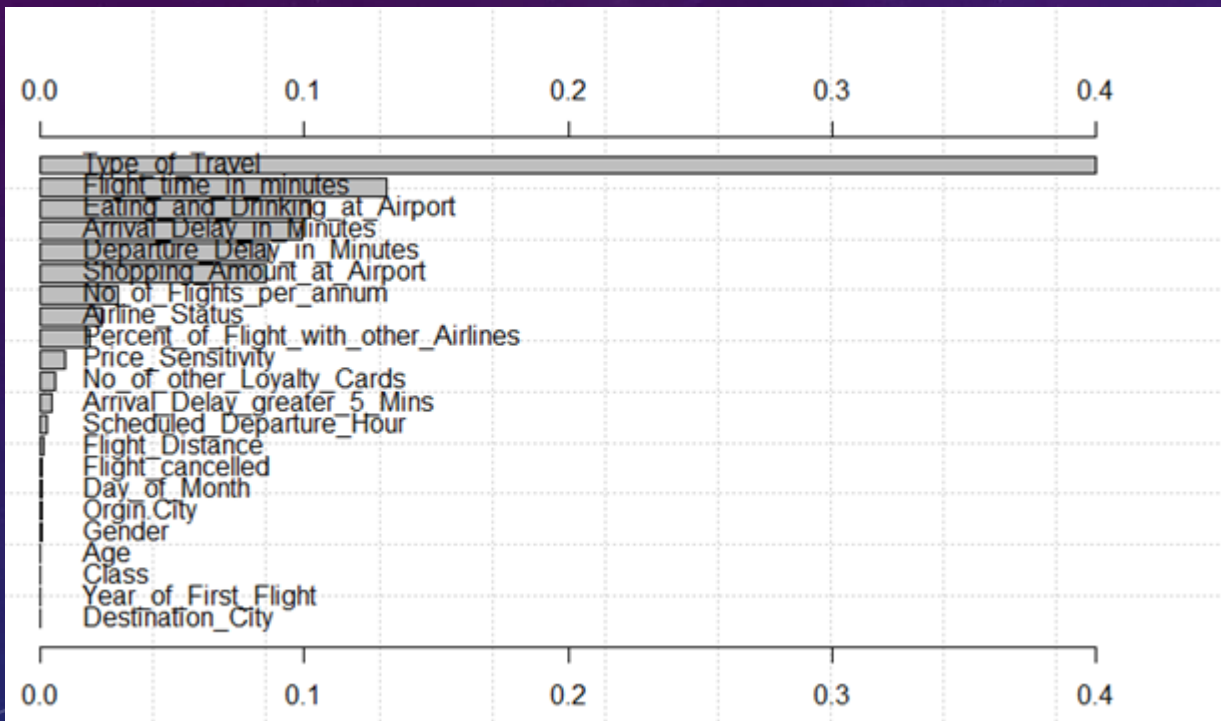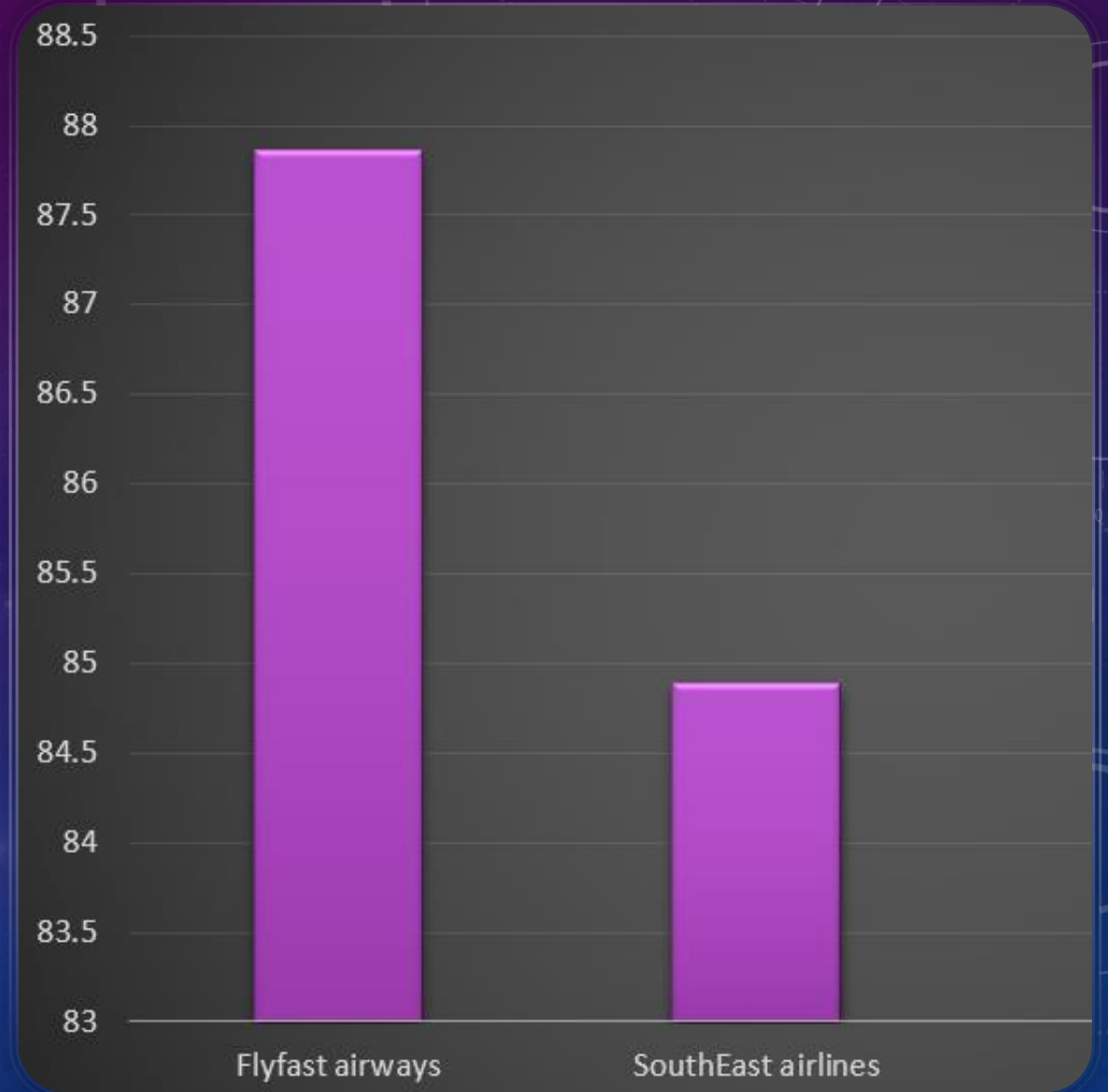
Flights cancelled

# ACTIONABLE INSIGHTS

- Focus on avoiding flight cancellations and delays

- Focus on improving the customer satisfaction for the age group of 50 to 85 as they are the most unsatisfied customers

- Provide offers or discounts to people in economy class and blue airline status and offer attractive travel packages for customers who make personal travel.

- Improving the services for people making personal travel could generate more revenue.

- One interesting takeaway was that the delay in departure time and arrival time did not prove to be affecting the customer satisfaction in our analysis. This means that customers are more affected by flight cancellation and do not tend to give out low ratings in case of delays.

- Increasing certain complimentary amenities like snacks, WiFi on board, random upgrades can help the airlines to enhance customer experience.

THANK YOU