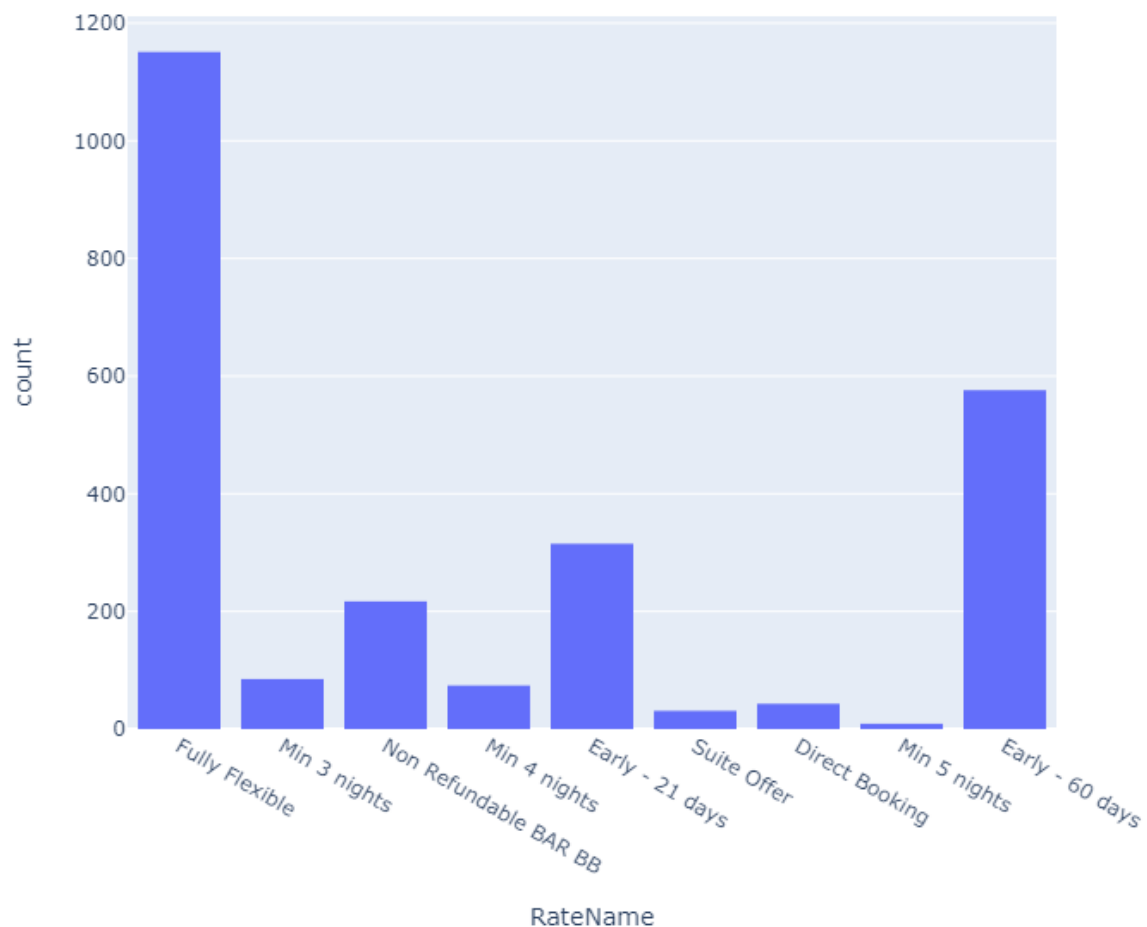


# Customer Segmentation and Analysis Task

## 1.a. What are the popular choices of booking rates?

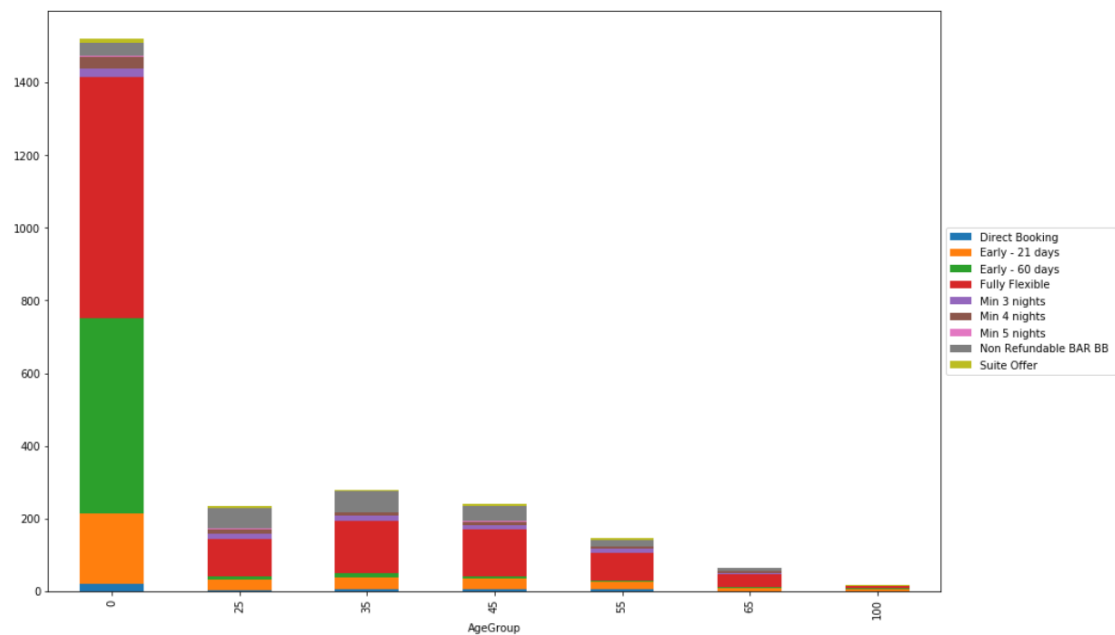
- We can observe that, **Fully Flexible** is the most popular rate choice among customer, then followed by **Early - 60 days** rooms.



## 1.b. What are the popular choices of booking rates for different segments of customers?

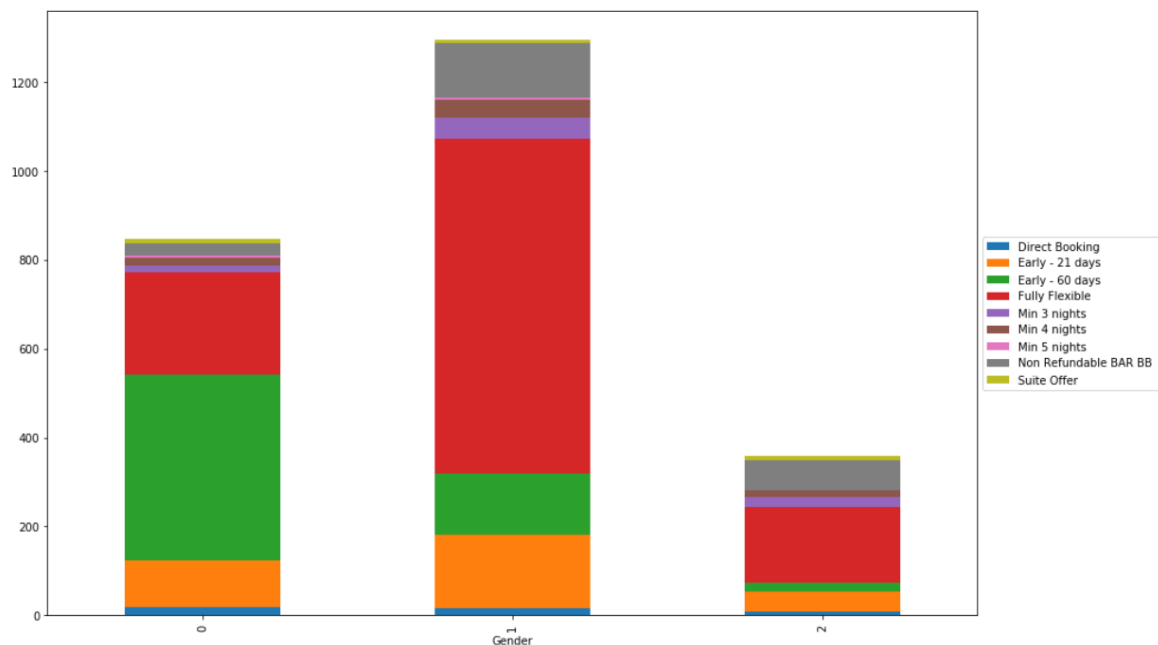
- For Age Group v/s Rate Name
  1. In all the age groups we can observe that, customers are more likely to book rooms with **Fully Flexible** rate than any other rates.
  2. Moreover, age group **0** contribute to more than 50% of customer bookings for given hotel property.

AgeGroup v/s RateName



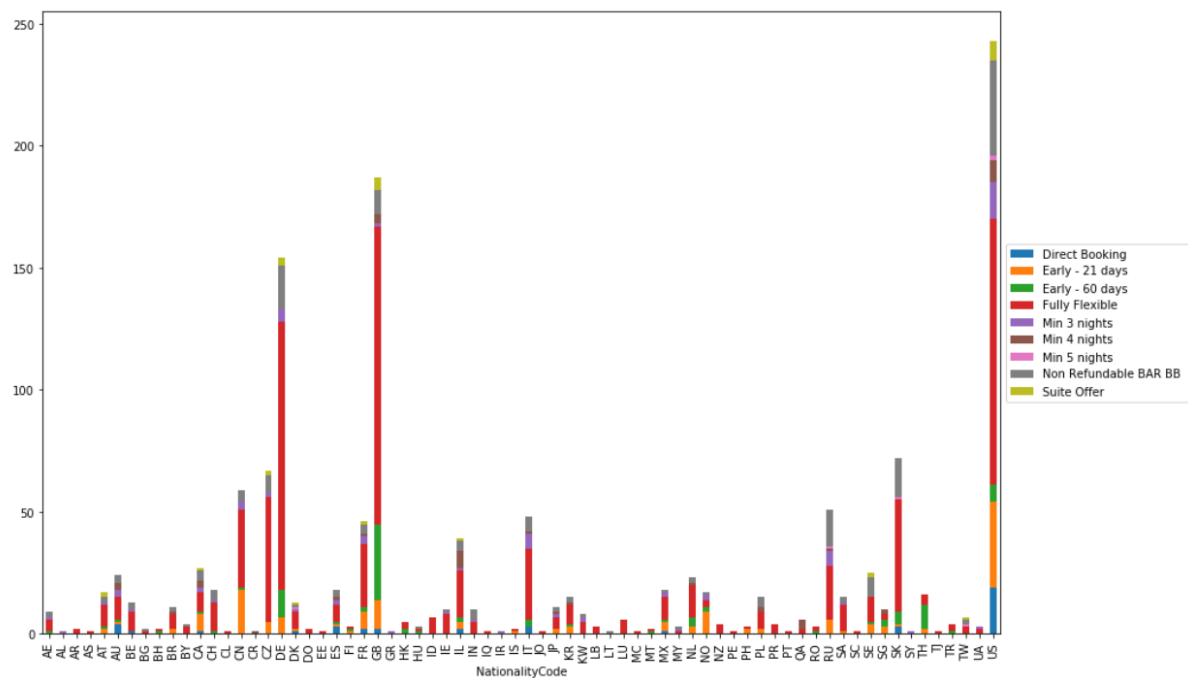
- For Gender v/s Rate Name
  - In all the gender groups we can observe that, customers are more likely to book rooms with **Fully Flexible** rate followed by **Early - 60 days** rate and then by **Early - 21 days** rate compared to other rates.
  - Also, gender group **1** contribute to about 50% of customer bookings for given hotel property whereas gender group **2** contributes to least number of customers.

Gender v/s RateName



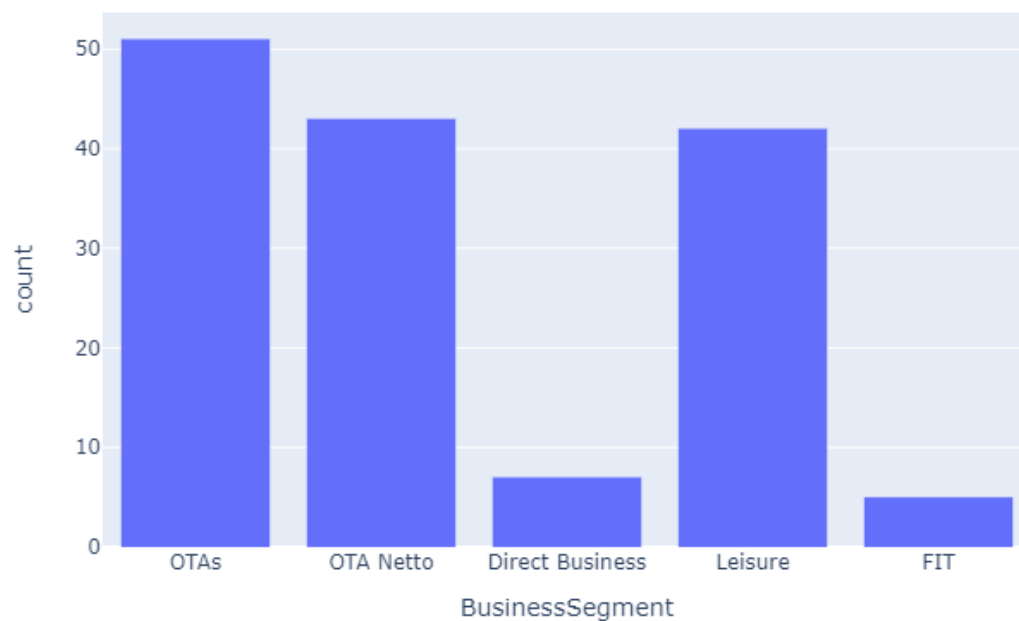
- For Nationality v/s Rate Name
  - Here we can conclude that customers from most of the nationalities are tend to book room with **Fully Flexible** rate than rooms with any other rate.
  - In Addition, people with nationalities of **United States of America(USA)**, **Great Britain (GB)** and **Denmark (DE)** are more likely to book rooms with the given hotel property.

NationalityCode v/s RateName



## 2.a. What are the typical guests who pursue online check-in?

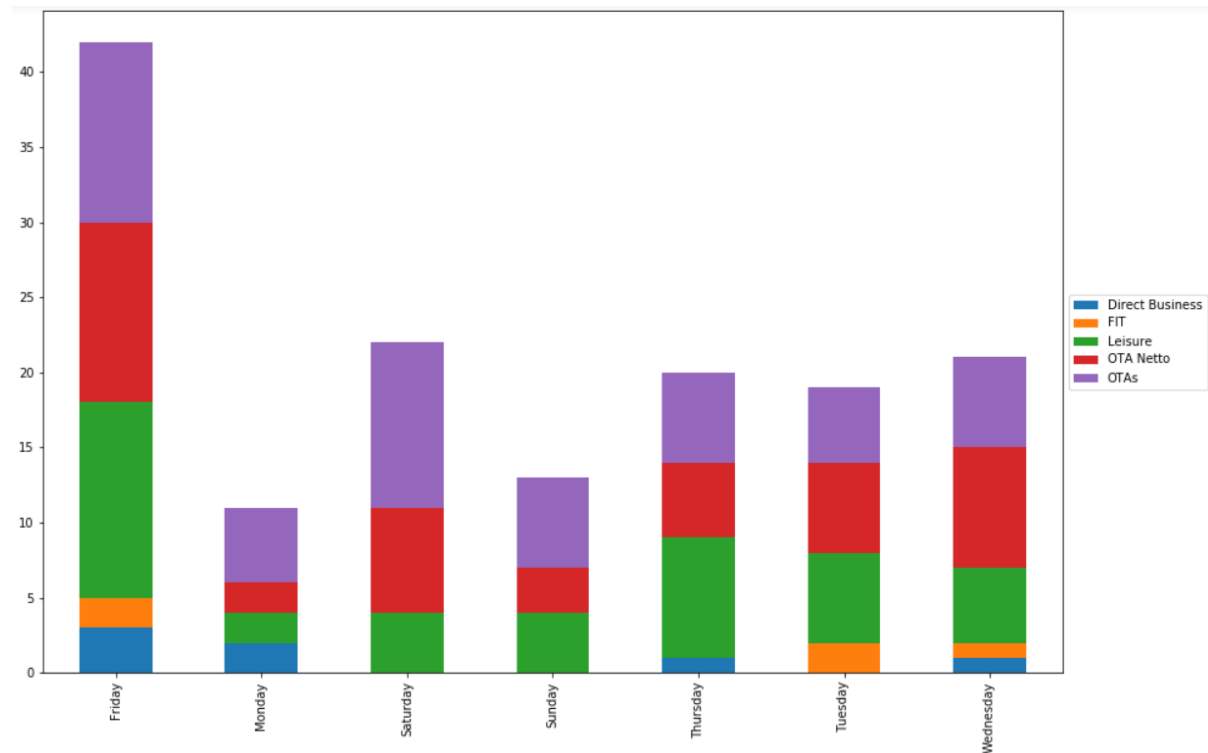
- Customers having business segments **OTAs** followed by **OTA Netto** and **Leisure** are typical guests who did online check-in.



## 2.b. Does it vary across weekdays?

The bookings varies across the weekdays, following are the observations:

- The bookings completed through **OTAs** are highest throughout the week except on **Tuesdays and Wednesdays** where bookings through **OTA Netto** is the highest.
- Also, the rooms bookings are highest on **Fridays**. Whereas there are no room bookings through **Direct Business** and **FIT** on Weekends(i.e. Saturdays and Sundays).
- Customer with **FIT** room bookings tend to visit hotels only on **Tuesdays, Wednesdays and Fridays**.



### Alternate Solution

If we consider that typical guest is the one who does not cancel the booking, then the mentioned dataframe (non\_Cancelled\_reservation\_with\_rates) having 4 rows contains typical guests.

**3. Look at the night cost per occupied space. What guest segment is the most profitable per occupied space unit? And what guest segment is the least profitable?**

- Customers of segment 2 have highest night cost per occupied space.
- Customers of segment 3 have least night cost per occupied space.

Moreover, we can use this analysis for further prediction like by using this data, we can classify our future customer into these segments and we can act accordingly for taking business decision.

