# iCuse Consultants:
## Hotel cancellation Analysis


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# Introduction

Guests are the source of revenue for a hotel.

As the frequency of booking cancellations grows, this revenue falls.

As consultants, our goal is to figure out why bookings are canceled.

We examined the hotel's booking data and ran an analysis to determine which factors influence cancellations.

If we can properly target the issues, we will be able to reduce cancellations and improve revenue.

# Objectives

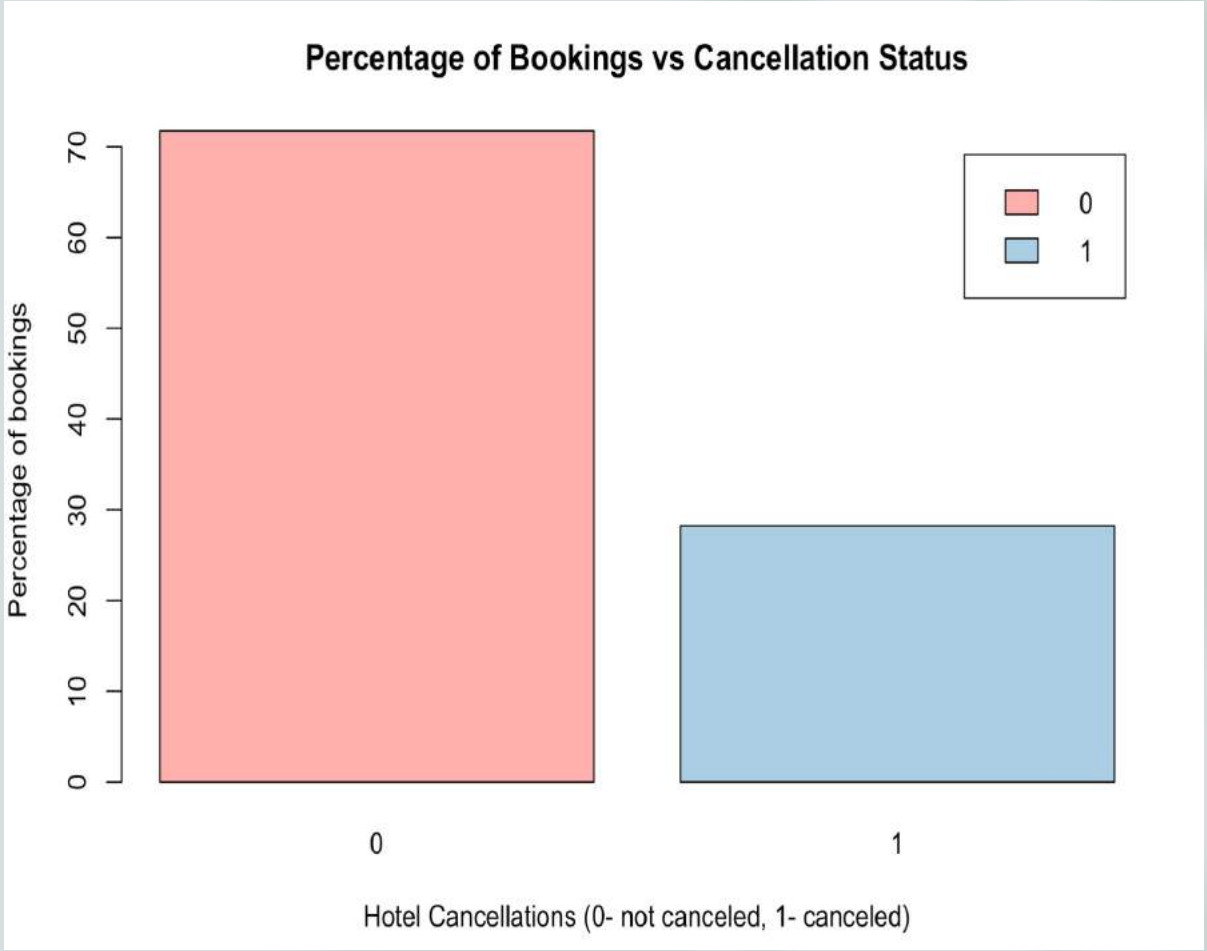
1. To find out the conditions that are influencing hotel reservation cancelations by guests.
2. To predict which guest is going to cancel a booking based on various factors.
3. To recommend possible solutions to the hotel management in order to increase revenue.

# Business Questions

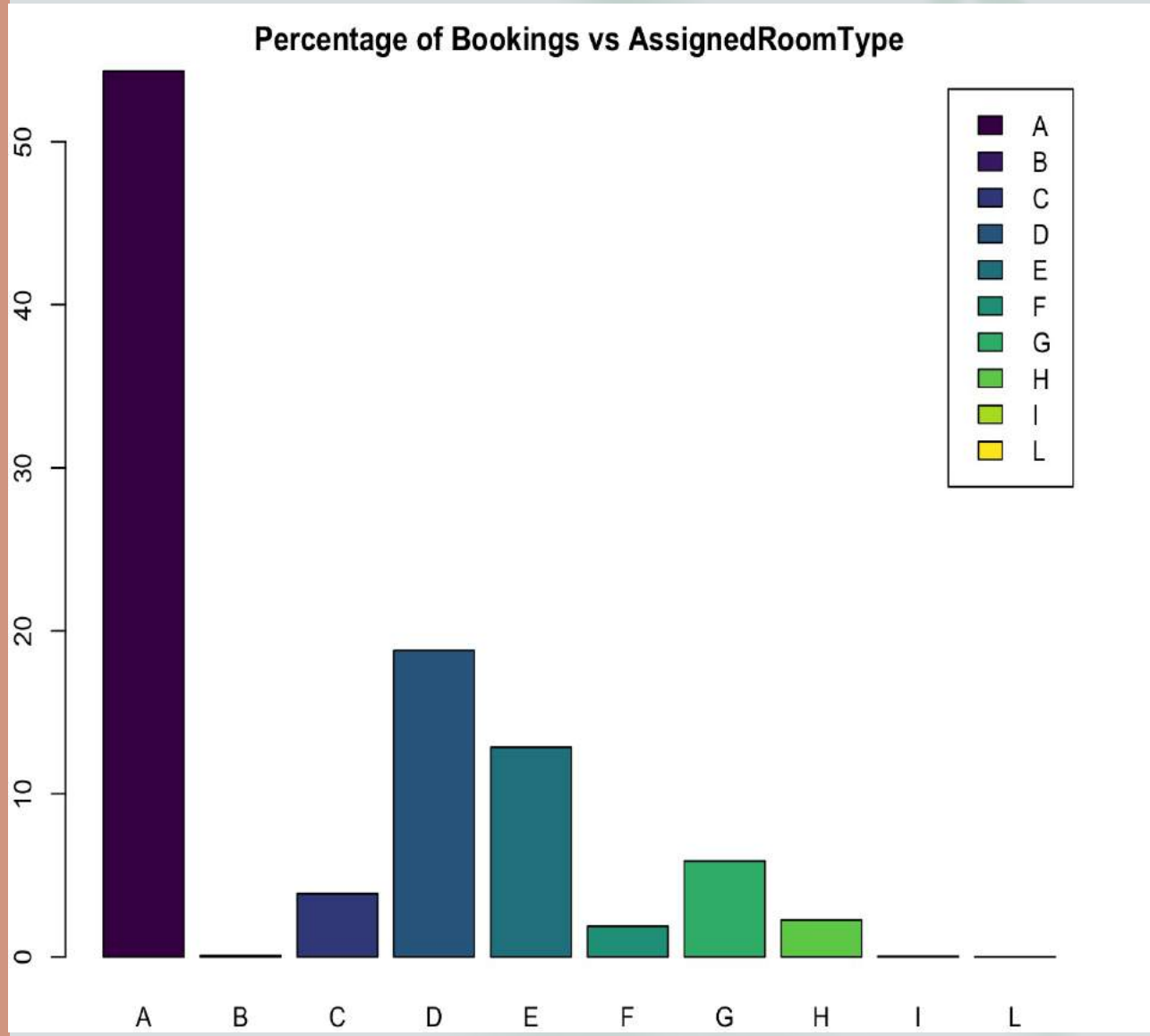
- Does opting for RequiredParkingSpace while making hotel reservations impact cancellations?
- Is it possible to associate meal plans and StaysinWeeknights with possible hotel booking cancellations?
- Which market segment influences the cancellations the most?
- Does DepositType affect cancellations?
- Are customers making cancellations based on the rooms they were assigned?
- Are customers who have made special requests while making hotel reservations less likely to cancel?

# Initial Descriptive Analysis

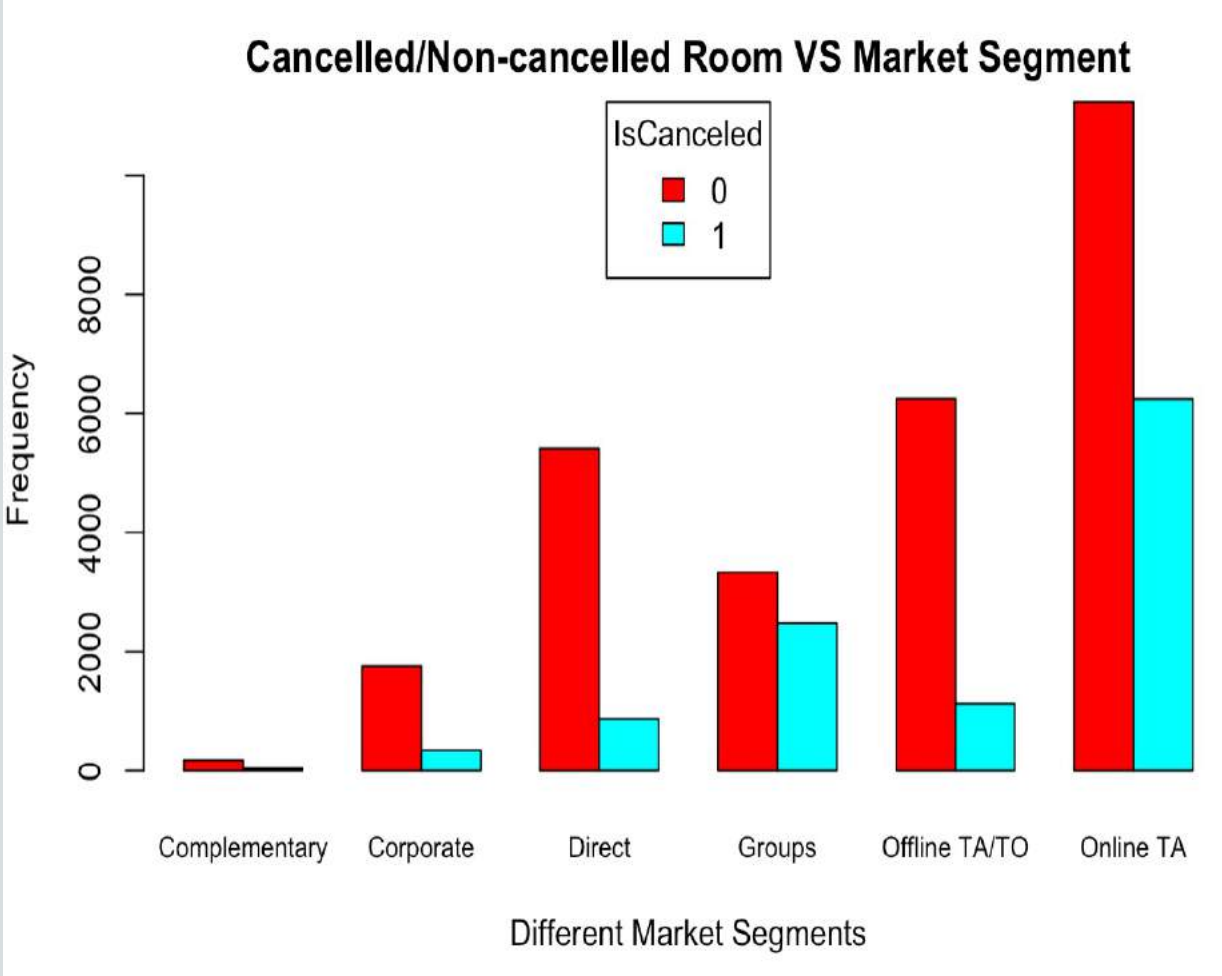
# What is the relative percentage of canceled & non-canceled bookings?



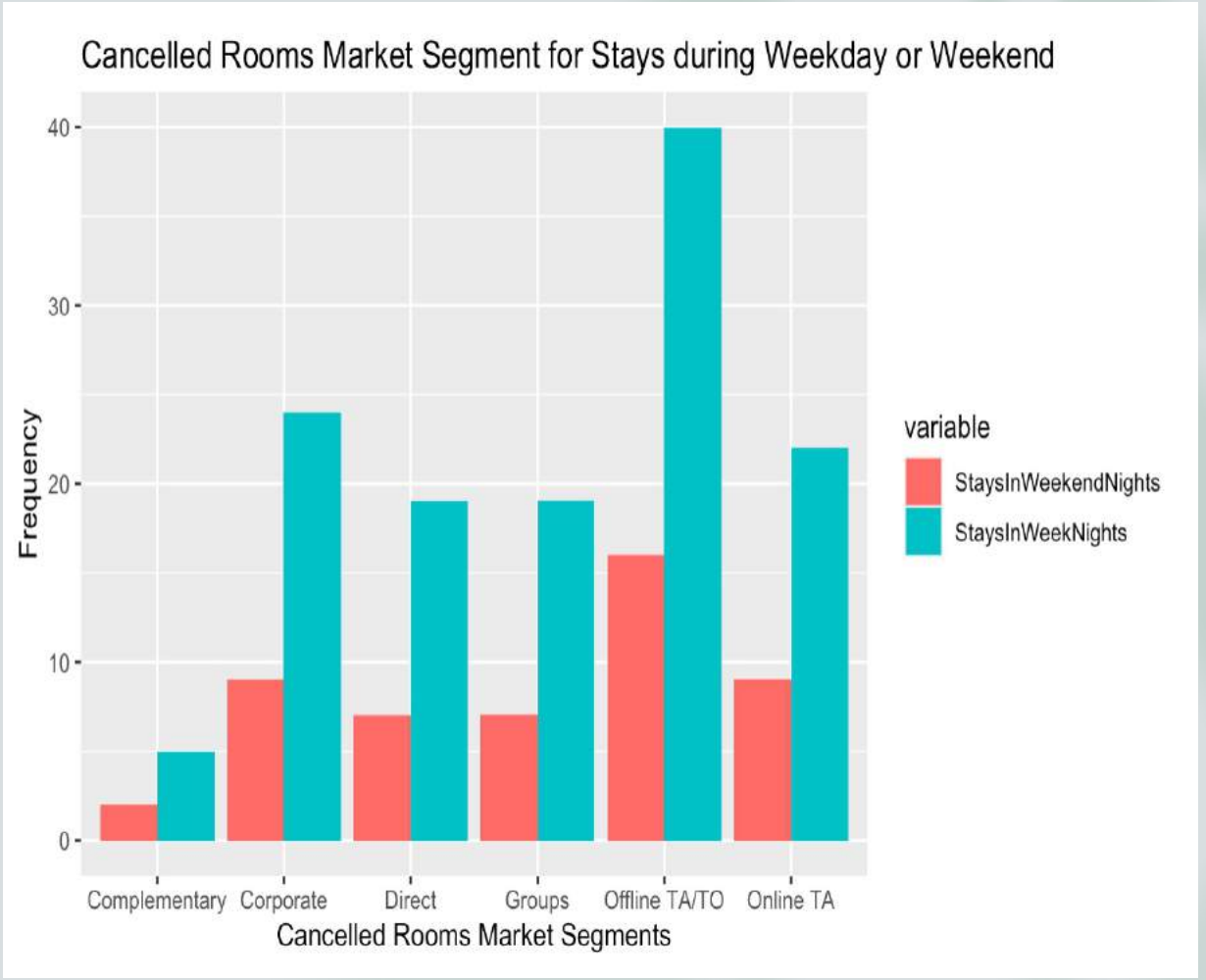
# How are cancelled bookings related to room type?



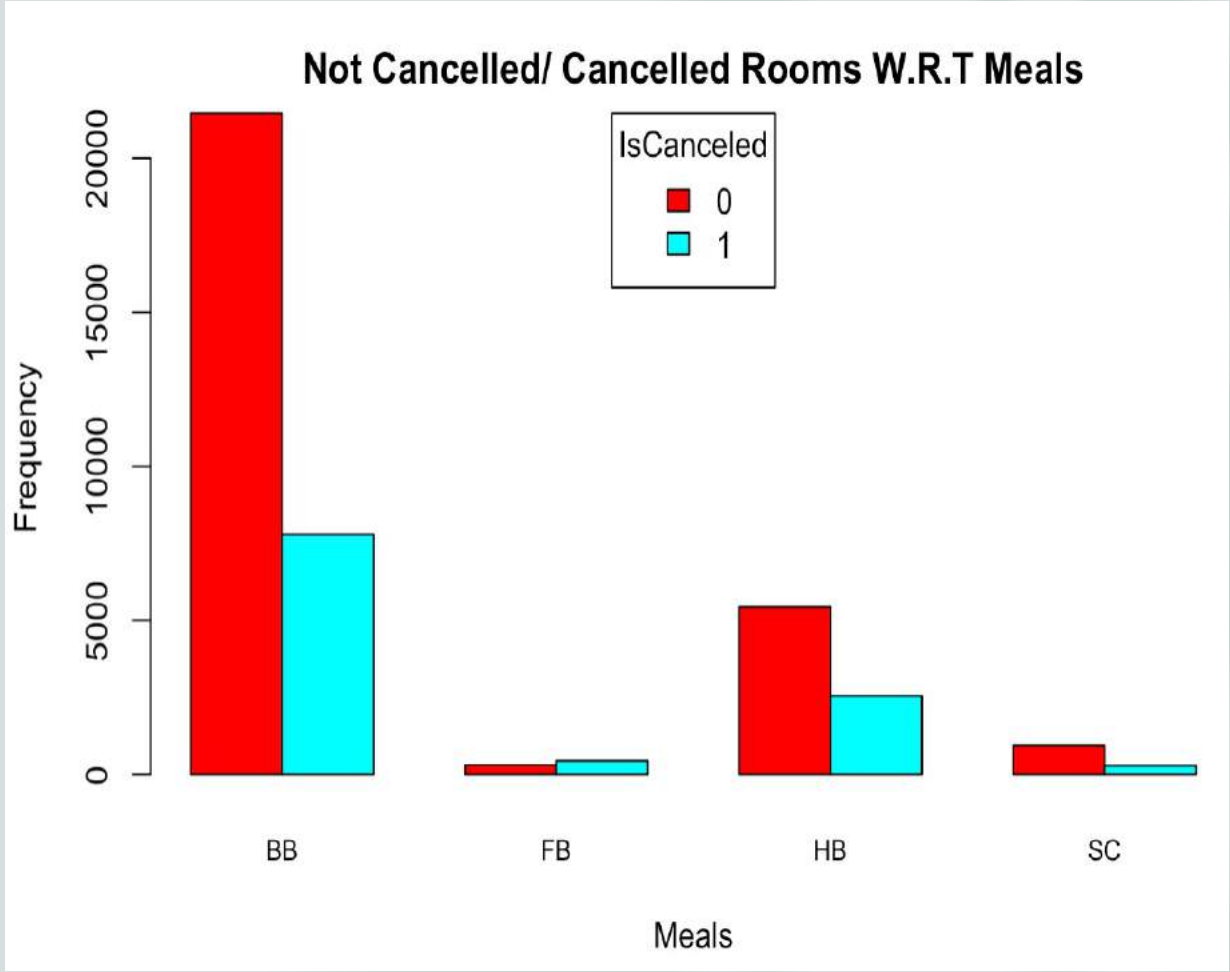
# How are cancelations distributed by Market segments?



# Focusing on canceled bookings, how are weekend and week stays distributed by market segments?



# How are cancelations distributed by Types of meals?



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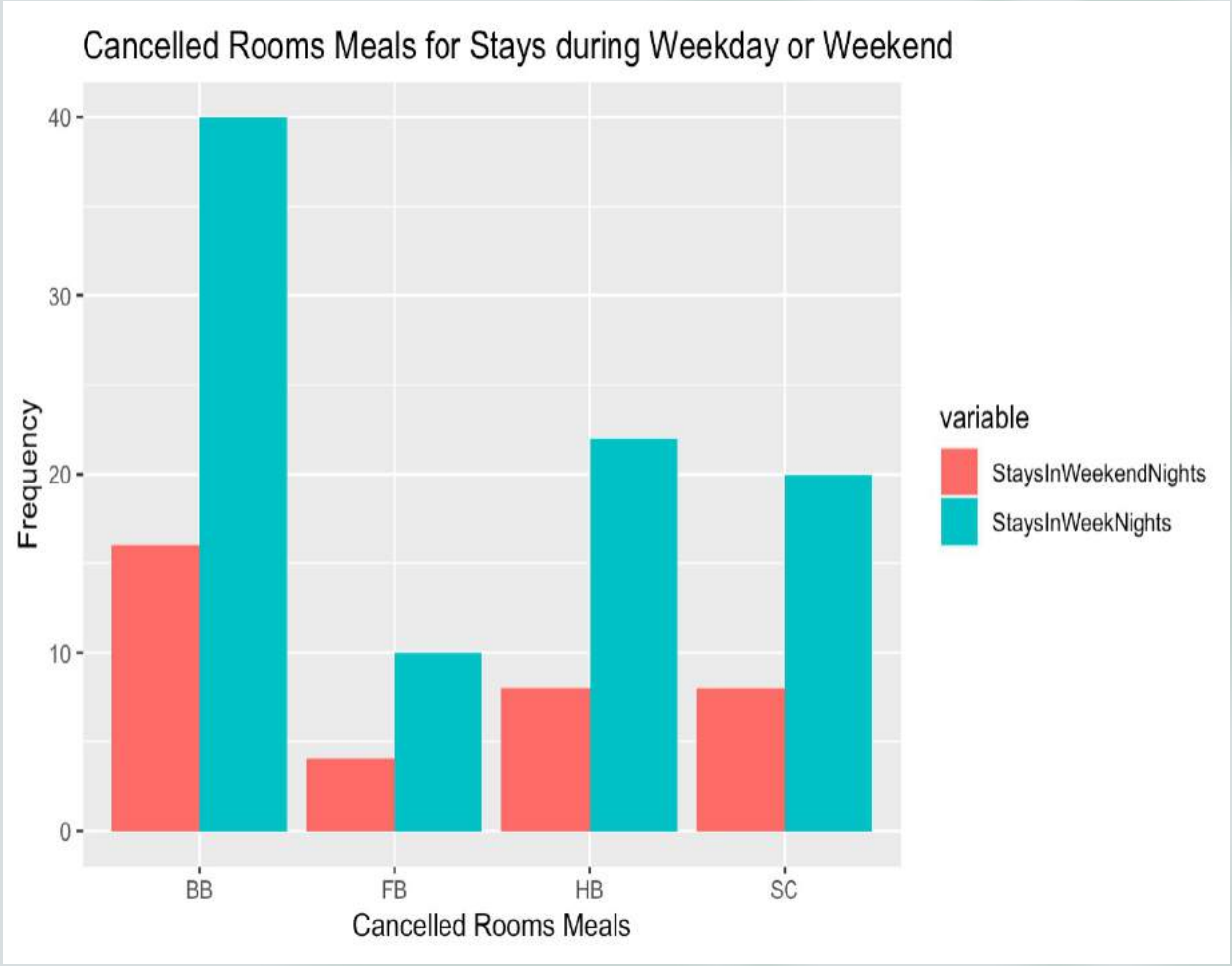
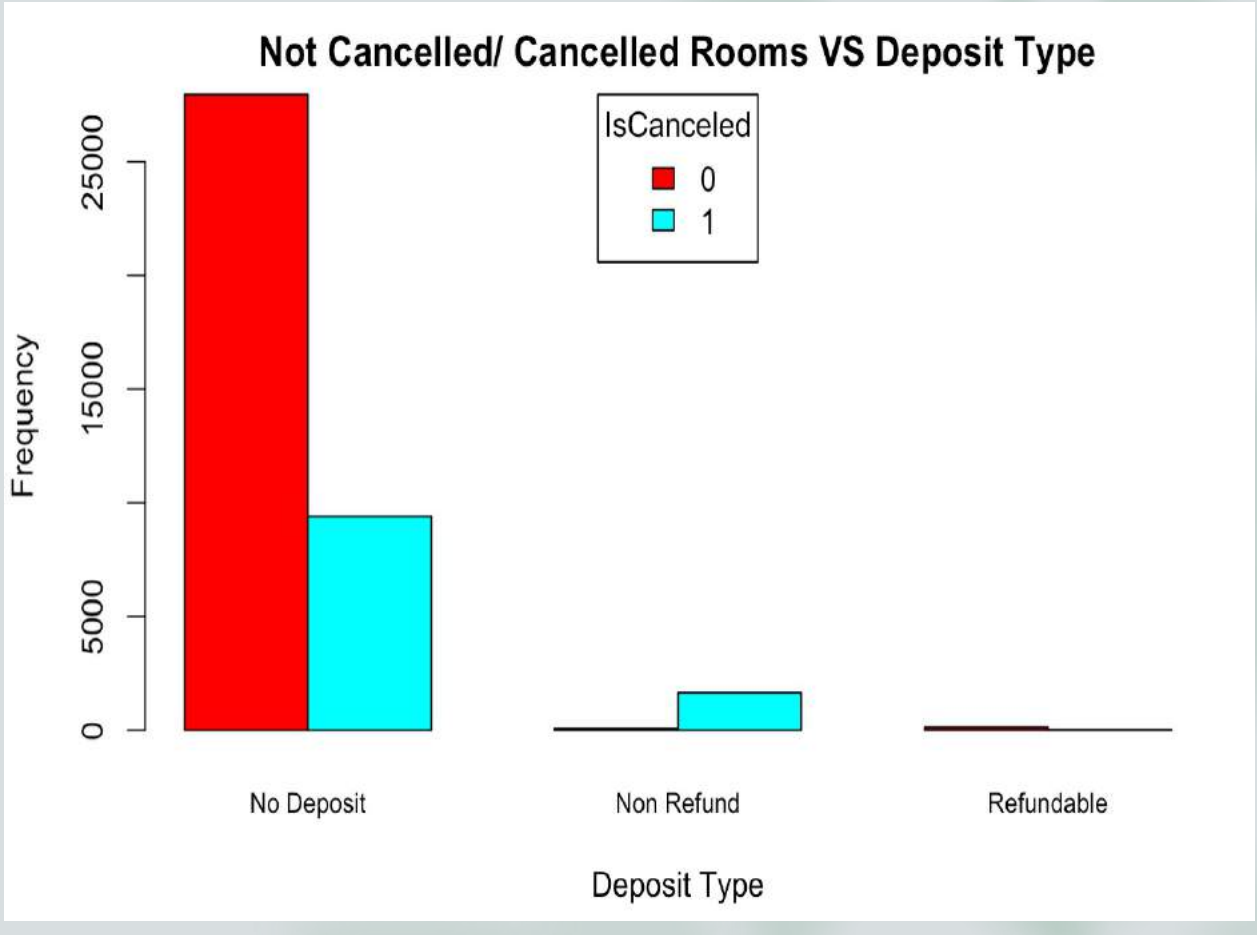


# How are cancelations distributed by Deposit type?



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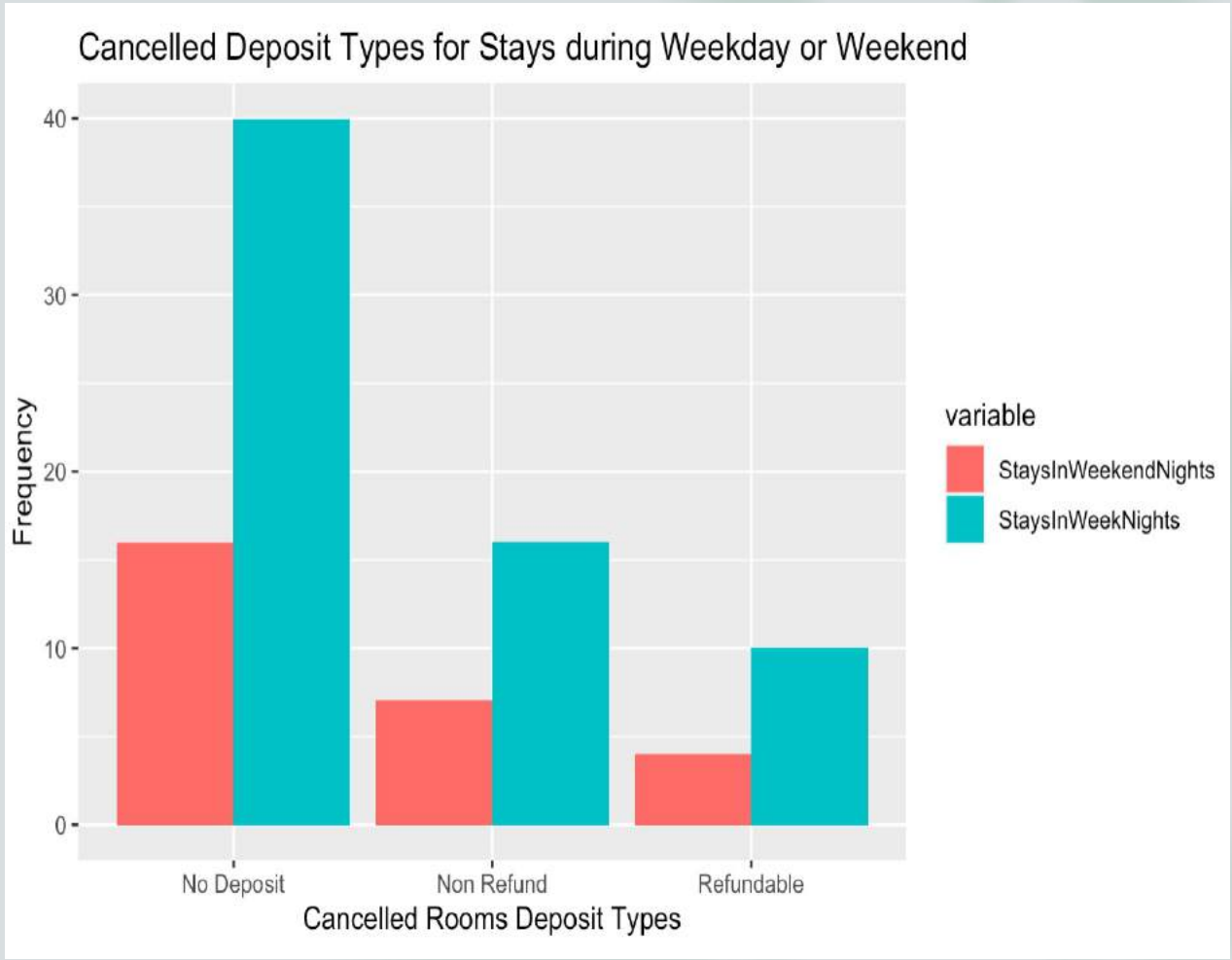
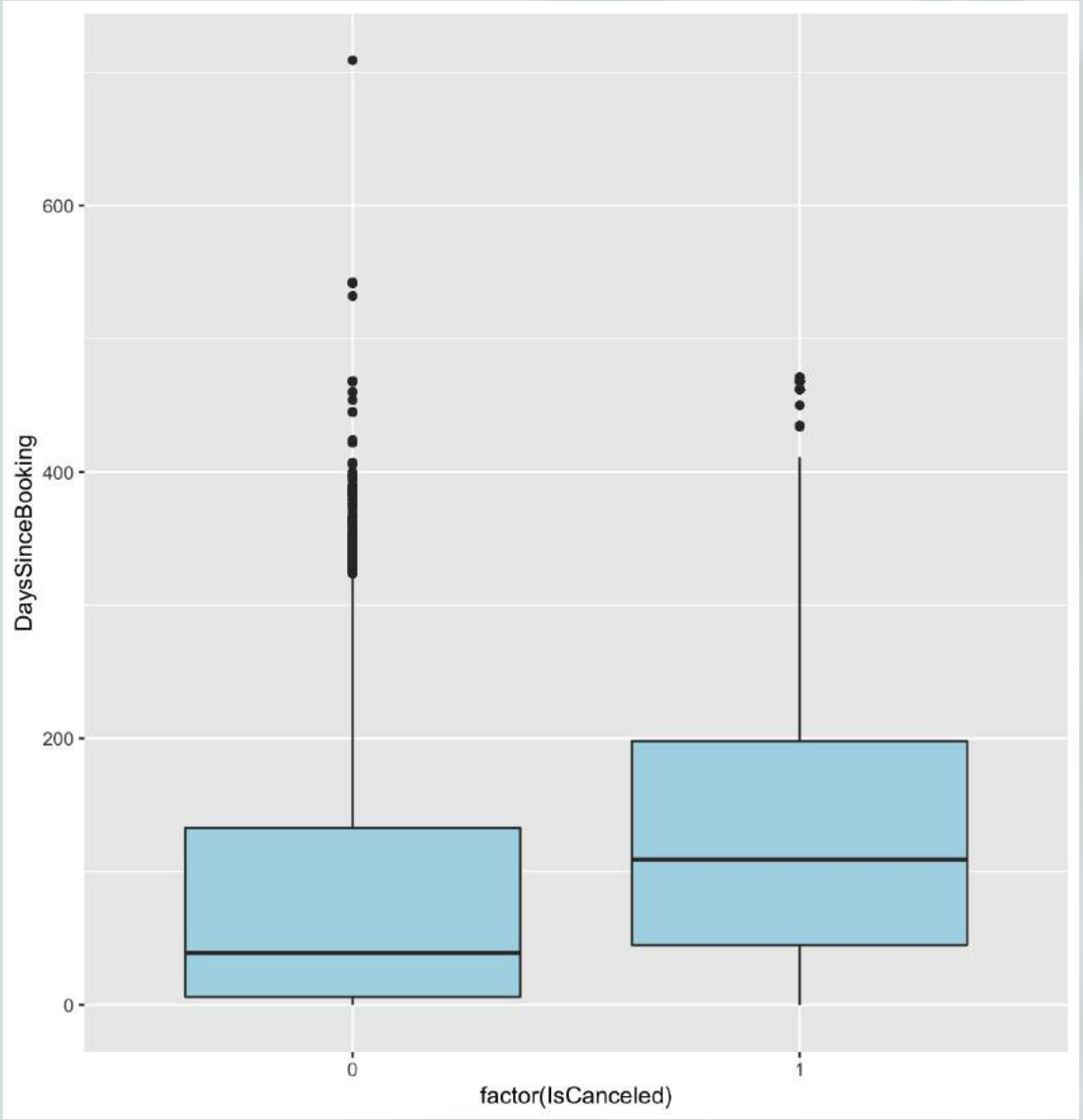
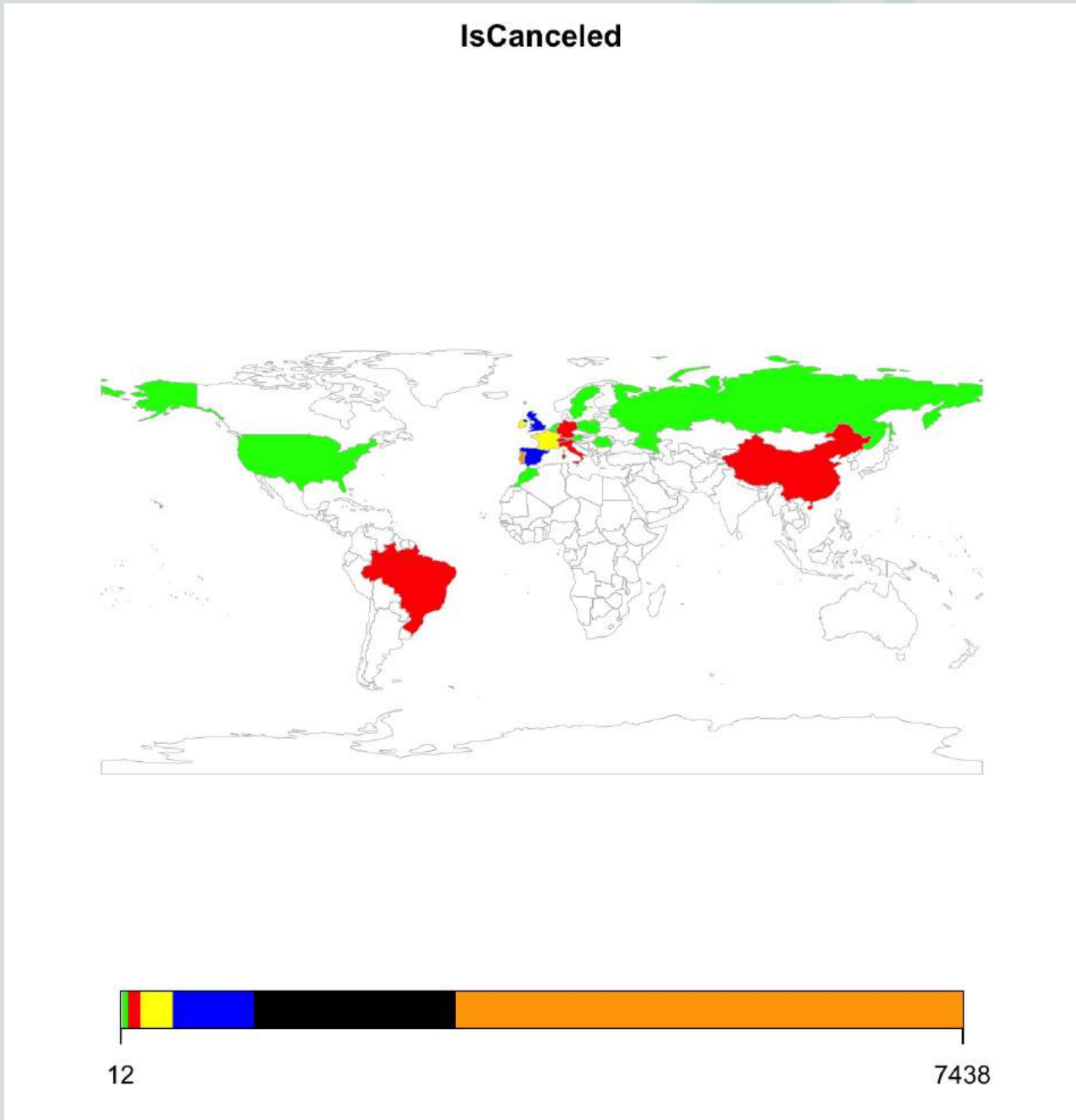


# Do cancellations depend upon the difference between booking and check-in dates?



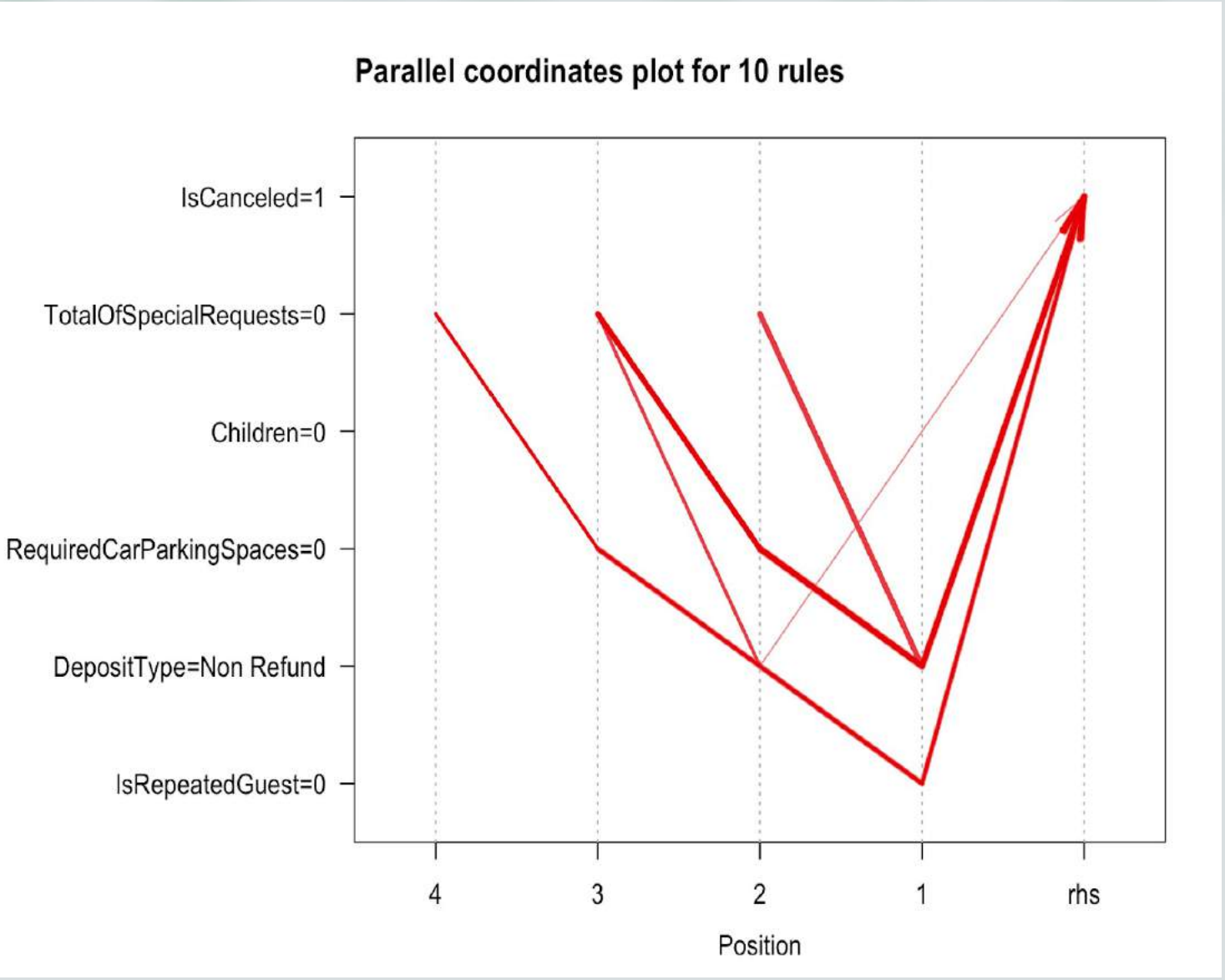
# How are the booking cancellations distributed across various countries?



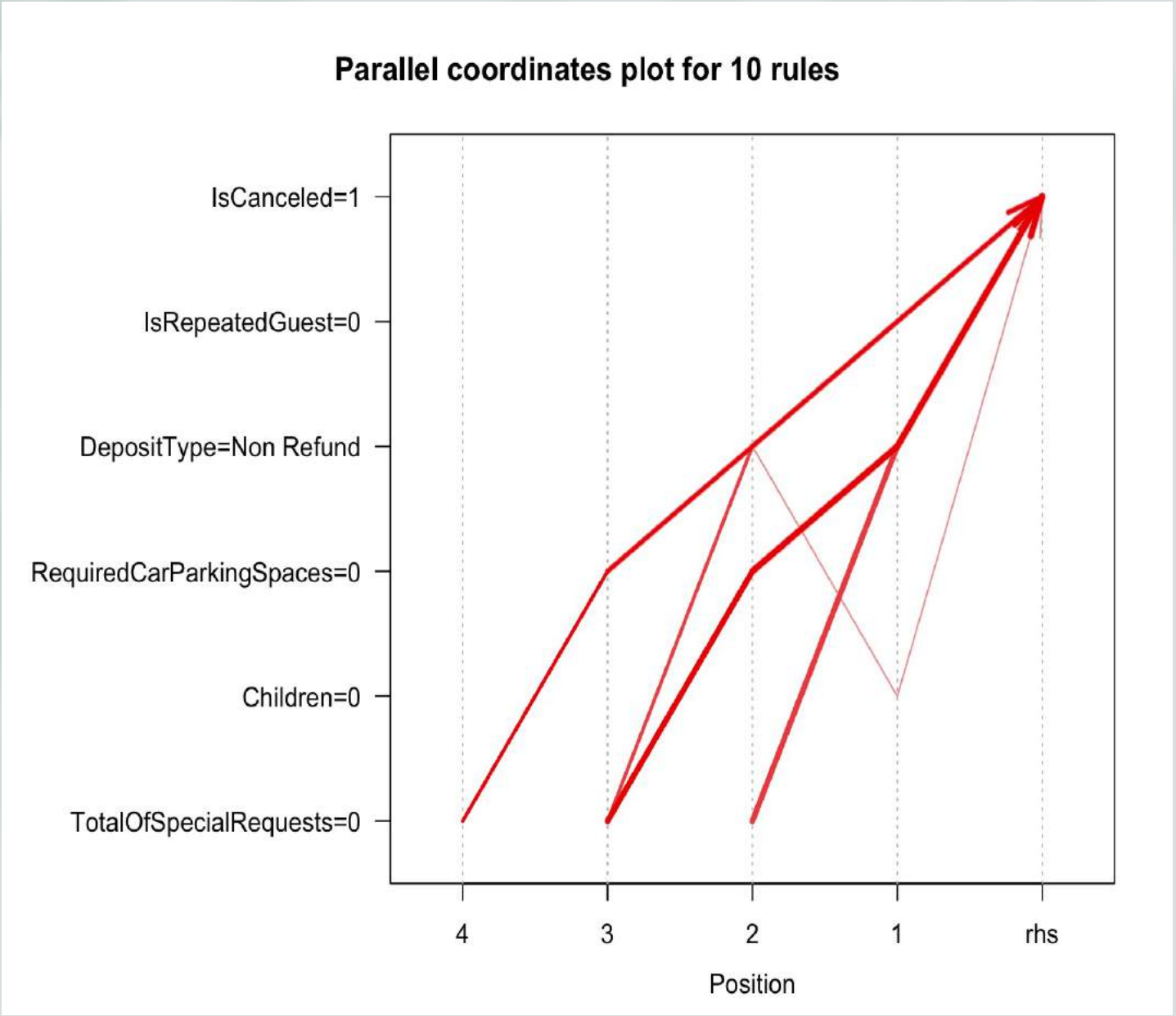
# Analysis: Modeling techniques

# Logistic Regression: Significant variables

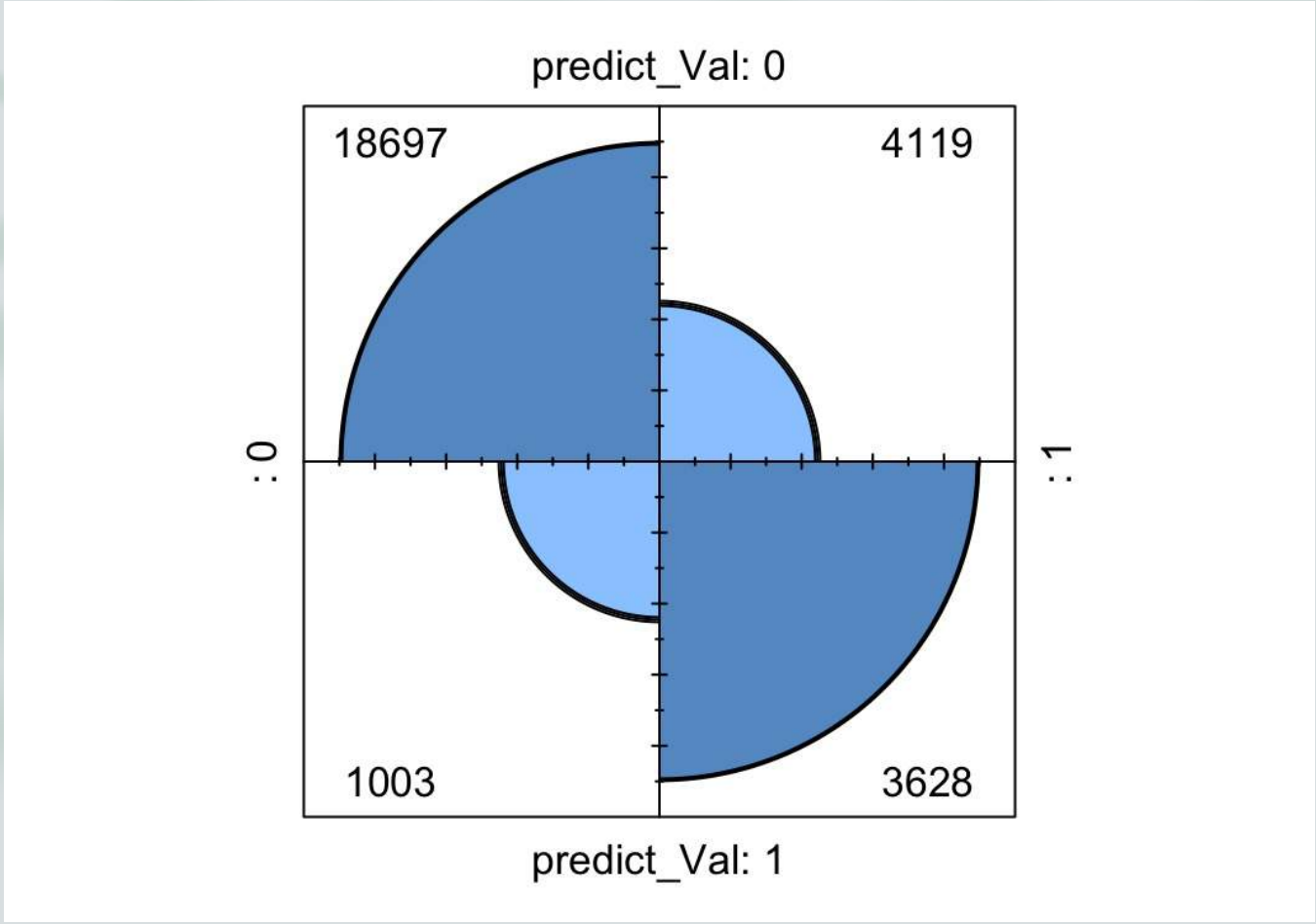
| | | | | |
|---|---|---|---|---|
| DaysSinceBooking | StaysinWeekendnights | PreviousCancellations | BookingChanges | TotalofspecialRequests |
| MarketSegment | CustomerType | DepositType | Meal | ReservedRoomType |




# Association rules Mining: Possible rules for hotel cancellations




# Possible rules for hotel cancellations - 2




# Support Vector Machines with accuracy (81.34%):

# Insights and Recommendations

| Category | Insights | Recommendations |
| --- | --- | --- |
| **Guest Retention** | • Large no. of cancellations on BB and HB meals<br>• Observed more in Weekend bookings | • Creation of loyalty programs on BB and HB bookings<br>• Separate or combined programs for weekend bookings |
| **Payment structure** | • More cancellations observed for no deposit bookings<br>• More cancellations on Non-refundable than Refundable bookings | • Nominal amount must be paid as deposit for booking<br>• Deposit also adds to the loyalty points |
| **Market Segments** | • Out of all the Market segments, groups have larger relative cancellations<br>• Similar situation with complementary | • Encourage bigger groups to avail more discount<br>• Revenue still goes up and bigger groups are attracted |

Thank you