Overview

Have you ever wondered when the best time of year to book a hotel room is? Or the optimal length of stay in order to get the best daily rate? What if you wanted to predict whether a hotel was likely to receive a disproportionately high number of special requests?

This hotel booking dataset can help you explore those questions!

This data set contains booking information for a city hotel and a resort hotel and includes information such as when the booking was made, length of stay, the number of adults, children, and/or babies, and the number of available parking spaces, among other things.

Each observation represents a hotel booking. Dataset comprehend bookings due to arrive between the 1st of July of 2015 and the 31st of August 2017, including bookings that effectively arrived and bookings that were canceled. Since this is hotel real data, all data elements pertaining hotel or costumer identification were deleted.

Data Layout (Data Dictionary)

hotelHotel (H1 = Resort Hotel or H2 = City Hotel)

is_canceledValue indicating if the booking was canceled (1) or not (0)

lead_timeNumber of days that elapsed between the entering date of the booking into the PMS and the arrival date

arrival_date_yearYear of arrival date

arrival_date_monthMonth of arrival date

arrival_date_week_numberWeek number of year for arrival date

arrival_date_day_of_monthDay of arrival date

stays_in_weekend_nightsNumber of weekend nights (Saturday or Sunday) the guest stayed or booked to stay at the hotel

stays_in_week_nightsNumber of week nights (Monday to Friday) the guest stayed or booked to stay at the hotel

adultsNumber of adults

childrenNumber of children

babiesNumber of babies

mealType of meal booked. Categories are presented in standard hospitality meal packages: Undefined/SC – no meal package; BB – Bed & Breakfast; HB – Half board (breakfast and one other meal – usually dinner); FB – Full board (breakfast, lunch and dinner)

countryCountry of origin. Categories are represented in the ISO 3155–3:2013 format

market_segmentMarket segment designation. In categories, the term "TA" means "Travel Agents" and "TO" means "Tour Operators"

distribution_channelBooking distribution channel. The term "TA" means "Travel Agents" and "TO" means "Tour Operators"

is_repeated_guestValue indicating if the booking name was from a repeated guest (1) or not (0)

previous_cancellationsNumber of previous bookings that were cancelled by the customer prior to the current booking

previous_bookings_not_canceledNumber of previous bookings not cancelled by the customer prior to the current booking

reserved_room_typeCode of room type reserved. Code is presented instead of designation for anonymity reasons.

assigned_room_type

Code for the type of room assigned to the booking. Sometimes the assigned room type differs from the reserved room type due to hotel operation reasons (e.g. overbooking) or by customer request. Code is presented instead of designation for anonymity reasons.

booking_changesNumber of changes/amendments made to the booking from the moment the booking was entered on the PMS until the moment of check-in or cancellation

deposit_typeIndication on if the customer made a deposit to guarantee the booking. This variable can assume three categories: No Deposit – no deposit was made; Non Refund – a deposit was made in the value of the total stay cost; Refundable – a deposit was made with a value under the total cost of stay.

agentID of the travel agency that made the booking

companyID of the company/entity that made the booking or responsible for paying the booking. ID is presented instead of designation for anonymity reasons

days_in_waiting_listNumber of days the booking was in the waiting list before it was confirmed to the customer

customer_type

Type of booking, assuming one of four categories:

Contract - when the booking has an allotment or other type of contract associated to it; Group – when the booking is associated to a group; Transient – when the booking is not part of a group or contract, and is not associated to other transient booking; Transient-party – when the booking is transient, but is associated to at least other transient booking

adrAverage Daily Rate as defined by dividing the sum of all lodging transactions by the total number of staying nights

required_car_parking_spacesNumber of car parking spaces required by the customer

total_of_special_requestsNumber of special requests made by the customer (e.g. twin bed or high floor)

reservation_statusReservation last status, assuming one of three categories: Canceled – booking was canceled by the customer; Check-Out – customer has checked in but already departed; No-Show – customer did not check-in and did inform the hotel of the reason why

reservation_status_dateDate at which the last status was set. This variable can be used in conjunction with the ReservationStatus to understand when was the booking canceled or when did the customer checked-out of the hotel

Business Requirements

You can support the business in various ways including and not limited to :

1. Provide key insights on reservations demand and key factors impact the bookings.
2. Define a KPI to monitor/assess the customer loyalty or bookings demand.
3. Recommend how to increase future successful bookings.

Hospitality Analytics : https://www.mckinsey.com/business-functions/mckinsey-digital/our-insights/advanced-analytics-in-hospitality

Deliverable Layout

You are expected to deliver your key insights and recommendation in the form of a presentation that covers the following aspects – when applicable -:

- Business challenge: Introduce why this is analysis important and what kind of problem we are trying to solve
- Analysis Scope: Define analysis base, inclusion and exclusion criteria, time frame and data included.
- Analysis and Insights: Present any interesting insights, patterns, behaviors, visualizations extracted from data.
- Recommendations: Suggest actions the business can take to improve decisions making process.

Presentation Instructions

You are given a **maximum of 30 min** to introduce your interesting findings to the business so be concise and to the point.

You will be evaluated on the following aspects:

1. Clarity of the presentation and thought process
2. Quality/thoroughness of the analysis
3. Insights actionability and value to business

Your support to the business is greatly appreciated!

Have fun and best of luck 😊