**Use Case: Hotel Booking**

**Problem Statement:**

A city hotel has seen a high cancellation rate in recent years. This has led to a number of problems, including:

* Fewer revenues: The hotel is losing out on revenue from rooms that are not being occupied.
* Less than ideal hotel room use: The hotel is not able to maximize the use of its rooms.
* Increased maintenance costs: The hotel has to spend more money on maintaining its rooms and facilities, as they are not being used as often.

**Required Data:**

The hotel needs to collect the following data to identify the issues and develop solutions:

* The total number of reservations.
* The reservation city and type.
* The reservation status (confirmed, cancelled, no-show).
* The reservation date and time, confirmation date and time.
* The customer type (individual, group, corporate).
* The reservation type (direct, online, OTA).
* The reservation cost.
* The customer review.

**Data Analysis:**

Analyse the data to get useful insights, such as:

* The total number of reservations and cancellations, and how it varies year-to-year (and month-to-month).
* The number of reservations on weekdays, weekends, and holidays.
* The top 5 locations for reservations, both in terms of number of reservations and cancellation rate.
* The top 5 reservation types, both in terms of number of reservations and cancellation rate.
* The minimum and maximum confirmation time period.
* Whether waiting time is a reason for cancellations.
* The reasons for reservations (business, leisure, etc.).
* Whether reservation charges are different on weekdays, weekends, and holidays, and how this impacts cancellations.
* Customer reviews, which can provide insights into the hotel's services and facilities, and how they can be improved.

**Suggestions:**

Based on the data analysis, the hotel can make the following suggestions to reduce the cancellation rate:

* **Reduce the time it takes to book a reservation.**This can be done by making the booking process more efficient and user-friendly. For example, the hotel could offer a chatbot or live chat option so that customers can get help with their booking without having to wait on hold.
* **Offer discounts to customers who book early.**This will encourage customers to book their reservations in advance, and reduce the number of cancellations.
* **Improve the hotel's customer service.** This can help to build trust with customers and make them less likely to cancel their reservations.
* **Provide more flexibility with cancellation policies.** This will give customers more peace of mind and make them more likely to book their reservations.
* **Track customer reviews and make improvements based on the feedback.** This will help to ensure that the hotel is providing the best possible service to its customers.