

DATA ANALYSIS PORTFOLIO PROJECT

Investigating the Reasons Contributing to High
Cancellations For Hospitality Client

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Client Name: Bluespine Hospitality Private Limited



The hospitality chain operates in the USA. Currently they're operating two hotels in the USA, namely:

- City Hotel
- Hotel Resort





Business Problem

- In recent years, City Hotel and Resort Hotel have seen high cancellation rates. Each hotel is now dealing with a number of issues as a result, including fewer revenues and less than ideal hotel room use.
- Consequently, lowering cancellation rates is both hotels' primary goal in order to increase their efficiency in generating revenue and for us to offer thorough business advice to address this problem.
- The analysis of hotel booking cancellations as well as other factors that have no bearing on their business and yearly revenue generation are the main topics of this report.

Assumptions For Analysis



- No unusual occurrences between 2015 and 2017 will have a substantial impact on the data used.
- The information is still current and can be used to analyze a hotel's possible plans in an efficient manner.
- There are no unanticipated negatives to the hotel employing any advised technique.
- The hotels are not currently using any of the suggested solutions.
- The biggest factor affecting the effectiveness of earning income is booking cancellations.
- Cancellations result in vacant rooms for the booked length of time.
- Clients make hotel reservations the same year they make cancellations

General Observations

Correlation in Cancellation Frequency Across Hotels

- There is a considerable correlation between the cancellation frequency for both the hotels. This indicates that customers are more likely to cancel their bookings if there is a long gap between the booking date and the actual arrival date.
- To address this, the **interquartile range (IQR)** was used to determine the median of the data and define a minimum threshold for the number of days allowed between booking and arrival.

Impact of Booking Confirmation Time on Cancellations

- It is likely that the longer it takes to confirm a booking, the more frequently customers tend to cancel their trips.

Distribution Channel Observations

- Undefined channel has the lowest cancellations with just 4.
- Undefined entries may indicate data quality issues.
- Intermediaries (TA/TO) and Cancellations
- Bookings through intermediaries (TA/TO) are most prone to cancellations.
- Direct and Corporate Channels
- Direct and corporate channels show better booking commitment.
- Global Distribution System (GDS)
- GDS is a stable, low-risk channel with minimal cancellations.

Observations Related To Bookings



Booking Platform Observations

- High Cancellations via Online Travel Agents (OTA)
- The "Online TA" (Online Travel Agents) segment recorded the highest number of cancellations, with over 20,000.
- This suggests that bookings made through online travel agencies are most prone to cancellations.

Group Bookings and Cancellation Trends

- The "Groups" segment reported the second highest number of cancellations, slightly above 12,000.
- This indicates that group bookings are more complex and susceptible to uncertainties such as coordination issues or bulk travel changes. However, this is difficult to manage in advance due to the unpredictable nature of group sizes.

Offline and Direct Booking Trends

- The "Offline TA/TO" (Travel Agents/Tour Operators) and "Direct" booking channels also reported a considerable number of cancellations.
- This highlights that even traditional and direct booking methods are not immune to cancellations.

Advance Payment and Cancellation Link

- A significant number of cancellations occurred because customers did not make advance payments.
- This flexibility allows them to book at their convenience and pay later, often at check-in or the time of service, making cancellations easier.

Recommendation for Decimating the Cancellation Rates



- **Limit Advance Booking Duration**

The maximum time limit that should be given to users for booking the hotel in advance is approximately 4 days in order to reduce the cancellation frequency.

- **Address High Cancellations in Online Travel Agent (OTA) Segment**

Since Online TA has the highest cancellations, the authorities should consider reviewing cancellation policies or improving user engagement for this segment.

- **Manage Group Booking Risks**

To avoid massive cancellations for group bookings, strategies can be introduced to implement flexible cancellation or deposit policies. This will help reduce risks from large group cancellations.

- **Leverage Reliable Booking Segments**

Corporate and Complementary segments appear more reliable. It is recommended to offer special booking incentives or discounts to these segments to ensure more stable revenue streams.

- **Discourage No-Deposit Bookings**

If most cancellations are coming from “no deposit” bookings, it likely means that customers don’t feel committed.

Since there is no financial loss involved, it makes it easier for them to cancel at the last minute.

Therefore, it is suggested to collect an advance payment (around 40–50%) to reduce the freedom to cancel without consequence.

Observations Related To Distribution Channels



- **Limit Number of Adults per Booking**

It would be advisable to restrict the total number of adults in a single booking to 2, as bookings with 3 or more adults are more likely to result in cancellations due to discomfort or room constraints.

- **Review Agent-Specific Cancellation Trends**

High cancellations by specific agents may indicate a need to review their booking practices or evaluate client profiles. Hotels should consider revising their cancellation terms with these agents.

- **Agent-Based Deposit Policy**

Hotel authorities can advise agents to collect some advance deposit from clients and also provide the hotel a commission-based security deposit.

- **Encourage Customer Commitment Through Deposits**

Collecting an advance deposit via agents will increase customer commitment, as clients would be less likely to cancel when some amount has already been paid upfront.