

## **Hotel Reservation Cancellations**

One of the prevailing issues for the hospitality industry is reservation cancellations and their ramifications. Based on this notion it would be interesting for a hotel to explore how to implement a strategy before its next high season that will mitigate the revenue shortfalls generated by reservation cancellations and increase revenues by 10% using forecasting models that can predict which reservations are likely to cancel.

The context of this idea is how reservation cancellations can have a significant impact in the hospitality industry. We could easily see operational planning and demand management being thrown into disarray if an unexpected number of cancellations takes place. These cancellations could also have a negative effect on the profitability and the public image of a hotel if not handled appropriately. Given these circumstances finding a better way to account for these cancellations has become crucial. Furthermore, understanding which reservations are likely to be canceled ahead of time will give a hotel's management team the necessary breathing room to adjust and find a suitable solution. Using the data collected from two hotels in Portugal, one is a resort hotel in the Algarve region and the other is a city hotel in Lisbon, I will work on building models that can predict which reservations are likely to be canceled. The main point will be using this information to reduce the losses caused by the cancellations and improve revenues by 10%.

Criteria for success will be necessary in order to assess the analysis and the implementation of the models. These will be judged based on their ability to lead towards putting in place a plan before the next high season that will address the revenue shortfalls generated by reservation cancellations. This plan should allow us to improve revenues by 10%. Although, having a thorough understanding of the number cancellations a hotel can expect could lead to several actions I will remain focused on reducing the revenue gaps generated by these cancellations.

The main constraint could be how customers will respond to the measures taken. This will have to be addressed appropriately. Any path taken would need to consider ways to reduce possible conflicts.

The main stakeholders for handling this kind of issue should include sales managers, operations managers, and accounting managers. Sales are the most directly impacted when dealing with cancellations. Gathering input and coordinating with this department will be essential. Being on the same page with the accounting department will also be valuable since the models will try to improve revenues. In a more general scope, knowing which reservations are likely to be canceled could also be beneficial for the operations department.

The data necessary to create these models will come from the Kaggle Hotel Booking Demand dataset. The data originally appeared on the article Hotel Booking Demand Datasets, written by Nuno Antonio, Ana Almeida, and Luis Nunes for Data in Brief, Volume 22, February 2019. In the article the researchers explain how they extracted the data from the hotels' Property Management System (PMS) SQL databases.