



**MAKING AN
IMPACT THAT
MATTERS**

since 1845

Predicting Hotel Cancellations

Analysis By: Dylan Orndorf-Ronk


dorndorfronk@deloitte.com

Business Problem

Hotel reservations are user-friendly but potentially revenue-reducing.



“[Hotel] cancellations negatively affect forecasting and controls, the two fundamental elements of revenue management”. -Boston University*



How can we address this problem?

Solution - Predict Customer Behavior



Data sourced from Kaggle.com

Includes over 36k entries

Number of people, weekend nights vs weeknights, lead time, time of arrival, etc.

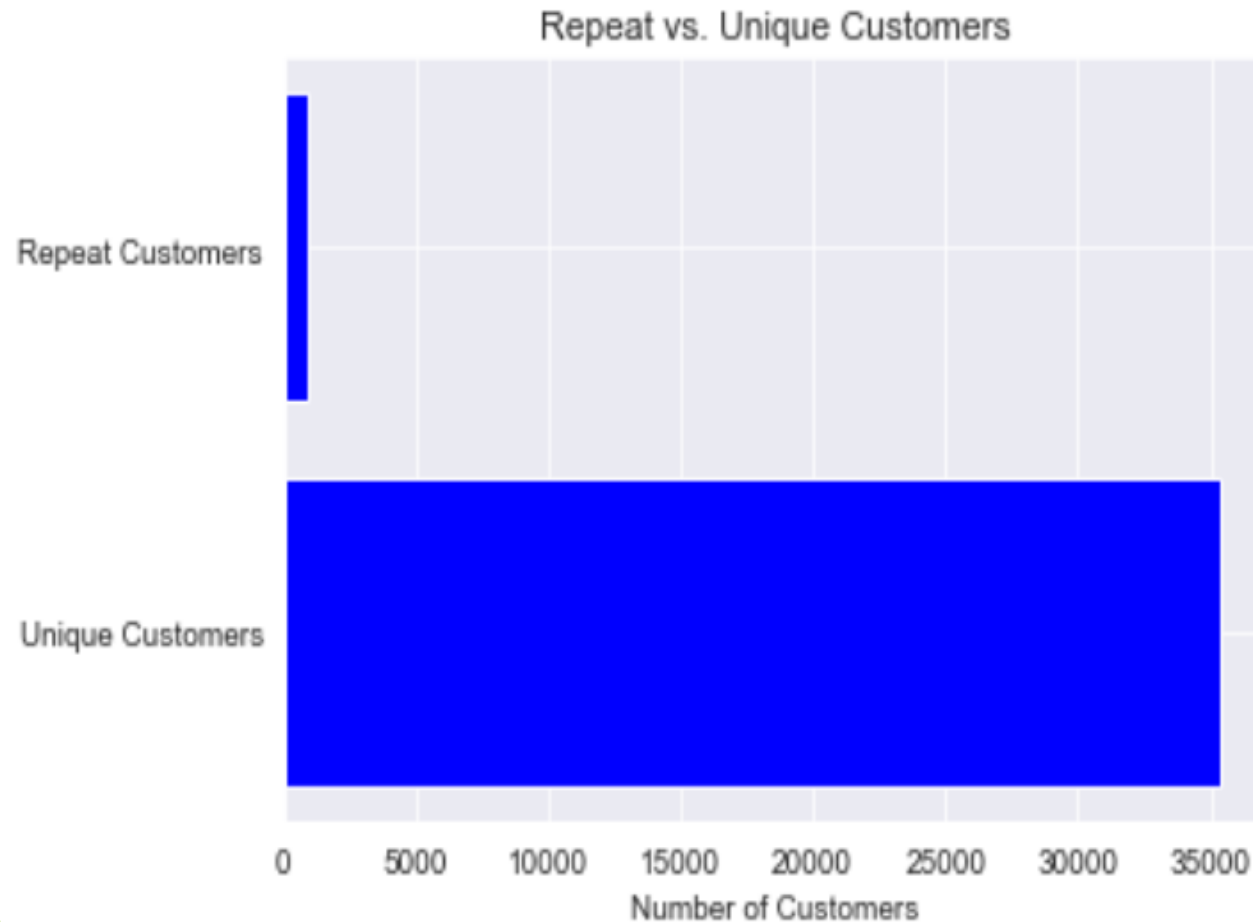


Prediction provides business advantage

Assess relevant rates based on prediction

Manage staff more easily

Vast Majority of Customers Unique



2.6% repeat

Useful for modeling
real-world conditions

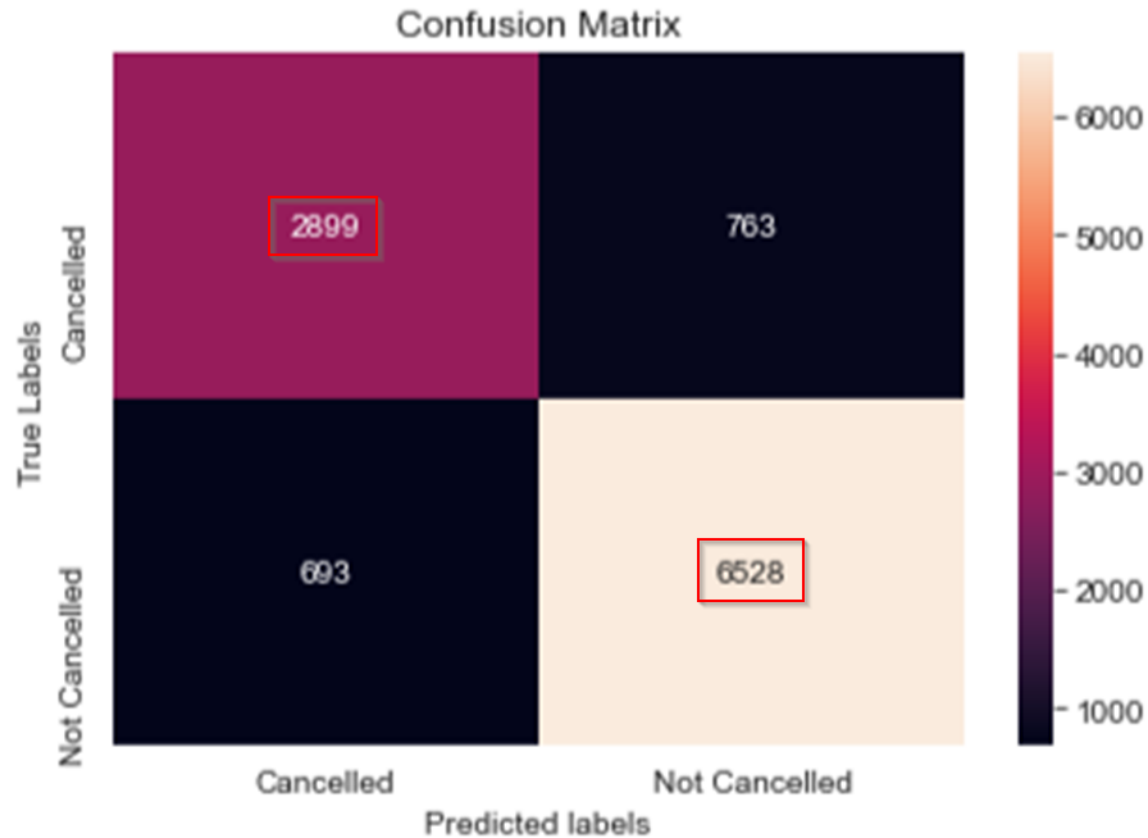
Nearly Half Have Cancelled



Lost potential revenue

Lack of price control

Predictive Model Performance



Best accuracy at 88%

2899 correctly predicted
cancelled bookings

6528 correctly predicted
uncancelled bookings

Next Steps

Tighten cancellation policies

- Consider a fee to create a booking
- Risk: less user-friendly

Gather larger dataset

- More data points to train from could provide more robust modeling

Refine model performance

- Improve accuracy in future model iterations



Questions?