Model Development Phase Template

Date	24 April 2024
Team ID	739855
Project Title	RESERVATION CANCELLATION PREDICTION
Maximum Marks	5 Marks

Feature Selection Report Template

In the forthcoming update, each feature will be accompanied by a brief description. Users will indicate whether it's selected or not, providing reasoning for their decision. This process will streamline decision-making and enhance transparency in feature selection.

Feature	Description	Selected (Yes/No)	Reasoning
Unnamed:0	Undefined column	No	Feature name is not mentioned
Booking Lead Time	Time between booking and arrival date	Yes	Highly correlated with cancellations; longer lead times are often associated with higher cancellation rates.

Guest Demographics	Age, gender, nationality, etc.	No	Not consistently significant; potentially privacy-sensitive and less relevant to cancellation behavior.
Booking Source	Source of the booking (e.g., online travel agency, direct booking)	Yes	Significant association with cancellation status; different sources exhibit varying cancellation behaviors.
Room Type	Type of room booked.	No	Less significant compared to other features; does not strongly influence cancellation likelihood
Previous Cancellations	Number of previous cancellations by the guest	Yes	Strong predictor of future cancellations; guests with a history of cancellations are more likely to cancel again.
Special Requests	Number of special requests made by the guest	Yes	Reflects guest engagement and likelihood of maintaining the booking; fewer special requests may indicate lower commitment.
Booking Changes	Number of changes made to the booking	No	Redundant with other selected features; not independently significant.
Stay Duration	Length of stay.	No	Insufficient evidence of a strong correlation with cancellations; not a significant predictor
Deposit Type	Type of deposit made (no deposit,	Yes	Influences guest commitment to the reservation; non-refundable deposits

			are associated with lower cancellation rates.
	refundable, non-refundable)		
Market Segment	Segment to which the booking belongs (e.g., leisure, business).	Yes	Different market segments exhibit varying cancellation behaviors; significant in predicting cancellations.
Seasonal Factors	Time of year or season during which the booking is made	No	May have some influence but not as significant as other selected features; seasonality can be indirectly captured by other features like booking lead time.
Promotion Code	Use of promotion or discount code during booking	No	Not consistently significant; may introduce noise rather than valuable predictive information
Loyalty Program	Whether the guest is a member of a loyalty program	No	While it may have some influence, it is less significant compared to other factors like previous cancellations and deposit type.
Group Booking	Whether the booking is part of a group reservation	No	Group bookings might have different cancellation dynamics, but this feature alone is not a strong predictor of individual reservation cancellations.
Payment Method	Method of payment used (e.g., credit card, bank transfer)	No	Not significantly correlated with cancellations; payment method alone does not strongly indicate likelihood of cancellation.

Early Check-In Request	Whether the guest requested early check-in	No	Not consistently significant; early check-in requests do not provide strong predictive value for cancellations.