

Hotel Booking & Cancellation Analysis

Business Analyst Internship Assignment – TravClan

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Problem Statement & Objectives

Why Cancellation Analysis Matters

For B2B travel platforms, cancellations directly impact revenue predictability, inventory efficiency, and partner relationships. Understanding cancellation drivers enables proactive risk management and strategic optimisation.

Analysis Objectives

- Identify booking behaviour patterns across channels and property types
- Analyse cancellation drivers and root causes
- Provide actionable recommendations to reduce cancellations
- Improve profitability and strengthen B2B client relationships

Dataset Overview

Sample Size

~30,000 hotel booking transactions
from an online travel platform

Key Dimensions

- Booking channel (Web, Mobile, Agent)
- Room type (Standard, Deluxe, Suite)
- Star rating (2-5 stars)
- Booking status

Derived Metrics

- Cancellation flag
- Stay length
- Lead time
- Channel performance

This comprehensive dataset enables detailed analysis of cancellation patterns and booking behaviour across multiple dimensions, providing insights for strategic decision-making.

Key Finding: Overall Cancellation Rate

20%

Cancellation Rate

Significant portion of bookings cancelled, impacting revenue and inventory utilisation

80%

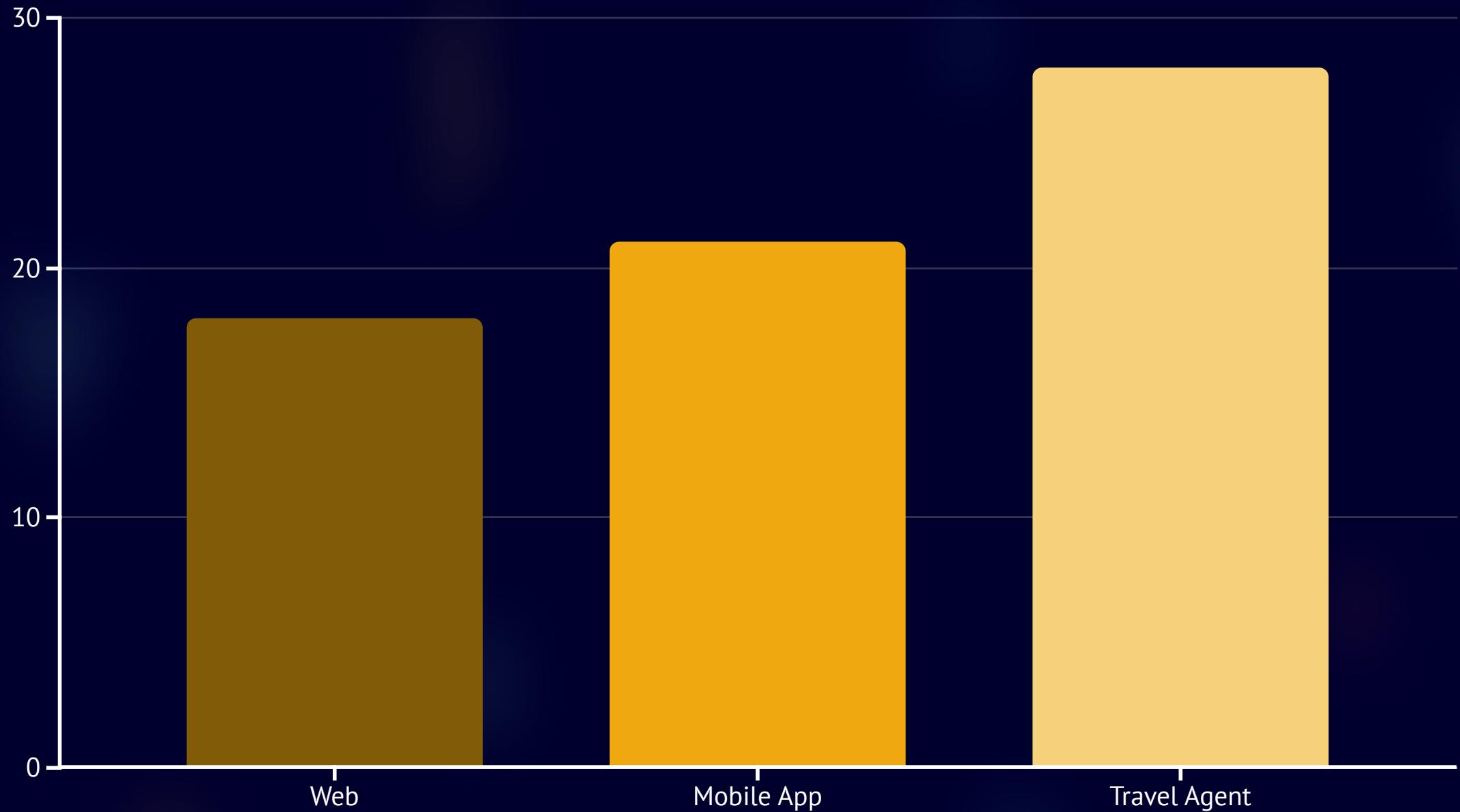
Completion Rate

Majority of bookings successfully completed

- ❑ **Business Impact:** At scale, even a 20% cancellation rate leads to substantial revenue loss and inefficient inventory management, making this a critical area for improvement.



Cancellation Patterns by Booking Channel



Web Bookings

Lowest cancellation rate (~18%) indicates higher customer intent and commitment due to deliberate decision-making process

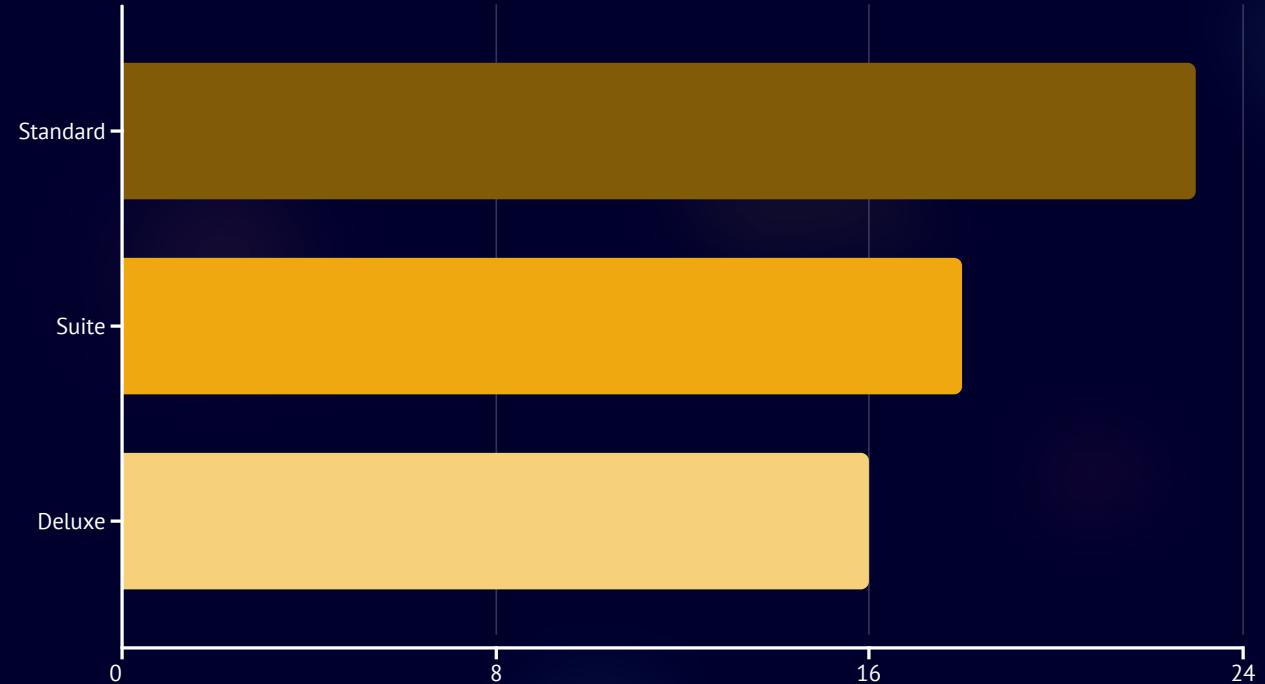
Mobile App

Moderate rate (~21%) suggests convenience-driven or impulsive bookings made in low-attention contexts

Travel Agent

Highest rate (~28%) reflects bulk bookings, tentative reservations, and external dependencies

Cancellation Behaviour by Room Type



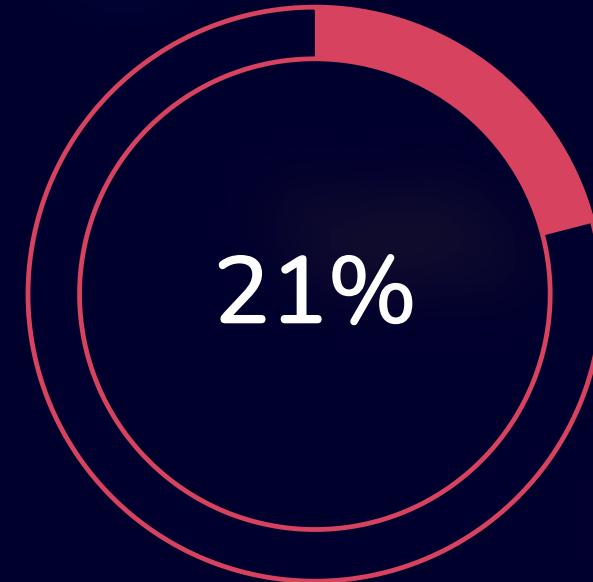
Key Insight: Standard rooms show highest cancellations (~23%), indicating price sensitivity and tentative behaviour. Premium rooms (Deluxe and Suite) offer more reliable revenue with lower cancellation rates.

Star Rating Impact on Cancellations



2-4 Star Hotels

Consistent cancellation rate across mid-tier properties



5-Star Hotels

Slightly elevated rate due to longer planning horizons

Cancellation rates remain relatively consistent across hotel star ratings. The marginal increase for 5-star properties suggests that whilst premium hotels attract higher-value bookings, they also experience more cancellations due to increased pricing complexity and customer decision uncertainty over longer planning periods.

Root Cause Analysis: Context Over Timing



Placeholder Bookings

Early bookings serve as reservations whilst customers continue evaluating alternatives closer to travel dates



Agent Tentative Holds

Bulk or provisional reservations for group travel and corporate plans that may not materialise



Price Sensitivity

Standard room customers highly responsive to competing offers and last-minute plan changes



Flexible Policies

Low psychological cost of cancelling reduces commitment and increases drop-offs

- ☐ **Critical Finding:** Lead time analysis reveals nearly identical average lead times for cancelled and non-cancelled bookings, confirming that cancellations are driven by booking context, not timing.



Why Certain Channels & Properties Perform Better

Channel Performance Drivers

- **Web bookings:** Higher decision maturity from extensive comparison and research before confirmation
- **Mobile App:** Quick, low-attention bookings during commuting or brief browsing sessions lead to impulsive decisions
- **Travel Agents:** External dependencies including group confirmations, budget approvals, and itinerary changes

Property Type Success Factors

- **Deluxe & Suite rooms:** Booked for occasion-driven or planned travel (family events, business stays)
- **Premium segments:** Stronger commitment compared to price-driven Standard room bookings
- **Standard rooms:** Purely transactional, budget-focused decisions with lower switching costs

Strategic Recommendations



Channel-Specific Controls

Implement validation for Travel Agent bookings requiring partial advance payment or reconfirmation. Use risk-based flagging combining channel, room type, and historical behaviour.



Context-Aware Pricing

Apply dynamic pricing informed by booking context. Replace blanket discounts with targeted promotions based on cancellation history and channel reliability.



Premium Upselling

Leverage automation to recommend Deluxe and Suite rooms during booking, capitalising on their lower cancellation risk and more reliable revenue streams.



Relationship Pricing

Transition from transactional to relationship-driven pricing using CRM insights. Introduce account-level agreements for corporate partners ensuring predictable revenue.

Key Takeaway: By aligning policies, pricing, and automation with booking context rather than timing assumptions, the platform can reduce cancellations, protect margins, and build stronger long-term B2B relationships.