

Project Documentation – Hotel Booking Predictive Analysis

Business Name

UrbanStay Hospitality Group

Business Location

Headquarters in **Abuja** with premium properties in **Lagos** and planned expansions to other major African cities.

Business Introduction

UrbanStay Hospitality Group, established in 2012, began as a single boutique hotel in Abuja, Nigeria. Over the years, it has grown into a premier hospitality brand known for its luxury accommodations, exceptional guest services, and innovative travel experiences.

- **Core Values:** Excellence in service, guest satisfaction, and a passion for African-inspired hospitality.
 - **Diverse Portfolio:** From five-star hotels in Lagos' business districts to resort-style retreats in Abuja's serene outskirts.
 - **Customer Focus:** Personalized experiences, curated local events, and guest loyalty programs.
 - **Sustainability:** Eco-friendly operations, locally sourced materials, and active community engagement.
 - **Competitive Landscape:** Facing intense competition from both global hotel chains and local boutique providers, UrbanStay invests in technology to optimize occupancy and pricing strategies.
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Business Rationale

With the rapid digitalization of the travel and tourism industry, UrbanStay Hospitality Group recognizes the need to leverage **data analytics** to understand booking trends, forecast demand, optimize pricing, and enhance occupancy rates. This predictive capability is critical to remaining competitive, increasing revenue, and improving guest satisfaction.

Project Scope

This project focuses on analyzing customer booking behavior to:

1. Identify patterns in booking timelines, stay duration, and cancellation trends.
 2. Compare UrbanStay's room rates with competitor pricing and promotions.
 3. Examine the impact of local events on occupancy rates.
 4. Develop interactive dashboards in **Power BI** for real-time monitoring of KPIs.
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Project Aim

To use data analytics to predict booking patterns, optimize pricing strategies, and improve hotel occupancy rates, thereby increasing revenue and customer loyalty.

Data Description

The dataset contains **2,000 records** and **26 fields** detailing:

- **Customer Information:** ID, name, gender, age, nationality, loyalty status.
 - **Booking Details:** Booking date, duration of stay, room type, room rate, additional costs, booking channel.
 - **Competitor Data:** Competitor rates, occupancy, promotions, ratings, pricing strategy.
 - **Market Factors:** Local events, economic index, travel purpose, group size.
 - **Outcome:** Whether the booking was cancelled or not.
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Business Challenges

1. **Price Sensitivity:** Competitors offer seasonal discounts and event-based promotions that affect UrbanStay's occupancy.
2. **Event Impact:** Fluctuating demand during concerts, conferences, and festivals.
3. **Cancellations:** Loss of revenue due to last-minute booking cancellations.
4. **Data Utilization:** Limited use of historical booking data for predictive analysis.

Technology Stack

- **Data Import & Transformation:** Power BI (Power Query)
- **Data Visualization:** Power BI Interactive Dashboards
- **Analysis:** DAX formulas for KPI calculations
- **Reporting:** Power BI report builder for insights & recommendations