Project Title: Airbnb Booking Dashboard – NYC 2019

Introduction

In this project, I analyzed a real-world Airbnb dataset focused on New York City listings. The goal was to explore pricing patterns, availability, and room type distributions across neighbourhoods using a fully interactive Excel dashboard. This analysis helps identify trends and anomalies that can guide strategic decisions for hosts and marketplace managers.

Objective / Problem Statement

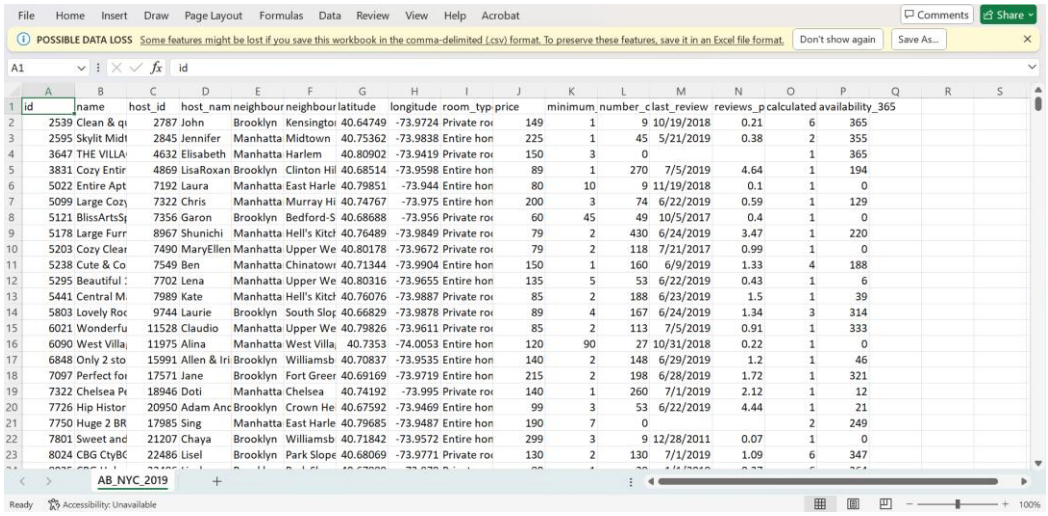
The objective was to analyze how room type, price category, and availability vary across neighbourhoods, identify which room types are most common and cost-effective, and highlight areas with high availability or underperformance. The final goal was to produce a data-driven dashboard to help optimize Airbnb listings and improve customer targeting.

Tools Used

- Microsoft Excel
- Pivot Tables & Pivot Charts
- Excel Formulas (IF, COUNT, AVERAGE, MODE)
- Conditional Formatting
- Slicers for interactivity

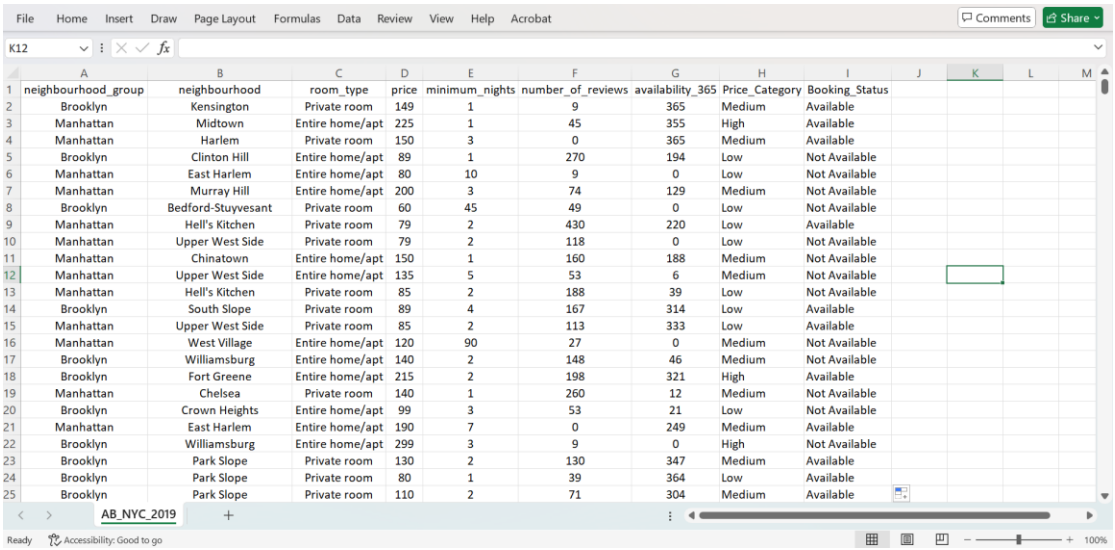
Dataset Description

- **Source**: Kaggle (AB_NYC_2019 Airbnb Dataset)
- **Records**: 48,896 listings
- **Columns Used**:
  neighbourhood_group, neighbourhood, room_type, price, minimum_nights, number_of_reviews, availability_365
- **Calculated Columns**:
  Price_Category, Booking_Status



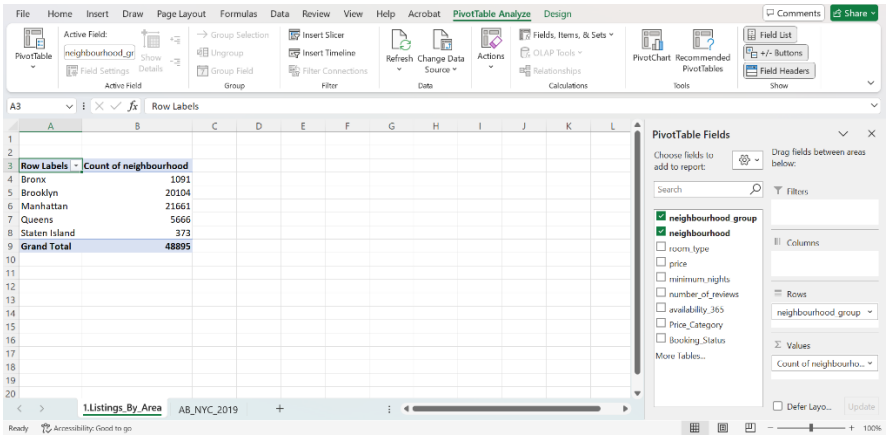
Data Cleaning Steps

- Removed irrelevant columns like id, name, host_name, license, latitude, etc.
- Cleaned text inconsistencies in room types
- Created:
    - Price_Category using price buckets (Low / Medium / High)
    - Booking_Status based on availability_365 (> 200 = Available)
- Ensured numeric columns had no text or missing values
- Applied conditional formatting for insights like high price, low availability

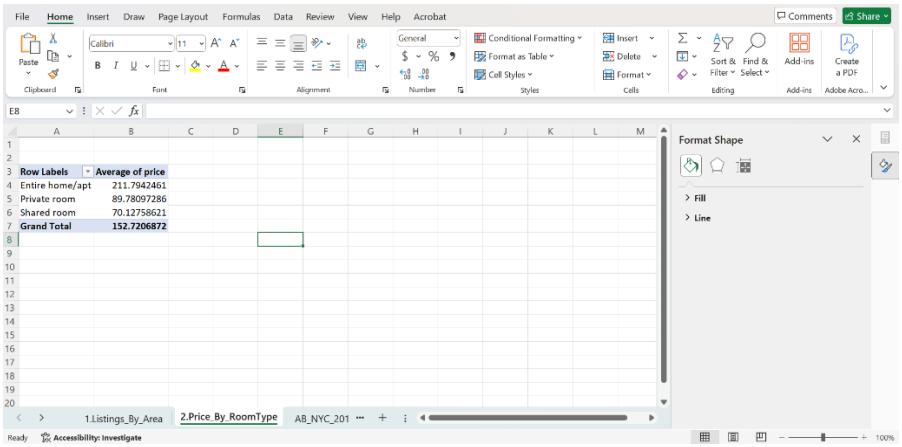


Analysis & Pivot Table Insights

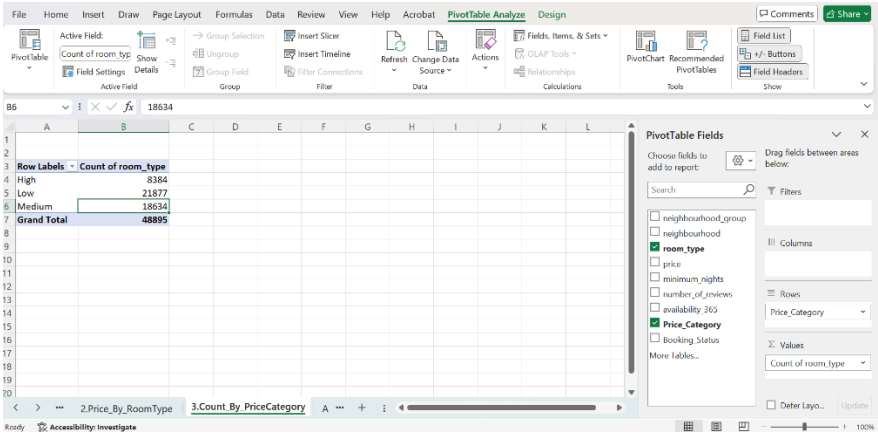
- Listings by Area



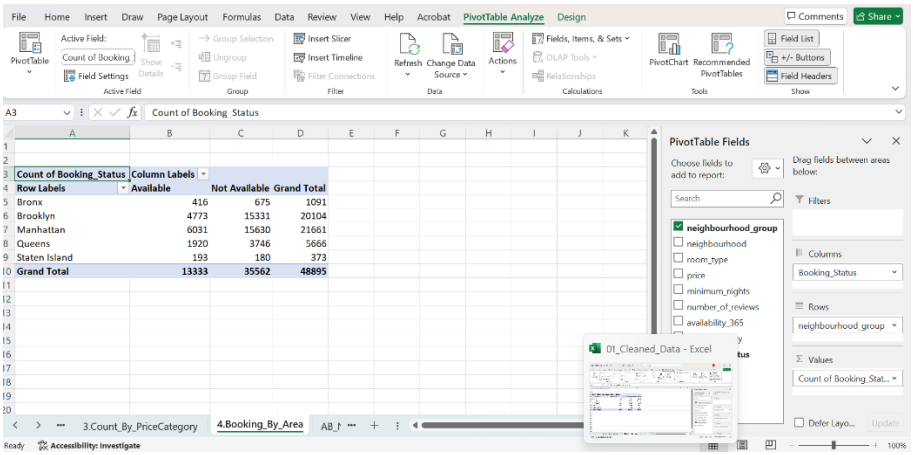
- Avg Price by Room Type



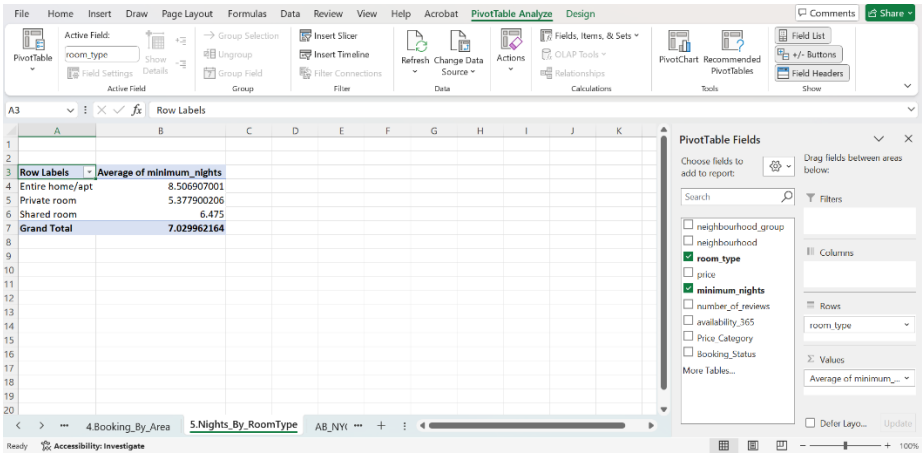
- Listings by Price Category



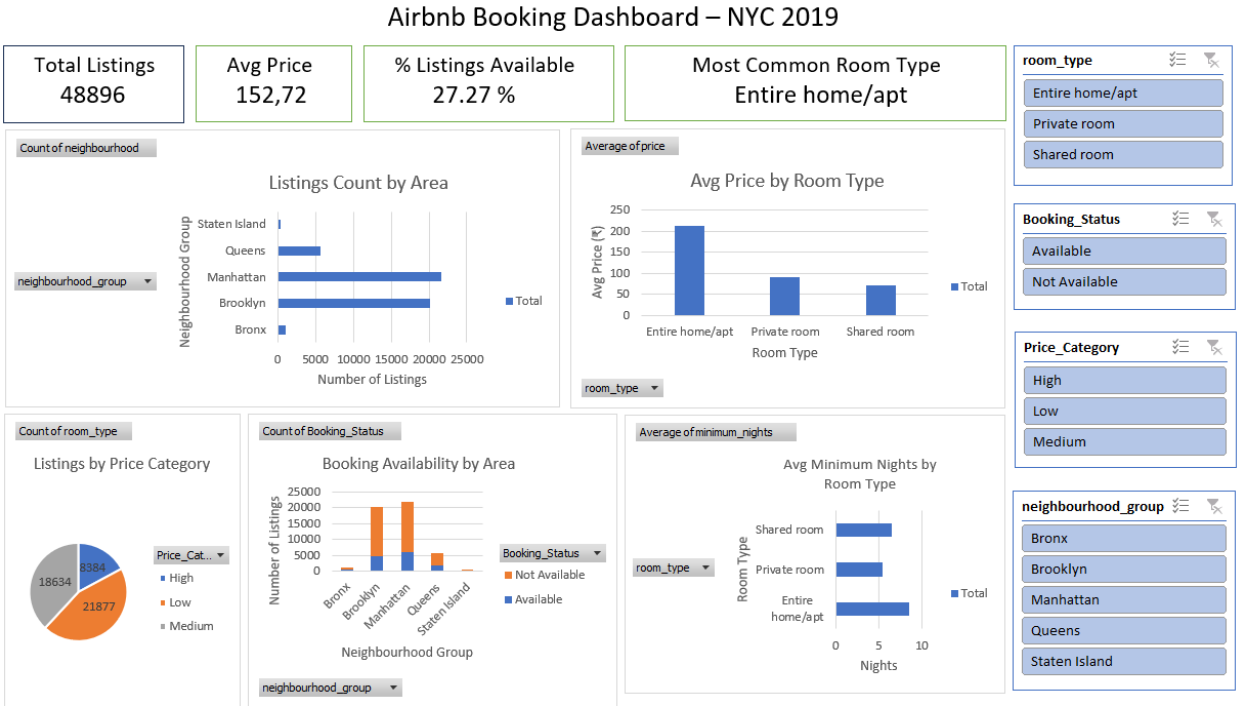
- Booking Availability



- Avg Minimum Nights by Room



Final Dashboard (Key Insights)



Explain each part:

Section	Description
KPIs	Total listings, average price, % available, most common room
Charts	Visual breakdowns of price, room type, and area comparisons
Slicers	room_type, price_category, booking_status, neighbourhood
Insight	Entire home/apt is the most common & expensive room type

---

Conclusion

- Developed a clean, interactive Excel dashboard for Airbnb analysis
- Practiced end-to-end Excel workflow: cleaning → pivoting → dashboard
- Gained deeper understanding of how location, pricing, and availability interact
- This project can help Airbnb hosts and analysts optimize listings & target marketing