

Storytelling: Case Study: Airbnb, NYC

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Agenda

- 1) Background
- 2) Objective
- 3) Insight
- 4) Recommendation
- 5) Appendix

Background

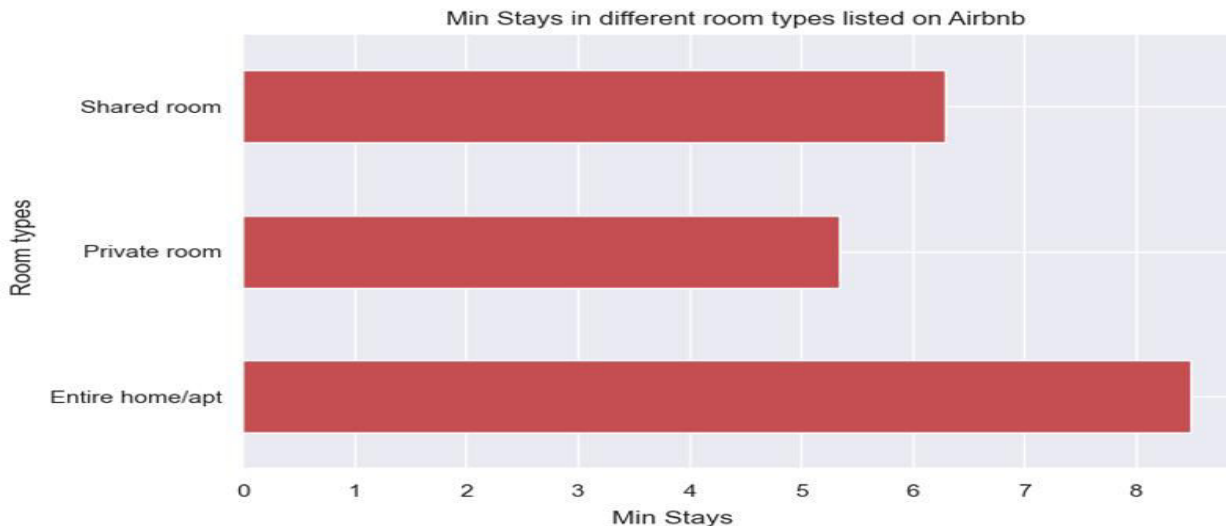
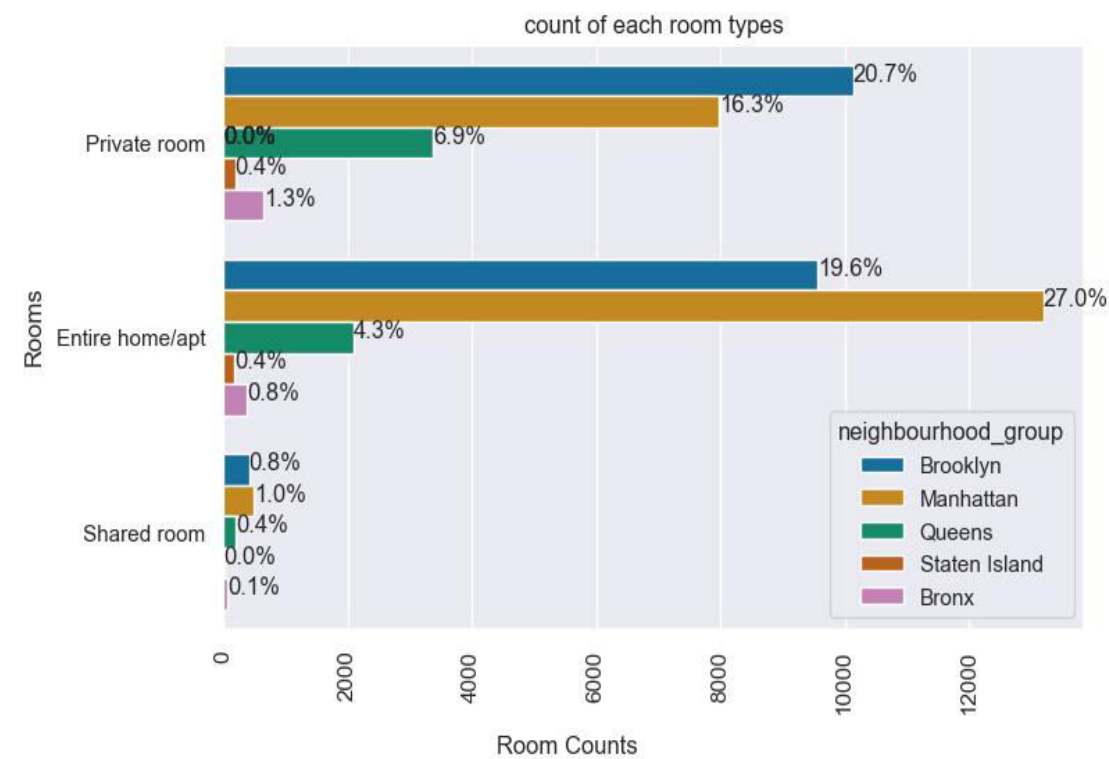
- Airbnb is an online platform enabling individuals to rent out their unused accommodations.
- In recent months, the company has seen a significant decline in revenue due to the impact of COVID-19.
- However, with travel restrictions easing and an increase in travel activity, Airbnb aims to be fully prepared for this shift.
- To support this, an analysis was conducted on a dataset of Airbnb listings in New York.

Objective

- To provide insights into the current market conditions.
- Enhance our understanding of property and host acquisitions, operations, and customer preferences.
- Offer recommendations to our marketing and operations teams on how to adapt to the post-pandemic changes.

INSIGHTS

- Shared rooms make up only 2% of the total available listings.
- **Private rooms** are most commonly found in Brooklyn, with Manhattan following closely behind.
- **Entire home/apartment** listings account for 27% in Manhattan, while Brooklyn ranks second with approximately 19.6%.
- **Manhattan** has the highest number of property listings compared to other areas.
- The total number of **shared rooms** on Airbnb is very limited, with few options available in Staten Island and the Bronx, where they are either negligible or extremely rare.

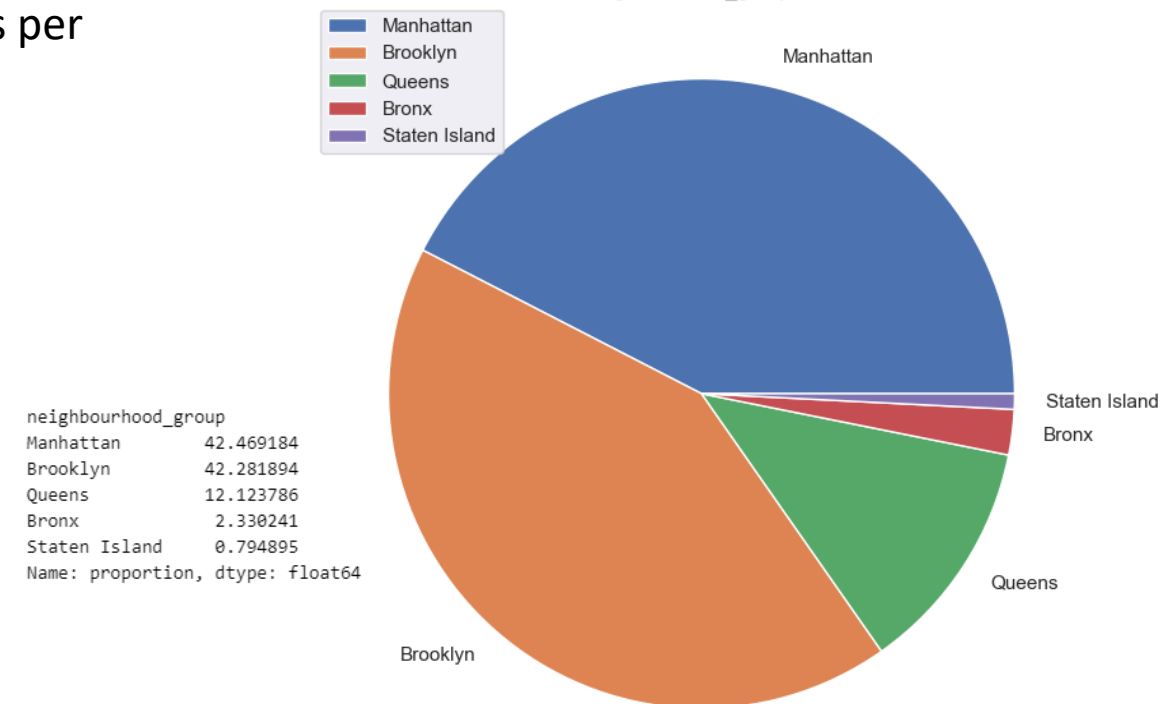
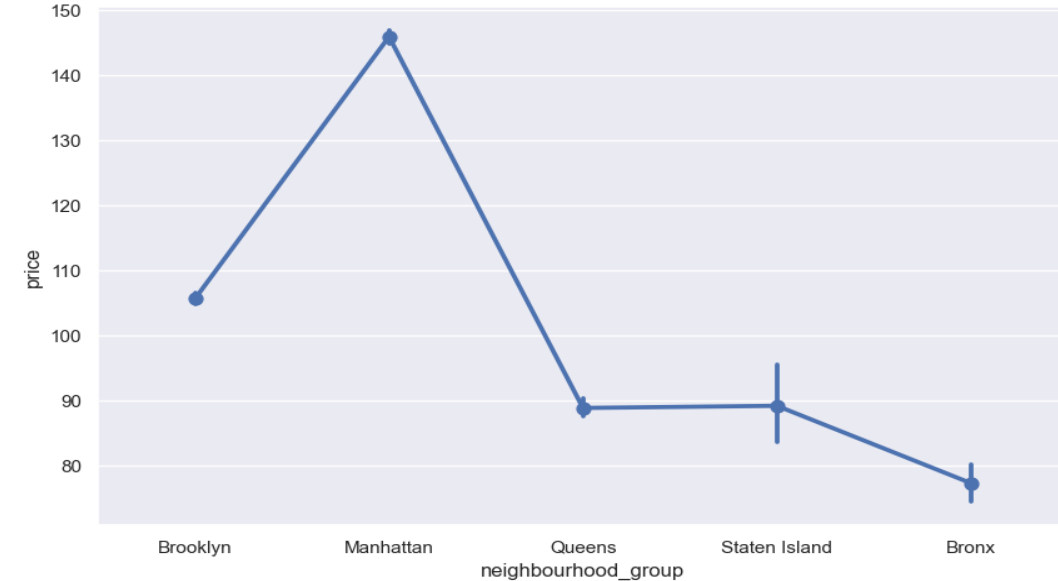
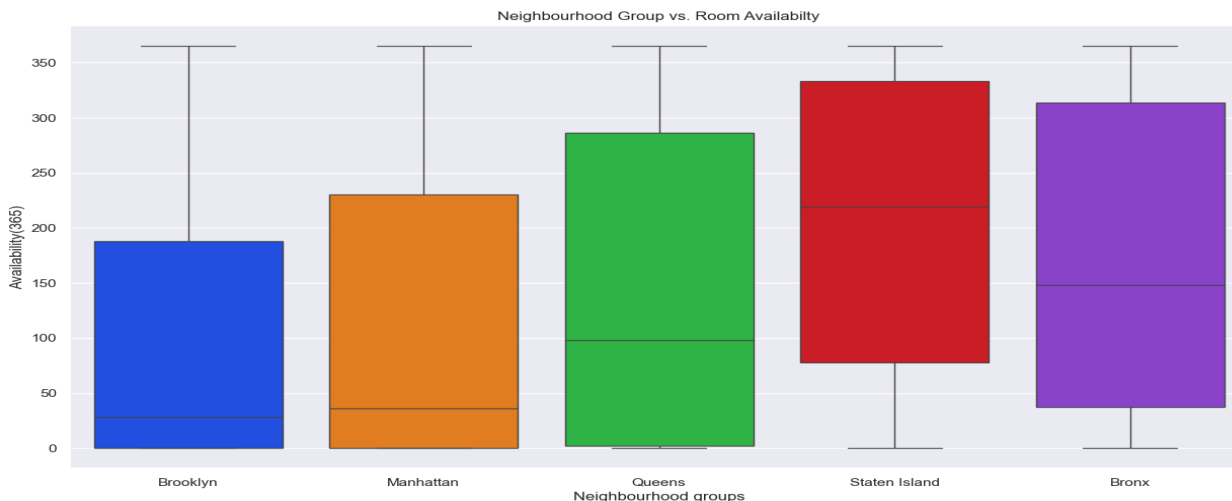


- Guests generally prefer staying in an **Entire home or apartment**, with an average stay of over 8 nights.
- Guests opting for **Shared rooms** typically stay for around 6 to 7 nights.

Key Findings From “Room Types”

INSIGHTS

- **Manhattan and Brooklyn** account for 81% of all listings, while **Staten Island** contributes the least among neighborhood groups.
- **Manhattan** remains the priciest area, with average listing prices surpassing \$140. **Brooklyn** follows, with an average price of around \$80.
- **Queens, Staten Island,** and the **Bronx** offer similar average prices, indicating a more affordable market compared to **Manhattan** and **Brooklyn**.
- **Staten Island** has the highest availability throughout the year, often exceeding 300 days, with an average availability of around 210 days per year.
- After Staten Island, the **Bronx** shows an average availability of approximately 150 days annually.

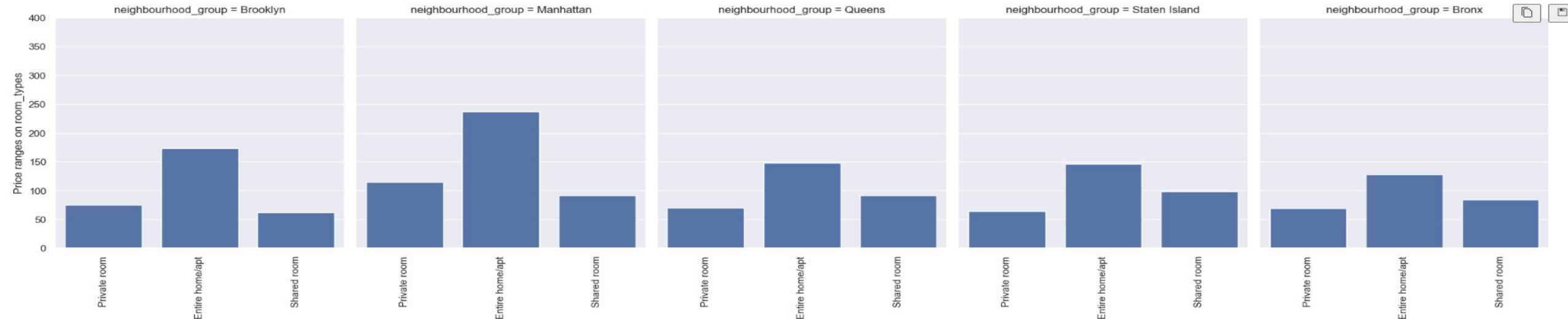


Key Findings From “Neighborhoods”

INSIGHTS

	name	neighbourhood_group	neighbourhood	host_name	room_type
38498	LUXURIOUS 5 bedroom, 4.5 bath home	Manhattan	Upper West Side	Lisa	Entire home/apt
48304	Next to Times Square/Javits/MSG! Amazing 1BR!	Manhattan	Hell's Kitchen	Rogelio	Entire home/apt
46533	Amazing Chelsea 4BR Loft!	Manhattan	Chelsea	Viberlyn	Entire home/apt
30824	Designer's Beautiful 2BR Apartment in NOLITA/SOHO	Manhattan	Nolita	Ilo And Richard	Entire home/apt
22992	Modern Townhouse for Photo, Film & Daytime Events	Manhattan	Upper West Side	Lanie	Entire home/apt

	name	neighbourhood_group	neighbourhood	host_name	room_type
12516	cute and cozy room in brooklyn	Brooklyn	Bedford-Stuyvesant	Ornella	Private room
7864	Comfortable and Large Room	Brooklyn	Flatbush	Kay	Private room
29967	Large bed room share bathroom	Queens	Elmhurst	Cha	Private room
39100	15 minutes From Times Square!!	Manhattan	Washington Heights	Ari	Private room
28700	Cozy room in Loft Apartment - Brooklyn	Queens	Ridgewood	Estefani	Private room



Most Expensive :

The top 5 most expensive listings are all in **Manhattan**, the priciest area in NYC.

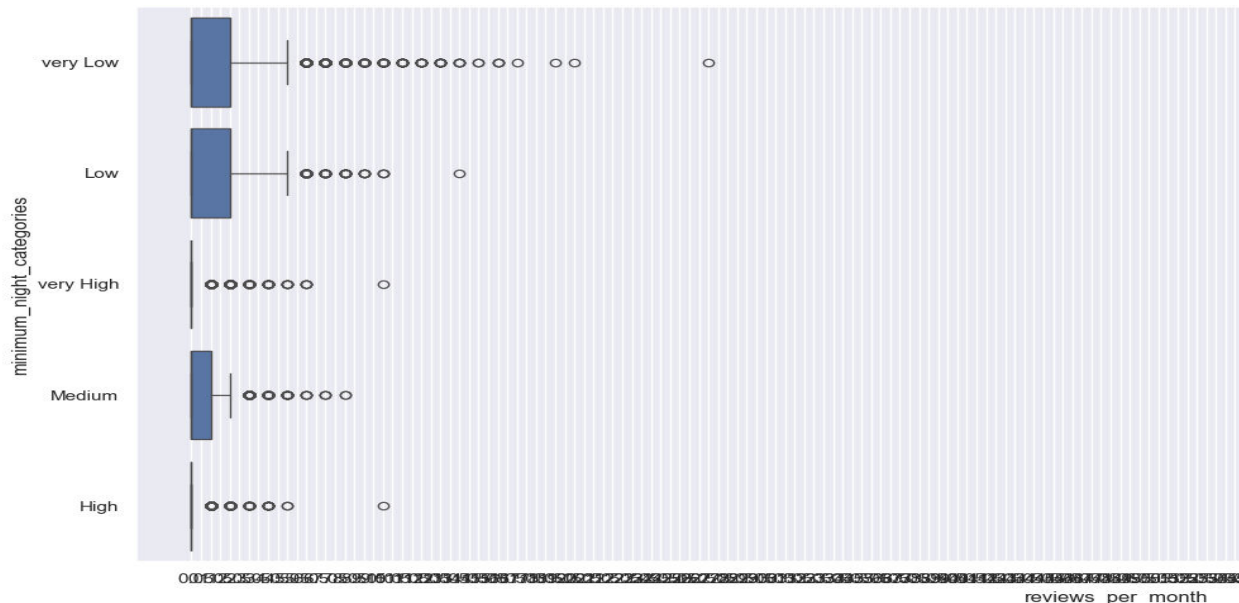
Least Expensive:

The top 5 cheapest listings mostly come from **Brooklyn** and **Queens**, and all are **private rooms**.

Manhattan has the highest prices for room types, with **Entire homes/apartments** averaging nearly \$240 per night, followed by **Private rooms** at around \$110 per night, which aligns with Manhattan being the most expensive area to live in.

INSIGHTS

- Analyze how monthly reviews vary by room type across different neighborhood groups.
- **Private rooms** received the highest number of reviews per month, with **Manhattan** leading at over 50 reviews, followed closely by other areas.
- In the **Entire home/apartment** category, both **Manhattan** and **Queens** saw the most reviews.
- In contrast, **shared rooms** received significantly fewer reviews, mainly from **Staten Island**, followed by the **Bronx**.



- Customers are more likely to leave reviews when the minimum stay requirement is lower.

Analyze variation in monthly reviews by room type across neighborhood groups

Recommendation

- **90%** of Airbnb listings are either **private rooms** or **entire homes/apartments**, with few guests opting for **shared rooms**. Our analysis confirms that guests mainly prefer these room types.
- **Shared rooms** have fewer listings but greater availability and lower prices, offering potential for increased utilization.
- Over **80%** of the listings are concentrated in the **Manhattan** and **Brooklyn** neighborhood groups.
- Prices vary significantly across **Manhattan**, the most expensive area to stay in NYC.
- Lowering the **minimum night requirement** could make properties more appealing to customers.

Appendix – Methodology

- Conducted a thorough analysis of New York City Airbnb Dataset.
- Cleaned the data set using Python.
- Derived Necessary features.
- Used group aggregation, pivot tables and other statistical methods.
- Created charts and visualizations using Tableau and Python.