Storytelling Case Study: Airbnb, NYC

By:

Padma Sandeep Varma Kalidindi

Shivam Garg

Laxmi Prasanna

OBJECTIVE

➤ Airbnb suffered a significant revenue loss during the time. Since people have started travelling once more, Airbnb is working to revive the industry and get ready to serve clients.

➤ Delivering the insights to business leaders like Head of Acquisitions and Operations, NYC and Head of User Experience, NYC is the primary goal. principal data analysts understanding of the data to determine the decrease in Airbnb reservations in the NYC area

➤ Findings to identify the business patterns

➤ Suggestions as to what might be done to reverse the decline

BACKGROUND

➢ Since a few months ago, Airbnb's revenue has significantly decreased.

➢ Airbnb wants to make sure that company is completely ready for this transformation now that the limits have started to decline, and people have started to travel more.

➢ As a result, analysis has been done on a dataset made up of different New York Airbnb listings.

Properties with Least Min Nights to Stay offer Maximum Bookings

➢ Acquiring premium properties should **not be prioritized** as of now, due to high price.

➢ As the number of nights to stay increases, the price increases and the bookings naturally go down.

➢ It has been observed, that the hosts offering min nights to stay have received the highest booking in the past.

Popular Accommodations across NYC

The following are popular places in each of the Neighborhood group and contributes to higher income and hence target these places more for revenue generation.

❖ Williamsburg in Brooklyn

❖ Midtown in Manhattan
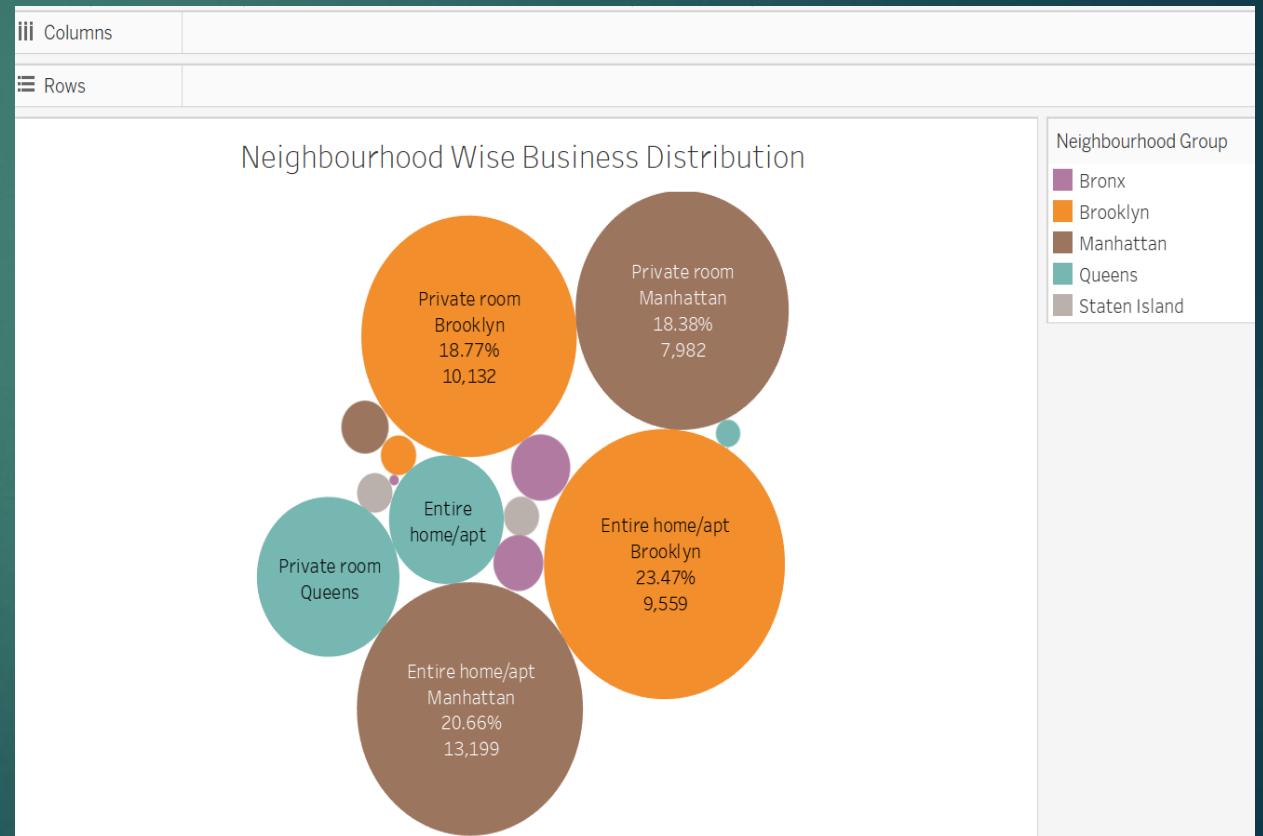
❖ Astoria in Queens

❖ Staten Island-Randall Manor

Columns: Measure Names

Rows: Neighbourhood Group | Neighbourhood

Neighbourhood contributing to higher income

Neighbourhood Group	Neighbourhood	Fixed LOD	Price	Percent of Income Contribution
Brooklyn	Bedford-Stuyvesant	2,500,600	399,917	11.82%
	Bushwick	2,500,600	209,033	6.18%
	Williamsburg	2,500,600	563,707	16.66%
Manhattan	Hell's Kitchen	4,264,527	400,987	6.95%
	Midtown	4,264,527	436,801	7.57%
	Upper West Side	4,264,527	415,720	7.21%
Queens	Astoria	563,867	105,469	13.83%
	Long Island City	563,867	68,449	8.97%
Staten Island	Randall Manor	42,825	6,384	11.02%
	St. George	42,825	5,671	9.79%

Neighbourhood Group
- ☑ (All)
- ☑ Bronx
- ☑ Brooklyn
- ☑ Manhattan
- ☑ Queens
- ☑ Staten Island

Limit
Top 10 by SUM([Percent of Income Contribution])

Neighborhood Wise Business Distribution

➢ **Private Rooms & Entire home/apt** should be targeted in Brooklyn & Manhattan as they seem to be popular.

➢ **Shared Rooms** should be targeted as the rates already cheap and reasonable approach will get more customers.

➢ The properties in Manhattan & Brooklyn are the most expensive than any other area.

Columns

Rows

Neighbourhood Wise Business Distribution

Neighbourhood Group
- Bronx
- Brooklyn
- Manhattan
- Queens
- Staten Island

Private room
Brooklyn
18.77%
10,132

Private room
Manhattan
18.38%
7,982

Entire
home/apt

Entire home/apt
Brooklyn
23.47%
9,559

Private room
Queens

Entire home/apt
Manhattan
20.66%
13,199

Insights on the price based on Neighborhood Group

➢ Focus on increasing the listings in Queens, Bronx, Staten Island to increase their revenue by adding tourist packages, reducing prices.

➢ Manhattan contributes to 90% of revenue

➢ As Manhattan leads the list and is quite popular though it is pricey, hosts can offer different packages to attract more customers.
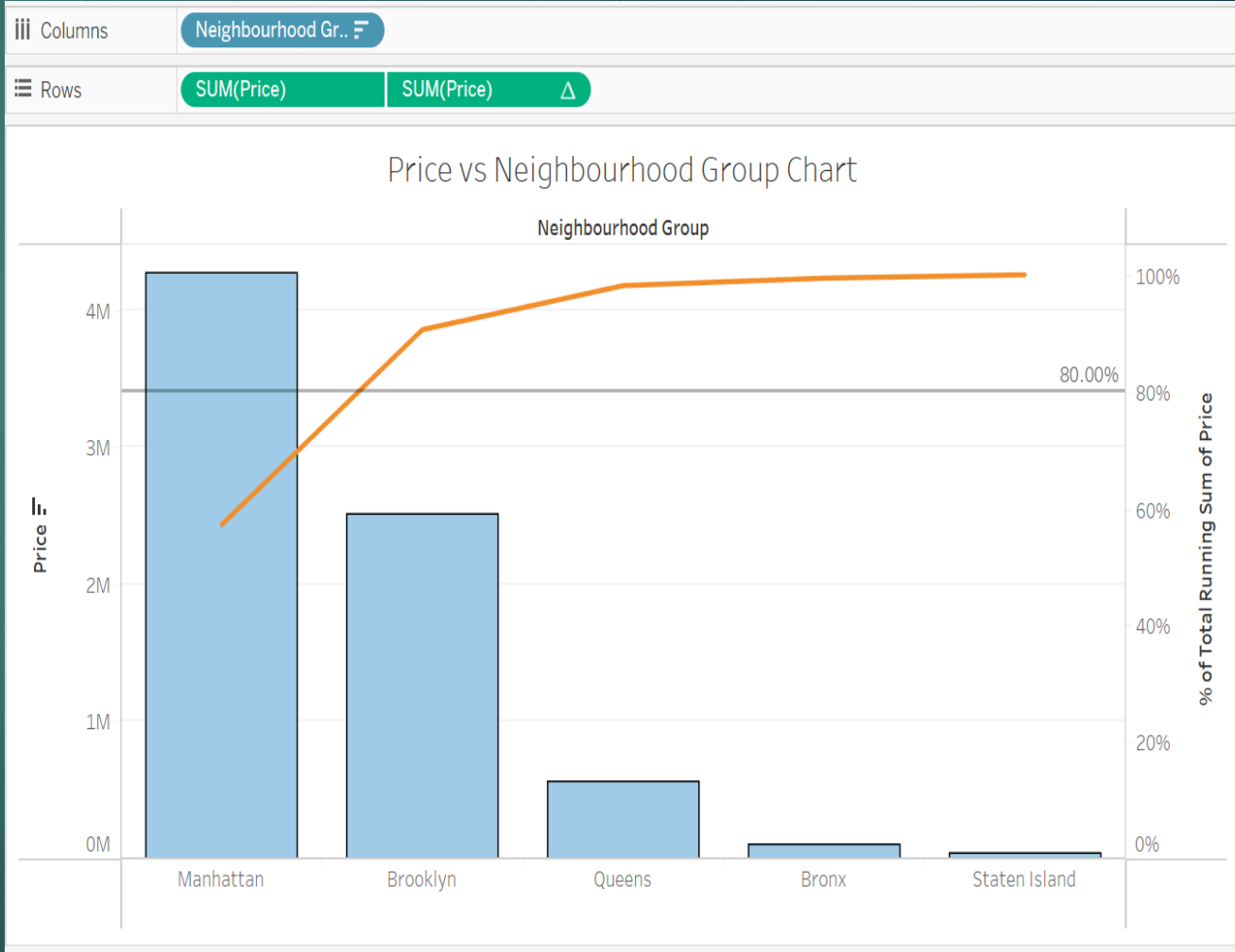
RECOMMENDATIONS

➢ Increase count of the number of hosts in Staten Islands. And try increasing low/medium rent hosts in Manhattan.

➢ Target on increasing the host listings of Entire home/apt and Private rooms as they are popular.

➢ Target more on providing monthly rental at the properties in NYC by offering offers on prices or tourist packages.

➢ Shared Rooms should be targeted as the rates already cheap and reasonable approach will get more customers.

➢ User Experience should be focused in areas like Staten Islands and Bronx to increase rentings

APPENDIX - DATA SOURCES

I.   Here is a snapshot of our data dictionary.

     ➢ Host details such as Id, name, host name & host id

     ➢ Property Listings information such as latitude, longitude, price, room type.

II.   The team used the following data sources:

     ➢ Data provided by Upgrad Team

     ➢ Airbnb listings data from NYC

     ➢ Survey conducted in 2019

APPENDIX - BUSINESS METHODOLOGY

➤ We conducted a thorough analysis of the Airbnb dataset. The process included

➤ Understanding the Data using Python and Excel

➤ Cleaning the dataset by treating the missing values. Refer Business Methodology Document for clear understanding of Process.

➤ Creating new calculated fields 'Min Nights Binned' & 'No. of Reviews Per Listing' in Tableau.

➤ Visualization of the data using the Tableau tool to understand key inferences from the analysis.

APPENDIX - DATA ASSUMPTIONS

➢ We assumed the data prior to the COVID – 19 period was achieving the desired revenue.

➢ We assumed the company does not want to expand yet to new territories in NYC.

➢ The company's strategies are decided considering the travel will increase in the post COVID period.