

Insights from the Airbnb, NYC Analysis

For Lead Data Analyst & Data Analysis Manager



Agenda

1. Objectives
2. Initial Understanding & Assumptions about the Data
3. Background Summary
4. Important Findings
5. Training Methods
6. Appendix - Data Methodology
7. Team Background and Details



Objectives

- Improve our overall understanding of the impact of Covid-19 on economic and market conditions for the Airbnb Community.
- Provide details and gather insights to our Lead Data Analyst & Data Analysis Manager about the impact.
- Improve our shared understanding about the challenges and gap we faced during our Research phase and Data Preparation.



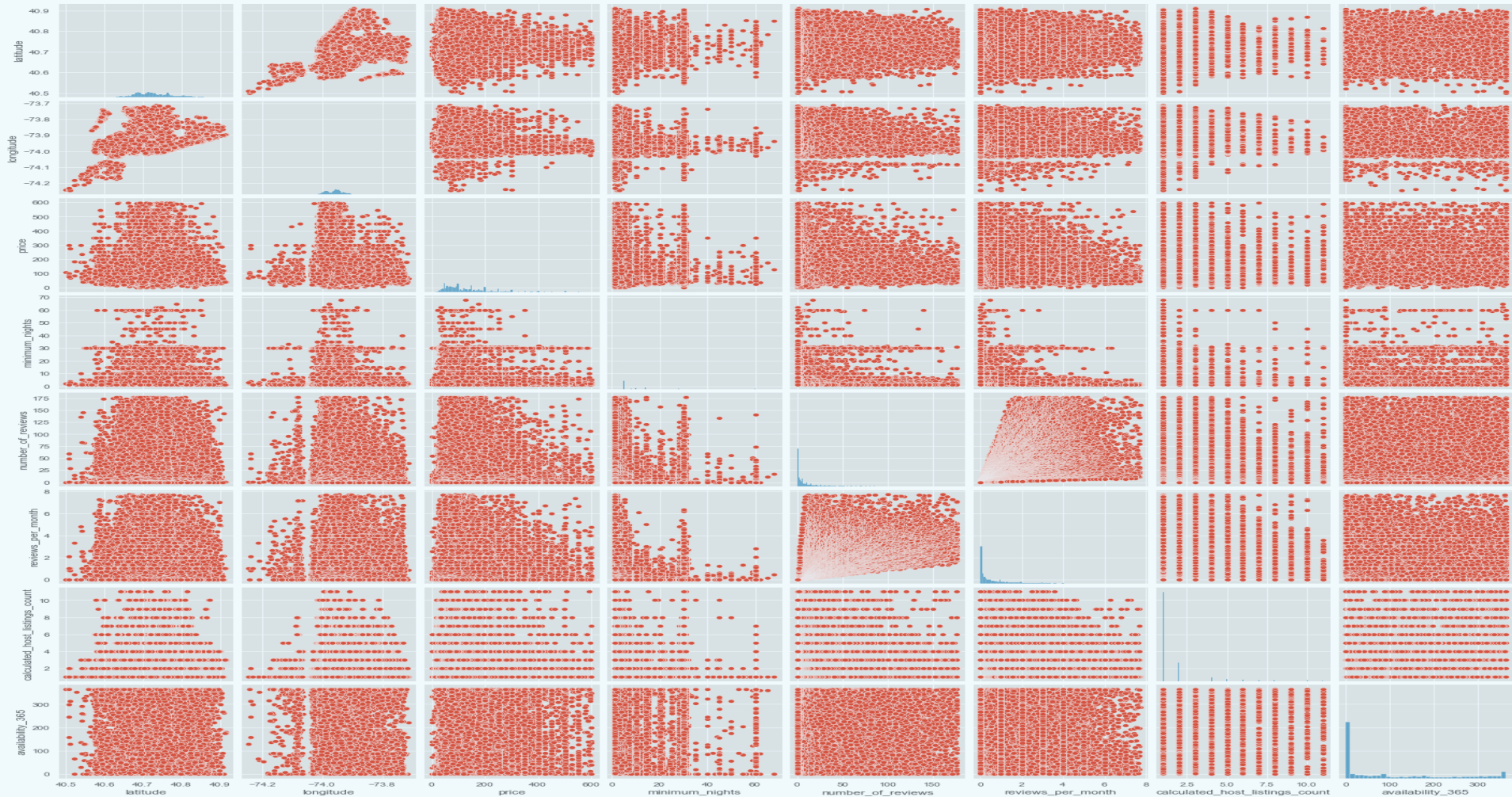
Initial understanding & Assumptions about the Data

- There could be two reasons for the decline in the Airbnb's revenue:
 - Firstly, the sites hosted on the platform are not providing better user experience to the end consumers
 - Secondly, there could be another competitor capturing the market share
- We first try to work on the first reason as it is internal to the company and can have access to that Data for analysis
- The provided data is captured from the CRM tool used by Airbnb to manage their customers that are hosting sites on their platform.
- The reviews provided in the data frame are assumed to be positive as it is not mentioned whether they are negative or positive reviews.

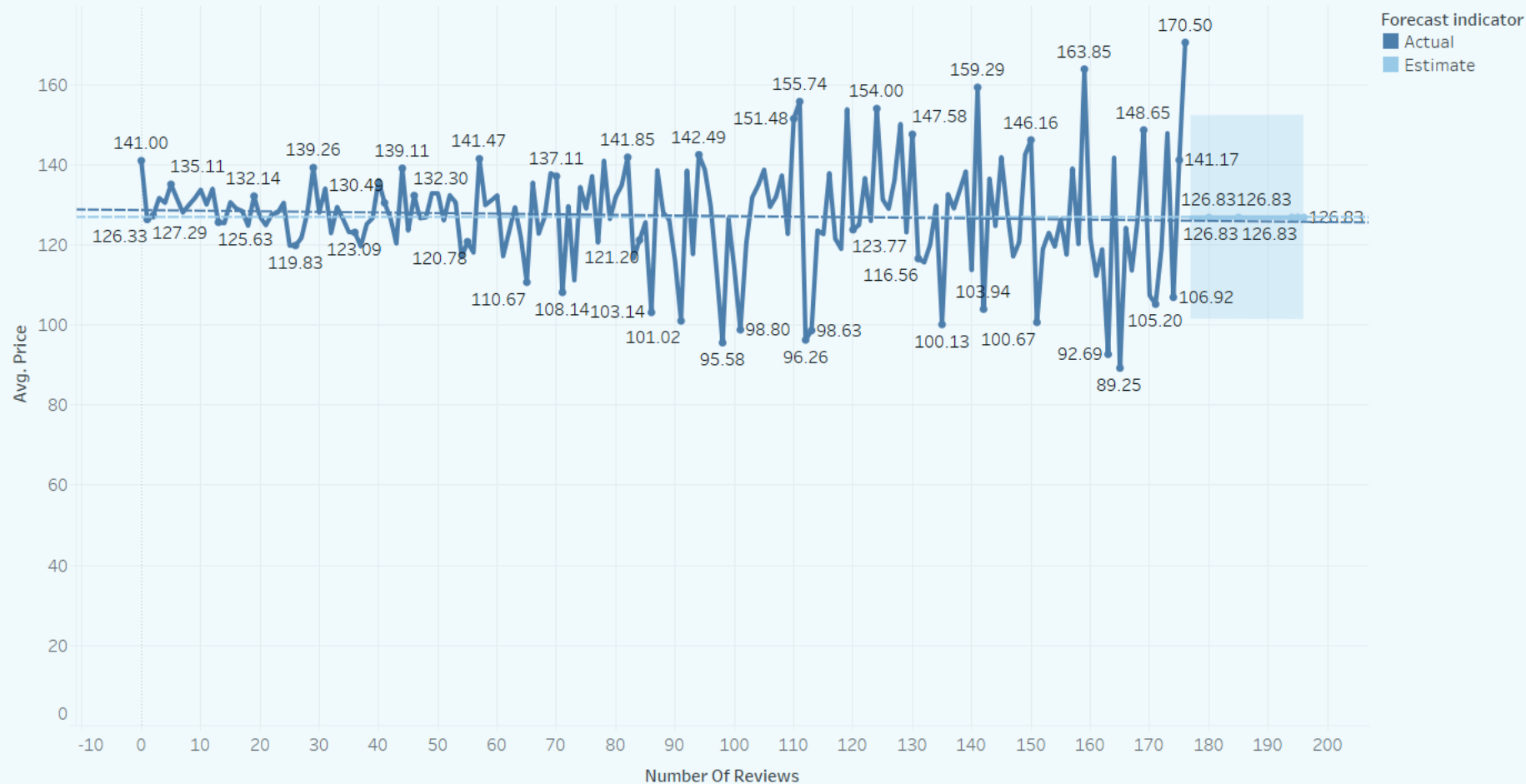


Background Summary

- All the five neighbourhood's borough (New York City) – the Bronx, Brooklyn, Manhattan, Queens and Staten Island – have contributed around \$105 million in economic activity and supported 950 jobs in the outer boroughs past year¹.
- In the last few months, Airbnb has seen a major decline in revenue due to lockdown imposed during pandemic.
- Hence provided the information in hand based on previous data captured, we need to analyse the patterns for declining profits and identify the gap we came across while gathering insights.



There seems to be no correlation between the numerical variables.



The trend of average of Price (actual & forecast) for Number Of Reviews. Color shows details about Forecast indicator. The marks are labeled by average of Price (actual & forecast).



Price Analysis

- Manhattan is the only Neighborhood in the Borough that lies in offering the Highest Price range properties on the platform followed by others with a Medium Price range on average. Prices offered above 120\$ on average are a High Price, between 80\$ to 120\$, Medium Price range and less than 80\$ to be considered Low Price range property.
- Manhattan has the highest number of places listed around more than 10 by a single host with an average price of 230 \$ followed by Brooklyn with an average price of 108\$. On the other hand, all the hosts have less than 2 properties listed in either of the Borough on an average price range between 80 \$ to 170 \$.
- **Majority of the customers prefer a price range of 120\$ to 130\$ on average** for a stay. As most of them have provided a good number of reviews between this price range. **And it is forecasted to be at 126.83 \$ in the upcoming future.**



Location and Property Analysis

- **Michael, David, Alex, John and Daniel are the Top 5 hosts** that seem to have received the highest number of reviews for their listed sites and have also sites listed with High price range.
- Staten Island - Silver Lake, Staten Island - Richmondtown, Staten Island - Eltingville, Staten Island - Huguenot and Brooklyn - Manhattan Beach are the Top 5 locations with Low Price range that have received the highest number of reviews on average being the lowest in Price range. On the contrary, Queens - Neponsit, Manhattan - NoHo, Manhattan - Tribeca, Staten Island - Willowbrook and Manhattan - Flatiron District being highest in Price range have received low number of reviews.
- ""WELCOME TO BROOKLYN"" PARK SIDE VIEW STUDIO APT"" , ""Oasis on the Park"" , ""HELLO BROOKLYN"" PARK SIDE VIEW NEWLY RENO APT"" , ""Comfy Home Away From Home/Multiple rooms"" , ""LOVE BROOKLYN"" Newly Renovated Studio APT"" and ""Cozy Retreat"" in North Crown Heights"" are the Top 6 listed places that have received highest number of reviews.
- "Modern Duplex - Central Chelsea!!!" in Manhattan-Chelsea, "Spacious & Bright 3BRs Near Subways, Parks, Shops" in Brooklyn-Cobble Hill, "NYC LUXURY3 BEDROOMS IN MIDTOWN EAST & GYM& BALCONY" in Manhattan-Murray Hill, "An Artist's Inspiration: Sun-Soaked Chelsea Loft" in Manhattan-Chelsea and "Upper West Side elegance. Riverside" in Manhattan-Upper West Side are the Top 5 hosted places with highest price offerings.

Appendix – Data Methodology



- **Methodology Approach**
 - Research Problem
 - Business Understanding
 - Type of Data Require
 - Data Source
 - Whom are we presenting?
 - Analysis Done
 - Recommendations
- **Method of Analysis along with code**
 - Data Understanding and Preparation
 - Variables overview
 - Handling missing values and outliers
 - Feature selection / engineering
 - Analysing methods
 - Matrix used Analysis
 - Evaluation of Methods
- **Training Methods**
 - **Python used for Data Understanding, Pre-processing and general Univariate and Multivariate Analysis.**
 - **Tableau & Excel used for in-depth Bi-Multivariate Analysis.**
- **Finding and Insights**



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Thank You