

Analysis of New York City's Short-Term Property Rental Market

The purpose of this report is to provide an in-depth analysis of the short-term property rental market in New York City. By utilizing Airbnb's reports from January 1, 2019, to December 6, 2019, we aimed to gain valuable insights into this market. The report outlines the methodology, and findings, and presents the relevant code and workflow in a GitHub repository.

Data Cleaning:

As is common in data analysis projects, the initial dataset required cleaning. We encountered non-uniform entry of property types, which necessitated stripping and conversion to lowercase. Additionally, the date column required formatting adjustments, and the price column, mostly in string format with a "dollars" suffix, needed to be stripped and converted to float type.

Preliminary Analysis:

To gain an initial understanding of the data, we merged the cleaned data frames and conducted a preliminary analysis. The Jupyter Notebook named "Preliminary" in the GitHub repository provides step-by-step instructions for reproducing these analyses.

SQL Analysis:

To delve deeper into the data, we performed advanced analysis using an online PostgreSQL environment. We addressed fundamental questions such as the distribution of property types, price ranges, average prices, the correlation between days booked and price, average monthly prices per borough/neighbourhood, revenue generated by hosts in each borough, and number of listings by property type in each borough/neighbourhood. The results of these analyses, along with the corresponding SQL queries, are saved in a separate file accessible via the GitHub repository.

In-depth Analysis and Visualization:

Building upon the SQL analysis, we conducted a more comprehensive examination in the "NYC short-term rentals analysis" Jupyter Notebook, also available in the GitHub repository. This analysis cross-validated the SQL results and provided additional insights. We employed various visualizations to enhance our understanding of the data, generating ideas for the final stage of visualizations in Tableau.

Tableau Workbook:

The GitHub repository contains a link to the Tableau workbook, which showcases an assortment of visualizations and dashboards. These visualizations facilitate a comprehensive exploration of the data and provide valuable insights into the New York City short-term property rental market. We encourage you to examine the workbook and share your observations and ideas to contribute to our analysis.

Conclusion:

In conclusion, this report provides a comprehensive analysis of New York City's short-term property rental market using data from Airbnb. By applying data-cleaning techniques, conducting preliminary and in-depth analyses, and employing visualizations, we have gained valuable insights into various aspects of the market. We encourage further exploration of the

provided GitHub repository, Jupyter Notebooks, and Tableau workbook to delve deeper into the findings and contribute to the ongoing research in this domain.

Recommendations:

Room Type Strategy: Based on the analysis of Airbnb's New York data, it is recommended to prioritize the offering of "Entire home/apt" listings. This room type has consistently been shown to be the most common choice among Airbnb users. By focusing on providing high-quality entire homes or apartments, our company can cater to the preferences of the majority of guests in the market.

1. **Competitive Pricing:** To effectively compete with Airbnb in the New York market, it is crucial to develop a pricing strategy that offers competitive rates while ensuring profitability. I have provided average prices of Airbnb listings by room type and, neighbourhood and borough. Analyze this data to set competitive rates within the market. Consider offering slightly lower prices initially to attract guests and establish a strong presence in the market.
2. **Target Manhattan:** Manhattan stands out as the borough with the highest average price per month and offers significant revenue potential. It is recommended to prioritize the expansion of our company's listings in Manhattan. By focusing on this borough, we can tap into the demand for short-term rentals and capitalize on the higher average prices to generate substantial revenue.
3. **Neighbourhood Analysis:** I have identified neighbourhoods with high average prices and the highest demand, I suggest strategically targeting those areas. By focusing on neighbourhoods with favourable pricing dynamics, our company can position itself as a premium short-term rental provider and attract guests willing to pay higher rates.
4. **Unique Value Proposition:** Differentiate our company's offerings by highlighting unique features or amenities that set us apart from Airbnb. Consider incorporating personalized services, enhanced security measures, or curated local experiences to provide added value to guests. These differentiators will help attract customers and create a loyal customer base.
5. **Marketing and Branding:** Develop a comprehensive marketing and branding strategy to establish our company's presence in the New York market. Leverage digital marketing channels, social media platforms, and partnerships with local influencers or tourism boards to generate awareness and drive bookings. Emphasize our company's unique selling points and the benefits of booking with us compared to Airbnb.
6. **Continuous Market Monitoring:** Stay vigilant in monitoring market trends, competitor activities, and guest feedback to stay ahead of the curve. Continuously assess customer satisfaction, gather reviews, and make necessary improvements to maintain a positive reputation and enhance guest experiences.
7. **Compliance and Regulations:** Ensure strict compliance with local regulations and stay updated on any changes or requirements imposed on short-term rentals in New York City. By adhering to legal obligations and proactively addressing any compliance issues, our company can build trust with guests and establish a reliable reputation.