

To: Batra Group Real Estate

From: Orie 4741 Pandas Consulting Group

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Subject: Rental Prices Predictive Model

Purpose

The objective of this project is to develop a predictive model for rental prices of apartments in New York City. As a consulting group working for one of the leading real estate companies in NYC, our goal is to provide accurate rental price estimates to our clients, enabling them to make informed decisions about renting or listing their properties.

The Housing Problem

We would like to help answer the question - How should you price your properties so that you can maximize revenue and stay competitive in the New York City real estate market?

Importance of Housing in NYC

New York City is known as the largest city in the US, supporting a population of over 8 million people. In addition to this, the city needs to take in a constant influx of diverse people looking for new opportunities. Many of these people prefer to live within the city to shorten weekday commutes, access services with convenience, and for the social culture. Renting a place to live becomes an important factor in accommodating these lifestyle preferences and periodic changes. Your rental agency can use the information we provide to make data-driven decisions when pricing your units. Listing properties at the right price at the right time will help to increase sales and build a successful business in the real estate industry. From the buyer's perspective, when faced with a decision between similar properties, buyers will often opt for the cheaper apartment. With the high turnover rate of apartments in NYC, updating apartment prices based on the demand of different accommodations is key to staying competitive in the real estate market. Thus, it is highly beneficial to understand the interrelationships between the various factors that affect a rental agency's success.

Socioeconomic Constraints

Given that there is a large population of people searching for housing, there are also many living options. The real estate industry is fiercely competitive in the city and motivated by profit. In addition, social diversity plays an important factor in the market. It is impossible to know exactly what people's preferences are, or how they change with social trends, so we will do our best to estimate market behavior based on historical patterns and seasonality, with flexibility as needed. Our data analysis services are designed to provide insights that are relevant to your goals,

enabling you to make informed decisions that align with the financial success of your agency and attract tenants towards your properties above the rest.

Our Approach

In order to learn more about the correlations that might affect one's decision to rent a property, our team looks to carry out a data analysis study utilizing the dataset of properties for rent from various neighborhoods over more than 10 years. We will use data from Streeteasy, included in the link below. This data will give us insight on how prices differ in the five boroughs, observed asking prices and sale prices, and the number of days on market for various types of residential properties by month.

In our initial exploratory analysis, we will aim to identify the correlation between listing price and market performance. Currently, we observe a consistent increase in listing prices over the years, with a 45% increase from 2010 to 2024 for rental apartments. However, we also observed a caveat in the trend, during the years of Covid-19, when people were incentivized to move away from densely populated areas for health and safety. Therefore, our statistical methods will not only help to predict prices for long term trends, but also reveal options on how to adjust to unforeseen occurrences such as the pandemic in the best way possible. From our analysis, we will inform you during your decision-making process about the best actions to take in order to maximize your revenue and affordability of rental properties.

Conclusion

We recommend that you review our approach and decide if this is a solution you would like to pursue with regards to pricing your properties for the NYC market. Our team is prepared to conduct further research and analysis to provide you with more insights. This project will help make better informed decisions when it comes to listing properties and increase positive relations with customers by communicating up-to-date information and helping them find the best place to live. With an expendable amount of reliable data to work with and a team that is motivated to help the real estate industry in NYC, the completion of this project is guaranteed to be successful.

Bibliography

<https://streeteasy.com/blog/data-dashboard/?agg=Total&metric=Inventory&type=Sales&bedrooms=Any%20Bedrooms&property=Any%20Property%20Type&minDate=2010-01-01&maxDate=2024-02-01&area=Flatiron,Brooklyn%20Heights>

Github link

<https://github.com/Helen029/Orie4741Project>