

Context:

XYZ Market is the leading apartments for rent marketplace in the nation. It provides advertisement and internet listing services for apartment communities. Apartment building managers list and advertise their properties on XYZ Market to fill their availabilities and reduce their vacancy rates/levels.

Case Study:

As part of your interview, you will be provided with a dataset for a case study. You will be analyzing a dataset that has information about multifamily apartment buildings. The data dictionary for the dataset is provided below. Please summarize the data and identify and patterns & insights. You may analyze the data using any method of your choosing. You should be spending no more than a couple of hours of hours of your own time on this case study.

Please submit a copy of the completed case study in no more than 48 hours after receiving this email with instructions. To efficiently showcase your analysis, the suggested form of delivery is a Jupyter Notebook containing both markdown notes and code.

Data:

The dataset contains a single table with the following columns.

Columns:

- `subscription_level`: the subscription level the apartment building has signed up for. Higher levels provide better listing visibility and exposure. For example, Level5 provides more visibility than Level2 and so on.
- `sign_up_date`: the date the apartment building signed up to advertise its property on XYZ Market.
- `building_type`: the type of the building based on size and number of stories.
- `vacancy_level`: a categorized measure of the vacancy of apartment building. Ideally, apartment building managers would like to maintain a low vacancy level.
- `city_id`: the id of the city the apartment building is located.
- `has_online_tour`: whether the apartment provides online tour or not
- `photo_quality`: the overall quality of photos the apartment has on its XYZ market listing.
- `lead_volume`: a categorized measure of the amount of interested renters.