Real Estate Market Analysis Report on Zameen.com Data

1. Objective

The purpose of this dataset analysis is to explore property trends across major cities, focusing on pricing patterns, property types, and sizes. The goal of this analysis is to provide actionable insights for investors and stakeholders looking to make informed decisions in the Pakistani real estate market.
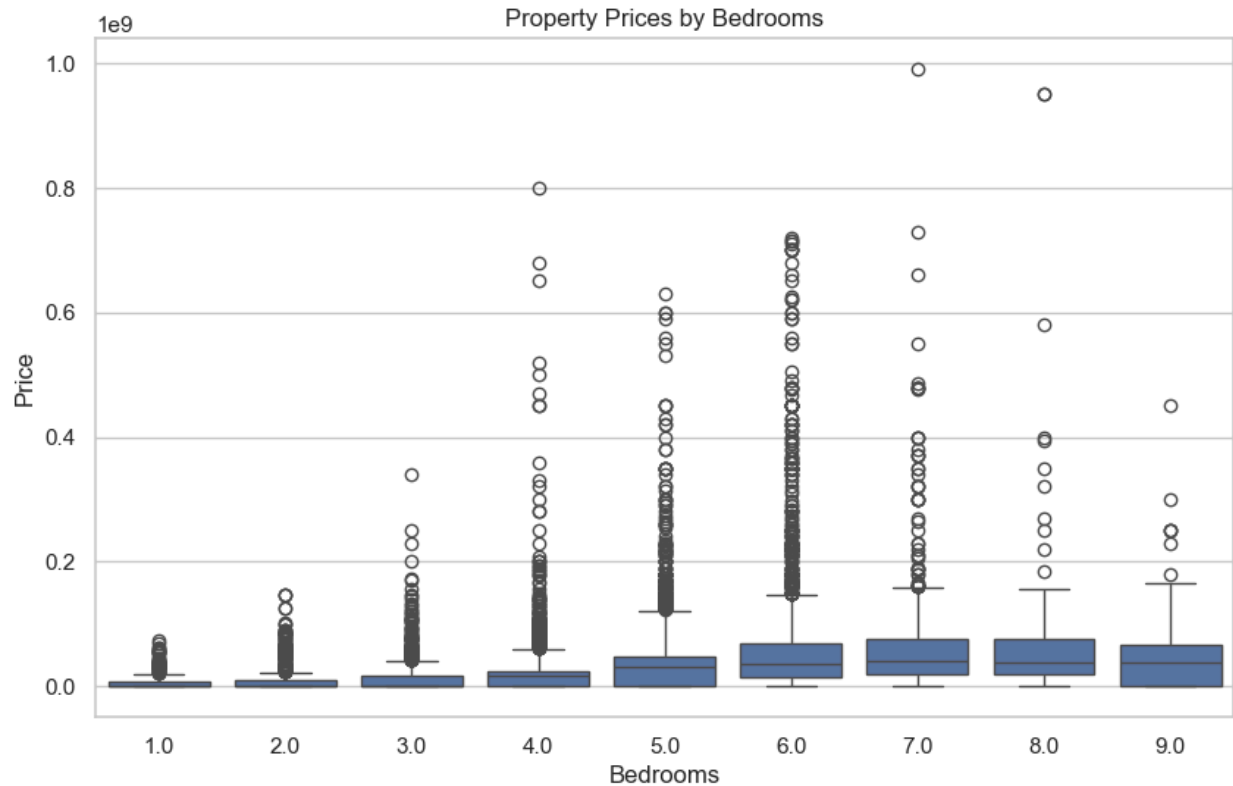
2. Overview of the Data

The dataset contains information about properties, including details like city, property type, number of bedrooms and bathrooms, area, price, and year built. Some of the columns contained 50% or more than 50% missing data so we dropped those columns. Missing values in numeric columns were handled using median imputation, while categorical data were handled with mode. Columns which had inconsistent data were fixed..

3. Price Trends

Our analysis shows that property prices vary significantly between cities. Karachi leads with the highest median prices, reflecting its status as a commercial and economic hub. Lahore and Islamabad fall in the mid-range.

Visualizations, including boxplots and violin plots, reveal that villas have a wider range of prices compared to apartments, which tend to have more stable pricing. While price generally increases with property area, smaller properties in prime locations can still command high prices.
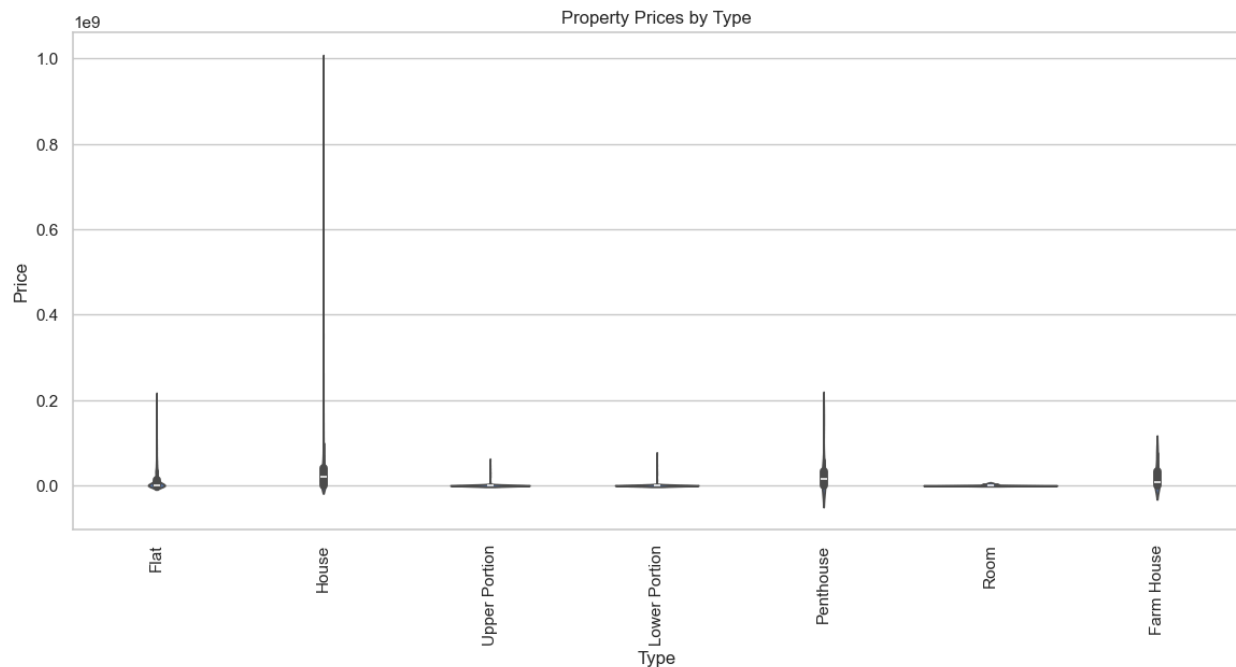
Property Prices by Bedrooms

4. Property Size and Bedrooms

Most properties in the dataset have 3 to 4 bedrooms, making this the most common and high-demand segment. Larger properties with 5 or more bedrooms are rare and expensive, suggesting that the luxury segment is limited but potentially lucrative. Smaller properties in prime locations present opportunities for high-value investments despite their size.

5. Insights by Property Type

Apartments emerge as a stable investment option, offering predictable returns and faster turnover. Villas, on the other hand, show higher variability in price, making them a high-risk, high-reward investment. Commercial plots also display considerable price variation, mostly influenced by location.

Property Prices by Type

6. Handling Outliers

Outliers in price and area were carefully removed using the interquartile range (IQR) method to avoid skewing our analysis as these two columns were largely skewed. Moreover other numeric columns were discrete so there was no need for outliers removal. Prices were scaled to millions for easier interpretation and visualization.

7. Key Insights and Recommendations

City-Level Insights:
Karachi's market is ideal for high-end investment, while Lahore offers opportunities in mid-range and suburban properties. Islamabad presents a balanced option between price and availability.

Property Type Recommendations:
Investors looking for consistent returns should focus on apartments, while those willing to take risks for higher rewards might consider villas in prime locations.

Size and Bedrooms:

Mid-sized properties with 3–4 bedrooms are the most liquid segment and should be a primary focus for investment. Larger properties, though expensive, cater to the luxury market and can yield high returns if targeted correctly.

Overall Observation:

Price is strongly influenced by location, property type, and area. Understanding these factors allows investors to strategically target the most promising opportunities.

8. Conclusion and Next Steps

Summary of Learnings:

- Property prices are heavily influenced by city, type, and size.
- Apartments provide stable returns, while villas offer high-risk, high-reward opportunities.
- Mid-sized properties dominate the market and represent the most active investment segment.

Recommendations for Stakeholders:

- Investors should focus on high-demand cities such as Karachi and Lahore.
- Developers should consider constructing mid-sized apartments in growing neighborhoods.
- Marketing efforts should highlight key selling points like property type, location, and size to attract potential buyers.

Next Steps:

- Conduct time-series analysis to understand price trends over time.
- Build predictive models to estimate property prices based on location, area, type, and year built.
- Enrich the dataset with additional features like amenities and proximity to schools or markets for more detailed insights.
- Develop tailored investment strategies based on ROI projections for different property types and cities.