

Real Estate Listings and Analytics

Internship Data Analytics Project

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Tools Used: PostgreSQL, DBeaver, Power BI

1. Introduction

In a competitive and dynamic real estate industry, understanding pricing trends, regional demand, and sales performance is critical. This project focuses on analyzing real estate property listings and transaction data to uncover key insights such as average pricing by city, agent performance, and market demand in different locations.

2. Objective

To design a database-driven analytics system that:

- Stores property, agent, buyer, and transaction details
 - Tracks real estate transactions and listings
 - Extracts meaningful business insights
 - Visualizes trends and patterns using Power BI
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3. Tools & Technologies

Tool	Purpose
PostgreSQL	Backend database
DBeaver	SQL IDE to create schema and run queries
Power BI Desktop	Data visualization and dashboard creation
SQL	Data modeling, joins, window functions, aggregation

4. Database Schema

- **Properties:** All property listings (location, price, date)
- **Agents:** Real estate agents managing listings
- **Buyers:** Buyer details
- **Transactions:** Links buyers, properties, and agents on sales

Relationships were defined using foreign keys to ensure data integrity.

5. Analytics and Insights

A series of SQL queries were executed to extract the following insights:

Insight	Method
Avg. Price by City	Group by city with <code>AVG()</code>
Monthly Price Trend	Window functions and <code>TO_CHAR(date)</code>
Top five (5) Expensive Listings	Ordered by price
Unsold Properties	<code>LEFT JOIN</code> where no matching transaction
Agent Leaderboard	Aggregate sales and revenue per agent
High-Demand Areas	Count of transactions by location

These queries were exported to CSV and visualized in Power BI.

6. Dashboard Highlights

Visualization	Description
Bar Chart	Average Price by City
Column Chart	Monthly Price Trend
Table	Top 5 Expensive Properties

Line Chart

Unsold Properties

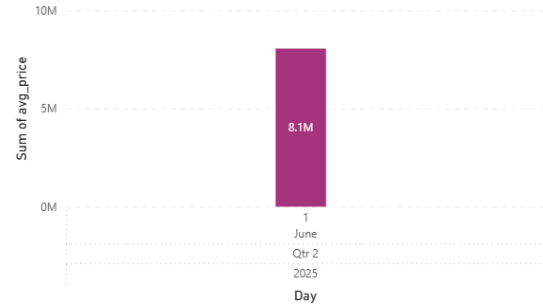
Area Chart

High-Demand Areas

Average Property Price per city



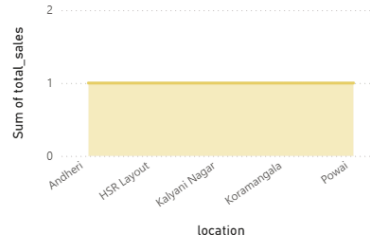
Monthly Average Price Trend



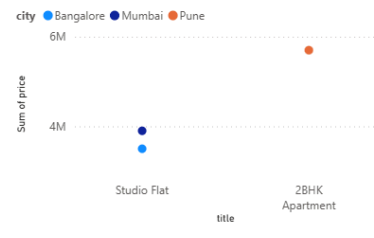
Top 5 Expensive Properties

title	location	city	Sum of price
2BHK Flat	Koramangala	Bangalore	7200000
3BHK Villa	Baner	Pune	9900000
3BHK Villa	HSR Layout	Bangalore	9500000
3BHK Villa	Kalyani Nagar	Pune	11000000
Luxury Penthouse	Powai	Mumbai	18500000
Total			56100000

High-Demand Locations by Sales



Unsold Properties



7. Outcome & Learning

This project provided hands-on experience in:

- SQL data modeling and queries
- Real-world data simulation
- Power BI dashboard design
- Business storytelling using data

The dashboard offers a compact view of market conditions and can help real estate firms make informed decisions.

8. Conclusion

This internship project helped bridge the gap between data engineering and data visualization. It demonstrates how raw business data can be transformed into actionable insights using SQL and BI tools — a key skill in today's data-driven job market.