Dubai House Price Insights

Project Objective

The purpose of this project is to analyze the Dubai housing market using the dataset they given. The analysis aims to extract trends in pricing, property sizes, age of construction, and location advantages, while also segmenting properties into categories to help buyers and sellers make informed decisions. Visual dashboards created in Power BI provide a business-friendly overview with KPI cards, bar charts, maps, and more.

Dataset Overview

The dataset includes the following columns:

Price: Property cost in AED

SquareFeet: Area of the property

Bedrooms & Bathrooms: Room configuration

Neighborhood: Location within Dubai

YearBuilt: Year the property was constructed

I cleaned, transformed, and added calculated fields to enrich the analysis.

Data Cleaning and Transformation

Data cleaning was performed in Power BI's Power Query Editor. The steps include:

- Removed all rows with null values

- Removed duplicate rows to avoid skewed analysis

- Converted data types:

    1. Price, SquareFeet → Decimal

    2. YearBuilt, Bedrooms, Bathrooms → Whole Number

    3. Neighborhood → Text

- Calculated Columns Created

New Column	Formula Description
Price per Sqft	Price / SquareFeet
Property Age	2025 - YearBuilt

- Listing Category Categorized as:

  High-End: ≥1500 AED/sqft

  Mid-Range: 1000–1499 AED/sqft

  Budget: <1000 AED/sqft |

These new columns allow deeper insights into market segmentation and aging patterns.

Power BI Dashboard Components

KPI Cards

I created five KPI cards they are as:

- Total Listings
- Average Price
- Average Size (sqft)
- Highest Priced Property
- Avg. Price per Sqft

> These KPIs show that the Dubai market has a healthy mix of large, mid-range properties with a strong trend of new constructions post-2010.

Map Chart – Listings by Neighborhood

Location field: Neighborhood

Bubble Size: Price

Tooltip: Listing Category

Insight: High-end properties cluster around Palm Jumeirah, Downtown Dubai, and Marina. Suburban regions contain more budget listings.

Bar Chart – Price by Listing Category

X-axis: Listing Category

Y-axis: Average Price

Insight: High-End properties, while fewer, dominate in price. Mid-Range listings are most common, making them the market's backbone.

Stacked Column Chart – Listings by Bedrooms coloured by property type

Axis: Bedrooms

Legend: property_type

Value: Count of property_type

Insight: Most listings fall under 2–3 BHK Apartment category. Villa 4+ BHK listings are rarer.

Line Chart – Price Trend Over Time

X-axis: Year Built

Y-axis: Average Price

Insight: Modern properties (2015–2025) show significantly higher pricing trends. Older homes (pre-2005) show depreciation.

Tree Map – Listings by Neighborhood & Category

Group by: Neighborhood

Color: Listing Category

Insight: Downtown and Jumeirah dominate in High-End. Deira and Al Qusais lean Budget.

Slicers Implemented

- Bedrooms
- Bathrooms
- Neighborhood

> These slicers allow for real-time interactive filtering for business analysts.

Business Insights and Recommendations

Key Insights:

Location Matters: Certain neighborhoods have drastically higher average price per sqft.

Age of Property: Newer constructions consistently price higher.

Mid-Range Rules: Mid-tier pricing dominates the listings, ideal for targeted marketing.

Recommendations:

Developers can invest in new projects in high-performing areas like Marina and Downtown.

Older properties could be refurbished to increase value.

Real estate agencies should segment buyers based on Listing Category.

Challenges Faced

Aggregation issues with Power BI charts (especially price vs. category)

Columns like "Developer" and "Property Type" mentioned in PDF were not in dataset, requiring adjusted visuals so I add a new column and created property type according to the bedrooms like apartments, villas , etc;

Data types needed careful assignment for DAX functions to work properly

Conclusion:

This analysis provided me the valuable insights.

By using the Power BI I was able to transform the raw data into The Power BI dashboard . and also I understood the complete overview of the Dubai housing market. By analyzing average prices, location trends, and construction timelines, this project delivers actionable insights for stakeholders.

THANKYOU!