

Power BI Dash boarding Internship

Dubai House Price – Real Estate

Objective:

The objective of this project is to design an interactive and insightful Power BI dashboard using real estate data from Dubai. The goal is to analyse trends in property pricing, size, and features across various neighbourhoods and property types. The dashboard is aimed at helping **real estate investors**, **homebuyers**, and **urban planners** make informed decisions by visualizing price dynamics, affordability, and investment potential.

Dataset Overview:

The dataset comprises key variables related to Dubai residential properties:

- **Price** – Total selling price of the property (in AED)
- **Square Feet** – Size of the property in square feet
- **Bedrooms** – Number of bedrooms
- **Bathrooms** – Number of bathrooms
- **Year Built** – Year the property was built
- **Property Age** – Calculated as $2025 - \text{Year Built}$
- **PricePerSqft** – Derived field: $\text{Price} / \text{Square Feet}$
- **Price Range** – Categorized into *Budget*, *Mid-Range*, and *High-End* based on price quintiles
- **Neighbourhood** – Type of location: *Rural*, *Suburb*, or *Urban*

Part 1: Data Preparation (Power Query)

A strong foundation was laid through systematic data cleaning and modelling in Power BI:

- Handled missing or inconsistent values and ensured correct data types for numeric and categorical fields.
- Removed duplicate entries to ensure accurate KPIs.
- Created new calculated fields:
 - **PricePerSqft**: Indicates cost efficiency
 - **Property Age**: Helps analyse the impact of construction age on price
 - **Price Range**: Enables affordability categorization

Part 2: Dashboard Visual Summary

The dashboard design is clean, visually engaging, and functionally rich. It offers both high-level overviews and deeper breakdowns using a variety of visuals.

Metric	Value
Total Property Value	AED 11.24 Billion
Total Square Footage	2758 properties and 201M+ sqft
Price Per Sqft Total	5.67 Million
Total Bedrooms & Bathrooms	Multiple combinations shown in bar charts
Property Age	Based on Year Built from 2001–2003

Visual Insights

1. **Bar Chart – Price by Bathrooms**
Listings with 1, 2, and 3 bathrooms are nearly equally distributed in total price value, indicating uniform buyer interest across configurations.
 2. **Pie Chart – Price Range Distribution**
Budget properties dominate the market at **63.68%** share, confirming affordability as a key demand factor.
 3. **Bar Chart – Price by Bedrooms**
Listings with **4 or more bedrooms** account for the highest aggregate price, reflecting premium demand for spacious homes.
 4. **Line Chart – Price by Square Feet**
A positive correlation is observed between property size and price, with larger homes priced higher, especially in the 2000–3000 sqft range.
 5. **Scatter Plot – PricePerSqft vs. Property Age**
Visualizes how older and newer properties perform in terms of value per square foot.
 6. **Stacked Bars and Line Charts**
Offer comparative analysis of configuration-wise price and square footage.
 7. **Slicers**
Interactive filters for **Neighbourhood**, **Year Built**, and **Bedrooms** enable user-driven exploration.
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Part 3: Interactivity & Storytelling

The dashboard provides a highly interactive experience, allowing users to filter and drill into data:

Slicers: Year built, neighbourhood

Dynamic Filtering: Real-time updates across all visuals

Tooltips: Provide quick view of deeper metrics

Insight Highlights:

Suburb neighbourhoods dominate total square footage and budget listings

Older properties (20+ years) still show high price per sqft—indicating sustained market value

2–3 BHK homes in the **Budget** category offer the best mix of price and size

Insight Summary

63.7% of listings are categorized as **Budget**, highlighting affordability-driven demand. **4+ BHK** homes contribute the most to Dubai’s property market value. Properties sized between **2000–3000 sqft** shows highest value growths. Even homes built between **2001–2003** retain strong market relevance.

Recommendations:

For Real Estate Investors:

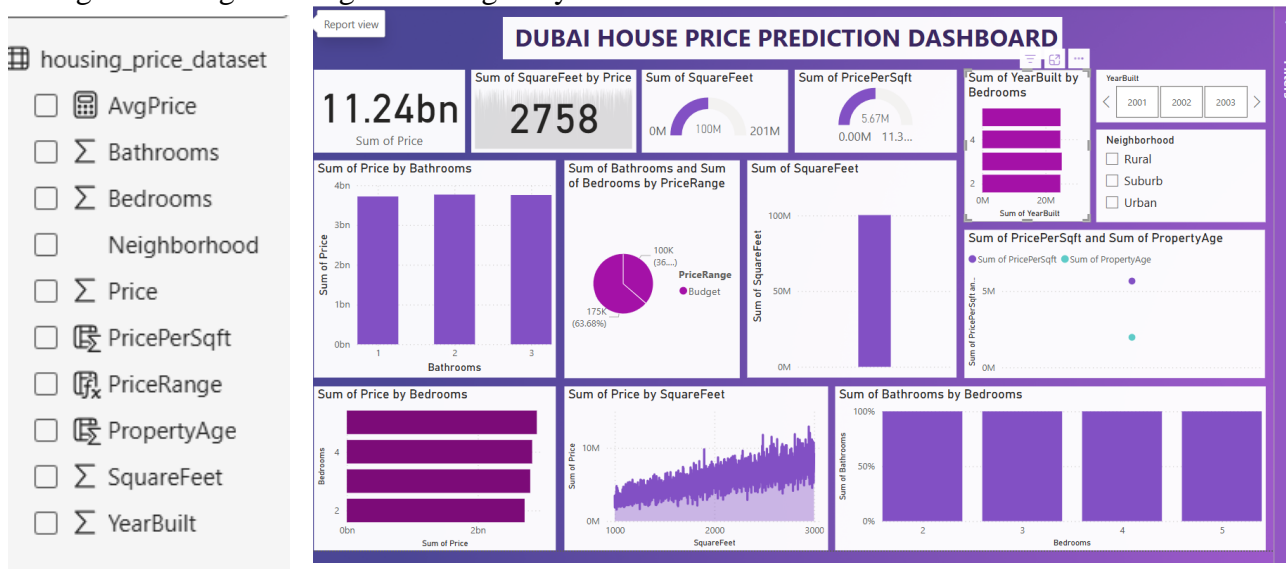
Focus on **Suburb** locations with large-size homes in the Budget category to maximize ROI.

For Policymakers:

Promote development of mid-size family housing in **Urban** areas to balance demand and affordability.

For Property Agents:

Target marketing efforts toward **2–3 BHK Budget homes** in the **2000–2500 square feet** range—this segment aligns with high buyer demand.



(Included screen shots of my table column and dashboard)