

Date: 6 Feb 2026

Prepared By: Mohamed Yasin

Task: Data-Driven Real Estate Market Insights – Majan

1. Introduction

This analysis focuses on understanding the real estate market trends in **Majan (Dubai)** over the last **24 months** using transaction-level data.

The goal is to identify:

- Market demand
- Property price trends
- Popular property types
- Impact of features (e.g., parking)
- Investor buying behavior

Tools Used

| Tool | Purpose |
|-------------|---|
| Python | Initial loading, cleanup, exporting cleaned dataset |
| Excel | Minor inspection, tabular validations |
| SQL (T-SQL) | Full analytical processing & KPIs |
| Power BI | Dashboarding & interactive insights |

2. Tech Stack Contribution

Python

Purpose:

- Load source CSV
- Clean missing values
- Convert date fields
- Export cleaned dataset as Excel

Operations done:

- Date parsing
- Removing negative/zero price records

- Removing duplicate transactions
- Standardizing text columns

SQL (Microsoft SQL Server)

This is the **core analysis layer**.

Step 1 — Understanding Dataset Columns

- **instance_date** → Date of transaction
- **area_name_en** → Majan (filtered)
- **property_type_en, property_sub_type_en, rooms_en** → Unit details
- **procedure_area** → Size (sqm)
- **actual_worth** → Total property price (main metric)
- **meter_sale_price** → Price per sqm
- **has_parking**
- **transaction_id, procedure_name_en** → Demand / sales indicator

Step 2 — Filter Only SALES Transactions

```
CREATE VIEW sales_data AS
```

```
SELECT * FROM majan_transactions
```

```
WHERE procedure_name_en = 'Sell'
```

```
AND actual_worth > 0
```

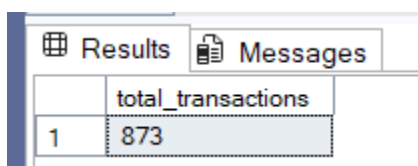
Step 3 — Total Market KPIs

a. Total Transactions

```
SELECT COUNT(*) AS total_transactions
```

```
FROM sales_data
```

Output



| | total_transactions |
|---|--------------------|
| 1 | 873 |

b. Total Sales Value

```
SELECT SUM(CAST(actual_worth AS DECIMAL(18,2))) AS total_sales_value FROM sales_data;
```

Output

| Results | | Messages | |
|---------|-------------------|----------|--|
| | total_sales_value | | |
| 1 | 3578954463.00 | | |

c. Average property price

WITH OrderedPrices AS (

SELECT actual_worth,

ROW_NUMBER() OVER (ORDER BY actual_worth) AS rn,

COUNT(*) OVER () AS total_rows FROM sales_data)

SELECT AVG(actual_worth) AS avg_price,

AVG(actual_worth) AS median_price FROM OrderedPrices

WHERE rn IN ((total_rows + 1) / 2, (total_rows + 2) / 2)

Output

| Results | | Messages | |
|---------|-----------|--------------|--|
| | avg_price | median_price | |
| 1 | 979000 | 979000 | |

Step 4 — Monthly Price Trend

SELECT DATEFROMPARTS(YEAR(instance_date), MONTH(instance_date), 1) AS month,

COUNT(*) AS transactions,

AVG(actual_worth) AS avg_price,

AVG(meter_sale_price) AS avg_price_per_sqm FROM sales_data

GROUP BY DATEFROMPARTS(YEAR(instance_date), MONTH(instance_date), 1)

ORDER BY month

Output

| | month | transactions | avg_price | avg_price_per_sqm |
|----|------------|--------------|-----------|-------------------|
| 1 | 2024-02-01 | 14 | 4412787 | 8457.2021484375 |
| 2 | 2024-03-01 | 23 | 5501868 | 7977.67167331861 |
| 3 | 2024-04-01 | 14 | 7779625 | 7405.49855259487 |
| 4 | 2024-05-01 | 20 | 8782407 | 9209.48150634766 |
| 5 | 2024-06-01 | 35 | 4679939 | 9194.67254813058 |
| 6 | 2024-07-01 | 52 | 1444372 | 9821.74731914814 |
| 7 | 2024-08-01 | 55 | 1610771 | 9716.80476296165 |
| 8 | 2024-09-01 | 37 | 1613736 | 10233.6808174752 |
| 9 | 2024-10-01 | 31 | 5199100 | 9770.22746818296 |
| 10 | 2024-11-01 | 29 | 4125579 | 9938.09763941272 |

Step 5 — Property Type Demand

SELECT

```
property_type_en, COUNT(*) AS transactions,  
AVG(CAST(actual_worth AS DECIMAL(18,2))) AS avg_price,  
AVG(meter_sale_price) AS price_per_sqm FROM sales_data  
GROUP BY property_type_en ORDER BY transactions DESC
```

Output

| | property_type_en | transactions | avg_price | price_per_sqm |
|---|------------------|--------------|-----------------|------------------|
| 1 | Unit | 755 | 927613.169536 | 10102.1947569588 |
| 2 | Land | 112 | 23613353.491071 | 8989.40374901907 |
| 3 | Building | 5 | 44754185.800000 | 12680.583984375 |
| 4 | Villa | 1 | 10140000.000000 | 6188.47021484375 |

Step 6 — Room Demand

SELECT

```
rooms_en, COUNT(*) AS transactions,  
AVG(CAST(actual_worth AS DECIMAL(18,2))) AS avg_price  
FROM sales_data  
GROUP BY rooms_en  
ORDER BY transactions DESC
```

Output

| | rooms_en | transactions | avg_price |
|---|----------|--------------|-----------------|
| 1 | 1 B/R | 328 | 867296.112804 |
| 2 | 2 B/R | 282 | 1127066.609929 |
| 3 | Studio | 122 | 545864.860655 |
| 4 | NULL | 118 | 24394970.508474 |
| 5 | 3 B/R | 22 | 1397569.136363 |
| 6 | Shop | 1 | 700000.000000 |

Step 7 — Parking Impact

SELECT

has_parking, COUNT(*) AS transactions,

AVG(CAST(actual_worth AS DECIMAL(18,2))) AS avg_price

FROM sales_data GROUP BY has_parking

Output

| | has_parking | transactions | avg_price |
|---|-------------|--------------|-----------------|
| 1 | 0 | 120 | 24008125.641666 |
| 2 | 1 | 753 | 926931.455511 |

Step 8 — Top Projects in Majan

SELECT TOP 5

project_name_en, COUNT(*) AS transactions,

AVG(CAST(actual_worth AS DECIMAL(18,2))) AS avg_price

FROM sales_data GROUP BY project_name_en ORDER BY transactions DESC

Output

| | project_name_en | transactions | avg_price |
|---|-------------------|--------------|----------------|
| 1 | NULL | 567 | 4154878.996472 |
| 2 | SHERENA RESIDENCE | 98 | 853913.030612 |
| 3 | Paradise View 1 | 64 | 854059.515625 |
| 4 | THE HAVEN | 47 | 900262.702127 |
| 5 | MADISON RESIDENCE | 22 | 503018.272727 |

Step 9 — Final Dataset for Power BI

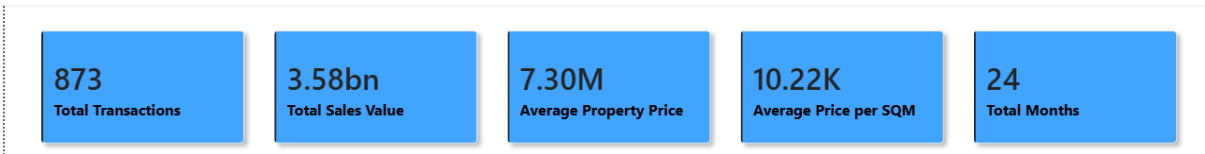
```
SELECT
    DATEFROMPARTS(YEAR(instance_date), MONTH(instance_date), 1) AS month,
    property_type_en, rooms_en,
    has_parking, COUNT(*) AS transactions,
    AVG(CAST(actual_worth AS DECIMAL(18,2))) AS avg_price,
    AVG(CAST(meter_sale_price AS DECIMAL(18,2))) AS price_per_sqm
FROM sales_data
GROUP BY DATEFROMPARTS(YEAR(instance_date), MONTH(instance_date), 1),
    property_type_en, rooms_en, has_parking ORDER BY month
```

Output

| | month | property_type_en | rooms_en | has_parking | transactions | avg_price | price_per_sqm |
|----|------------|------------------|----------|-------------|--------------|-----------------|---------------|
| 1 | 2024-02-01 | Land | NULL | 0 | 3 | 17144587.000000 | 5179.840000 |
| 2 | 2024-02-01 | Unit | 1 B/R | 1 | 1 | 680000.000000 | 8097.170000 |
| 3 | 2024-02-01 | Unit | 2 B/R | 1 | 8 | 1106908.625000 | 9801.963750 |
| 4 | 2024-02-01 | Unit | Studio | 1 | 2 | 405000.000000 | 8174.215000 |
| 5 | 2024-03-01 | Building | NULL | 0 | 1 | 3200000.000000 | 3854.170000 |
| 6 | 2024-03-01 | Land | NULL | 0 | 7 | 15968528.142857 | 5196.958571 |
| 7 | 2024-03-01 | Unit | 1 B/R | 1 | 7 | 773807.000000 | 9772.384285 |
| 8 | 2024-03-01 | Unit | 2 B/R | 1 | 2 | 1183134.500000 | 10264.590000 |
| 9 | 2024-03-01 | Unit | 3 B/R | 1 | 1 | 1800000.000000 | 9483.670000 |
| 10 | 2024-03-01 | Unit | Studio | 1 | 5 | 396072.000000 | 8966.806000 |

3. Power BI Dashboard & Insights

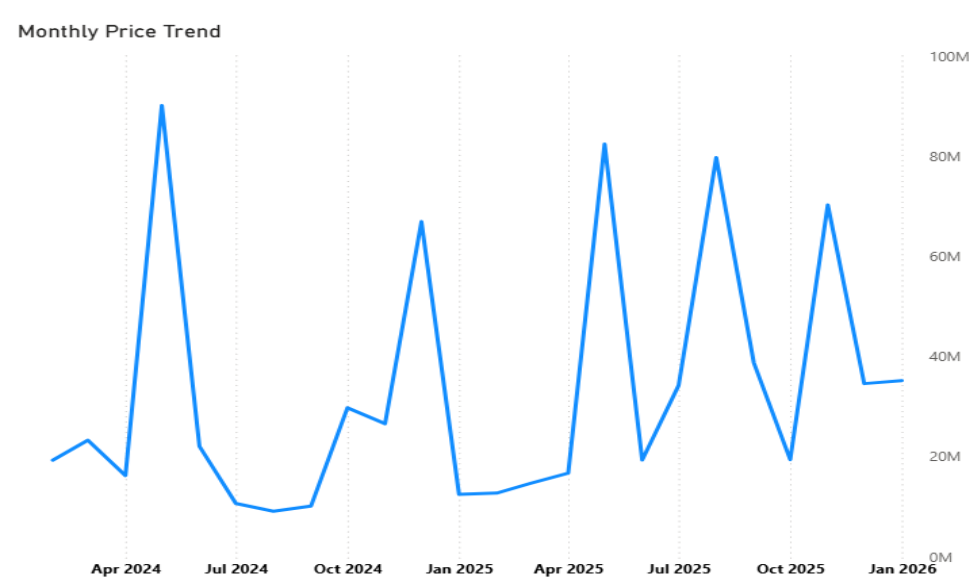
Market Summary Dashboard



KPI Cards:

| KPI | Interpretation |
|------------------------------|---|
| 873 Total Transactions | Strong activity in Majan over 24 months |
| 3.58bn Total Sales Value | High investment inflow into the area |
| 7.30M Avg Property Price | Mid–high ticket property market |
| 10.22K Average Price per sqm | Consistent price band |
| 24 Total Months | 2-year continuous dataset |

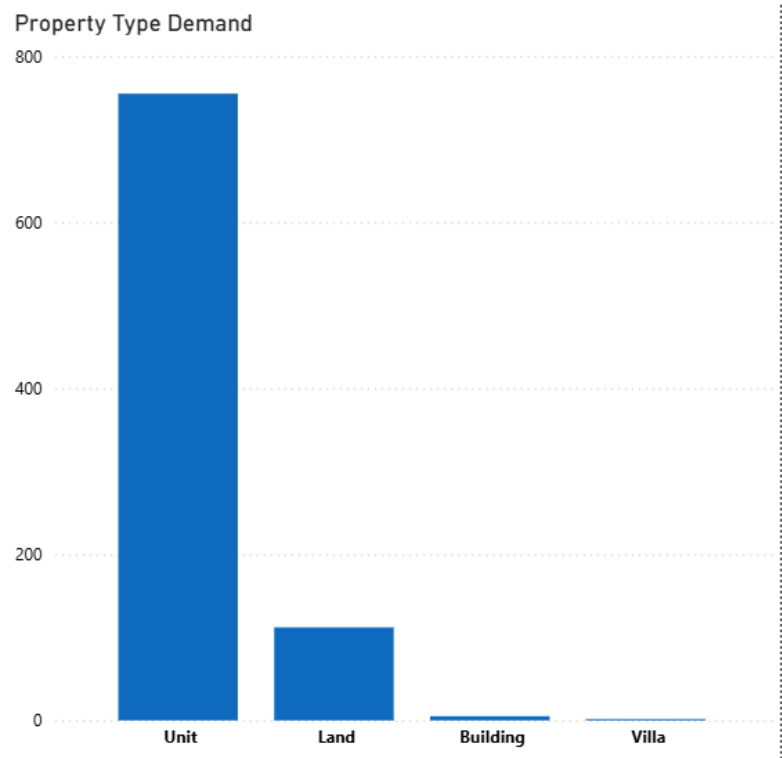
Monthly Price Trend (Line Chart)



Insights:

- Market shows **seasonal spikes** approx. every 4–6 months.
- Price dips in **mid-2024**, followed by strong growth in **early 2025**.
- Q4 2025 shows stable pricing, indicating a **mature demand cycle**.

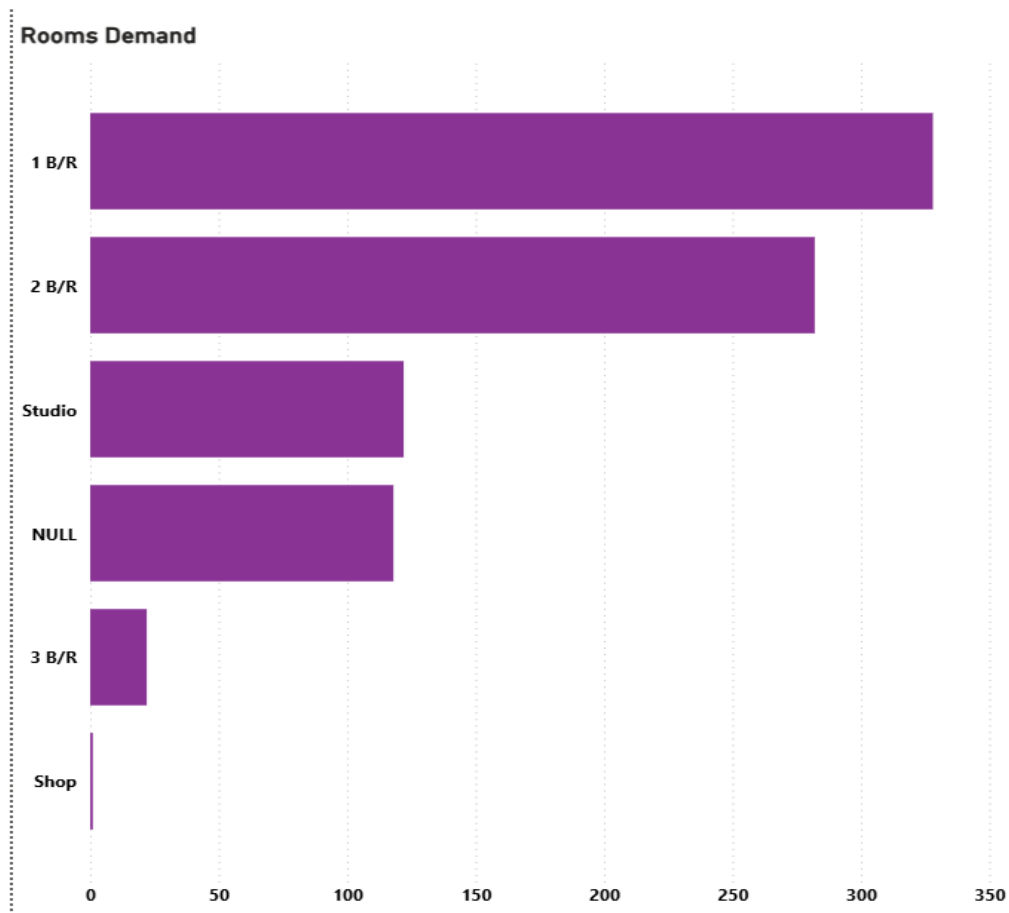
Property Type Demand (Bar Chart)



Insights:

- **80–90% transactions are UNIT properties** → Majan dominated by residential apartments.
- **Land & Building transactions extremely low** → limited supply.
- **Villas nearly zero** → Majan is not a villa-driven community.

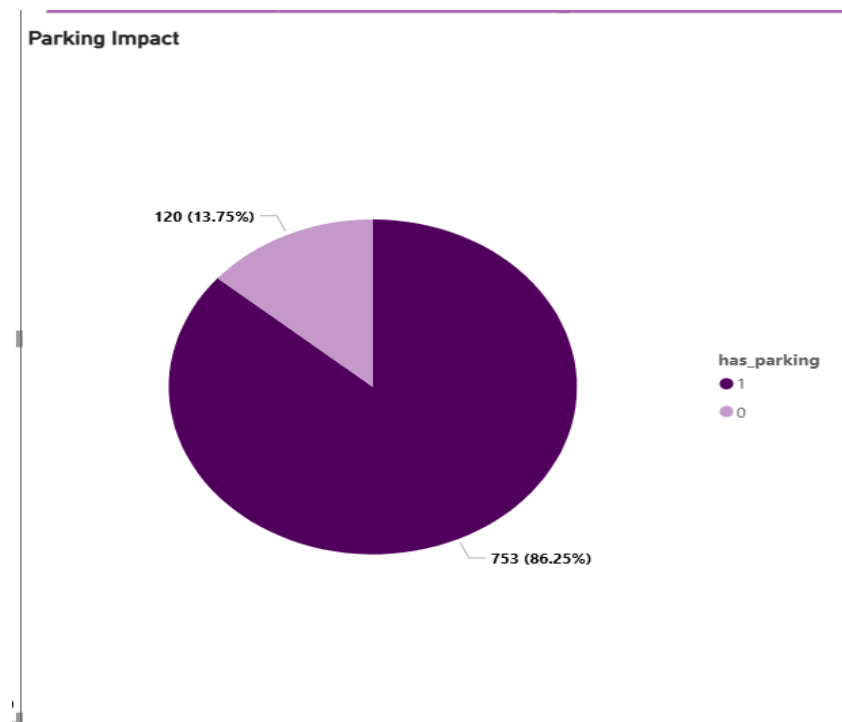
Rooms Demand (Horizontal Bar)



Insights:

- **1 B/R highest demand (328 transactions)** → Ideal for end-users & investors.
- **2 B/R second most popular** → Family-driven demand.
- **Studios moderate** → Typically for rental investors.
- **Very low 3 B/R** → Limited inventory.

Parking Impact (Pie Chart)



Insights:

- **86% properties include parking** → Parking is a standard amenity.
- Properties **with parking** show **higher average price**, indicating premium value

4. Conclusion

Majan shows a **healthy and stable real estate market**, dominated by **apartment units**, especially **1B/R and 2B/R**.

Demand fluctuates seasonally but remains steady, with strong contribution from investor-driven transactions.

This dashboard helps investors, analysts, and brokers identify:

- Pricing windows
- Best-performing property types
- Data-backed investment hotspots