>>>

**KEY FINDINGS:**

**Project Questions:**

1. What is the overall structure and content of the dataset?

The descriptive statistics provide insights into the central tendency, variability, and distribution of the key variables in the dataset:

Location:

The dataset contains one hundred and eighty-six (186) distinct location names.

The locations are represented by unique identifiers ranging from 230 to 531.

*(view ‘SQLquery1’ file)*

Property Area (sq/m):

The average property area is approximately 409.52 square meters.

The standard deviation is relatively high (12,277.63), indicating a wide range of property sizes.

The minimum property area is 0.05 square meters, possibly an outlier or data entry error.

The 25th percentile (Q1) is 69.42 square meters, and the median (Q2) is 111.2 square meters.

The 75th percentile (Q3) is 204.11 square meters, suggesting a positively skewed distribution.

The maximum property area is 5,579,949 square meters.

(view ‘STATSpy’ file)

Sale Price (sq/m):

The average sale price per square meter is approximately AED13,807.27.

The standard deviation is AED107,746.10, indicating variability in sale prices.

The minimum sale price is AED0.00, potentially indicating transactions with no sale value recorded.

The 25th percentile (Q1) is AED6,761.60 per square meter, and the median (Q2) is AED9,942.53.

The 75th percentile (Q3) is AED15,151.52 per square meter.

The maximum sale price is AED21,811,990 per square meter.

*(view ‘STATSpy’ file)*

Property Value:

The average property value is approximately AED2,916,667.

The standard deviation is AED25,669,810, indicating significant variability in property values.

The minimum property value is AED1, possibly indicating a minimum value recorded.

The 25th percentile (Q1) is AED673,000, and the median (Q2) is AED1,221,204.

The 75th percentile (Q3) is AED2,205,000.

The maximum property value is AED8,100,000,000.

*(view ‘STATSpy’ file)*

**Observations:**

* The dataset includes a wide range of property sizes and sale prices, with some extreme values.
* There are observations with zero or very small property areas and sale prices, which may need further investigation.
* The variability in property values is substantial, with some properties having very high values.

For questions **two**, **three** and **four**, we will plot tableau visualizations that shows:

* Transactions trend over time (2000 – 2024). You could track transactions general transactions trend but you could also filter to view specific locations at a time. Trends for a specific location can be filtered to gain insights such as which particular location is potentially going to attract more sales in the next few years.
* Transactions by property type could show market demand for each type of property and how that demand had varied across time. This could be valuable to Real estate developers because they consider market demands before choosing a new project to work on.

Those visualizations also answer questions such as: ‘How do real estate transactions vary over time?’, ‘What are the distribution and characteristics of different property types?’ and ‘How are transactions distributed across different locations?’

5. What is the relationship between sale price and property area?

Key findings on correlation matrix shows the correlation coefficients between sale price and property area. Correlation coefficients range from -1 to 1, with -1 indicating a perfect negative correlation, 1 indicating a perfect positive correlation, and 0 indicating no correlation.

Let's interpret the results:

sale\_price(sq/m) vs. prop\_value:

The correlation coefficient is 0.049397.

This suggests a very weak positive correlation between the sale price per square meter and the property value.

prop\_area(sq/m) vs. sale\_price(sq/m):

The correlation coefficient is -0.00207.

This value is very close to zero, indicating an extremely weak negative correlation between the property area per square meter and the sale price per square meter. The correlation is almost negligible.

In summary, based on these correlation coefficients:

* There is a very weak positive correlation between sale price per square meter and property value.
* There is an extremely weak negative correlation between property area per square meter and sale price per square meter, practically indicating no significant correlation.

**Hypothesis testing results:**

Hypothesis 1:

To test the hypothesis "There is a significant correlation between property size and sale price", we performed a correlation analysis. The Pearson correlation coefficient was used to measure the strength and direction of a linear relationship between the two variables.

Correlation Coefficient: -0.002069543298279478

P-value: 0.04275005901373269

Reject the null hypothesis: **There is a significant correlation between property size and sale price.**

*(view ‘HypoTest’ file)*

Hypothesis 2:

To test the hypothesis "There is no significant difference in average sale prices across different property types", we performed an analysis of variance (ANOVA). ANOVA was used to determine whether there are any statistically significant differences between the means of three types of properties.

ANOVA Result: F\_onewayResult(statistic=561.8657455433184, pvalue=1.3419488776293912e-244)

Reject the null hypothesis: **There is a significant difference in average sale prices of property types.**

*(view ‘HypoTest’ file)*

**Summary Insights:**

* Dubai real estate industry hits a third successive year of increased revenue (2020 – 2023) since last decade.
* There was three times more transactions of Unit than other property types.
* Marsa Dubai, Business Bay, Al Thanyah Fifth, Al Barsha South Fourth and Burj Khalifa are 5 top locations.
* As at 2024, Dubai Investment Park Second ranks 1st for lowest average property price per square meter.

Top of Form

<<<