

HDB RESALE PRICE ANALYSIS TABLEAU

JULIUS CHAN



Introduction

State of the Industry

In Singapore's real estate market, the Housing and Development Board (HDB) resale market is essential since it affects economic indicators, investment opportunities, and housing affordability. This State of the Industry study offers a thorough examination of current patterns and factors influencing HDB resale prices. The research would use business information to provide light on the market's present situation, empowering stakeholders & future homeowners to make wise decisions.

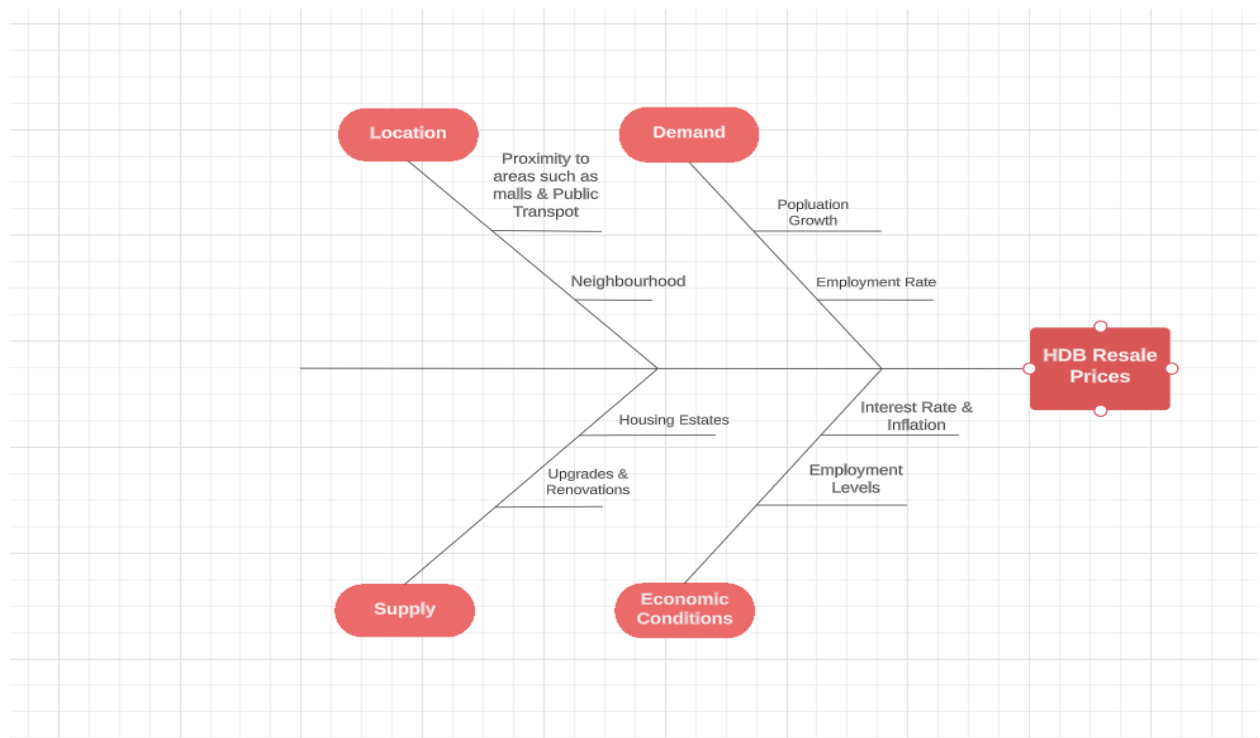
The HDB resale prices have gone through a number of significant shifts in recent years. The market's fluidity is influenced by a wide range of conditions which includes economic conditions, governmental regulations, and changes in buyer/seller preferences.

Problem Statement

Housing affordability and social equality in Singapore are facing a major obstacle as a result of the rising costs of Housing and Development Board (HDB) resale apartments.

We're looking at the factors influencing changes in HDB resale prices and researching how market demand, the supply & type of houses, governmental regulations would affect the resale prices. Our goal is to find information that will help HDB buyers and sellers make informed decisions.

We were able to identify the root causes that have an impact on the primary Key Performance Indicator (KPI) for **Resale HDB prices** using the fishbone diagram designed specifically. Analysis will also be conducted to identify underlying contributing factors of other KPIs.



Key Performance Indicators

KPIs	Causes/Sub-Causes
Overarching KPIs	
Enhancing Location Popularity	<p>Location</p> <ul style="list-style-type: none"> Neighbourhood Improvements: Carry out urban renewal initiatives and beautification projects to improve the general appearance and aesthetics of HDB resale neighbourhoods. Improved Accessibility: Add more transportation links and amenities to make HDB resale locations more accessible.

Sustainability in Demand & Supply	<p>Demand</p> <ul style="list-style-type: none"> Measures to Increase Affordability: Implement targeted policies and subsidies to keep HDB resale flats inexpensive and within the means of prospective purchasers. <p>Supply</p> <ul style="list-style-type: none"> Supply Forecasting: Apply data-driven prediction methods to estimate demand and modify the availability of HDB resale flats as necessary.
Market Resilience	<p>Economic Conditions</p> <ul style="list-style-type: none"> Monitoring Economic Indicators : Establish systems for regularly monitoring important economic indicators, such as interest rates, inflation, and employment levels, in order to be prepared for any effects on resale prices. Adaptive Policies: Providing adaptable policy frameworks that can be modified in response to shifting economic situations can ensure stability in the HDB resale market,

Data Fulfilment

Housing affordability is a problem statement that has to be addressed, and the HDB resale dataset 2017 - 2023 provides crucial columns that would help in the analysis of these aspects. Correlations between important columns are found in order to get knowledge for well-informed decision-making.

Data	File
Flat type and Resale Prices indicating that a HDB apartment's type affects the resale value.	- HDB Resale Price 2017 - 2023
Town and Resale Prices suggesting that location would impact the resale value.	- HDB Resale Price 2017 - 2023
Floor area and Resale Prices revealing that larger areas might command higher selling prices.	- HDB Resale Price 2017 - 2023
Month and Resale Prices suggesting the price trend of resale prices	- HDB Resale Price 2017 - 2023
Flat Model and Resale Prices indicating that the apartment's architectural design may have an impact on its potential worth.	- HDB Resale Price 2017 - 2023

Impact on Decision Making

Recognizing these connections enables experts to offer guidance, sellers to establish reasonable pricing, buyers to identify appropriate homes, and policymakers to enforce regulations. In the end, this well-informed choice-making helps Singapore's housing market become fairer and tackles issues with housing affordability and social equality.

As such, the dashboard would aid to address the KPIs as below :

- 1) What lessons from the Overview of HDB Prices Through the Years may stakeholders use to **strategically schedule their transactions**?
- 2) How does the Flat Type Insights Pricing offer information that is specific to **certain consumer segments**?
- 3) How can the Property Characteristics help stakeholders make well-informed decisions and gain a **deeper grasp of what influences resale prices**?

DATA INSIGHTS (DATA ANALYSIS AND AGGREGATION)

The HDB Resale 2017–2023 dataset will be utilized for analysis, and it will be determined whether data cleaning, profiling, and manipulation are necessary before integration.

File : HDB Resale 2017 - 2023



After loading the HDB resale price data into Power BI, it is apparent that there are no outliers, mistakes, or missing numbers for the years within the dataset. Although no official data cleansing procedures were used, the data seems to be consistent and fits with the HDB resale market's anticipated trends and patterns. The analyses show no obvious abnormalities, which implies that the dataset may not need any pre-processing before data integration

Data is cleaned with 158405 rows & 11 Columns.

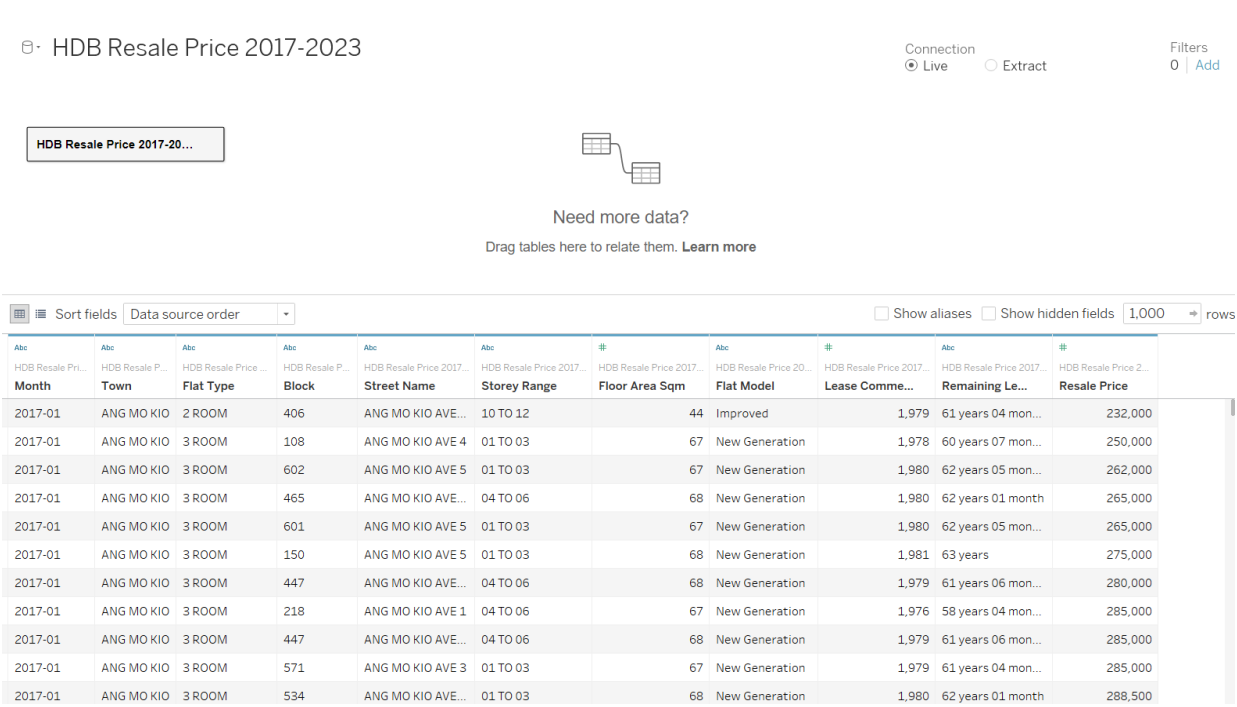
Data Quality Observation

Column	Error %	Missing Values %
Month	0	0
Town	0	0
Flat Type	0	0
Block	0	0
Street Name	0	0
Storey Range	0	0
Floor Area SQM	0	0
Flat Model	0	0
Lease Commence Date	0	0
Remaining Lease	0	0

Resale Price	0	0
--------------	---	---

Data integration

A single, complete dataset for the years 2017 to 2023 has been integration in Tableau using the HDB resale price data. The integration procedure is streamlined since there is no need for join operations because the data is self-contained.



Dashboards

The HDB resale dashboards assist the company in making more informed decisions. In order to help with judgments, the "Overview of HDB Prices Through the Years Dashboard" displays historical patterns. By customizing pricing information, the "Flat Type Insights Pricing Dashboard" helps consumers. Additionally, the "Property Characteristics Dashboard" aids in the analysis of properties. Together, these dashboards help HDB resale decisions become more informed.

- 1) **Dashboard 1 : Overview of HDB Resale Prices** – Displays a summary of each town's average resale price as well as the growing median price trend from 2017 to 2023.
- 2) **Dashboard 2 : Flat Type Insights** - How can detailing the impact of various flat types on pricing help customers make wise decisions?
- 3) **Dashboard 3 : Property Characteristics** - How can the property characteristics help to clarify the primary aspects of the home that influence property resale prices?

Data Aggregation Used

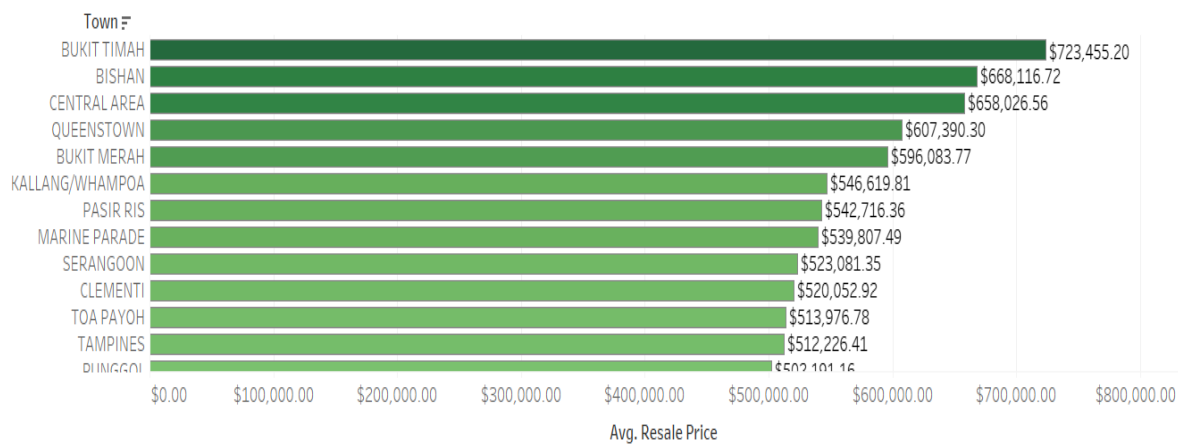
Resale Price – Converting to Average & Median

Year – Splitting it into Quarter of each Year by calculation field

Floor Area (SQM) - Converting to Max

Lease Commence Data – Converting to Dimension

Average HDB Resale Price By Town 2017 - 2023



Flat Model

(All)

Flat Type

- ☒ (All)
☐ 1 ROOM
☐ 2 ROOM
☐ 3 ROOM
☐ 4 ROOM
☐ 5 ROOM
☐ EXECUTIVE
☐ MULTI-GENERATION

Quarter of Year

(All)

Median Resale Prices over the last 5 years



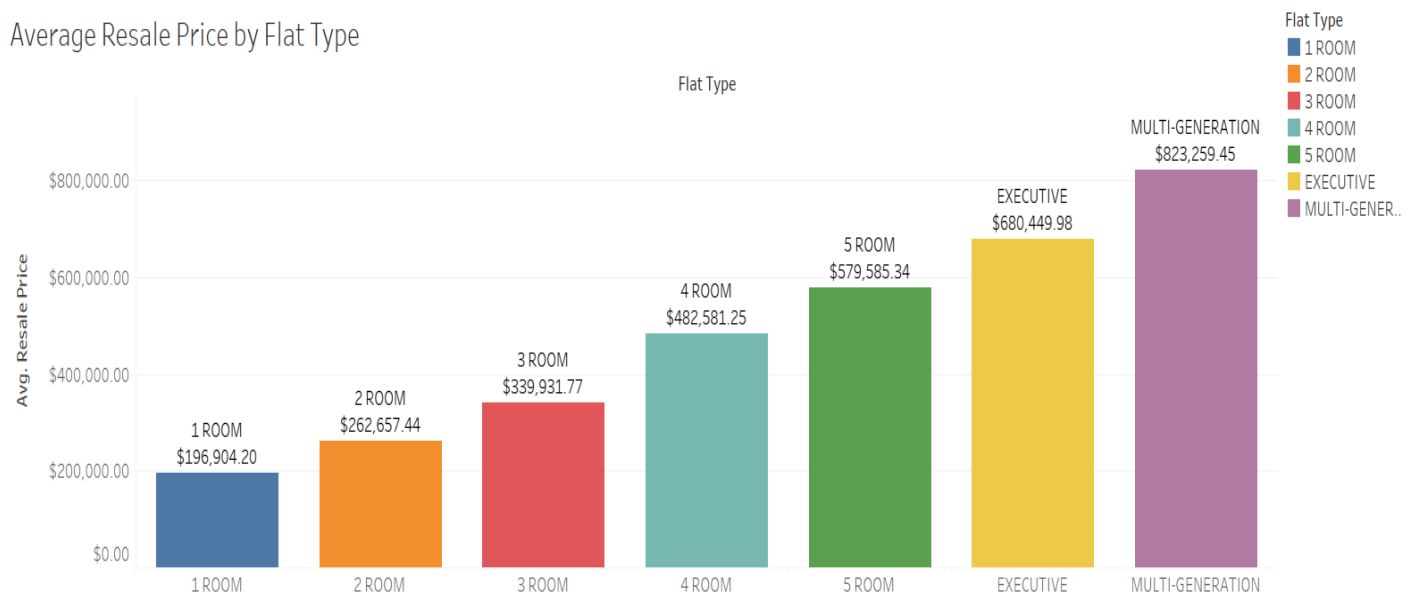
Dashboard 1 : Overview of HDB Resale Prices

Two crucial information are provided by the "Resale Price Overview" dashboard:

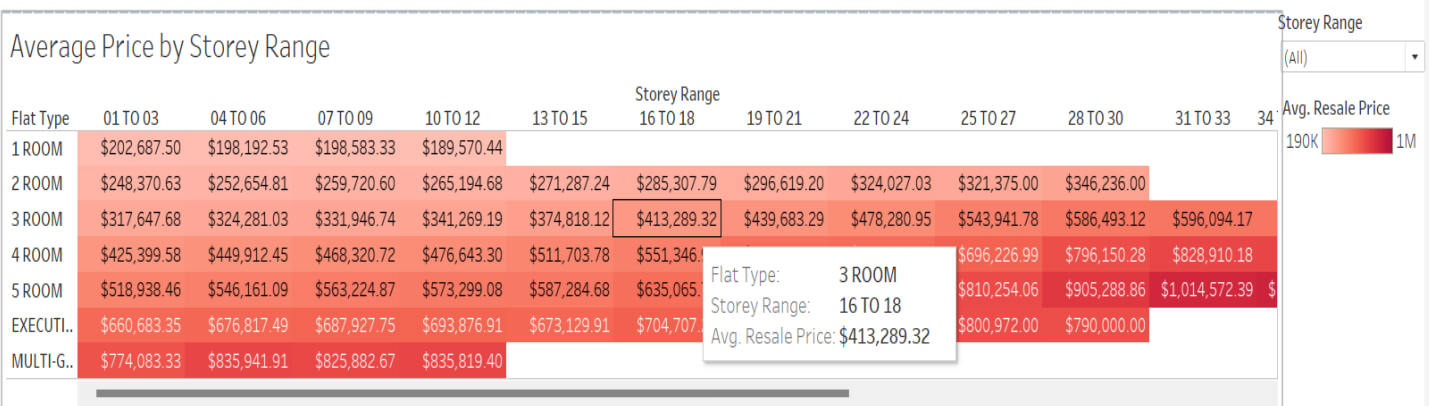
A horizontal bar chart that shows the average selling price of HDB apartments in various towns is shown in this component. The length of the bar for each town's representation corresponds to that town's typical selling price. The chart's horizontal design makes it simple to compare pricing between towns. A dropdown filter is offered to improve personalization and interactivity. From the selection, users may select particular apartment kinds, such 3- or 4-room flats. Users may directly compare cities using this filter, which changes the bar chart to show the average selling prices for the chosen flat type.

The line chart in the bottom section shows the average resale price trends from 2017 to 2023. Resale Price Trends Over Time. Users may filter and examine price patterns within each year using calculated variables for quarterly data, giving them insights into market movements. Through interactive visualizations, this dashboard effectively shows the dynamics of HDB resale prices and encourages users to make well-informed decisions.

Average Resale Price by Flat Type



Average Price by Storey Range

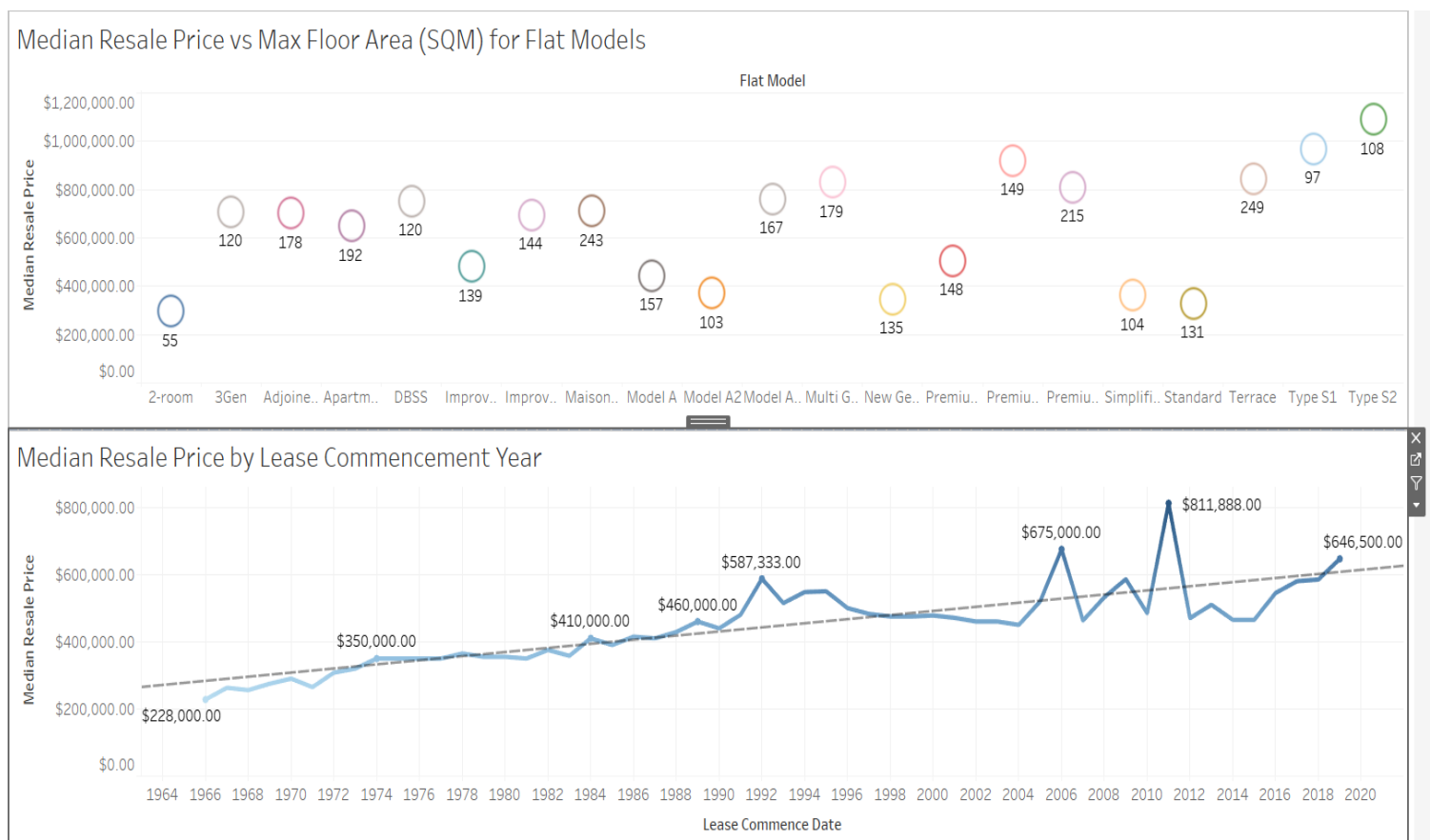


Dashboard 2 – Flat Type Insights

Using a bar chart, this visualization shows the typical resale values for various flat types. The height of the bar which represents the average resale price corresponds to each flat type. Users can immediately understand pricing variations because to the range of colours enhanced ability to distinguish various flat kinds.

The average selling prices based on flat type and storey range are displayed in visualization using a highlight table as well. The storey range can be filtered by users based on their choices. The highlight table emphasizes pricing discrepancies by using colour intensity. Colours that are darker point to higher average resale prices.

A key factor in improving customers' comprehension of the effect of flat types and storey ranges on typical resale prices is the "Flat Type Insights" dashboard. Users are given the capacity to recognize different pricing trends that occur across various flat kinds and storey ranges by providing a thorough review of these aspects. This information allows users to navigate the HDB resale market with greater knowledge and prudence, whether they are prospective purchasers, investors, or analysts. By taking into account the interactions between different flat types, storey ranges, and resale prices, the dashboard's visual representations function as a tool for identifying patterns.



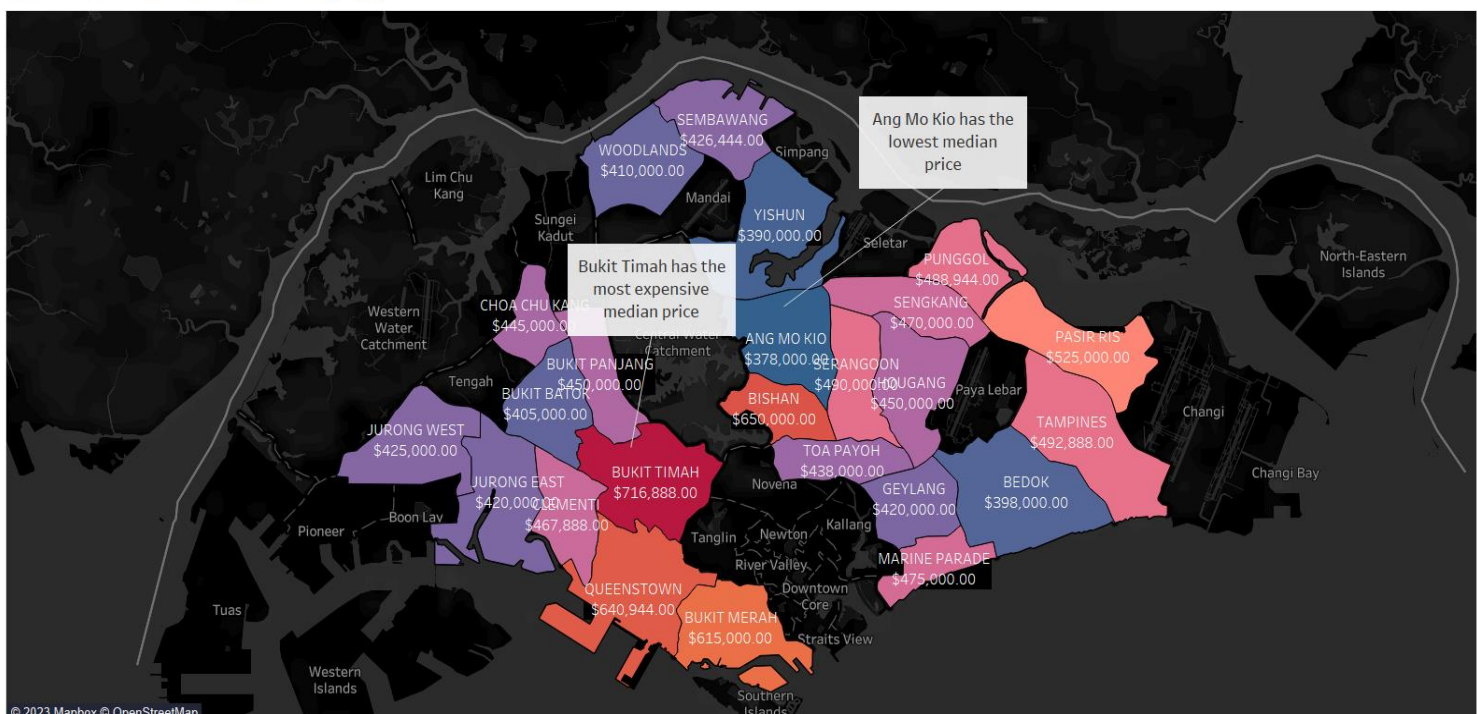
Dashboard 3 – Property Characteristics

In the side-by-side circle chart visualization for the maximum floor space (SQM) for several flat models that is contrasted with the median resale price for each flat model. The maximum floor space for each flat type is shown on the horizontal axis, while the median resale price is shown on the vertical axis. Bright colours make it simple to distinguish across flat forms. Since buyers tend to maximize the floor square area when purchasing homes, this visually appealing illustration provides an intuitive knowledge of how median resale prices interact with floor sizes for various flat layouts.

A line chart shows how median resale prices have risen by each Lease Commencement Year which illustrates the rising price trend. Markers have been placed to identify key areas with increased costs in order to improve clarity. Users may immediately identify the growing cost trend and significant price.

The dashboard for "Property Characteristics" provides insightful visualizations that examine important property features. Users may immediately understand key facts by displaying the links between floor areas, lease beginning years, and median resale values. These illustrations make it easier for prospective buyers, investors, and analysts to make well-informed choices by emphasizing the connections that affect resale values.

Median Resale Price Based On Map



Dashboard 4 – Overview of Median Resale Prices on Map

A single, strong illustration takes its place in the "Overview of median prices on map" dashboard to present an easily understood and straightforward overview of median costs across various areas. We simplify the presentation to concentrate on the important details while giving viewers an intuitive and engaging experience by using a map chart.

The map visualisation also provides a localized view of median costs, allowing users to comprehend pricing trends unique to various regions. They are better equipped to weigh the affordability and potential profits of various areas thanks to this knowledge.

Conclusion

In Conclusion, the HDB dataset-driven tableau dashboards offer a clear and simple way to understand the resale market. These dashboards use visuals to show trends and important elements that affect resale prices. This makes it easier for people wishing to buy, invest, or understand the market to make wiser judgments.

It's crucial to keep in mind that these dashboards have limitations. They might not account for all of the variables that affect resale prices, and the data utilized might not always be accurate in capturing the state of the market. We may think about including predictions that predict future patterns, more external data sources, such economic indicators or neighbourhood demographics, to give a larger context, as well as increasing the dashboards' usability based on user input. Users would feel more at ease exploring the dynamic HDB resale market and making wise judgments as a result of these improvements.