

I. INTRODUCTION

The Singapore public-housing market has undergone pronounced shifts from 2020 to 2024, driven by demographic trends such as population ageing, household “rightsizing,” and policy changes like the rollout of the 2-Room Flexi Scheme. Our project builds on a Straits Times graphic (STRAITS TIMES GRAPHICS, 2025) that maps the **percentage change in HDB resale prices by flat type** over this period. Figure 1 illustrates the percentage change in resale prices by flat type—from 2020 to 2024—using data sourced from Data.gov.sg and Orangetee & Tie Research & Analytics. By comparing growth across 1-room through Multi-generation flats, this visualization highlights which segments have seen the strongest appreciation. We can build on this static snapshot by adding interactive filters, time-based x-axis and integrating transaction prices to deepen our insights into housing-type-specific trends.

II. ORIGINAL VISUALISATION

Original Visualisation 1

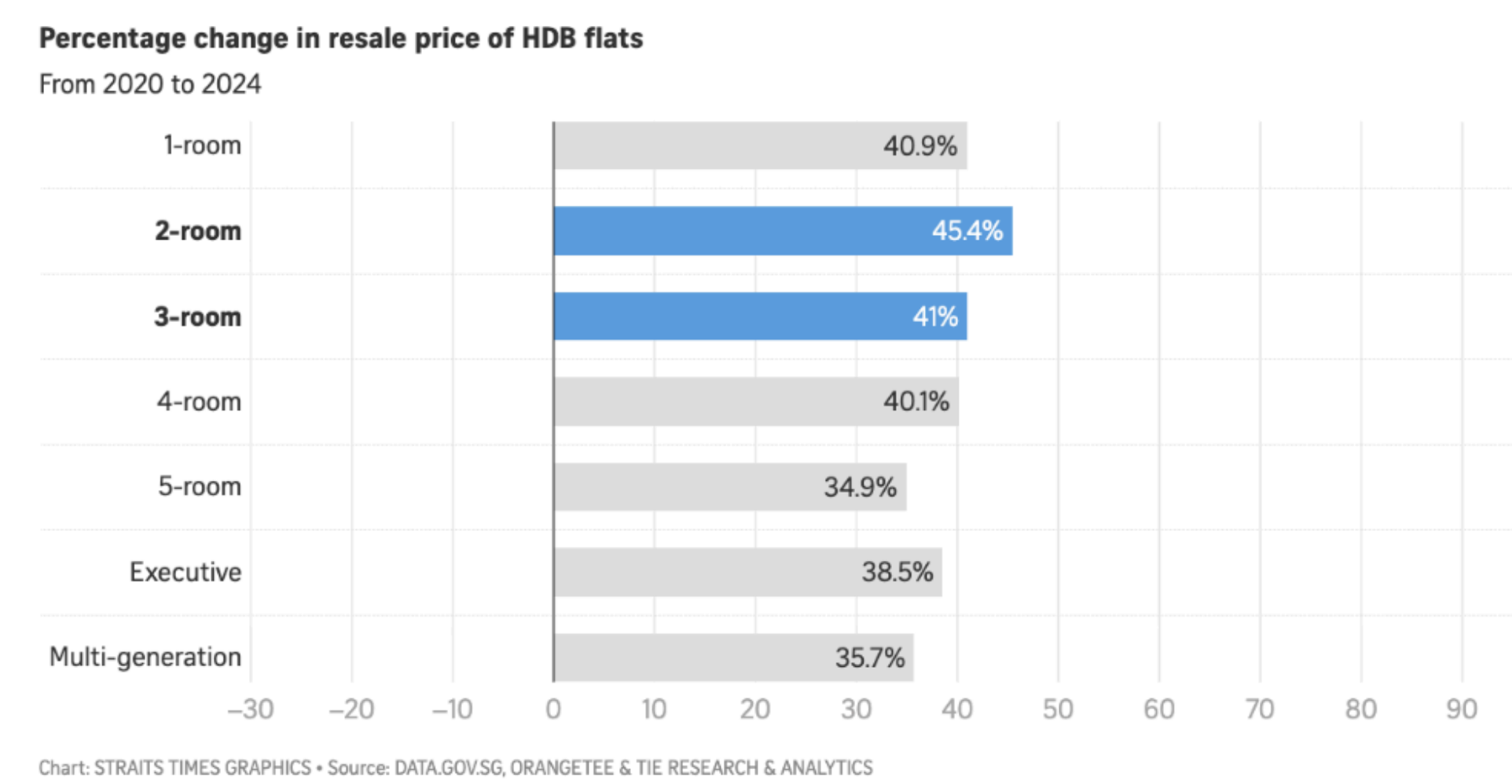


Figure 1: Percentage Change in Resale Price of HDB flats

Figure 1: Original Visualization

- Flat types: Seven categories from 1-room up to Multi-generation
- Horizontal bars: Length proportional to percent change; 2-room (45.4 %) and 3-room (41 %) highlighted in blue as the highest-growth segments
- Baseline marker: Vertical zero line to distinguish growth from decline (although all segments appreciated)
- Annotations: Exact percentages labelled at bar ends for quick value retrieval
- Color scheme: Grey for most categories, blue for top two to draw attention
- Source & Credits: Chart: STRAITS TIMES GRAPHICS • Source: DATA.GOV.SG, ORANGETEE & TIE RESEARCH & ANALYTICS

III. CRITICAL ASSESSMENT OF THE ORIGINAL VISUALIZATION

- Unordered Categories**
Flat types appear in an arbitrary sequence, forcing readers to search for the top and bottom performers rather than seeing them at a glance.
- Uniform Grey Bars**
Except for two blue bars, all categories share the same grey, making it hard to discern above- vs. below-average growth.

- Lack of Volume Context**
Percentage changes can be misleading when based on very few transactions (e.g. 1-Room). No indication of deal counts appears.
- Clipped & Inconsistent Labels**
Some annotations overlap the mean-line or the frame, and small-change bars carry labels that are too close to the axis cut-off.
- Static, Print-Focused**
No interactive features to reveal exact values, drill into regional breakdowns, or display uncertainty around medians.

i. Weaknesses

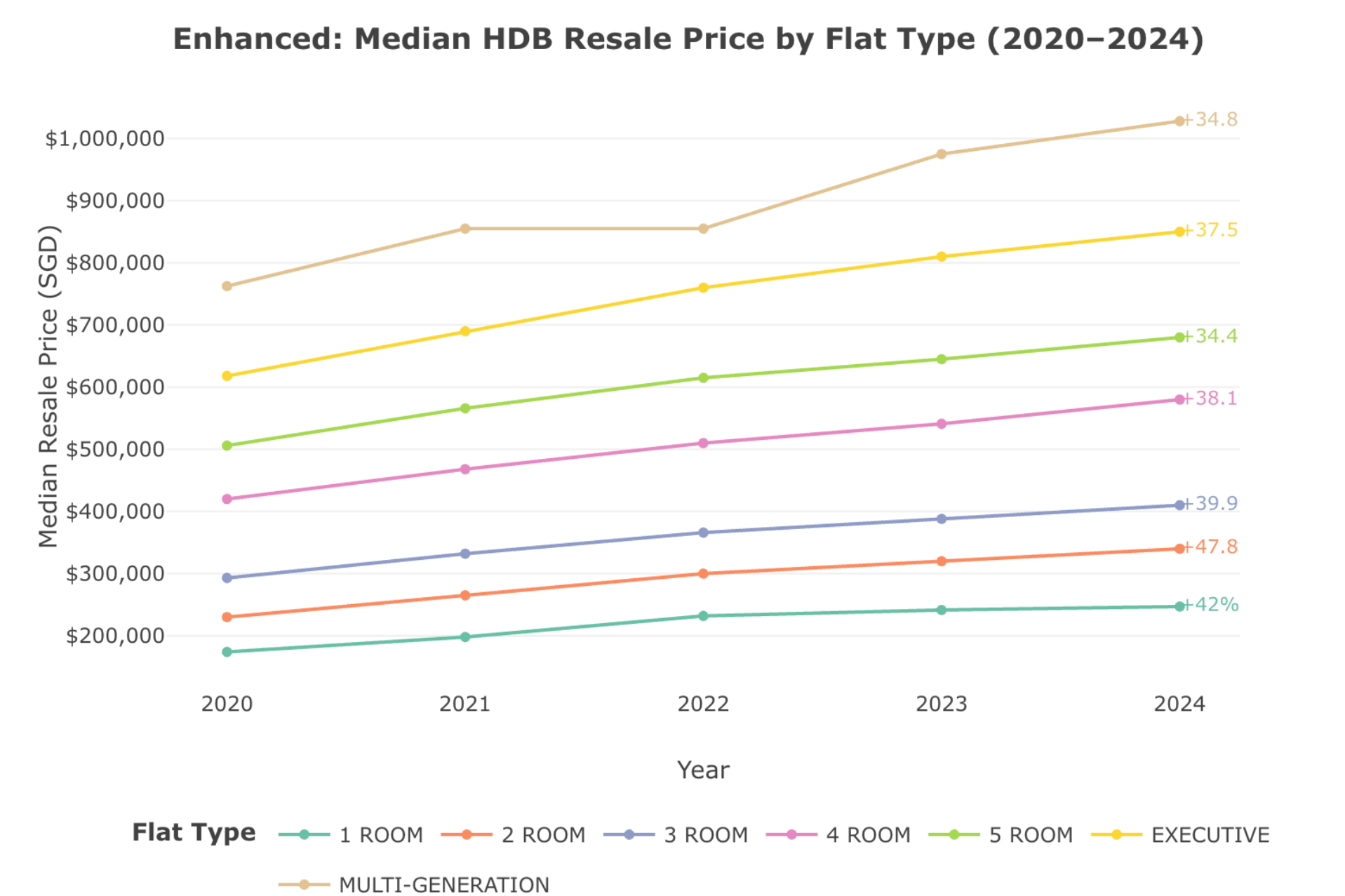
- Lack of Temporal Granularity**
This chart only shows the aggregate 2020–2024 change. You can’t see when prices accelerated or cooled.
- Legend Dependency for Value Lookup**
While exact percentages are labelled on the bars, the use of blue vs. grey to “highlight” the top two segments has no accompanying legend or call-out explaining *why* those two are special.
- Cluttered Axes and Distracting Gridlines**
The vertical gridlines are fairly prominent and, together with the zero-line baseline, compete visually with the bars themselves.
- Accessibility Concerns**
The grey vs. blue contrast may be hard to distinguish for viewers with deuteranopia/protanopia. (No alternative texture or pattern is provided.)
- Monotonous Color Schemes**
Aside from the two blue bars, all other categories use nearly identical greys, which makes it hard to pick out any mid-ranked categories if you weren’t reading the labels.
- Inefficient Legend Placement and Size**
There is no legend for interpreting the colour-highlighting rule, and the source credits at the bottom bear a similar style weight to the chart itself, drawing attention away from the data.

IV. SUGGESTED IMPROVEMENTS

- Show Temporal Trends Directly**
Replace the static bar-chart snapshot with a multi-line chart of median resale price by flat type, so viewers can see year-to-year trajectories.
- Endpoint Labeling**
Annotate each line at the 2024 end-point with both the absolute median price and the total percent change since 2020, for immediate take-aways.
- Color-Blind-Friendly Palette**
Use the Okabe–Ito (CUD) palette to ensure all seven flat-type lines remain distinguishable to viewers with color-vision deficiencies.
- Currency Formatting**
Format the y-axis tick labels as “\$300 K”, “\$400 K”, etc., to reinforce the S\$ scale and reduce cognitive load.
- Interactive Hover Tooltips**
In a dashboard context, enable hover tooltips that display the exact median price and transaction volume for any flat type in any year.
- Legend Placement & Sizing**
Move the legend below the chart, expand its marker size and line samples to improve readability in a poster format.

V. IMPLEMENTATION FOR THE BAR GRAPH

VI. IMPROVED VISUALISATION



- Temporal Clarity**
Plotting x axis with years grants temporal granularity and insights to specific year.
- Endpoint Annotations**
At 2024, each line is labeled with its percent increase (e.g., “+47.8 %” for 3-Room), eliminating the need for a separate legend lookup.
- Clean Axes & Gridlines**
The y-axis uses compact currency labels; gridlines are subtly drawn to guide the eye without clutter.
- Accessible Colors**
The enhanced plot is a multi-line chart of **Median HDB Resale Price by Flat Type (2020–2024)**. Each of the seven lines uses a distinct CUD color:
 - 1-Room (Sky Blue)
 - 2-Room (Vermilion)
 - 3-Room (Bluish Green)
 - 4-Room (Reddish Purple)
 - 5-Room (Orange)
 - Executive (Yellow)
 - Multi-Generation (Blue)
- Variety Colors**
Added a variety of color palettes to increase readability and improve visual appeal.
- Improved Legend**
Positioned below, with enlarged line swatches and flat-type names, making it easy to match colors to categories at a glance.

VII. FURTHER SUGGESTIONS FOR INTERACTIVITY

VIII. CONCLUSION

IX. REFERENCES

- STRAITS TIMES GRAPHICS. (2025, May 20). Older buyers, smaller households among factors driving demand for smaller flats [Bar chart]. The Straits Times.
- DataGov.SG. (n.d.). HDB Resale Flat Prices [Data set]. <https://data.gov.sg/dataset/hdb-resale-flat-prices>