

HDB Prices: What counts?

Diving deeper into resale HDB flat prices in Singapore

A workshop for WoW agents based on data-driven insights & predictive modelling



Deck Outline

01

Key Factors

02

**Interactive
Dashboard**

03

**Predictive Model
Explanation**

04

Limitations

05

Q&A

06

Lessons Learnt



01

Key Factors



The Headline

Six factors explain 78% of HDB resale price variation


Strongest Predictor

Floor Area (sqm)

Every additional sqm adds value.
10 sqm = \$20K-\$30K difference

Major Impact

Flat Type

Starting from 1 Room, every step 
~\$100k (demand dependent)

Location Premium

Central Region

Versus other regions - up to \$100k difference

Height Premium

Floor/Storey

Higher = better views, less noise.

MRT Premium

Distance to MRT

300m vs 1km from MRT = ~\$40K premium

Depreciation

HDB Age

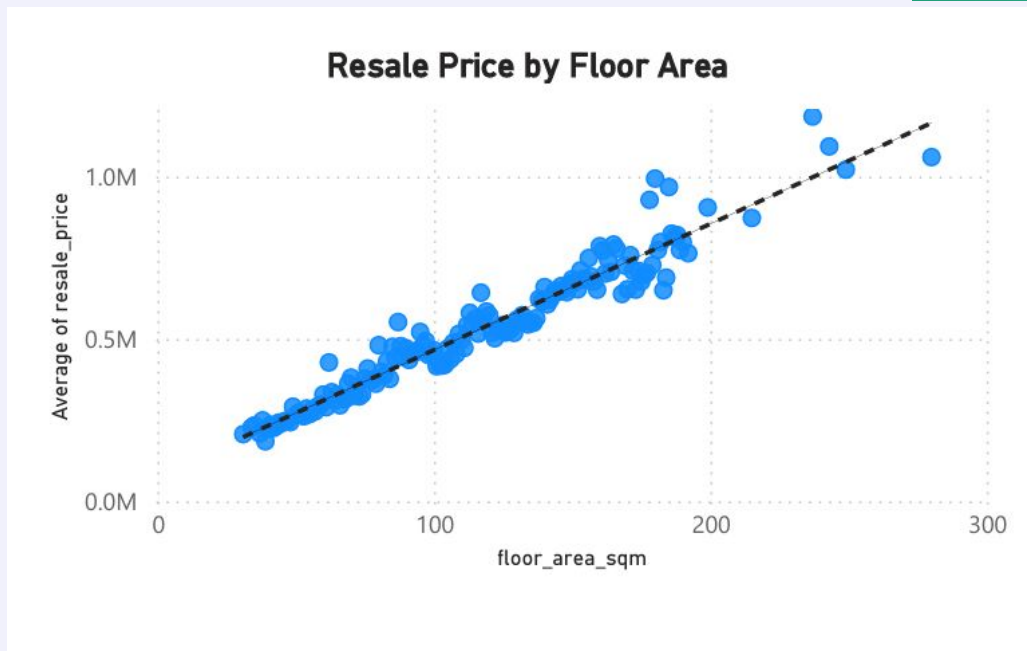
Newer = premium.
But location can offset age entirely

Resale Price vs Floor Area



Average Floor Area
150 sqm

Average Resale Price
\$700,000



Positive correlation between floor area and resale price

- Indicates that larger flats tend to sell at higher prices
- Outliers suggest that factors such as location and flat age may also influence resale price

Resale Price vs Flat Type



Town	1 ROOM	2 ROOM	3 ROOM	4 ROOM	5 ROOM	EXECUTIVE	MULTI-GENERATION
ANG MO KIO		\$241,879	\$323,939	\$478,951	\$672,460	\$811,221	
BEDOK		\$240,144	\$314,469	\$444,494	\$581,996	\$711,731	
BISHAN			\$365,179	\$550,054	\$748,421	\$885,512	\$880,000
BUKIT BATOK			\$289,907	\$401,074	\$541,841	\$635,521	
BUKIT MERAH	\$207,015	\$263,451	\$389,032	\$645,159	\$766,499		
BUKIT PANJANG		\$235,920	\$306,904	\$397,619	\$493,704	\$597,939	
BUKIT TIMAH			\$415,921	\$629,277	\$815,721	\$950,414	
CENTRAL AREA		\$268,732	\$425,633	\$731,434	\$930,111		
CHOA CHU KANG		\$236,233	\$298,507	\$374,584	\$444,369	\$556,242	
CLEMENTI		\$295,143	\$348,169	\$547,137	\$719,607	\$826,257	
GEYLANG		\$225,405	\$305,497	\$513,589	\$678,429	\$734,457	
HOUGANG		\$240,600	\$309,326	\$409,664	\$527,441	\$674,708	
JURONG EAST		\$239,868	\$308,577	\$419,843	\$536,012	\$676,953	
JURONG WEST		\$232,456	\$287,973	\$390,236	\$464,877	\$564,594	
KALLANG/WHAMPOA		\$249,084	\$354,739	\$554,815	\$722,382	\$781,149	
MARINE PARADE		\$260,200	\$400,253	\$523,294	\$809,381		
PASIR RIS		\$261,889	\$351,668	\$429,869	\$501,285	\$629,323	
PUNGGOL		\$255,775	\$360,391	\$458,140	\$504,146	\$570,895	
QUEENSTOWN		\$259,377	\$382,650	\$698,598	\$843,100	\$982,720	
SEMBAWANG		\$225,590	\$298,547	\$371,232	\$428,959	\$508,836	
SENGKANG		\$252,307	\$349,018	\$435,607	\$483,101	\$580,221	
SERANGOON		\$239,250	\$332,755	\$466,191	\$572,011	\$735,255	
TAMPINES		\$265,383	\$343,804	\$447,486	\$552,715	\$680,004	\$780,429
TOA PAYOH		\$232,557	\$313,113	\$564,466	\$753,534	\$801,196	
WOODLANDS		\$224,566	\$284,238	\$364,772	\$433,516	\$609,168	
YISHUN		\$223,981	\$297,039	\$372,462	\$480,336	\$593,488	\$740,616

2 Room ~ \$200k - \$300k

3 Room ~ \$300k - \$420k

4 Room ~ \$400k - \$700k

5 Room ~ \$500k - \$930k

Executive ~ \$500k - \$950k

- A clear upward trend in resale prices as flat type increases.
- **4-Room / 5 Room flats** form the demand core with strong price stability.
 - 3-Room → 4-Room :Largest and most consistent price jump
 - 4-Room → 5-Room:Steady but controlled increase. Buyers pay a premium for space and comfort
- **Executive flats** command the highest prices due to size and scarcity.

Resale Price vs Region



Central \$500,000

North East \$460,000

East \$460,000

West \$420,000

North \$400,000

- Flats in the Central region command the highest resale prices followed by the North-East, East, West and North regions.
- This shows that **location significantly influences resale value**, with more central locations being more desirable and costly.

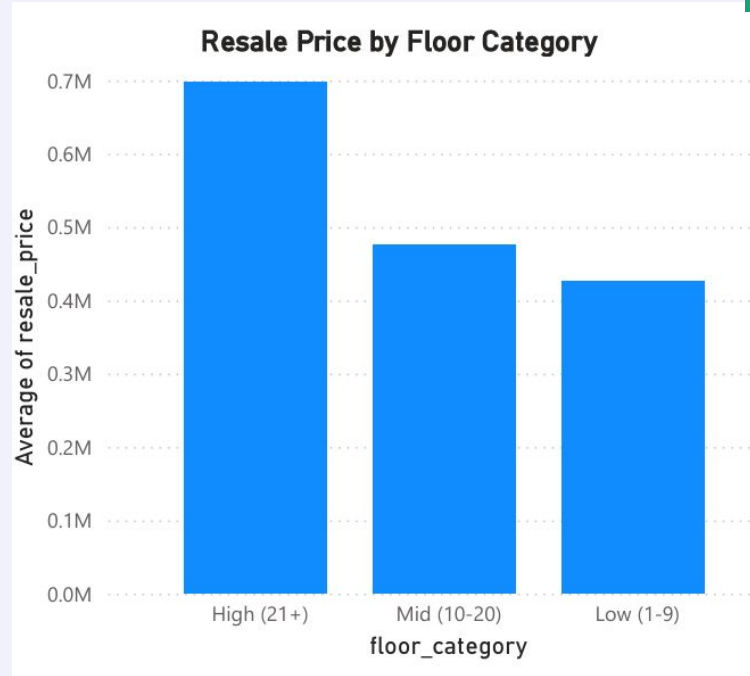
Resale Price vs Floor Category



Low Storey ~ \$430,000

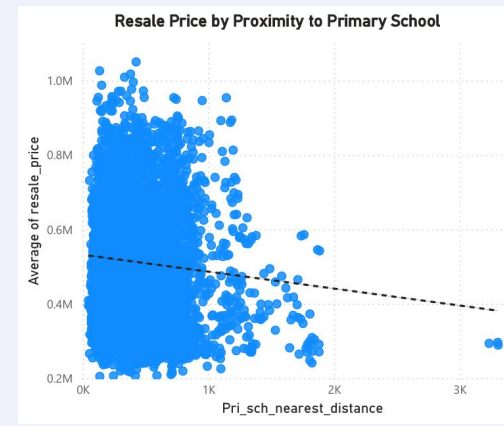
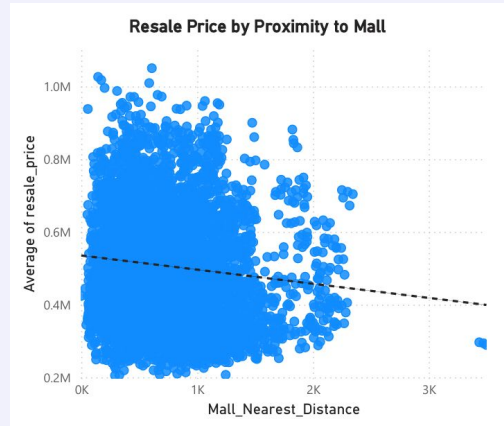
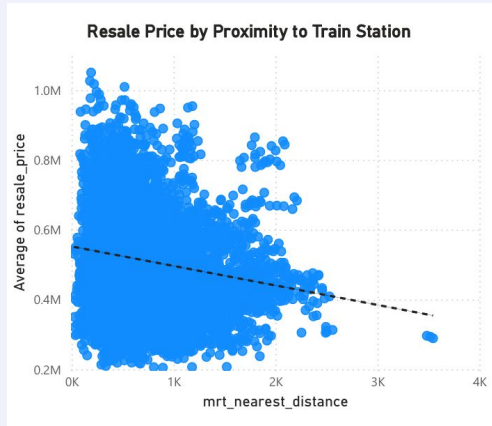
Mid Storey ~ \$480,000

High Storey ~ \$700,000



- Resale price tends to **increase steadily** with floor level up to mid-storey. Beyond that, high storey flats experience an **exponential increase**, with prices higher due to better views and higher demand.

Resale Price vs Proximity to Amenities



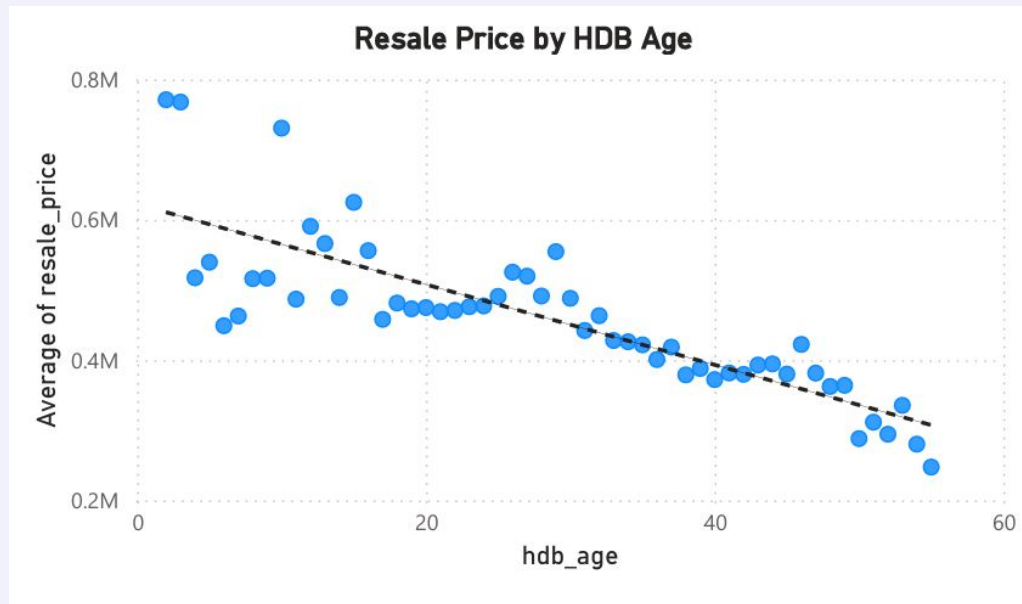
- The charts illustrate a **negative correlation** between HDB resale prices and distance to nearby amenities such as MRT stations, schools, and malls.
- Order of importance: 1. Train (MRT) Station 2. Mall 3. Primary School
- Flats located closer to these amenities generally have **higher resale prices**, reflecting the premium buyers place on convenience and accessibility.
- As the **distance increases**, resale prices tend to **decrease**, though some outliers may exist due to factors like flat age, floor level, and location.

Resale Price vs HDB Age



Average HDB Age
30 Years

Average Resale Price
\$500,000



Negative correlation between HDB Age and resale price

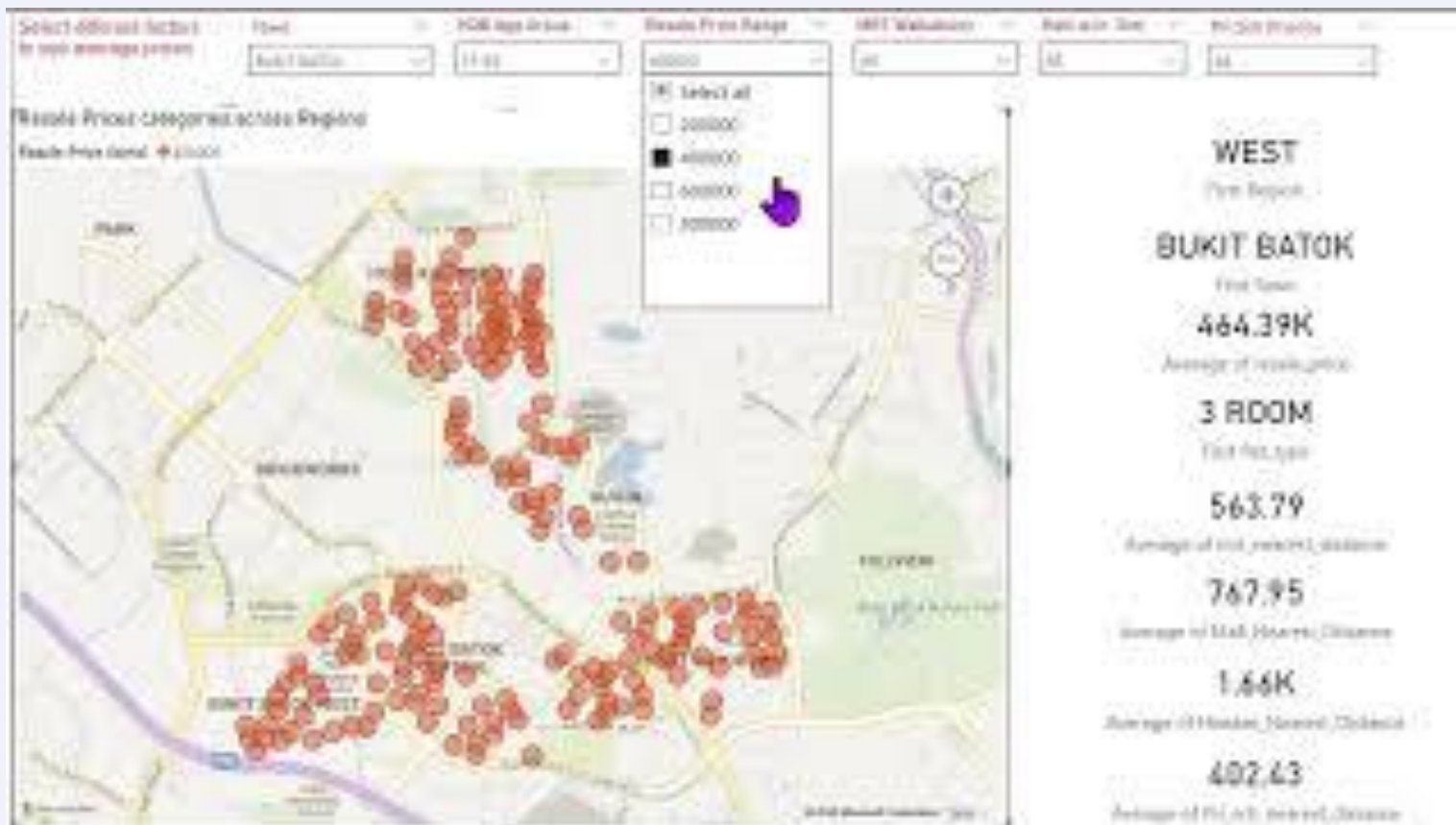
- Indicates that older flats tend to sell for lesser than newer ones
- Outliers suggest that other factors such as location, floor level, and renovations can influence resale value



02

Interactive Dashboard

Interactive Dashboard

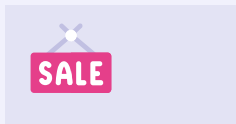
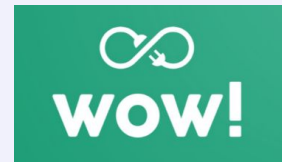




03

Predictive Model Explained

3 Recommended Use Cases



Pricing a Listing

Eg “How much should I price my flat in Tampines that is close to a MRT?”

Model Output: \$465k
MRT ‘Premium’



Advising a Buyer

Eg “Bishan \$550K vs Jurong \$420K — which has better value?”

Central ‘Premium’: +\$100k+

Bishan - Jurong = \$550k - \$420k = \$130k

Recommendation: Both are fairly priced. The difference is due to the central location



Negotiation Support

Eg “Seller asking \$500K but I think it's too high”

Model prediction - \$470k

Overpriced by: \$30k

Recommendation: Buyer is right, it is overpriced by \$30k

Key principle - Model is a starting point.

Combine data-backed estimates with local knowledge and specific factors.



**Model reduces
prediction error by 53%
— from \$143K to \$72K
average error**



RMSE / R^2

\$142,801 / 0

Baseline (Null/ 'Random') Average

\$67,634 / 0.78

Our Linear Regression Model (9 features)

\$69,149 / 0.77

Our Ridge Regression Model (12 features)



04

Limitations

Limitations & Disclaimers



External Economic Factors

Factors like inflation over the years will most definitely directly affect the resale prices, with later years being 'more expensive'. Other economic events like recession will also affect housing prices



Government Cooling Measures

Data has transactions between years 2012-2021

- MOP policy - 2010 - some transactions from 2010-2015 might not have been subjected to MOP policy, which may result in higher-priced flats (since these flats are newer than the rest from 0-5 years, at point of sale)
- Cash Over Valuation policy - started Dec 2021



Less quantifiable factors

Subjective factors like value placed on views, condition of unit, mood of a neighbourhood, corner unit or not, and most of all, timing of purchase



05

Q&A



06

Lessons Learnt

Lessons Learnt



Experience on Data Modelling

- Need to read up on the existing literature, especially if the subject is not our usual area of expertise - we found more factors to include in our model
- Even if we had the best data set, there are still things that are difficult to be observed or quantified, like negotiation power, timing, flat condition, racial quota

Sprint Experience

- Set structure of sprint and future sprints from Day 1
- It pays to start early, get as much out of Day 1 as possible
- Running different model versions take time - need to think through what we might have missed out, research, and then run model again, and again



Thanks!

We hope we have empowered you as agents to be more accurate in terms of estimating resale prices, so that you can serve your clients better, and you can earn more commission!

Your Data Team: Glory, Ram, Sirhan, Cheryl

