

Introduction: Man, above many things, desires proper shelter, so this project aims to demystify the Melbourne housing sector based on certain factors. The project goal is to know the number of houses built, land sold, how many houses were sold per year, houses sold per region, sold by Price, sold by Land size, sold by Car lot, sold by Bedroom, sold by Bathroom, selling trend in Melbourne, average total Sales, houses sold by Suburb. and Houses by Distance.

Key Datasets and Methodologies: Melbourne housing data from Kaggle, and analysed with Microsoft Excel & Pivot Table.

Story of Data: This data represents the housing business from land size, car lot, number of bathrooms and many more in Melbourne in the dataset, which is purchased data and other records. It is a public data set available online, the data on sales is in columns while the serial in rows. The data contains SellerG, Council Area, Region name, Suburb, Date, Postcode, Car, Land size in Melbourne and many more.

Data Limitations or Biases: The dataset presents enough data for reasonable business decisions, but it doesn't tell us if the buyers are satisfied or not, which can be a convincing factor when potential buyers do an online review.

Data Splitting and Preprocessing: The dataset was clean when downloaded from Kaggle, no duplicates, no errors to be corrected, no missing value, it was then transformed into standard excel table.

It was then split into dependent and independent databases based on its features:

- Category 1: Independent Value: SellerG, Council Area, Region name, Suburb, Date, Postcode, Car, Land size.
- Category 2: Dependent Value: Distance, Room, Methods, Address, Price, Bedroom

Industry Context: Real Estate/ Housing

Stakeholders: Chief executives, Investors, and Potential customers

Value to the Industry: To sell affordable houses, properties, and generate revenue.

Pre-Analysis:

Potential Analysis/ Questions

How many houses were sold per year? Houses sold per Region, Houses sold by Price, Houses sold by Land size, Houses sold by the Car lot, Houses sold by Bedroom, Houses sold by Bathroom, House selling trend in Melbourne, Average total Sales, Houses sold by Suburb. 11. Houses by Distance

Potential Analysis

Total House sold, Total house sold by region, SellerG of the Year, Average yearly sales, Top Region, Most sales by price, Sales trend, Sales by bathroom, Sales by bedroom, Choice Suburb and Top selling by Car

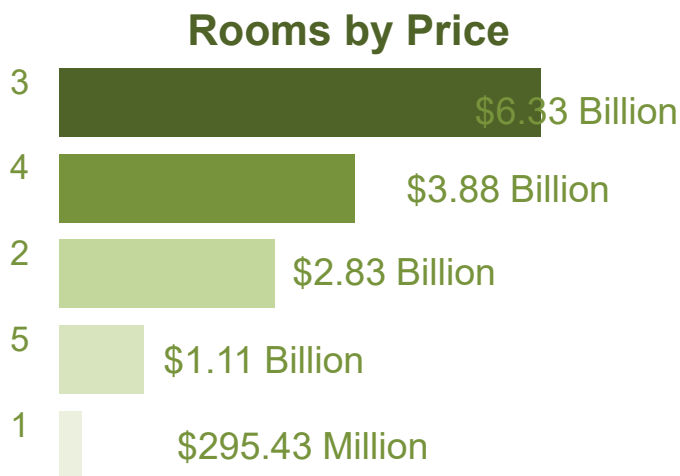
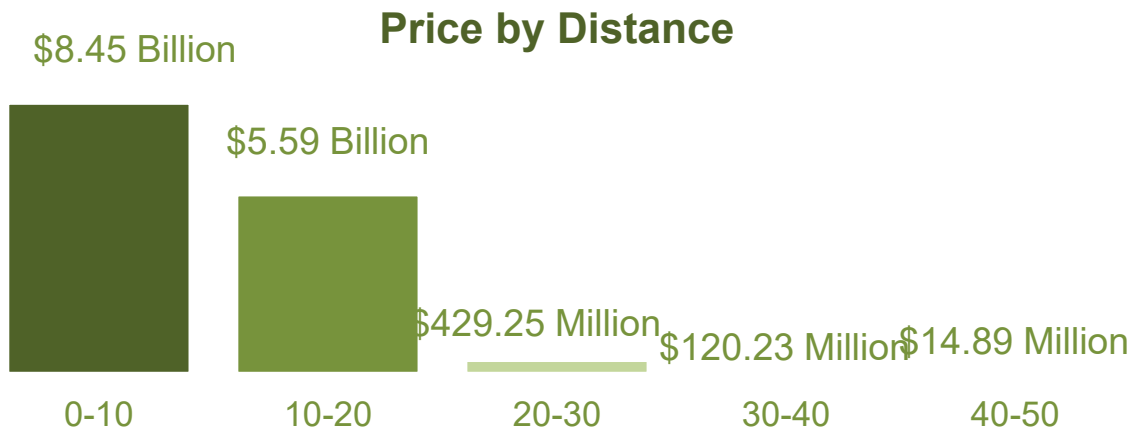
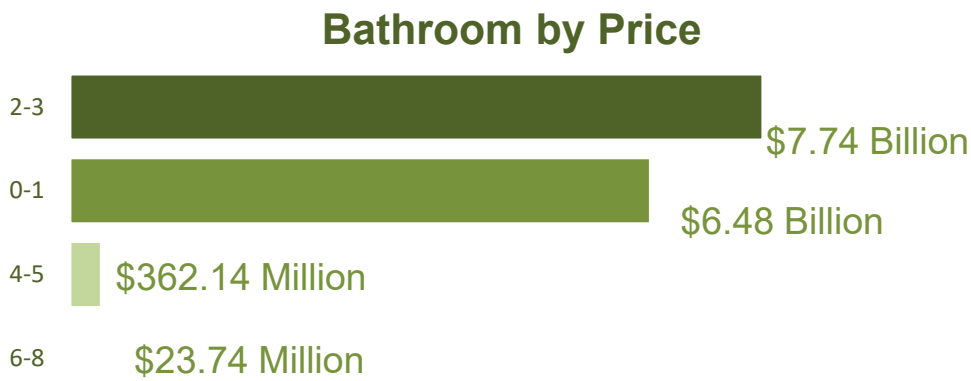
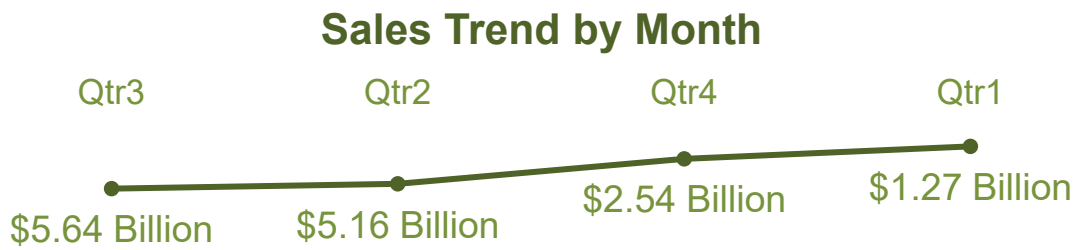
In-Analysis:

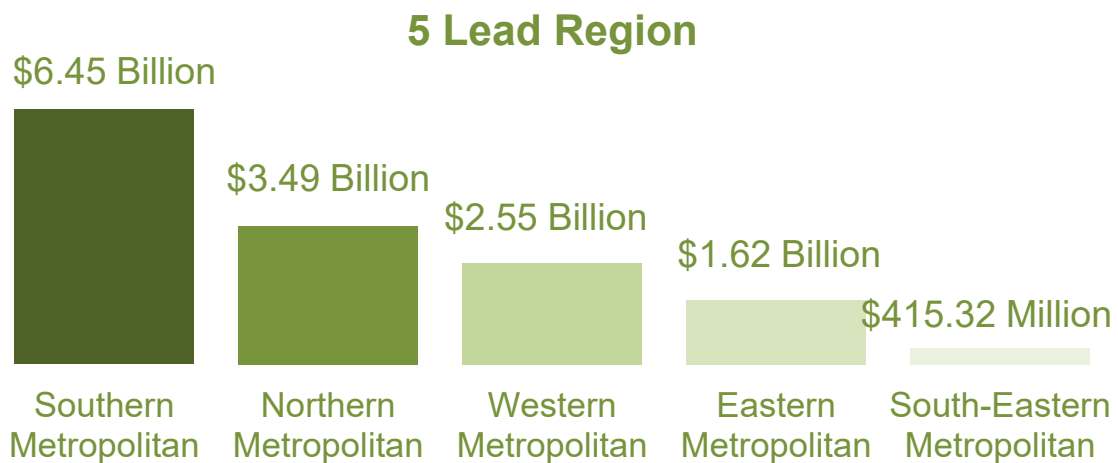
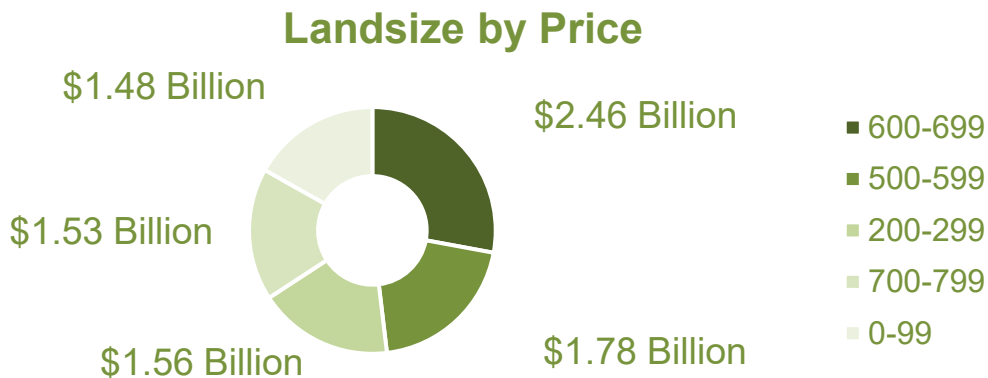
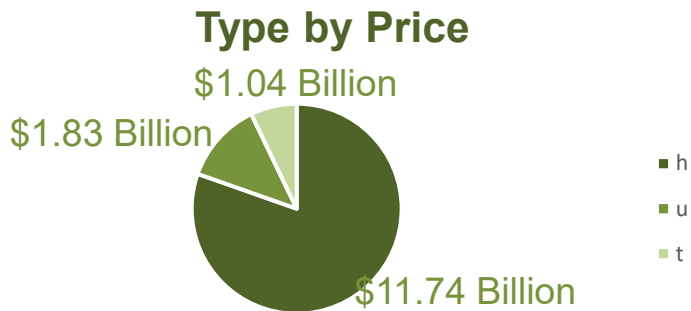
1. Jellis top house in Melbourne with total of \$1,800,503,098.00
2. Barry came fifth in the list of sellers with total of \$885,942,476.00
3. The house with 3 rooms top the chart with total annual sales of \$6,328,430,155.00
4. The one though highest was fifth in the list with \$295,434,451.00
5. Third quarter top the chart with \$5,642,214,032.00 sales
6. first quarter followed from the bottom with \$1,265,026,226.00
7. Landsize measuring 600-699 recorded \$1,265,026,226.00
8. Landsize with measurement of 0-99 recorded sales of \$1,483,631,714.00
9. Distance measuring 0-10 was at \$8,450,072,435.00 sales
10. Distance of 40-50 recorded sales of \$14,887,500.00
11. Southern Metropolitan recorded sales of \$6,446,063,019.00
12. South-Eastern Metropolitan Region recorded sales of \$415,324,703.00 to be among the top 5 regions.
13. Houses with 2-3 bathrooms top the chart and record of sales with \$7,738,015,738.00, and Houses with 6-8 bathrooms recorded sales of \$23,741,000.00
14. House type H top the chart with \$11,741,939,328.00 and type t house came third on the list with \$1,040,180,850.00

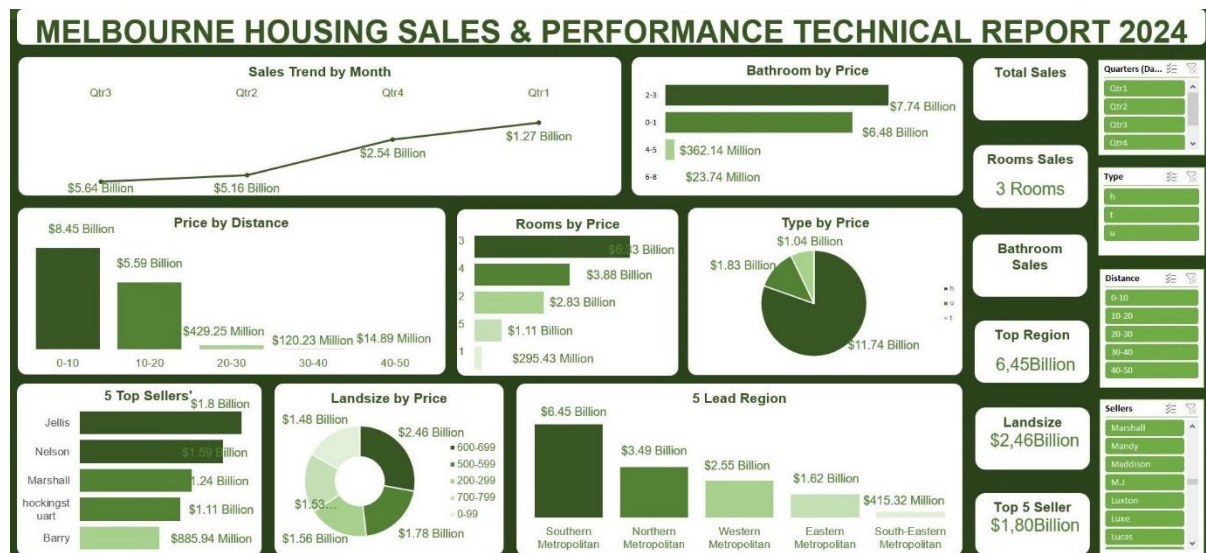
Post-Analysis and Insights:

The revenue generated annually by the Melbourne housing scheme is \$ 6.63 billion. Houses with 2-3 bathrooms top the chart and record more sales of \$7,738,015,738.00, and Houses with 6-8 bathrooms recorded sales of \$23,741,000.00. More units of houses with 2-3 bathrooms are needed and the same for bedrooms; the number should match or be exceeded by the number of bathrooms.

Data Visualizations & Charts:







Analytical Dashboard

Recommendations and Observations

Observation:

- Jellis top house in Melbourne with total of \$1,800,503,098.00. Jellis sold houses at a distance of 0-10 at \$1,431,868,941.00, 10-20 at \$364,292,357.00 and at 20-30 \$4,341,800.00. 3 rooms were sold at \$703,741,100.00, 4 rooms at \$525,584,857.00, 2 rooms \$362,416,841.00, 5 rooms \$154,847,300.00 and 1 room at \$33,023,000.00.
- 3rd quarter was best for Jellis at \$675,858,600.00, Qtr 2 at \$604,275,833.00, 4th quarter at \$334,361,965.00 and 1st quarter at \$186,006,700.00. 2-3 bathroom sold at \$1,030,839,957.00, 0-1 sold at \$705,665,141.00, 4-5 at \$50,198,000.00 and 6-8 he sold \$13,800,000.00. He sold more at the Southern metropolitan area \$1,026,599,757.00, followed by \$515,014,841.00, \$188,253,700.00, \$67,407,000.00 \$3,227,800.00 for the top 5 region. He also made a total of \$1,450,708,243.00 for the different types of houses, followed by \$206,802,355.00, \$142,992,500.00.
- Nelson so highest at \$1,003,000.00, he sold only 0-10 at \$1,003,000.00 by distance and 3 room to a cumulative of \$1,003,000.00. Nelson only made sales in the 3rd quarters with total of \$1,003,000.00. He sold house with 0-1 bathroom at \$1,003,000.00, By type he sold h type at \$1,003,000.00. His best region was the Western metropolitan area with \$1,003,000.00 and by land size he sold 200-299 at \$1,003,000.00. \$1,003,000.00.
- Observation show Marshall sales at \$1,244,748,138.00 and that he sold houses at a distance of 0-10 \$934,226,638.00 and 10-20 was this \$310,521,500.00. 3rd quarter was best for him at \$442,668,388.00, \$386,038,750.00 was for 2nd quarter and \$277,206,500.00 for 4th quarter and the least was \$138,834,500.00 for 1st quarter. it is also obvious that the top generated less revenue in the 1st quarter.

5. Houses sold considering number of rooms, it was observed that Marshall sold highest for \$138,834,500.00 for 3 rooms, followed by 4 rooms at \$413,467,500.00, \$197,718,000.00 for 5 rooms, \$154,983,638.00 for the least number of rooms. Land size was top \$182,519,500.00 for 700-799, and least for 500-599. His top revenue at Southern area by region was \$1,208,608,138.00, and least for Eastern area region at \$16,978,000.00.

6. Hockingnut best sales was at \$1,114,166,699.00, he sold lands at various distance \$567,116,201.00 for 0-10, \$495,598,998.00 at 10-20, at 20-30 he had \$34,904,000.00, at 30-40 he sold \$16,100,500.00, and \$447,000.00 at 40-50. Observation showed that he performed better in the 2nd quarter with sales amounting to \$435,311,650.00, \$402,356,948.00 for 3rd, 4th was this \$176,253,101.00 and 1st quarters was least at \$100,245,000.00.

7. From observation his house sales based on the number of rooms was \$453,626,500.00 for 3 rooms, \$275,007,610.00 for 2 rooms, \$245,074,388.00 for 4 room, for 5 rooms \$81,629,600.00 and this for 1 room \$47,608,601.00. For landsize it was observed that he sold \$177,518,000.00, \$145,218,888.00 \$171,257,211.00 \$114,294,000.00 \$110,872,300.00 respectively for this 600-699, 0-99, 500-599, 100-199, 200-299. He sold from observation \$677,670,099.00 for Southern metropolitan area, \$244,656,700, Northern, \$114,692,900 for Western, Eastern \$53,125,500 and 35,915,000 for South-Eastern area.

8. Barry was the least in the 5 leading sellers in Melbourne with total grossing of \$885,942,476.00. From observation Barry sold more house at a distance of 10-20 at \$658,455,426.00, \$181,781,500 for 0-10, \$42,043,550 for 20-30, and \$3,662,900 for house at 30-40 by distance. More sales in the 3rd quarter \$376,496,038.00, followed by 2nd quarter then 4th at this \$125,142,400.00 and for 1st quarter was \$66,855,138.00.

9. Observation revealed that by rooms Barry top was 3 rooms \$436,697,100.00, 4 rooms at \$247,225,588.00, 2 rooms were \$111,451,588, and 5 rooms at \$69,645,000. Land size observation show Barry sold 600-699 by size at \$234,767,438, 700-799 at \$130,543, 500, at 500-599 was \$144,600,088 and 200-299 at \$66,264,500, and he sold more h type house at \$765,214,776, u type at \$65,036,850 and \$55,690,850 for t type of house. \$452,269,638.00 for house with 2-3 bathroom and for 5-6 he had \$14,127,500.00 also for 6-8 was \$760,000.

10. His top region was the Eastern metropolitan region with \$323,259,588, \$261,693,450 for Western region, Northern was \$244,720,188, Southern at \$29,148,000 and lastly for Southern-Eastern area \$23,672,250.00.

Recommendation

1. It is recommended that Jellis should implement policies he used in 3rd quarter that yielded more revenue in the 1st quarter same goes for the rest sellers.

2. Jellis is recommended for transfer to housing head quarter where he can help bring to top level his experience that led to generating top revenue
3. It is recommended that the housing authority in Melbourne build more 3 bedrooms since it generates more revenue for them.
4. Barry should be sent for more training as to how can get to top level in his sales
5. Eastern region should be re-energised by send top sellers from other region to that metropolitan area.
6. Recommendation, the policies used in the Southern metropolitan area should be replicated in the eastern and southern-eastern metropolitan area.
7. The housing authority should build more apartments with 2-3 bathrooms this will enhance and cause more revenue to coming.
8. Recommended is that 3rd quarter policies should be replicated in other quarters
9. Land size of 600-699 at \$2,455,643,738.00, therefore recommendation is that more housing unit with 600-699 land size measurements be built.

Conclusion:

From this analysis we have total revenue generated by Melbourne housing is \$6.63Billion and Jellis sales agent in Melbourne with total of \$1,800,503,098.00. it was also discovered that houses with 3 rooms and 2 rooms are the mainstay when it comes to housing in Melbourne. 3rd quarter had the highest sales across for all region and sales person so policy implementation. Subsequent analysis should be done on more years and more data across so as to get a more holistic model.