Executive summary

This Report is is an analysis of the housing data at Kingfisher's bay across 3 suburbs,This document contains the analysis of the house prices,various factors about housing & relationship among them,This document discusses about the various issues & concerns of Mr.Paul Thompson and the Real Estate Institute of Victoria,It also verifies the claims of the newspapers articles & the senior manager regarding available properties

This report is based on the sample of 120 houses across the suburbs in Kingfisher's bay,Here the relationship among housing price and other various factors is analysed,It shows the data about Housing Price,Land Area,Hose Area,Condition,Street,Heating,Air Conditioning,Style of the house,material quality,weekley rents,rental returns,distance from the stores and public transport,Age of the house,Number of the rooms and relationship among them

The Sample of 120 houses in the bay gives the idea the average housing price,the range of the houses,the prices of the houses,the condition of the houses across the various suburbs,the number of vacant and occupied properties etc.,It also verifies the claims by newspaper article "Buyer's smash records " and the claims of the senior manager during the meeting of the REIV,And also calculates the sample size of the houses needed for next year's survey

Memorandum

To:Paul Anderson

From:Emma Thompson

Subject:Analysis of the housing data at kingfisher's bay

1)

- The First Factor I've Considered is house prices,The data is about three suburbs in the Kingfisher's bay about the factors such as Room Numbers,Price,Land Size in sqm,Age of the house,Number of levels,Material quality used for construction,House area in Sqm,Distance to nearest train station,bus stop,Shops,Street appeal,Style of the house,Number of Bedrooms,Bathrooms,Kitchen style,Weekly rent,Proportion of views of Mt Dandenong Air Conditioning & Heating Facility,The suburb of the bay the house is located in,Condition,Rental status of the house & Rental returns.
- The Size of the selected sample is 120 houses across the 3 suburbs in the bay,The Average price of the houses is $852K based on the median method,Since the data is in thousand dollars,The dataset is large and it describes cost,hence the median method was suitable to calculate the average
- Along with Average(Median) i.e. $852K,The Most expensive house in the suburb is for $1761K and the Chepest house is at $192K
- The Standard Deviation of the data is 324.946 whereas the variance is 105590.33025
- Based on the interquartile method based on first and third quartile,I've found the quartile range as 444.5,Based on the quartile range,The Upper Limit of $1304K & Lower Limit of $415K was achieved,Based on these limits,Ie've found there are 18 outliers in the data which are higher than the upper limit or lower than lower limit

2)

- The Data reveals that the average price of the houses in suburb 1 is $789K,For suburb 2 The Average housing price is $824K,Whereas the Avrage house price in suburb 3 is $1016K
- We can see that the houses in the suburb 3 are the most expensive whereas the houses in suburb 1 are the cheapest
- The Cheapest house in the suburb 1 is for $290K,Where as the most expensive house of the suburb is for $1224K
- For Suburb 2,The Cheapest price $192K,which is also the cheapest house in the entire Kingfisher bay,whereas the most expensive house in the suburb is at $1468K
- The Housing prices in suburb 3 is higher than both suburbs,The most expensive house In the suburb which also happens to be the most expensive house in the data is for $1761K and the cheapest house in the suburb is at $473K
- Here I've observed that the houses in suburb 3 are most expensive ones,whereas suburb 1 is chepeast,There is a great difference between house prices even within a suburb,The Average price of the house in bay is $876K

3)

- The Condition column of the dataset describes 4 condition as follows
  1 for very poor
  2 for poor
  3 for good
  4 for excellent

- In Suburb 1,There are 4 houses with very poor condition,15 houses with poor condition,,21 houses with good condition and 6 houses with excellent condition
- In Suburb 2,There are 4 houses with very poor condition, 14 houses with poor condition,9 houses in good condition and 6 houses in excellent condition
- In suburb 3 there are 7 houses with very poor condition,11 houses with poor condition,12 houses with good condition and 11 houses in excellent condition
- In Suburb 3,More than half houses from the sample are in good or excellent condition which can be concluded as one of the major factors behind prices of the house being highest in suburb 3
- The Average condition of the houses in the suburb 1 is 2.63,The Average condition of the houses in Suburb 2 is 2.51 being the lowest among all suburbs and suburb 3 with the highest among all at 2.65

4)

- To analyze the relationship of house price with multiple variables such as Weekley Rent,Land Area,Total rooms in the house & house area,For comparison,First I've scaled all of the data about these factors for comparison by graphs between 0 to 1
- The Comparison of the House Price and Weekly rent using Area Graph shows that there is a clear relationship between the two,The Price of the rent increases with the house price,Here except for some houses that are overpriced yet have lower rent and some houses that are underpriced but yet are higher rent,There is a relationship between house rent and house price
- I've used smooth line graphs to compare the relationship between house price with land area and house prices with house area,Here based on the graph we can conclude that the

area of the house is one of the important factor that decides the price of the house,similarly except for some cases land area also shows the relationship between house price,but we can clearly see that in some cases,even if the land area or house area is bigger yet the price of the house is low,Or even if the land or hosue area is smaller yet the price is higher,It might be due to other factors such as condition of the house,style,material quality,distance from the major public transportation etc.

- To analyze the relationship between room number and house price,I've used stacked stepped chart,Here we can conclude that the availability of more rooms is clearly linked with increase in the house prices.

5)

- With the 95% level of confidence,I conclude that the land between 37.74% to 55.59% is more than 1000m2 which can be used for subdivision
- With 95% level of confidence I conclude that,The and size available for subdivision is between 1107.82 m.sq to 1242.63 m.sq

6)

- With the Hypothesis testing which is used to validate the hypothesis,I've concluded that the claim of the senior manager about the percentage of available vacant properties dropped below 25% is true
- Also the claim that the average selling price for across all suburbs in the bay has increased over $825,000 is true

7)

- With 99% confidence I conclude that 4312 houses would be needed for the next year's survey to get the correct proportion of houses of 1000 sqm2 within 2% rental returns
- Also with 99% level of confidence I conclude that a sample of 1752 houses would be needed for next year's survey within $20,000
- The Larger Sample would definitely lead to better results

Conclusion:

I conclude that,the information can be used to analyse house price depending upon different factors.,There multiple factors that affects the housing price,Another interesting finding from the report is suburb 3 has the most expensive houses and more than half of them are in good or excellent condition.The various factors affects the housing price of the suburbs,But the claim that average price of the house at kingfisher's bay has exceeded $825,000 is true,By this trend the average price of the house in the bay would exceed 1 Million soon,The findings show that between 37.74%-55.59% land is available for subdivision.,Also the claim that the percentage of available houses that are vacant has dropped below 25% is true,The Next year,The larger sample of 4312 houses would be better to get proportion of houses that are beyond 1000 sq.m within 2% rental returns,Also a survey of 1752 houses is needed to find the houses within 20000$