MGMT220

Fundamentals of Business Analytics

Assignment #3

Data Tables/ Scenarios & Optimisation

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Task 1 – Randwick vs Inner Ring Suburbs

With current market conditions showing further drops in Strata prices likely, our analysis is based off a further 20% fall. Construct percentage costs for comparisons between Inner Ring suburbs are assumed at 40% strata.

# Negative Net Profit in Randwick for more than 50% of scenarios

Analysing Randwick, we see that we need to be building at least 6 apartments to return any form of profit at reasonable construct costs, that is up to 40% of estimated current selling prices.



# For a minimum ROI of >=10%, situation becomes more bleak

When looking at ROI (where >=10% is consider a minimum return that we need), this confirms our analysis above. That is we need to build at least 6 apartments and hold construction costs to 30% – 40%.



# Botany Bay, Sydney and Marrickville are shown to be safer investment areas

When comparing Randwick to other Inner Ring suburbs, it does not stack up as a sensible investment proposition, when compared to suburbs such as Botany Bay, Marrickville and Sydney. With these 3 suburbs we have a higher margin of safety to allow for selling prices falling and construction costs rising. Our required ROI of at least 10% is met by building at least 6 strata units.



# For worse case scenario, only Sydney and Botany Bay meet the >=10% ROI

Let’s now assume a worse case scenario, where selling prices are off by 20% from current levels, and construction costs increase from 40% to 50% (due to an oversupply of Strata units and a shortage of skilled tradesmen).

The chance of making our 10% ROI is very slim given this situation, and we can see that we would need to build at least 8 apartments to make a 10% ROI (only at Botany Bay and Sydney). Everywhere else we will be losing money or making a very small profit.



# There are better and safer places than Randwick in Inner Ring

Based on the above analysis, we can see that there are safer places than Randwick in the Inner Ring (e.g. Botany Bay, Sydney and Marrickville).

Task 2 – Randwick vs Sydney vs Botany Bay

Given the scenario of purchasing 12 adjacent non-strata houses, we need to calculate what combination of apartments and floors provides the greatest Net Profit and ROI. We shall initially assume that costs will be at the lowest predicted level to give us the best chance to produce profit. Additionally we will compare Randwick to the best 2 performing suburbs from Task 1 report to see if we are better investing there under this scenario.

To optimise the ROI and Net Profit, we have used an Evolutionary model with input parameters of number apartments and number of floors. This finds the optimum combination by comparing the best output to other scenarios as the parameters are changed.

# At lowest percentage costs, Randwick is a money sinkhole

Based on this given scenario, we can see Randwick underperforms given the best case scenario. This suggests that we should not investigate Randwick any further, as if it can’t produce a profit in the best case scenario, it would be highly unlikely to produce a profit a profit under a worst case scenario. All we would be doing is throwing money away.



# Based on expected 10% drop in Strata prices, ROI falls below preferred 10% cap

As the economic situation deteriorates, the chance of making a decent ROI decreases significantly. While we can still make money, any additional costs or reduction in selling prices will put our investment at risk.



# When the economic situation deteriorates investment opportunity not profitable

By only increasing strata construction costs by an additional 10%, we go from making a profit to being in the red. Any other unforeseen additional costs would cause us to lose money.



# Stick to what we do best, it’s not worth the risk!

Our best advice is to continue developing on 1 or 2 non strata then tackling a large scaled development. Instead of putting all our eggs into one development, we would suggest multiple smaller developments to spread the risk.