MSIS 638

Case 2.2b

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1. Imagine you want to open a restaurant in the Boston area. Your two alternative locations are downtown Boston and downtown Quincy. You should develop a model to help you decide on the location.

The model I would use for this case is about KPI to determine which city has the potential market for business and additional customers. Also, to think of the rental fee and human resources cost and so on are important, so, the price would be a key factor.

1. What are the relevant parameters in this problem (e.g., tax rate, rent, demand)?

<Food cost, Operation cost, Labor cost>

Tax rate.

Rental fee and equipment fee.

Having a place to park the car or not.

Human resources and employee training.

Purchasing the materials

1. Estimate the value of each of the relevant parameters by searching over the internet (briefly describe how you estimated the value of each parameter).

For the tax rate in these areas. In Massachusetts,

Quincy = 6.25% of the total sales; Boston Downtown = 6.25% as the same value.

For rental fee and equipment fee, in Quincy the rent ranges from $23 per square foot to $32 per square foot.

In Boston, rents ranges from $40 per square foot to $28 per square foot. We assume that $ 3500 in Quincy per month and $ 5500 in Boston per month.

Equipment fee is around $25,000 to $30,000 in Quincy, for Boston Downtown, it might be slightly higher, around $35,000 to $40,000.

For parking lots, it would be cost around $ 400 in Boston Downtown, and around $ 180 in Quincy as monthly fee per lot. We assume each restaurant rent five parking lots.

Labor costs would depend on how the owner running the store, so I assume Boston and Quincy would be the same.

For the food and material cost, $3,500 per month in Boston Downtown and $ 2,500 per month in Quincy.

1. Develop a model to calculate the expected net profit in each month in each of these two locations.
2. Use your model to recommend one of these locations.

I would recommend Quincy as the restaurant location. For earning more profit than in Boston Downtown by comparing with the one-year sale.

1. Conduct sensitivity analysis on at least three important parameters by increasing and decreasing their value from their base value (remember to change the value of one parameter at a time).
2. What additional insights you can get from the sensitivity analysis?

We can find out that with different parameters, these restaurants revenue would be different. For sales, especially during the pandemic, the number must be floating drastically.