Problem Statement Worksheet (Hypothesis Formation)

Can Super Cue Café store yield more than 10% profit than previous year by implementing seasonal hours?

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1 Context

Boba joints are popular in the Bay Area. Super Cue would like to find out if implementing seasonal hours can help improve profit by 10% or more.
Null: All sales are due to chance, time is not a dependent variable for sales.
Alternative: Time can be used to predict sales, and thus the store should operate based on times that produce profit.

2 Criteria for success

Find out if time is a good variable to predict sales, if it is, a new store operation hours should be implemented before the schools start again, along with staff recommendation.

3 Scope of solution space

Use the 2016&2017 hourly sales data provided to find if time is a good variable to predict sales. If it is, provide the optimal open/close hours, and staffing. Note: for each $50 sales, only one staff member is needed, but at no time should the store have only one staff member working. If the hourly sales doesn't reach $40, the store will be losing money, and should be closed.

4 Constraints within solution space

-Since most of staff members are students, they would like to work 4~8 hour shifts only. So the staffing must be aware of the 4 hour minimum.

5 Stakeholders to provide key insight

Store Owner
Store Manager
Shift Supervisor

6 Key data sources

The store's hourly sales data – Clover (POS) system has analytic tool that may extract certain raw data to compose such data set, which will be the datasets I'll be using.

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