AGM Business Growth Recommendations

Prepared By Team CalTrain

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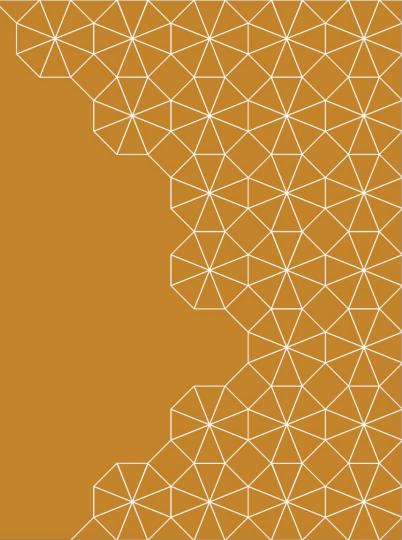
Agenda

- Background & Context
- Analysis
- Recommendations
  - Strategy
  - Infrastructure

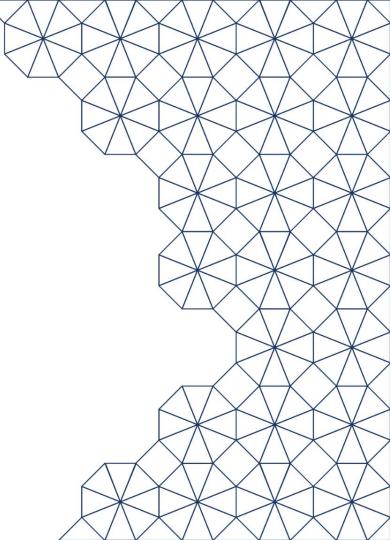# Background
& Context

Business Context

Berkeley is the highest grossing store in the AGM chain and has potential for expansion based on customer spread across the SF Bay Area.

Business Problem

We currently only offer food pickup at the Berkeley store location and we would like to understand the viable expansion options to increase sales

Key Expansion Objectives

✓ Do not disrupt current customer experience

✓ Introduce our products to low frequency and new customers

As a part of this analysis, we will explore the potential for expansion through the following delivery channels

- Adding more pickup locations
- Using public transportation to transport deliveries
- Using delivery drones
- Using delivery robots
- And/Or hybrid approach combining the above

Analysis &
Strategy For Expansion

The AGM Berkeley store drove $25M in revenue in 2020 with average spend per order of $64
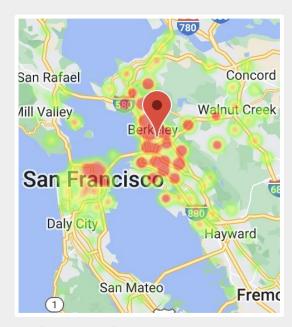
- Total Sales: $25M
- Customer Count: 8.1K
- Orders: 390K

Majority of the customers were concentrated in the zip codes around the Berkeley store or in San Francisco; and customers drove an average of 7.5 miles to pick up their orders.

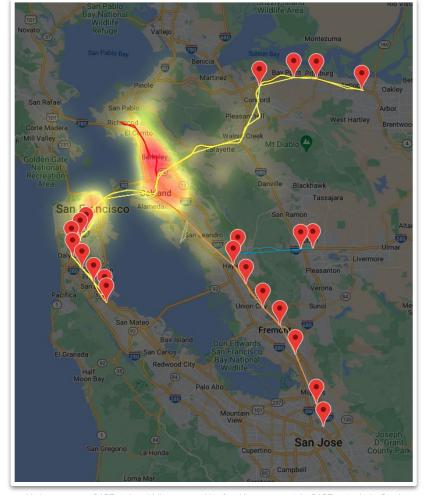**AGM Berkeley Store Location & Service Area**

- *Marker represents store location*
- *Heatmap represents density of paying customers*

To expand our business, we specifically need to reach a broader customer base than who we are currently serving.

A cost effective way to reach a broader audience is to capitalize on Bay Area public infrastructures such as BART, coupled with new delivery options such as drones or robots.

A quick overlay of the BART lines showcases the potential service areas that can be reached via the BART routes. *(map on the right).*
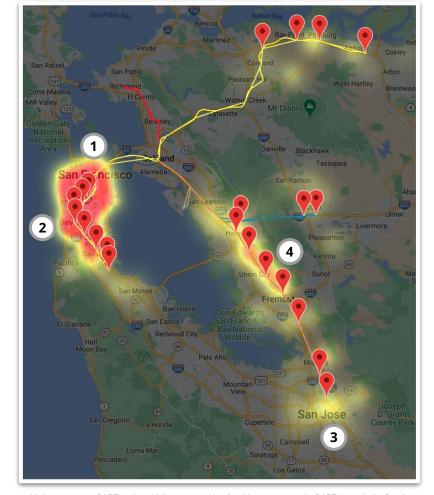

- *Markers represent BART stations; Yellow, orange, blue & red lines represent the BART routes in the Bay Area*
- *Heatmap represents density of customers for the Berkeley store*

We also evaluated all the zip codes along the BART route and identified areas where we have **at least 75%** new target customers within an 8 mile radius.

Based on the above methodology, our target areas for new customers are concentrated near the following cities *(map on the right)*

1. San Francisco
2. Daly City
3. South Bay/San Jose
4. Union City/Fremont

- Markers represent BART stations; Yellow, orange, blue & red lines represent the BART routes in the Bay Area
- Heatmap represents potential new customers for the Berkeley store

Of the four locations identified, we recommend the following cities for the POC along with the proposed delivery strategies

Daly City (A)
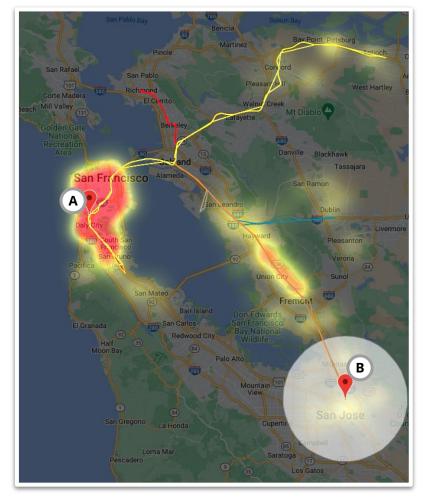We recommend setting up a **pick up** location in Daly City
- A delivery person will pick up orders from the Berkeley store and commute ~40 minutes to the pop up location near the Daly City station.
- Both Daly City and San Francisco are heavily populated cities with a large target overlap. Setting up a pick up location in Daly City will enable us to tap into both markets *(SF - density 18.6k/mi^2; Daly City - density 13.6k/mi^2)*
- We should also set up marketing banners in front of the terminal to increase brand awareness

San Jose (B)
We recommend a **combination** of delivery person and drone for San Jose
- With a density of 5.6k/mi^2, San Jose is a viable option to test drone deliveries
- A delivery person will pick up orders and commute ~2hrs to San Jose, after which a delivery drone can fly out within a radius of 8 miles to deliver under ~7 minutes
- Due to the high cost of the drone operations, we recommend limiting the number of orders for San Jose to 20 per day

Please note that at this time, our team **does not** recommend testing delivery robots due to limitations of viable routes

- *Markers represent the recommended cities for POC*
- *The circles represent the target customer area for the POC within an 8 mile radius of the BART station*

Revenue Analysis

Based on our recommendations, we estimate an increase in AGM net income ranging between $333k to $580k for the duration of the POC

Number of target customers: 2,290,367
Key Assumptions:
- ~.2% base penetration of customers similar to current customer penetration across Berkeley service zip codes
- Currently the average customers makes 4.13 purchases a month with 5 meals per order
- The POC will be run for 30 days
- Revenue = target customers * penetration * 12 * 5 * 4.13

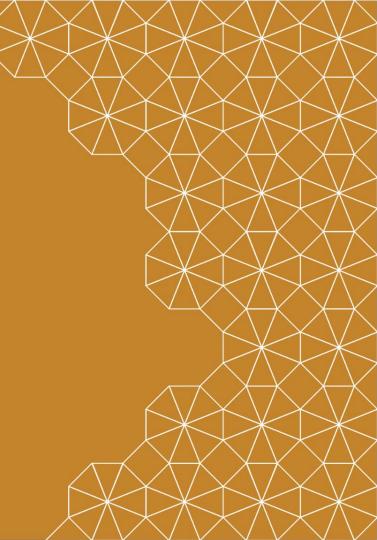|	Unit Value	Base Scenario .2% Customer Penetration	Bear Scenario .15% Customer Penetration	Bull Scenario .25% Customer Penetration
Income (+) Meal Sales	$12 per meal, 5 meals per order	$1.13mm	$850k	$1.41mm
Expenses (-)				
Fixed Expense -Drones -Marketing Ads -Drop Location Infrastructure	-$20k -$10k -$100k ($212/sq foot for drone warehouse + lockers)	(-) $130k	(-) $130k	(-) $130k
Variable Expense -BART tickets -Delivery Salary -Electricity	-$30 round trip (both routes) for 30 days -$150/day each for 6 delivery people -$1k	(-) $29.8k	(-) $29.8k	(-) $29.8k
Net Income		**$970.2k**	**$690.2k**	**$1.25mm**

Infrastructure Considerations

The POC success is also dependant on the right infrastructure which allows us to be nimble, cost effective and scalable

Requirements for POC	SQL Database *(Tables, rows, columns)*	Neo4j *(nodes & edges)*	MongoDB *(Binary JSON)*	Redis *(in-memory storage)*
Flexibility *Ability to maintain relationships between stations, transit times, flying time etc.*	Requires pre determinations of schema and relationships (keys)	Relationships can be defined on the go and assigned weights	Adding new columns or fields are easy	Ability to store key-values which makes it flexible
Expansion *Ability to add more data as we explore innovative solutions*	Strict schema	Schema-less	Dynamic schema	No
Performance	Multiple, recursive joins can make it slow	Complex queries run quickly; no joins required	High performing for simple queries	Extremely fast due to in-memory caching
Scalability	Does not scale quickly; expensive	Highly scalable	Scalable	Yes, expensive
Upfront Cost	High upfront cost; fixed DBA	Low upfront cost; usage based - variable	Cost of transforming json data to enable all above	High upfront cost; Probability of complete data loss due to server crashes
Best Use Case	BI Reporting for success of POC	Recommending new site locations based on performance	BI Reporting Scalable schema for adding new relationships based	Real time drone tracking and analytics
Recommended for POC?		✔	✔	

Thank You

Q&A

The Team

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