



# OPTIMIZE PRODUCTION CAPACITY TO MAXIMIZE ORDER FULFILLMENT

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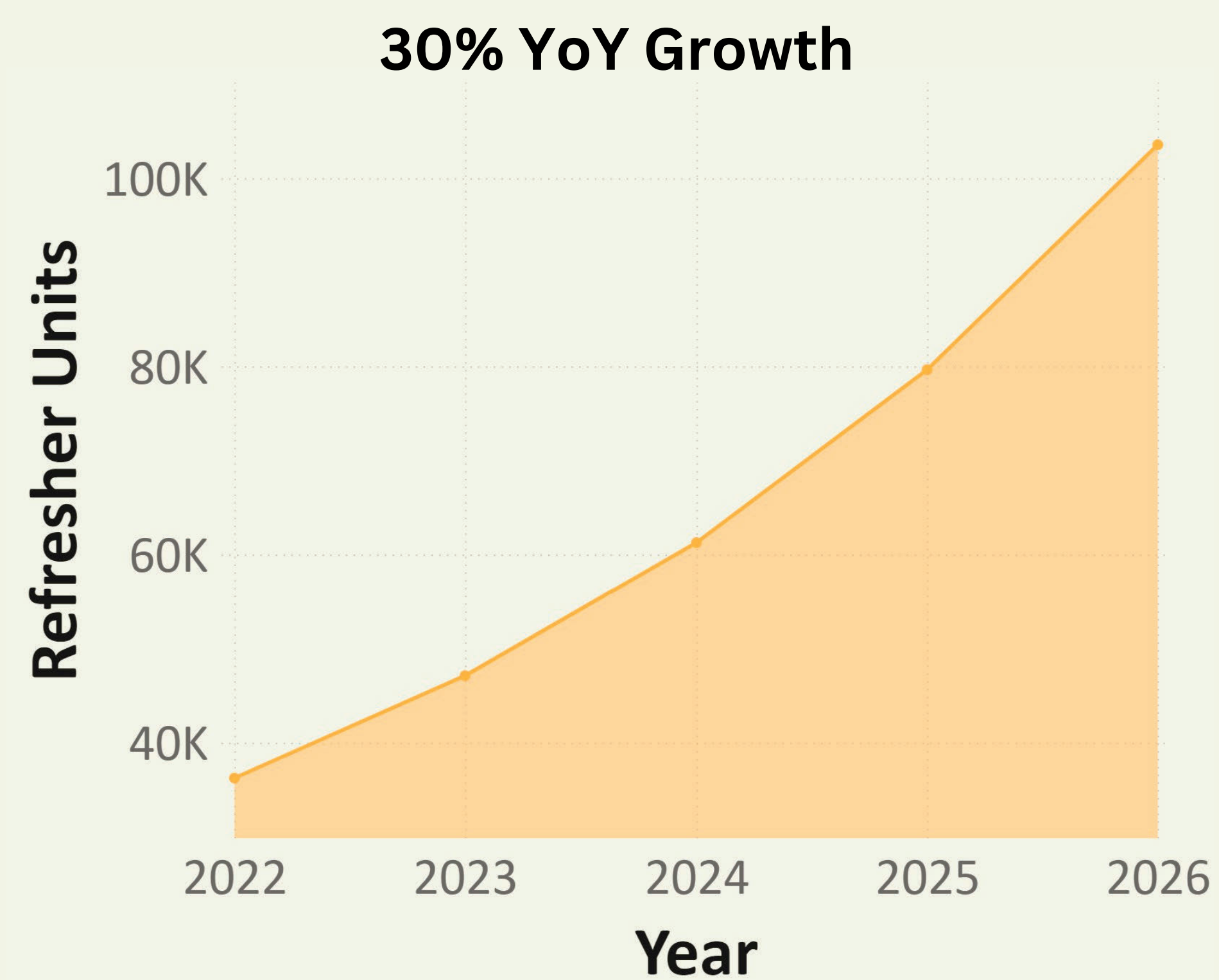
Special Thanks to our Sponsors & Advisors: Allison Martz, Charles Griffiths, Dr. Patty Buchanan, and Michelle Song



## OVERVIEW

**Problem:** How will the introduction of an automatic Refresher machine address the growth of Refreshers?

**Goal:** To analyze **30% YoY** Refresher growth to find an **optimal capacity** for the new Refresher machine



**Optimal Capacity:** The ideal volume that meets the demand, minimizes waste, and reduces workload

## DATA COLLECTION

Refresher Build Process	Specific Flavor Sales	All Beverage Units Sold by Store
Refresher Units Sold	Revenue Tiers Stores	Tryer Center

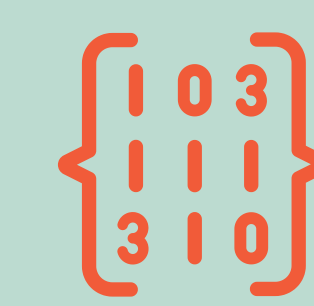
## DATA ANALYSIS



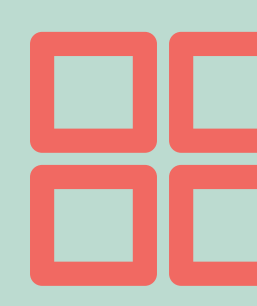
Grouped 8800+ stores by **revenue** into tiers



Projected **daily usage** by Refresher base

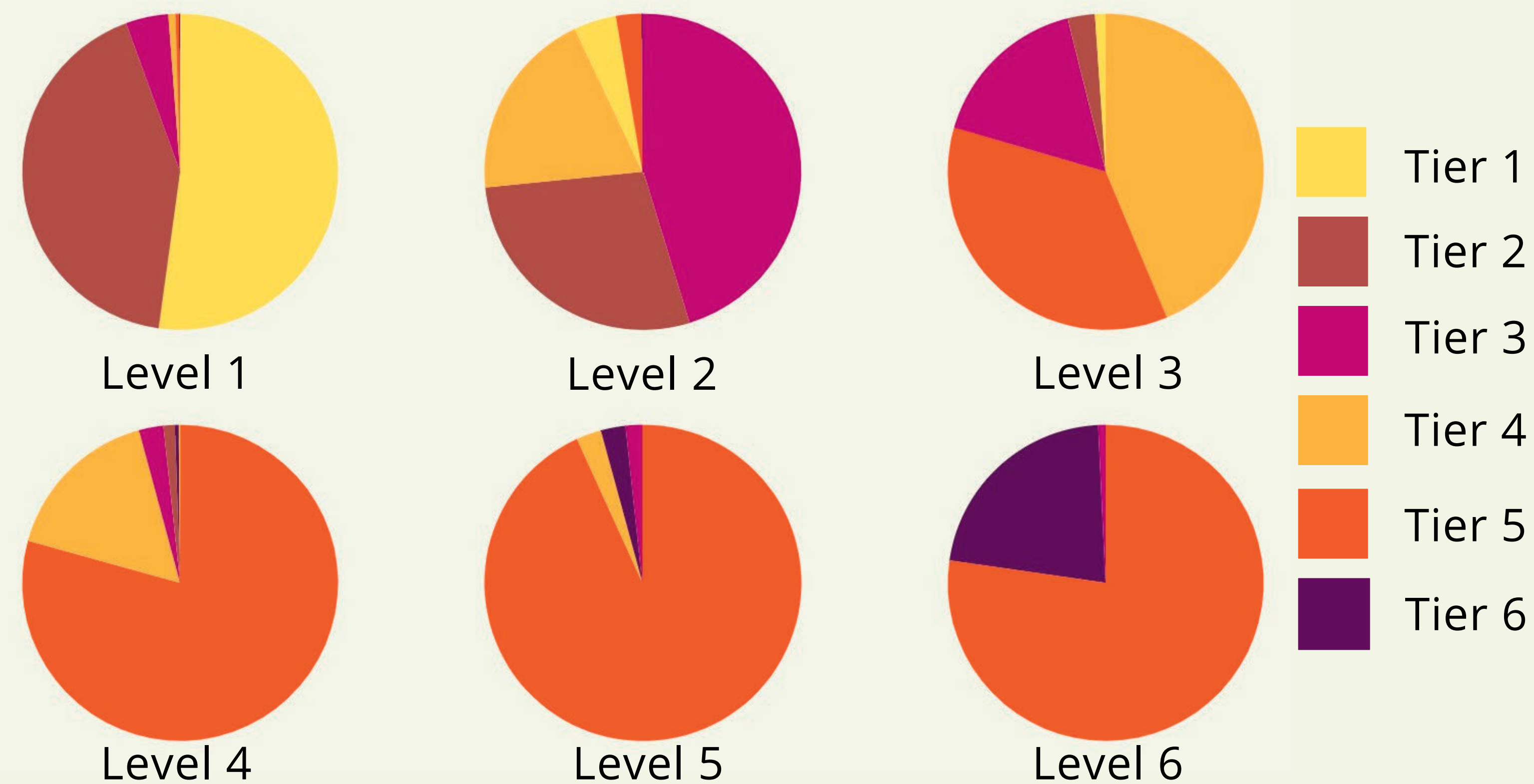


Calculated **Optimal Capacity** using linear programming



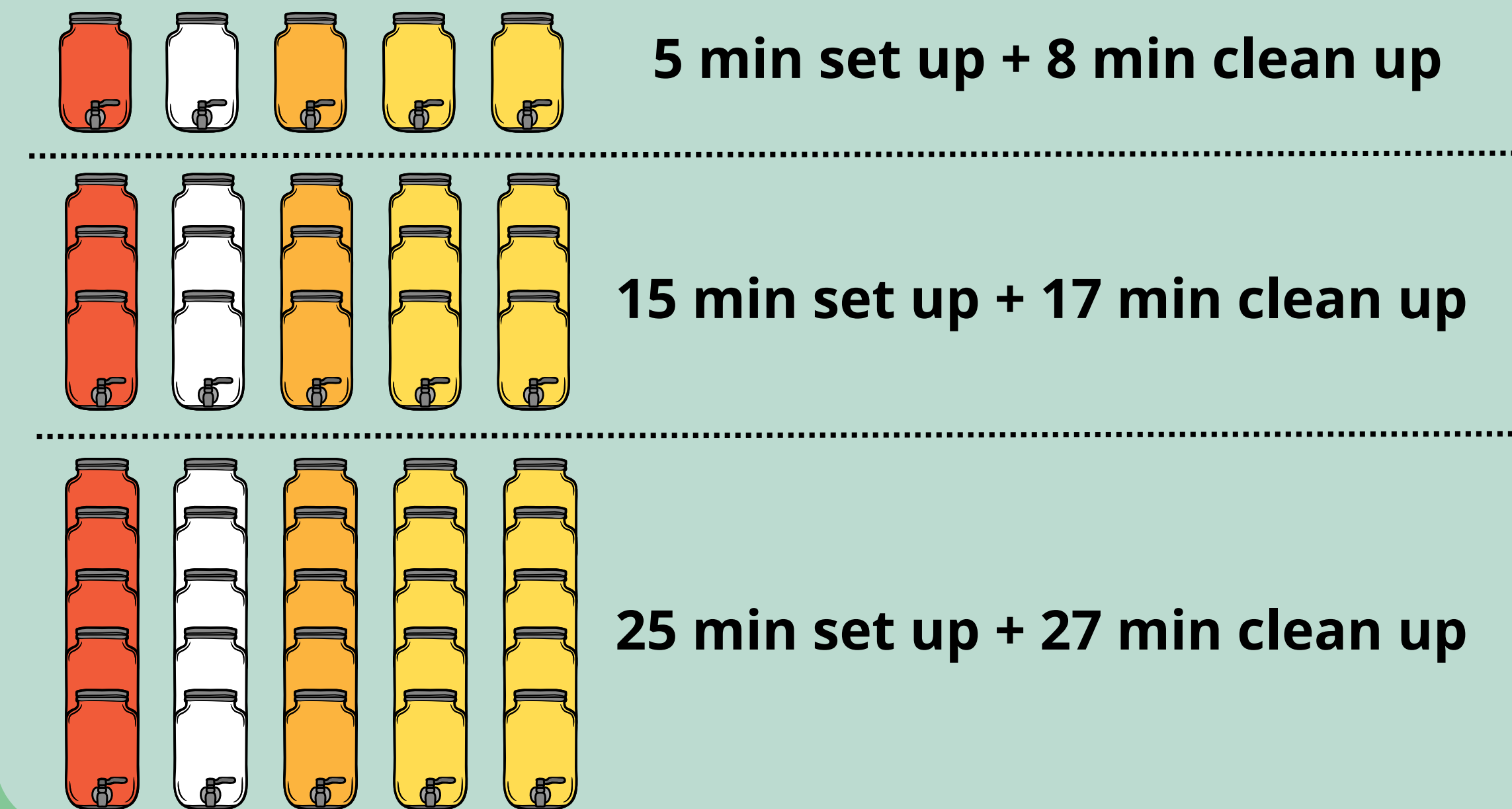
Sorted tiers by number of **Refresher Units** sold annually

## Refresher Levels

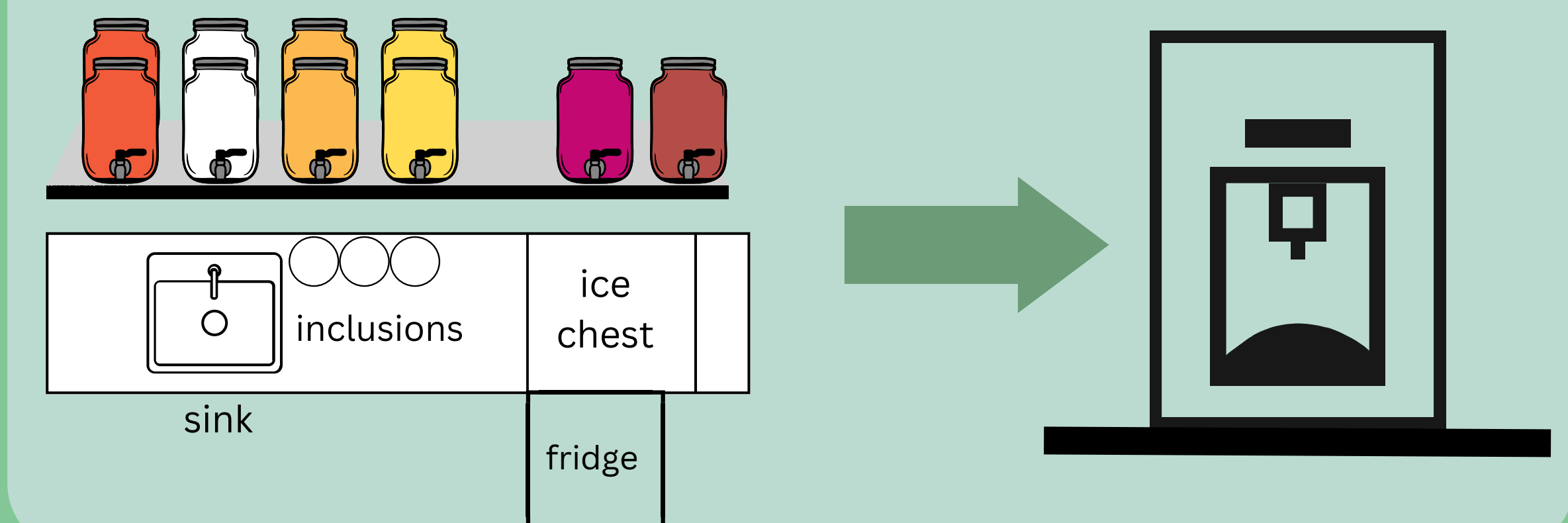


## IMPACT

### Labor Savings



### Ergonomics



### Waste



**\$0.31 revenue** lost per drink

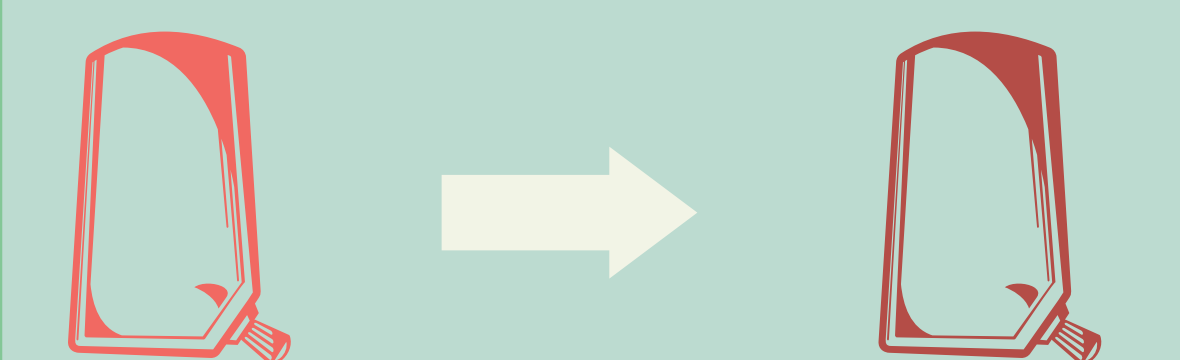


Additional Information

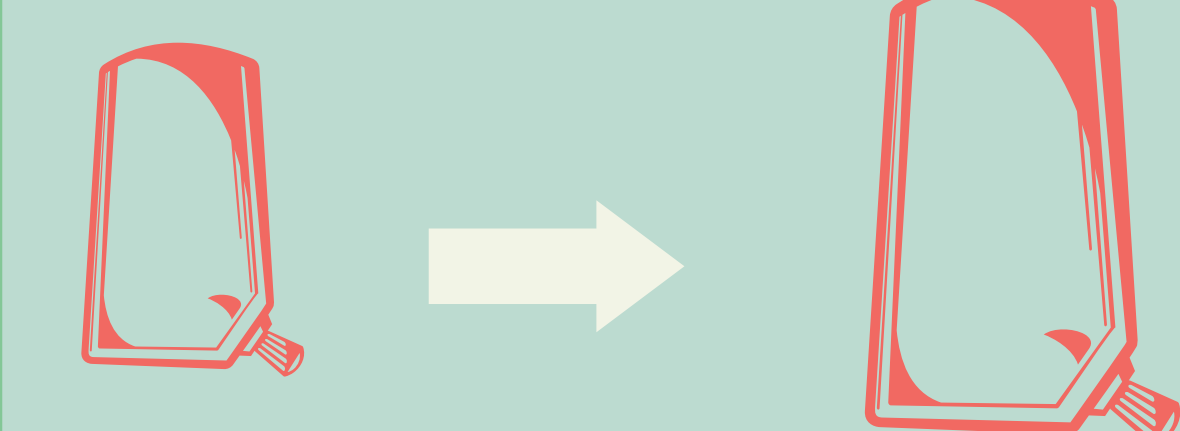
## RECOMMENDATIONS

For stores in Tiers 5 and above exceeding Level 3 demand, we recommend:

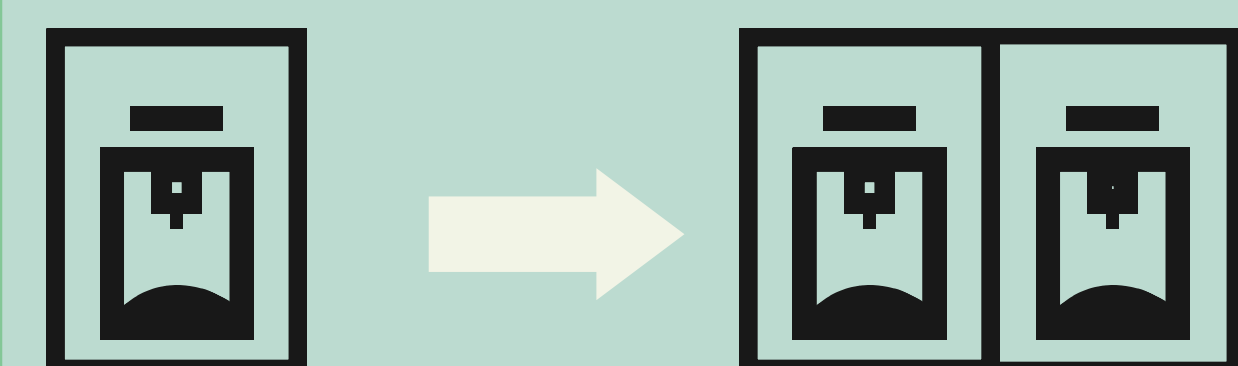
Increase **concentrate** to meet a 24L demand



Increase **bag size** from 3L to 6L



Add an **additional machine** for high volume flavors



## CURRENT STATE

- 18 Steps
- 2L of Capacity
- Up to 30 Refills
- 1 oz. Waste

## FUTURE STATE

- 8 Steps
- 12L of Capacity
- 1-5 Refills
- Precise Dispense

## RESULTS

**12L** capacity is sufficient for most stores

**Tier 4** and below will be satisfied with 12L

**60K** units of Refreshers is the cutoff mark

**Tier 5** and above could exceed 12L