

Homework 4
MSBA 6410
Group 3

Jordan Boonstra
Deeksha Jha
Henrik Kowalkowski
Mao Mao
Prassana Rajendran
Madhur Toshniwal

Introduction

Central Perk (CP) wants to leverage their transactions data to gain a better understanding of their customer base to normalize demand and generate additional revenue. To approach this problem we have explored sales trends at an hourly, weekly, and seasonal level, while also identifying distinct customer segments based on purchasing patterns. Central Perk holds that more value exists in their current member base rather than in marketing to non-members. We validated this assumption using a statistical test of means which indicated that CP's members were more valuable on a per transaction basis. With this in mind, we have formulated recommendations for Central Perk that center around two main areas:

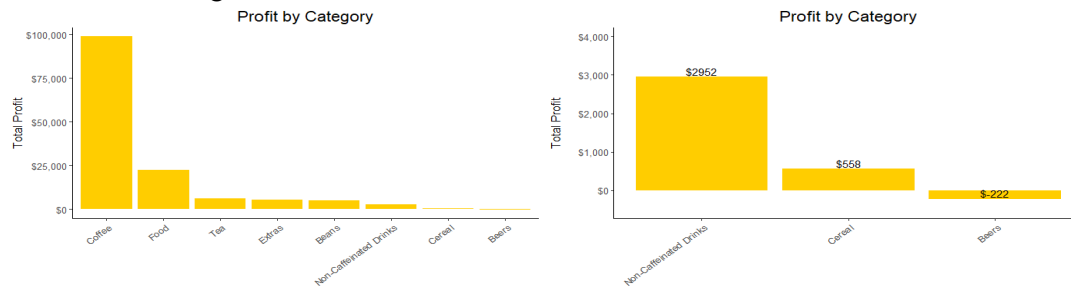
1. **Refining CP's brand as a coffee shop through an adjustment of current offerings**
2. **Normalizing demand over time with promotions that strategically target CP members**

By adjusting their offerings to fit their coffee shop brand and creating promotions to cater to the interests of their current members, CP can draw more value from its "friends" without alienating them.

Central Perk Brand Image

To increase revenue from CP's existing customer base, we recommend that Central Perk refines their coffee shop brand image via two main strategies:

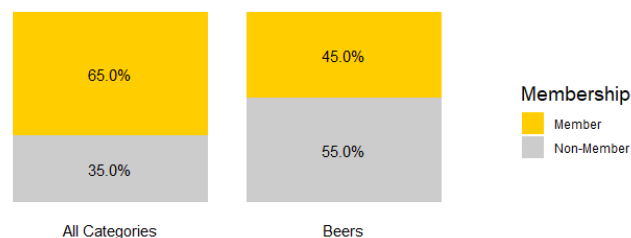
1. Lowering the price of beans by 10% to increase purchase frequency
2. Removing beer from the menu



Above is the distribution of profits across all categories during the observed time period. Coffee is a clear favorite of Central Perk customers, accounting for 70% of all profits. While coffee sales have been significant, coffee beans have only accounted for 3% of all profits. This is a noticeable difference, as coffee and coffee beans are relatively similar products. Aside from coffee products, beer has yielded the worst performance among all categories, resulting in a net loss of \$222 over the last 3 years. Notably, beer sales require an in-store beer sales license, which is \$1,060 in New York City for three years (<https://www.sla.ny.gov/system/files>). Thus, beer may not be an optimal fit with CP's coffee shop image since customers do not seem to regard CP as a 'beer place'.

Only ~45% of beer transactions were made by CP members, which was the lowest proportion across the observed categories. Given this information, we think that removing beer from the menu would improve CP's financial standing, without alienating their current customer base.

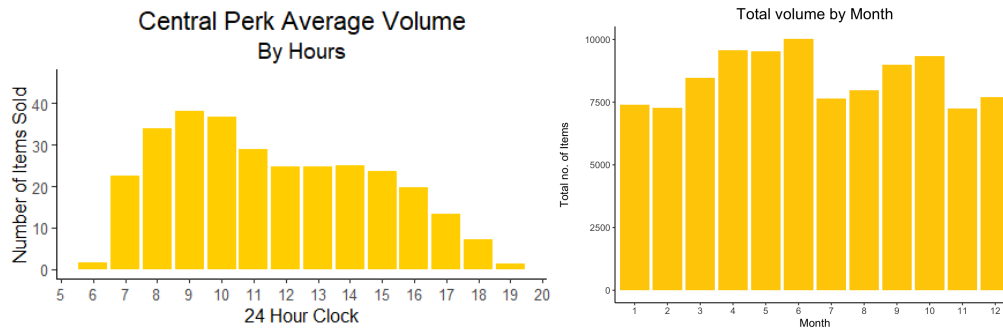
Percentage of Total Transactions



Coffee beans sales are not where we would expect. Beans sales account for 3% of the current profit volume, yet ~74% of coffee bean purchases are made by CP members. This conveys that there is interest in coffee beans from the existing customer base, but they are hesitant to purchase it. We suggest testing a 10% price reduction on all coffee beans to explore the response in sales. This would allow for

coffee beans to remain profitable, given CP's 20% margin assumption, while potentially increasing the volume of beans sales.

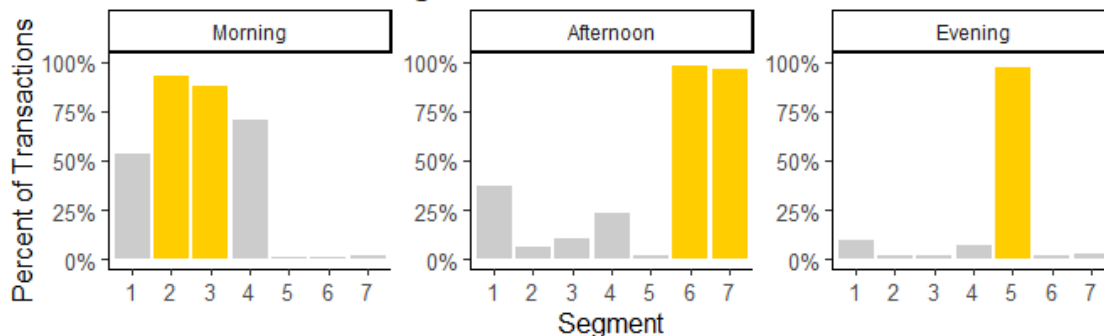
Normalizing Demand



The charts above display CP's transactions at an hourly and monthly level. We see that transactions tend to peak in the morning and taper off throughout the day. The peak season for Central Perk is from March-October. To smoothen these irregularities we have three main recommendations:

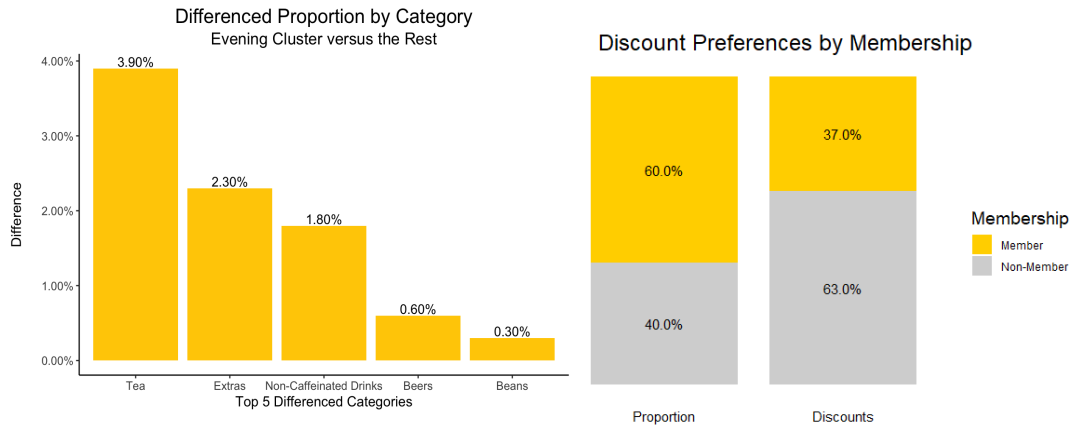
1. Creation of a CP, "Lunch Punch", punch card for increased afternoon transactions and seasonal smoothing
2. 15% discount on tea/non-caFFEinated beverages in the evenings
3. Multi-item promotion for CP's "Best Friends" during the afternoon/evening

Segment Time Characteristics

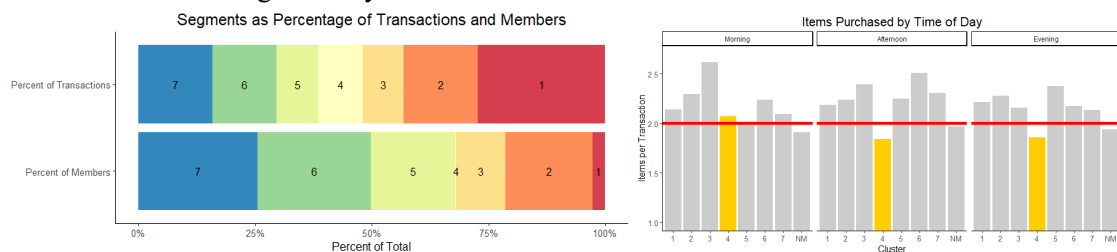


To approach normalizing demand, we have categorized CP members into 7 segments showing distinct behavior. One of these behavioral characteristics (time of visit) is shown in the chart above. We observed that only segments 1 and 4 have visited CP more than 10 times over the observed period. This shows that there is room to improve the frequency of transactions for most members.

To improve afternoon sales, we should focus on increasing the frequency of segments 6 and 7, which are comprised of members that almost exclusively visit in the afternoon. To improve their frequency, we suggest implementing the aforementioned "Lunch Punch" punch card for food items that are valid between 11am-4pm any day to increase afternoon transactions. During the months of November-February, the "Lunch Punch" card would have a "buy 5 food items get 1 free" policy so that the sales would increase during the slowest season, while not losing profits on the free food item. During the peak season of March-October, we suggest increasing the promotion to 7 food items so that Central Perk may increase afternoon transactions while retaining a higher margin on food items during the afternoon.



To improve on evening sales, we suggest catering to the preferences of members in segment 5, which have the most transactions during the evening. Specifically, we suggest providing a 15% off sale for tea and non-caffeinated drinks in the evening. These products are a favorite of the evening visitors, of which there are not many, and promoting evening purchases of tea and non-caffeinated drinks would increase the overall frequency of evening customers while retaining the profitability of the products. Additionally, from the above chart, we know that Non-Members are attracted to discounts in the evening than members. This means that discounts on Tea/Non-Caffeinated items in the evening hours are likely to attract Non-Members more during evenings. Additional sales during the evenings would lead to normalization of demand through the day.



Our final recommendation aims to normalize customer demand by targeting CP's most loyal customers, or "Best Friends" - represented by segment 4 in the chart above. They represent 0.18% of the member population but contribute to ~10% of member transactions.

We also see that segment 4 averages < 2 items per transaction in the afternoon and evening where other segments generally buy more than 2 items. We think that offering a discount on a second or third item for members in segment 4 during the afternoon and evening hours would enable them to buy more items per transaction and get accustomed to the behavior. These are very few members, but since they are individually responsible for a disproportionately large number of transactions, we think this promotion is likely to make a material impact on sales in the period when we generally experience lower demand.

Conclusion

We believe that Central Perk can improve its financial standing with its existing customer base while smoothing demand by refining their brand image to a more coffee-centric focus, and by utilizing promotions that cater to the demands of this base. Removing beer from the menu, and implementing a slight reduction in coffee bean prices would hone the menu to cater to their loyal members while allowing for closer alignment with their coffee shop image. Additionally, we have identified distinct segments of the member base, which gives an overall understanding of its customer behavior. Implementing promotions such as the "Lunch Punch" punch card, evening discounts on selected items, and personalized

combo discounts for the “Best Friends” may increase the volume of transactions during non-peak periods, while retaining positive returns on overall profits.

Executive Summary

Refining the Brand

- Remove Beer **Jordan**
 - So many discounts we have a negative margin
 - Talk about liquor license, regulatory cost (1 sentence)
- Reduce Bean Prices - **Prasanna**
 - Market ourselves as a more coffee centric location
 - Reducing the price will grow our revenues since this is our highest absolute margin product

Smoothing

- Lunch Punch (members only)
 - When food is purchased you get punched
 - Seasonal Punch - number changes based on Summer/Winter **Deeksha**
 - Summer: 7
 - Winter: 5
- Cluster Specific
 - Tea and Non-Caffeinated sales in the evenings
 - Attracts more evening members, externality of non-members **Prasanna/Jordan**
 - Get cluster 4 to purchase 2 items when they ordinarily would not
 - Afternoon and evening
 - We target Cluster 4 members with items/transaction < 2 with a 15% discount on the second item. This way we grow our revenues without the potential to lose money. This is only in effect during the afternoon and evening hours. **Madhur**