Background:

Central Perk hired us as data consultants for their boutique coffee shop located in New York City. Central Perk management believes that their customer base in fairly loyal and that business has been consistent year over year. We have been tasked with finding recommendations that would allow Central Perk to generate more revenue from the existing customer base. Over the last 3 years, Central Perk has generated over $700,000 in revenues and served over 30,000 unique customers.

Business Questions/Goals:

1) Identify methods Central Perk can implement to increase revenues from the existing customer base without alienating customers or risking a decrease in total revenues.

2) Provide recommendations Central Perk can use to reduce variation in sales over time (day/week/season).

Key Recommendations:

Central Perk should introduce a loyalty program that rewards repeat customers with incentives to have them continue to come back. In addition, this program could tip "maybe" repeat customers into becoming definite repeat customers.

Central Perk should implement a "happy hour" during the weekdays from 4pm to 6pm. This will normalize sales throughout the day and increase weekday sales to normalize on a weekly basis.

Central Perk should offer deals during the summer months on iced coffee drinks. The ice coffee drinks in the summer will give that season the boost it needs to come in line with the rest of the year.

Central Perk should introduce a medium drink size. Sales for small sizes are by far the highest, but there are enough purchases of large drinks that we know the demand for bigger drinks is there. By introducing a medium, Central Perk can grow revenues from customers who would purchase a medium at a higher price, but not marginalize customers who still want to purchase a large.

Analyses Conducted:

First, we wanted to better understand Central Perk's customer base. We analyzed the loyalty of customers and the purchasing trends by day, week, and season.
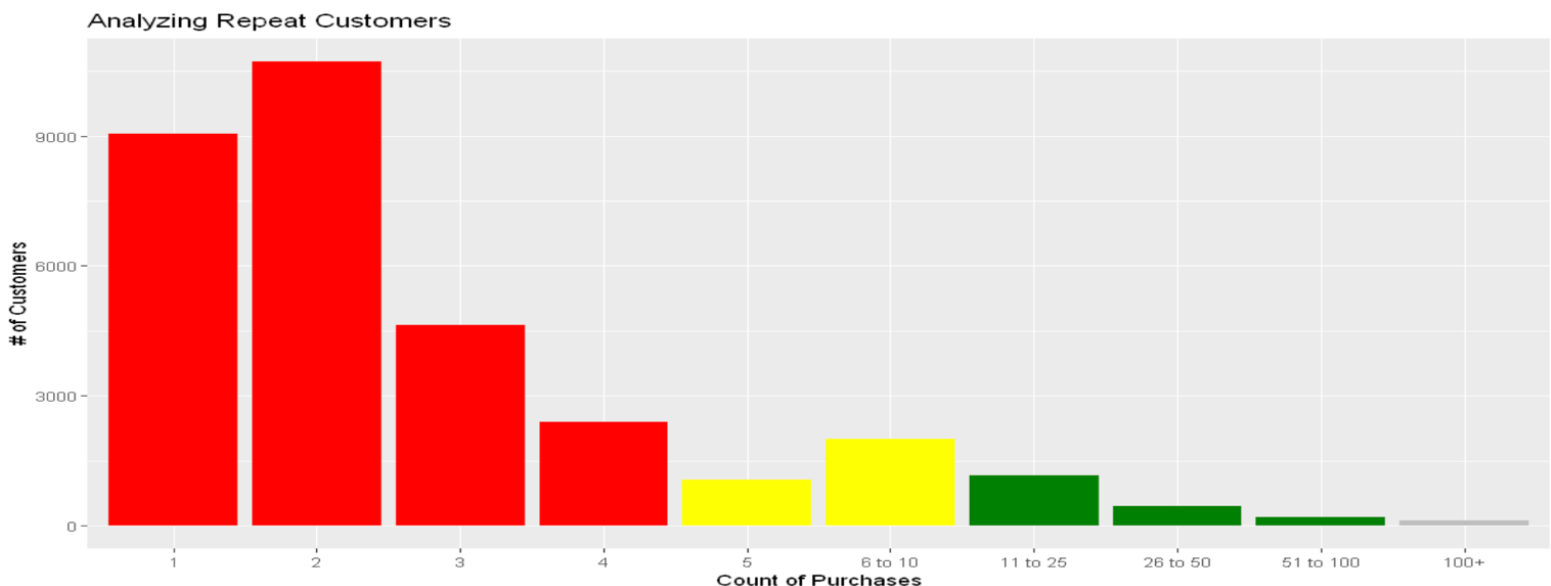
When we look at the graphic above, we see that contrary to Central Perk's management team claim about having a loyal customer base, most customers are not regulars. We defined regulars in this case as any customer who has made 10+ purchases at Central Perk in the last 3 years, which is a generous assumption.

Total Count of Purchases by Day of Week

Total Count of Purchases by Time of Day
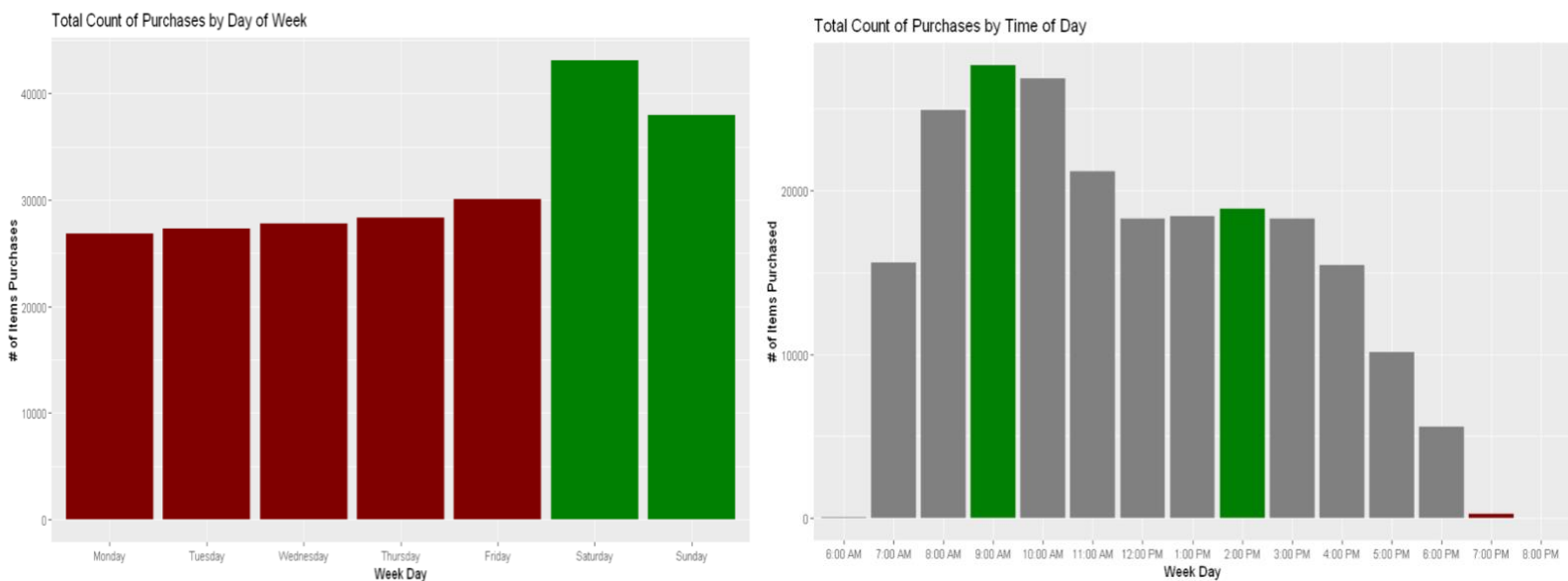
When we look at the total data on a weekly and daily sales, it is clear that sales are highest on the weekends, and that there are two "peaks," one in the morning around 9:00 am and one in the afternoon around 2:00 pm. However, it should be noted that when analyzing sales by hour, it is dependent by day. The weekends were more normalized, and the weekdays had 2 distinct peaks. This insight shows us that there is opportunity to smooth sales over time so Central Perk can operate in a more efficient manner.


Total Net Sales by Month and Year
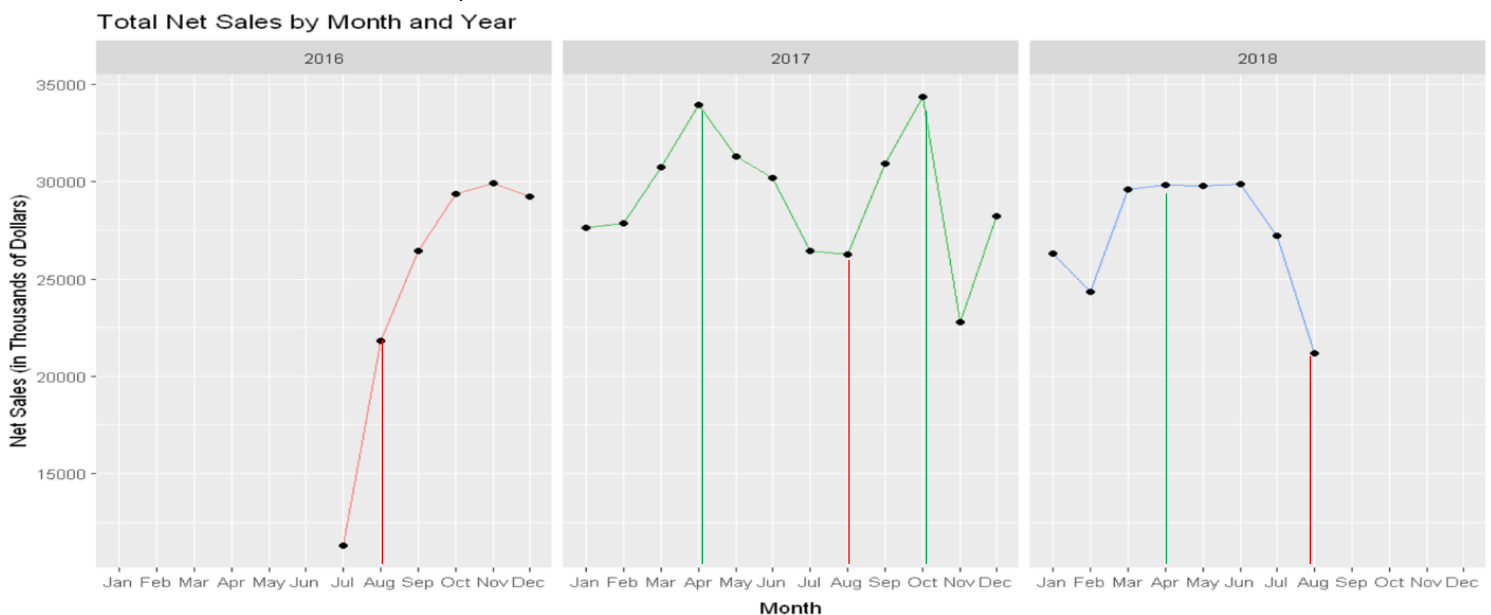
When looking at sales year over year, we see high points in April and October and a low point in August. This generally shows us sales are higher in the cold months and lower in the warm months, which makes sense for a coffee shop. However, there is an industry trend with iced coffee drinks being major revenue boosters. Central Perk should market more iced coffee drinks during the summer months to boost sales (Haddon, 2019).

Haddon, H. (2019). *Starbucks Gets a Lift From Iced Coffee. WSJ.* Retrieved 1 November 2019, from

https://www.wsj.com/articles/starbucks-posts-higher-profit-as-u-s-sales-strengthen-11572466893

Total Gross by Item and Year

2016
- Drip SM — $24,728.00
- Latte SM — $20,888.50
- Cappucino — $16,619.75
- Drip LG — $10,563.50
- Croissant — $9,075.00
- Donut — $8,579.00
- Americano — $6,827.25
- Cortado — $6,655.50
- Latte LG — $6,925.25
- Tea SM
- Espresso — $3,920.50

2017
- Drip SM — $60,982.9
- Latte SM — $48,099.75
- Cappucino — $39,909.90
- Drip LG — $24,894.34
- Croissant — $21,306.94
- Donut — $19,169.30
- Americano — $18,672.07
- Cortado — $16,110.80
- Latte LG — $13,592.90
- Tea SM — $9,241.10
- Espresso

2018
- Drip SM — $38,689.68
- Latte SM — $29,694.70
- Cappucino — $22,795.50
- Drip LG — $14,675.04
- Croissant — $12,841.33
- Donut — $10,338.39
- Americano — $12,574.10
- Cortado — $9,001.20
- Latte LG — $8,600.15
- Tea SM — $6,327.30
- Espresso

Next, as demonstrated by the graphs on the right that show top selling items by year, **small** sized drinks are the clear top seller. However, **large** drinks also make it into the top sold items.

By having a medium sized drink that is priced in between the two, we believe there will be a conversion of some small drink purchasers to the medium while large drink purchasers will continue to buy the large drink. This will increase revenues without adding any major expense.
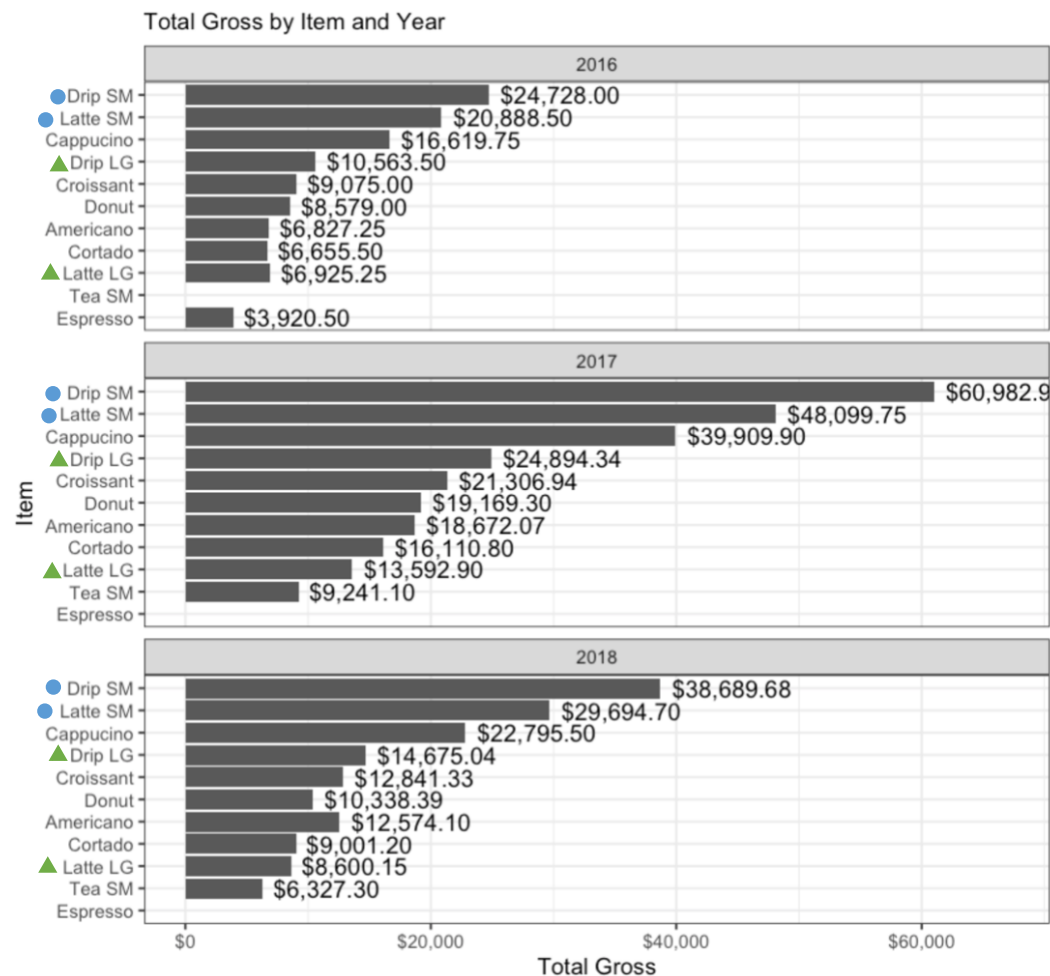
Key Insights:
- Most Central Perk customers are NOT regulars
- Sales are lower in the afternoon/early-evening
- Sales are lower on the weekdays
- Sales dip in summer
- Small drinks make up a majority of sales, but there is still a demand for larger drink sizes

Conclusions:

Following our exploration of Central Perk's data, our data science team recommends that Central Perk's management team follow our recommendations to introduce a loyalty rewards program, implement "happy hour" during weekdays, increase marketing and offer deals on iced coffee drinks in the summer, and introduce a medium beverage size. If Central Perk follows these recommendations, we believe the volume will be smoother on a daily, weekly, and seasonal basis which will create for more efficient operations.

Additionally, adding a medium sized beverage offering could potentially lead to increased revenues by providing customers with another option. This would meet the needs set forth by the management team at Central Perk and allow any existing and new customer to feel like "friends" of the coffee shop.

Assumptions:
- The low volume of sales at the start of July 2016 was due to the store recently opening.
- We made an approximation that any customer with more than ten visits in the last three years is a "regular." This may be too generous of an approximation and could have inflated our count of regulars.
- The addition of a medium sized drink to the menu will add little overhead and will not result in customers switching from "large" to "medium."