Take Home Challenge

Performance evaluation of marketing campaign & key learnings

Dylan Lee
February 2020

1. Summary of Campaign Results Total Orders

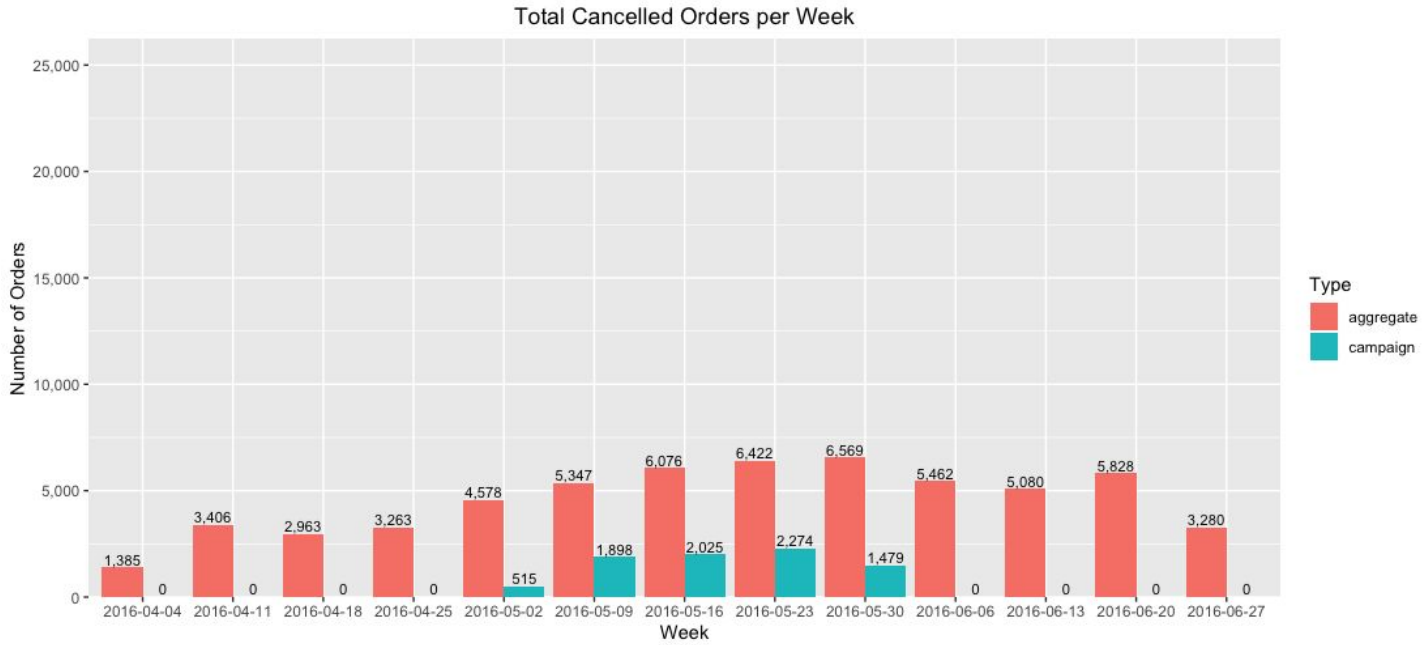
	Total Orders Placed	Total Orders Completed	Total Orders Cancelled
Campaign	38,684	30,493	8,191
Regular	179,197	127,729	51,468
Total	217,881	158,222	59,659

1. Summary of Campaign Results Completed Orders

	Total Orders Placed	Total Orders Completed	Total Orders Cancelled
Campaign	38,684	30,493	8,191
Regular	179,197	127,729	51,468
Total	217,881	158,222	59,659

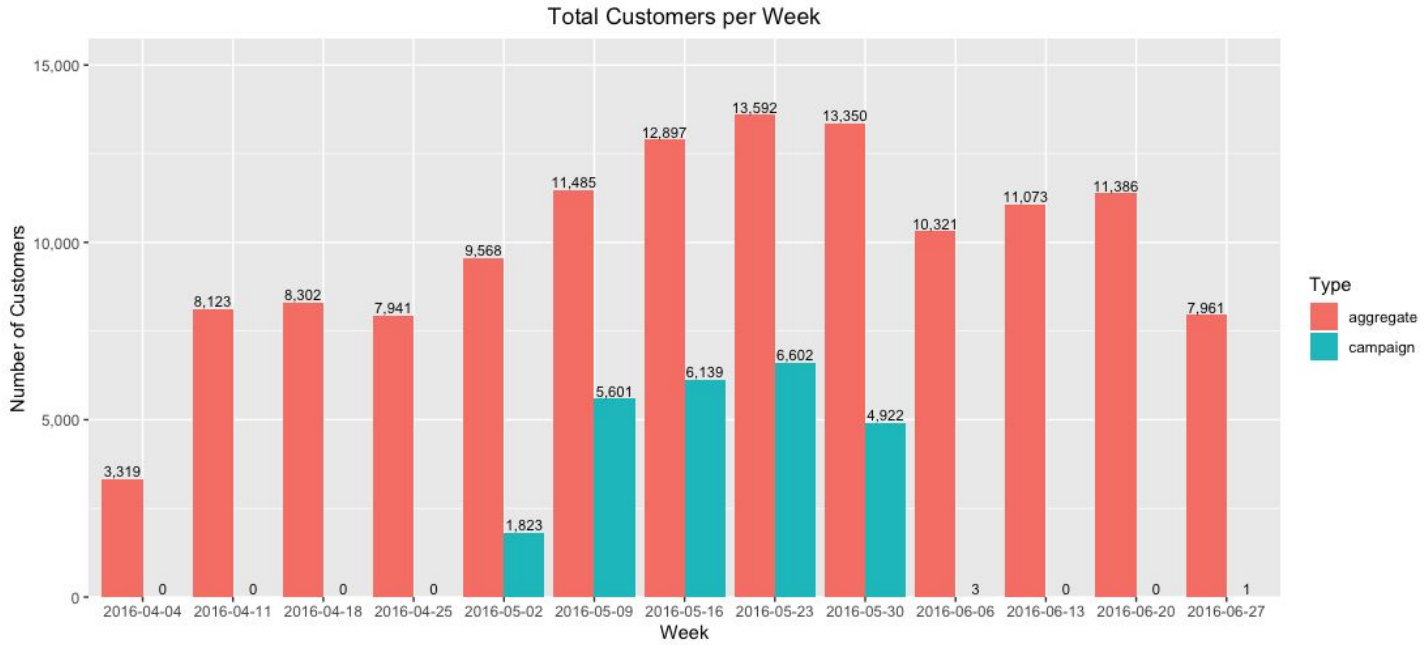
1. Summary of Campaign Results Cancelled Orders

	Total Orders Placed	Total Orders Completed	Total Orders Cancelled
Campaign	38,684	30,493	8,191
Regular	179,197	127,729	51,468
Total	217,881	158,222	59,659



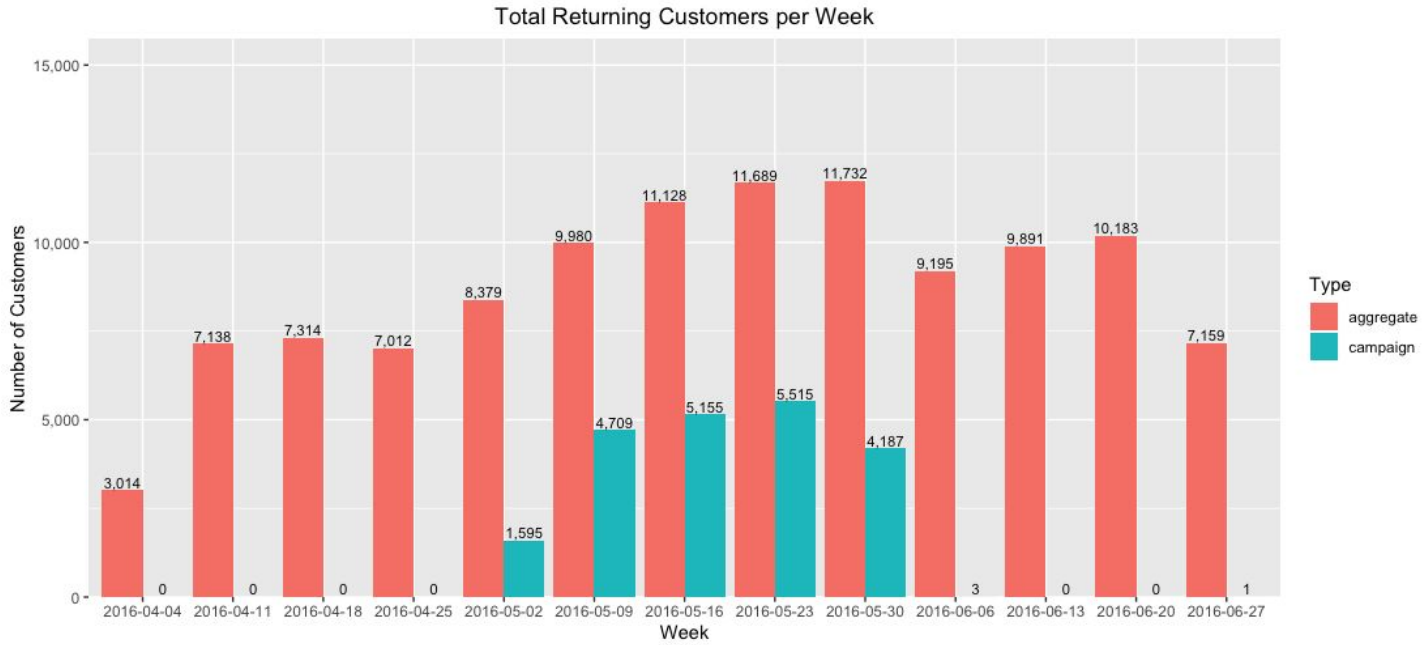
1. Summary of Campaign Results
Total Customers

	Total Customers	Total New Customers
Campaign	17,238	4,988
Regular	50,991	15,361
Total	57,619	20,349



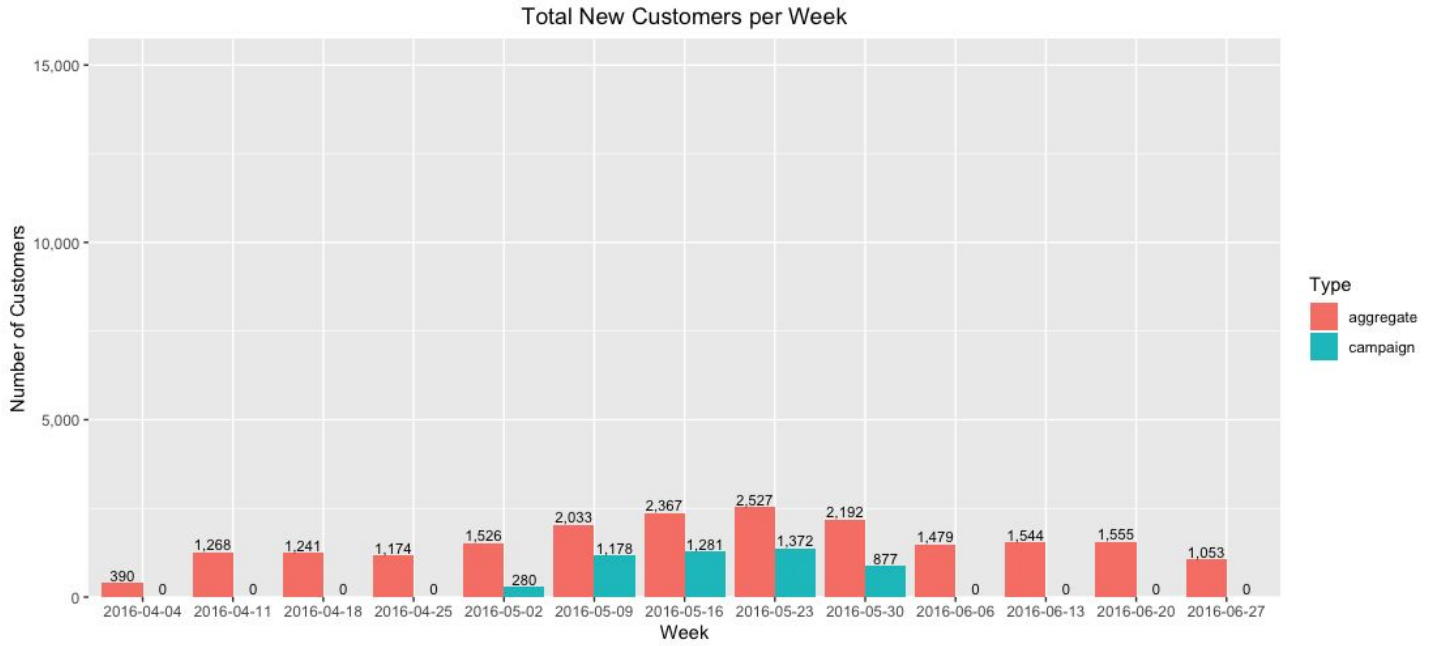
1. Summary of Campaign Results Returning Customers

	Total Customers	Total New Customers
Campaign	17,238	4,988
Regular	50,991	15,361
Total	57,619	20,349



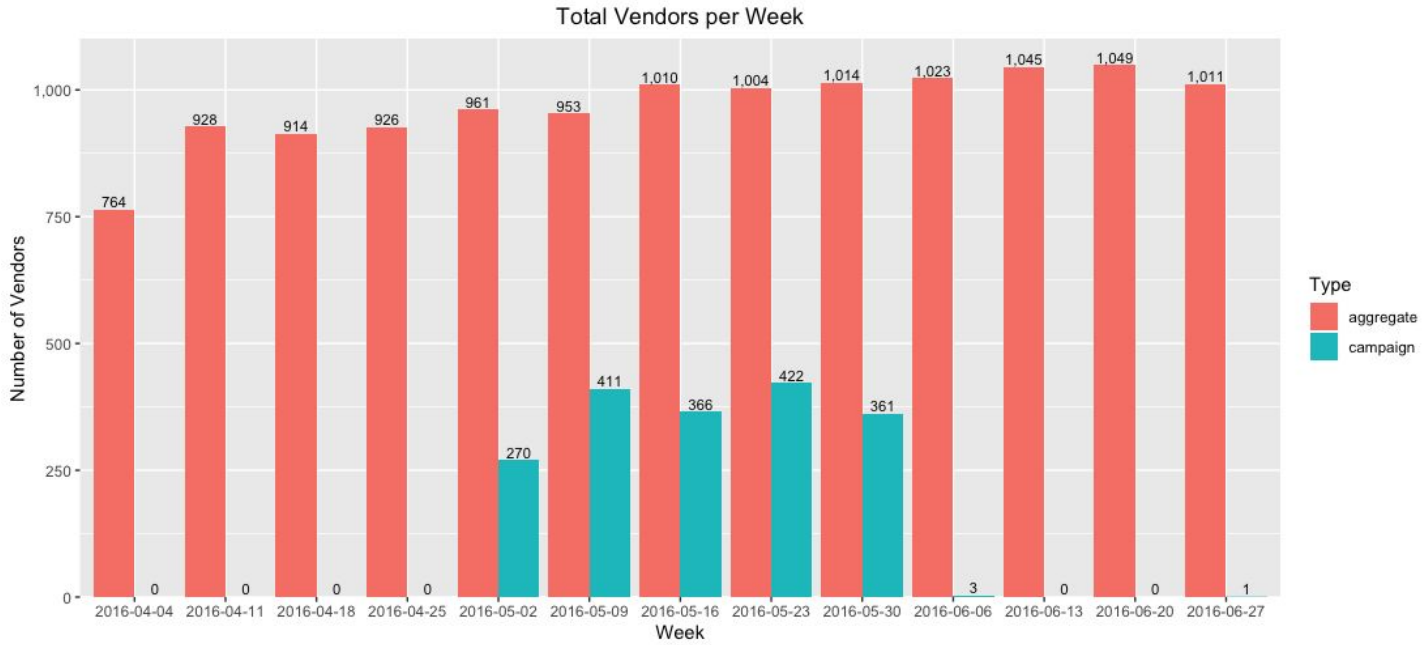
1. Summary of Campaign Results New Customers

	Total Customers	Total New Customers
Campaign	17,238	4,988
Regular	50,991	15,361
Total	57,619	20,349



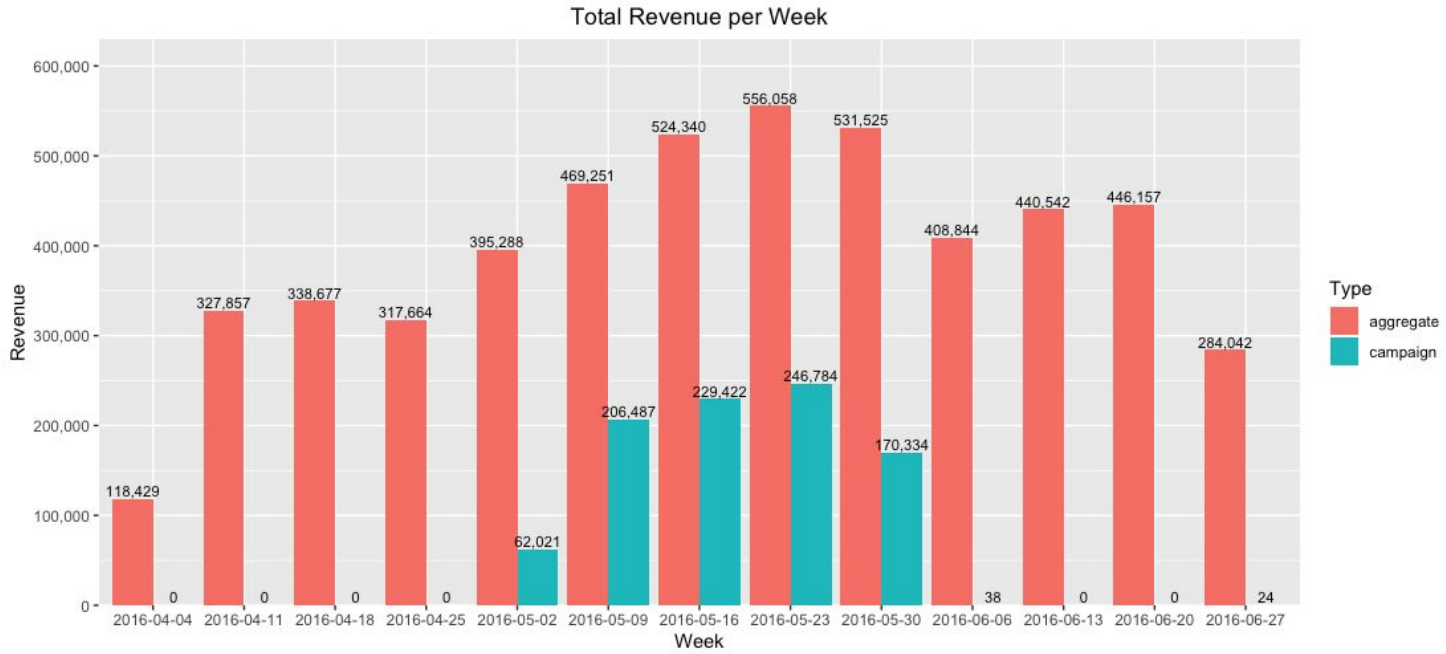
1. Summary of Campaign Results
Total Vendors

	Total Vendors
Campaign	648
Regular	1,307
Total	1,308



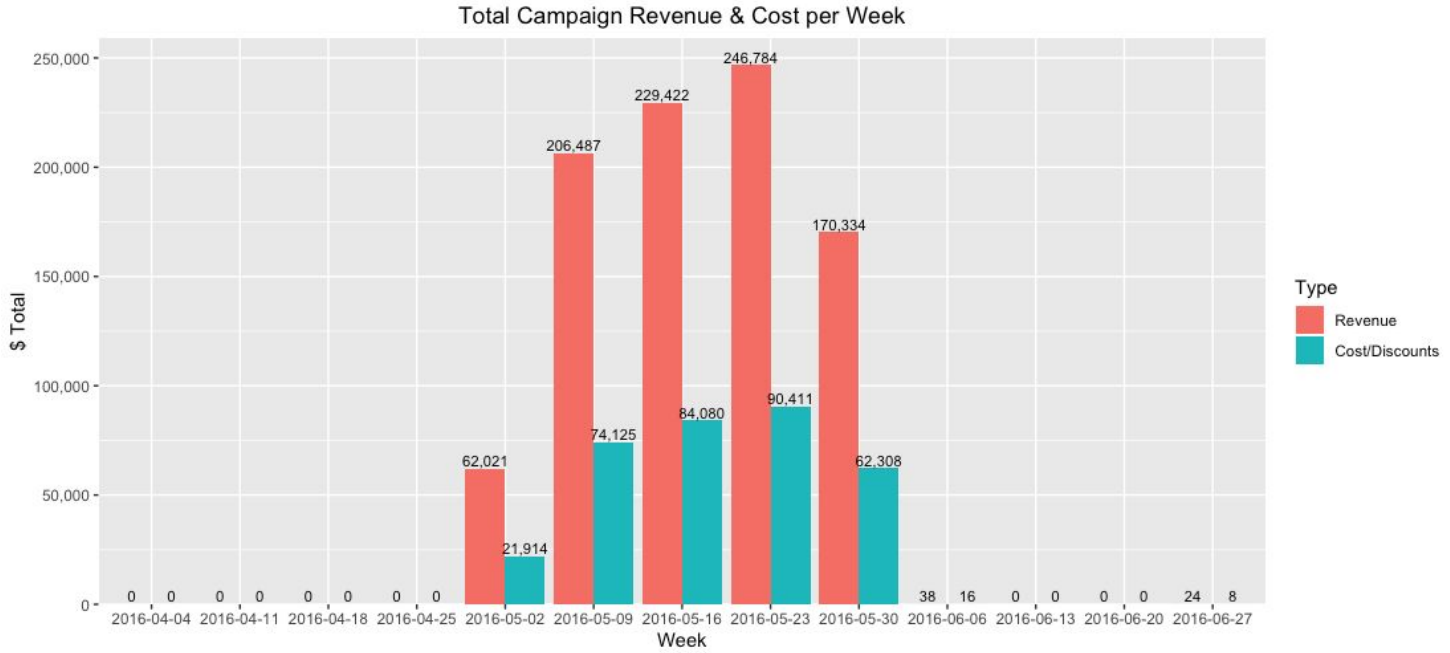
1. Summary of Campaign Results Revenue

	Total Revenue
Campaign	915,110
Regular	4,243,565
Total	5,158,675



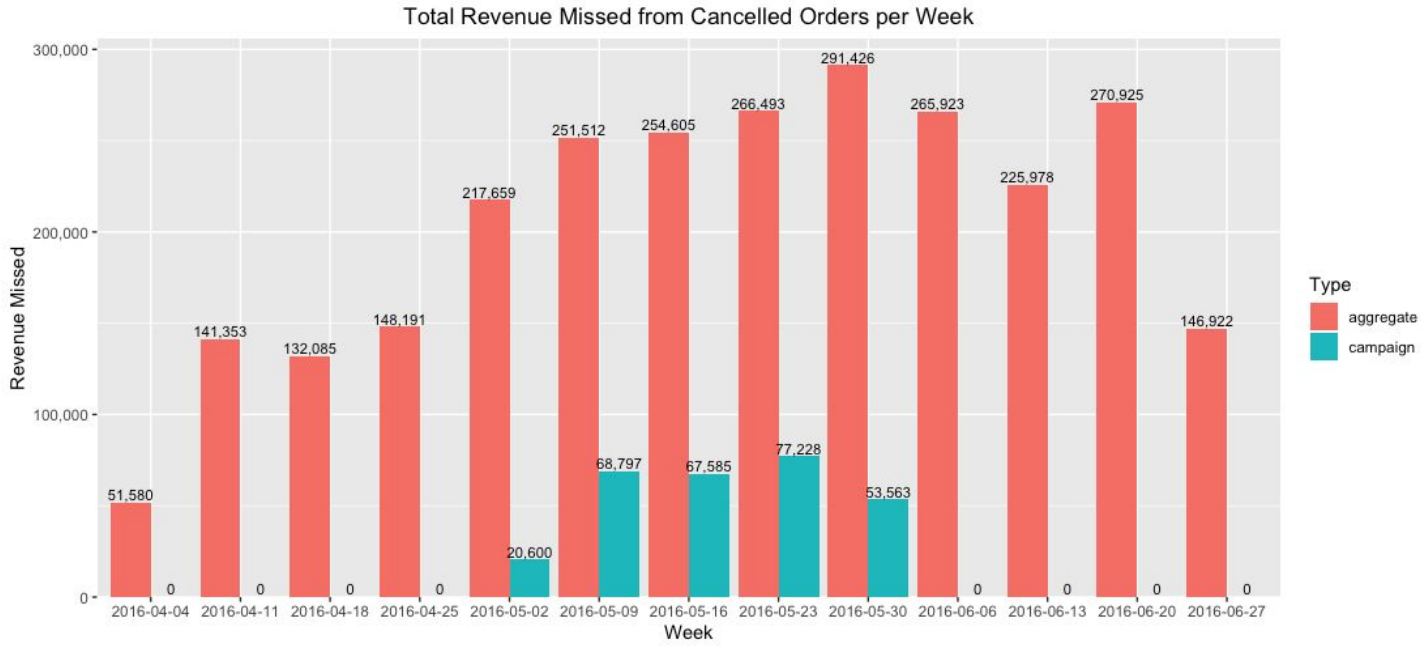
1. Summary of Campaign Results
Campaign Profit

Campaign	Total $
Revenue	915,110
Cost	332,863
Profit	582,247

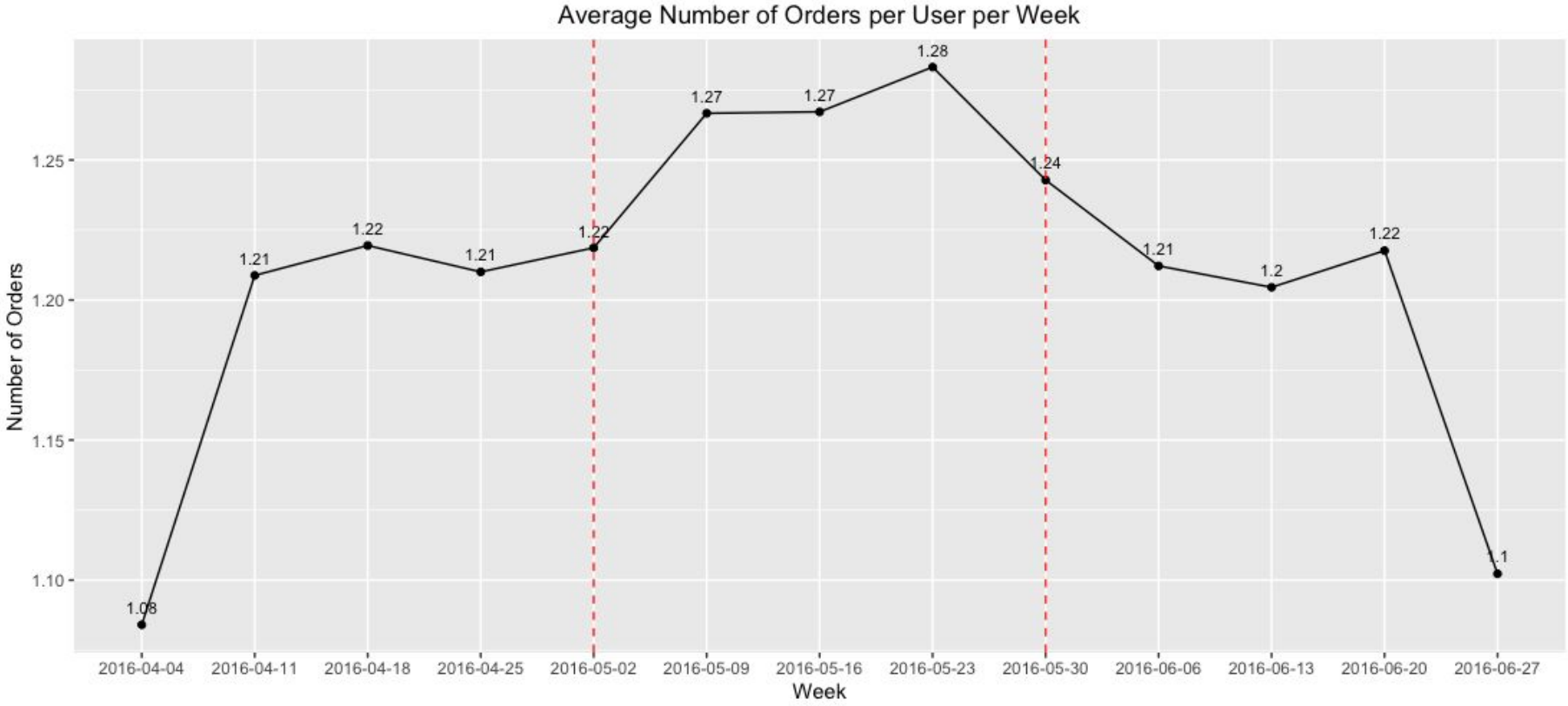


1. Summary of Campaign Results
Missed Revenue - from cancelled orders

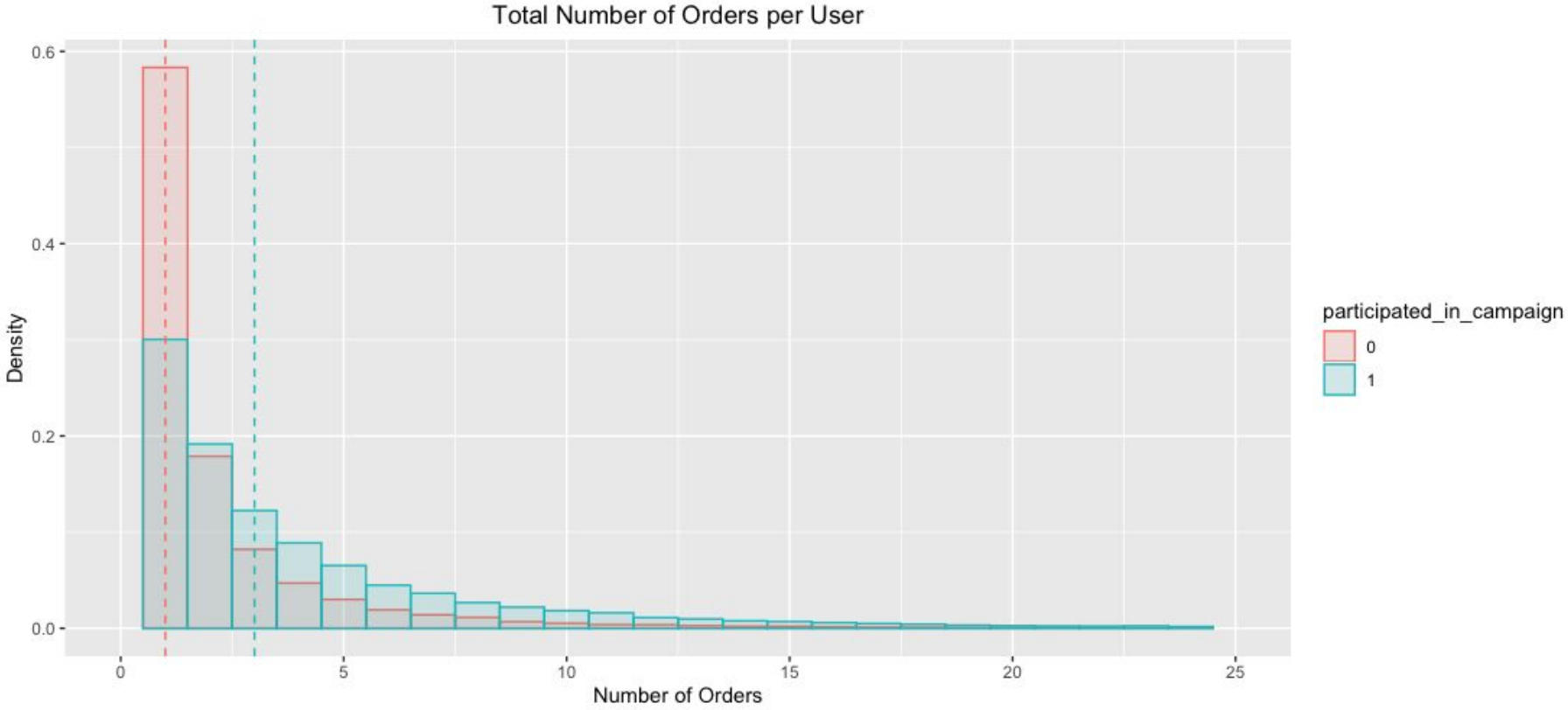
	Total Missed Revenue
Campaign	287,773
Regular	2,376,877
Total	2,664,650



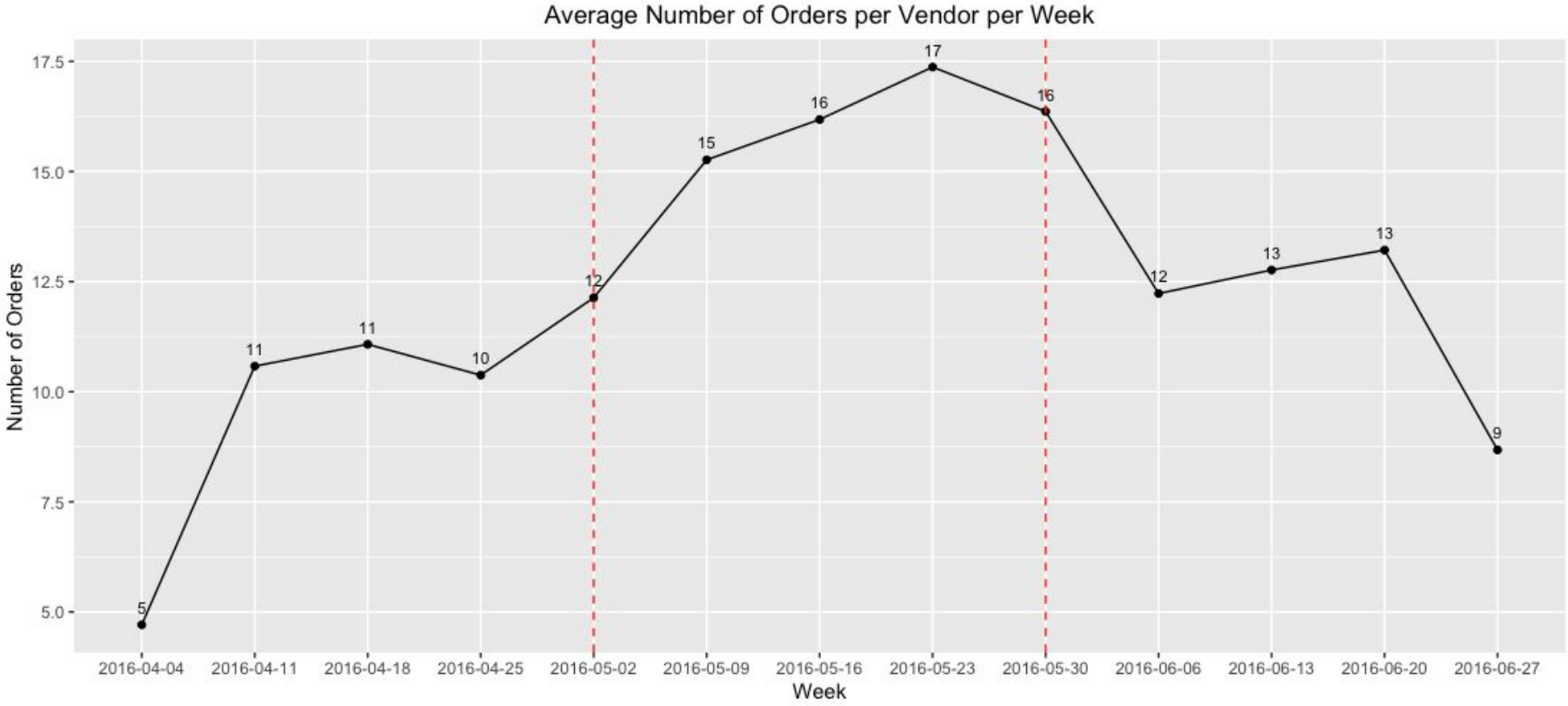
2. Change in Customer Behaviour
Orders per User per Week



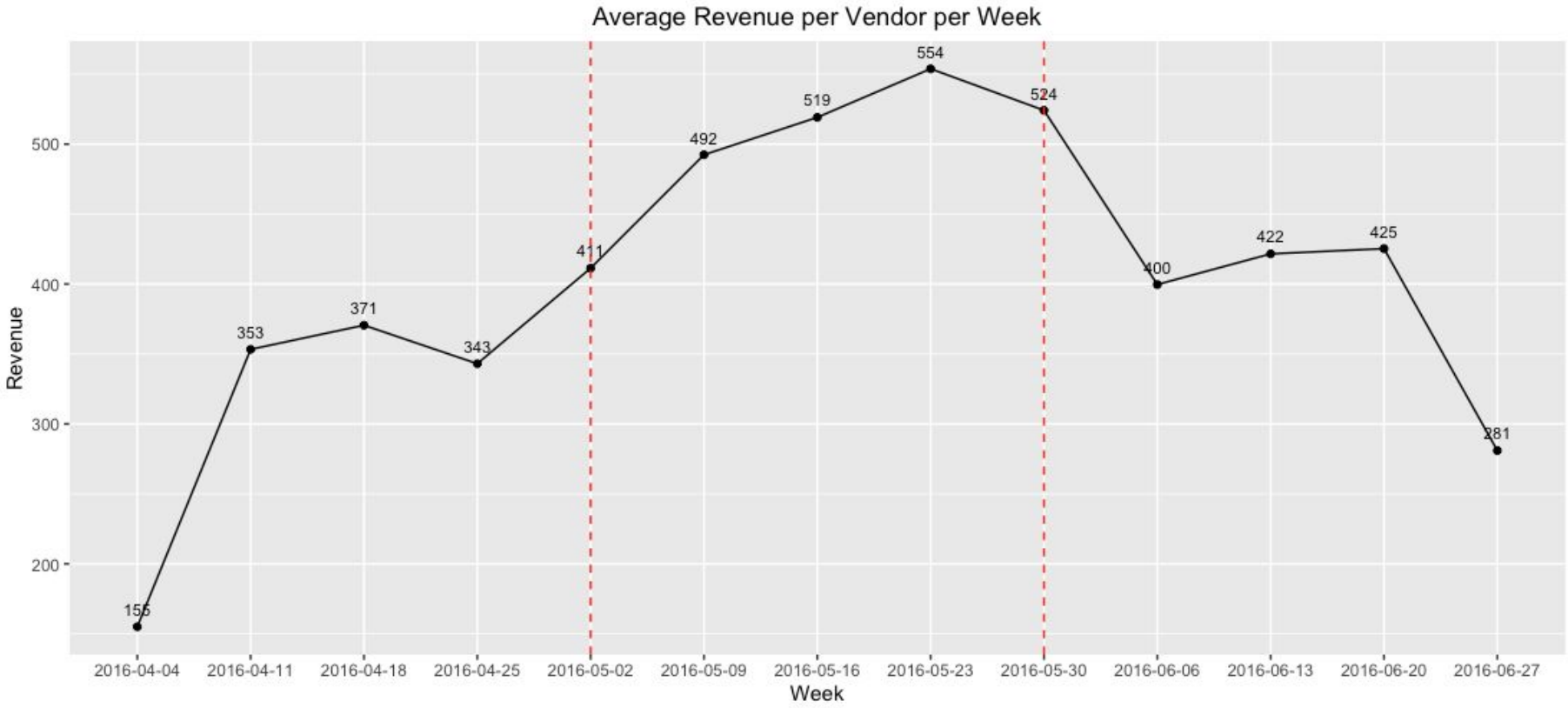
2. Change in Customer Behaviour
Total Orders Distribution - Campaign vs. Non-Campaign User



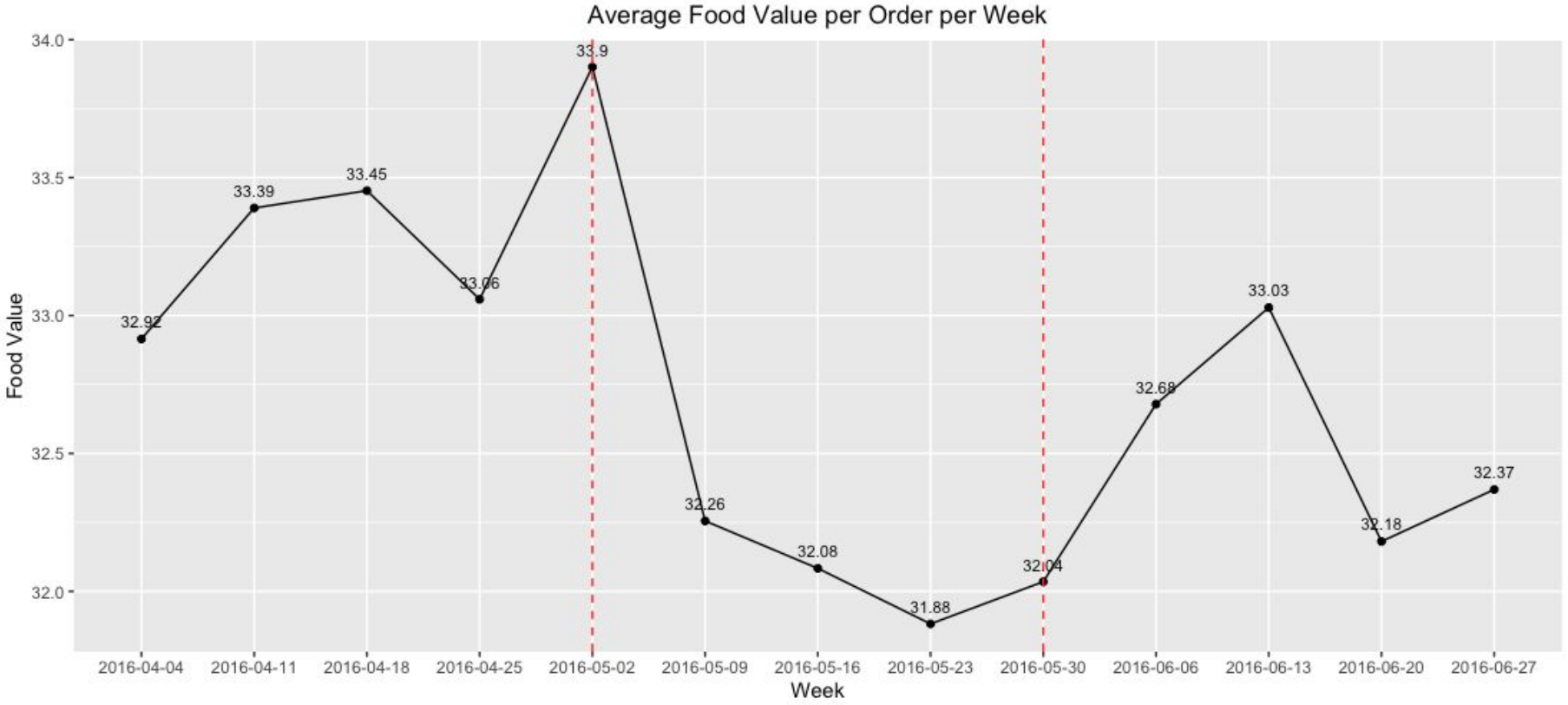
2. Change in Customer Behaviour
Orders per Vendor per Week



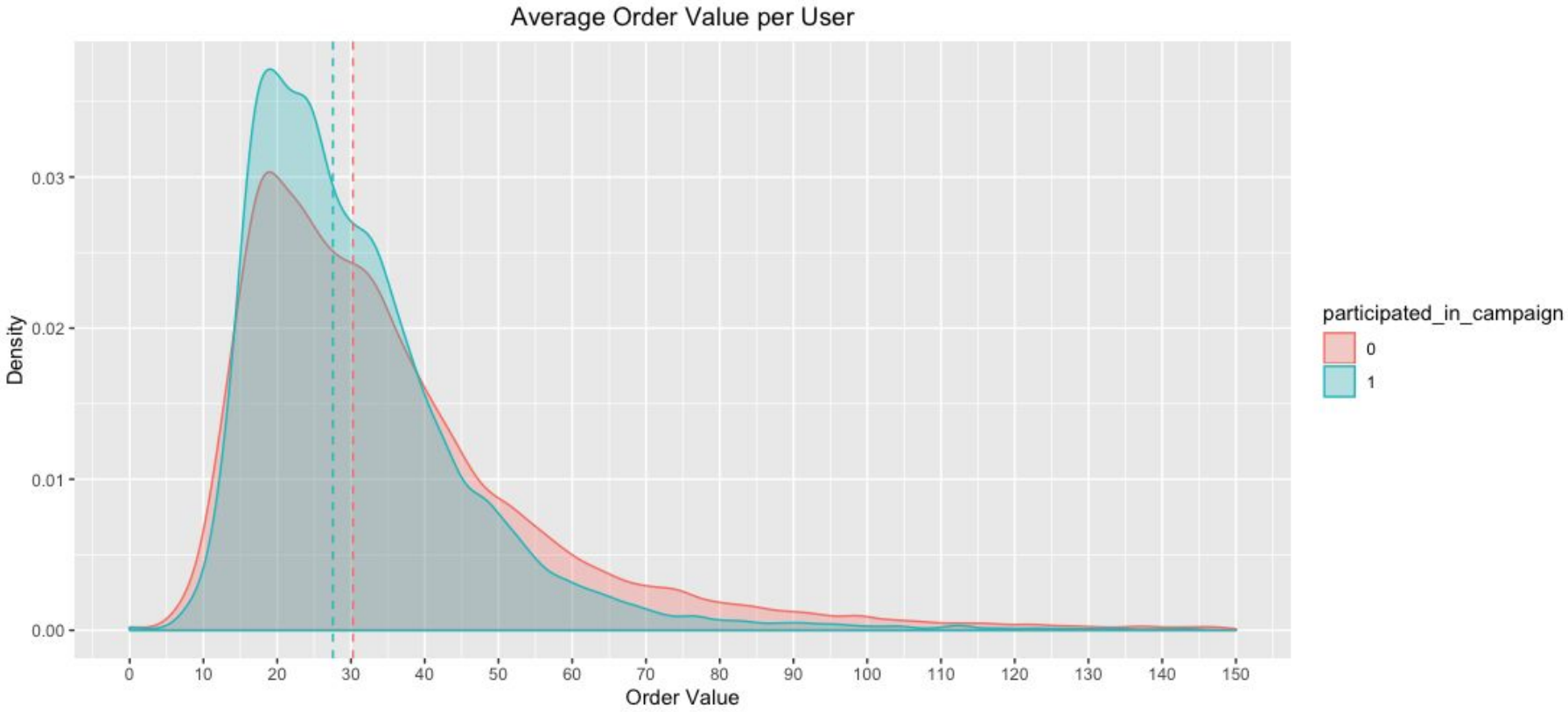
2. Change in Customer Behaviour
Revenue per Vendor per Week



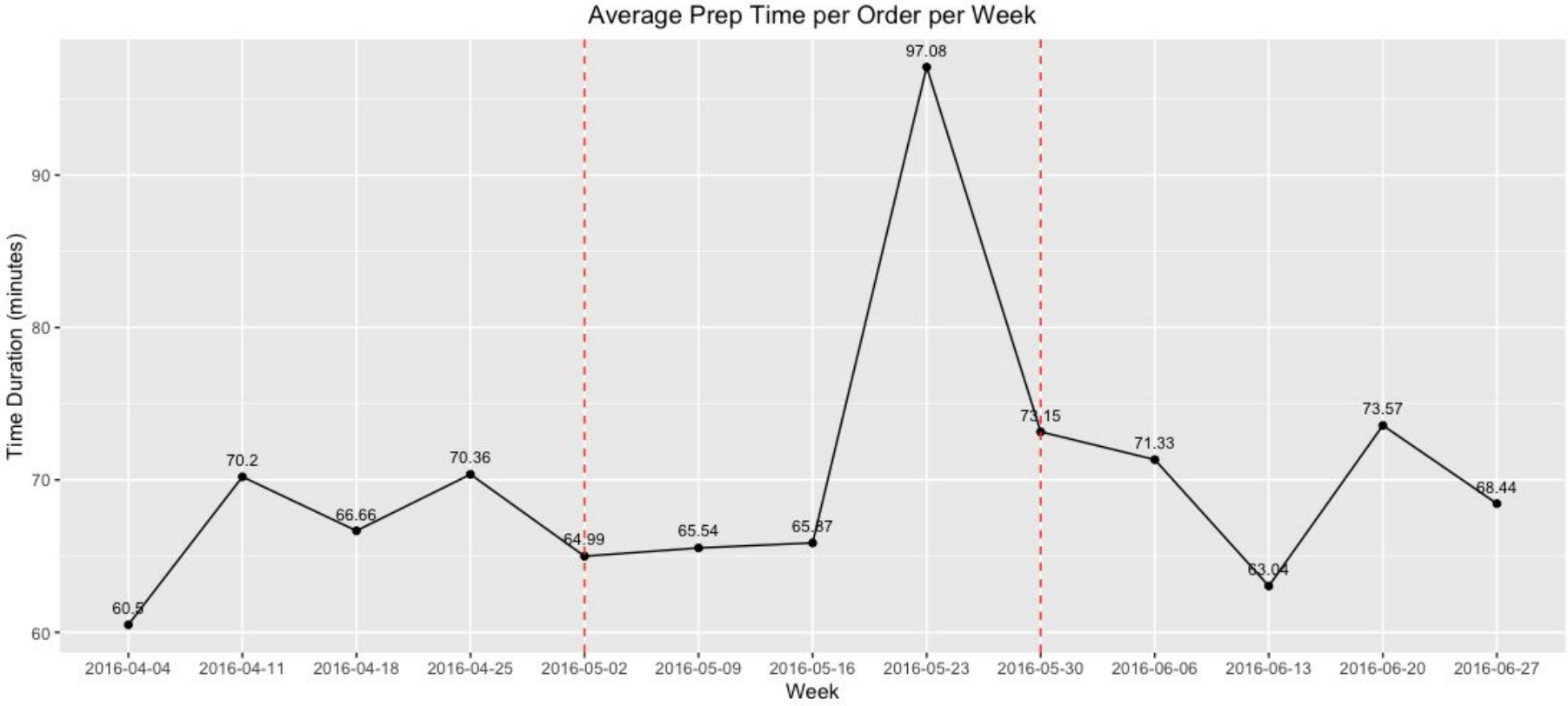
2. Change in Customer Behaviour
Order Value per Order per Week



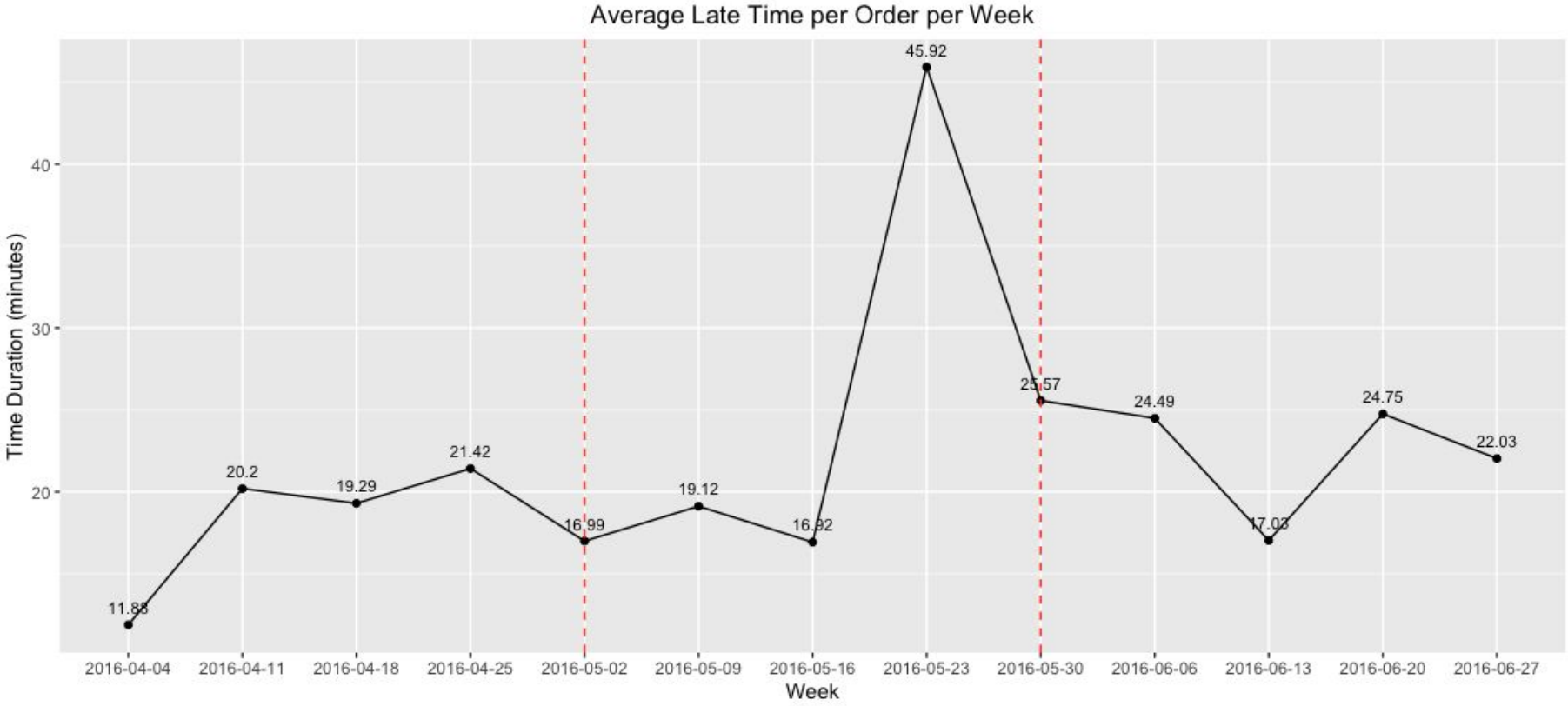
2. Change in Customer Behaviour
Average Order Value Distribution - Campaign vs. Non-Campaign User



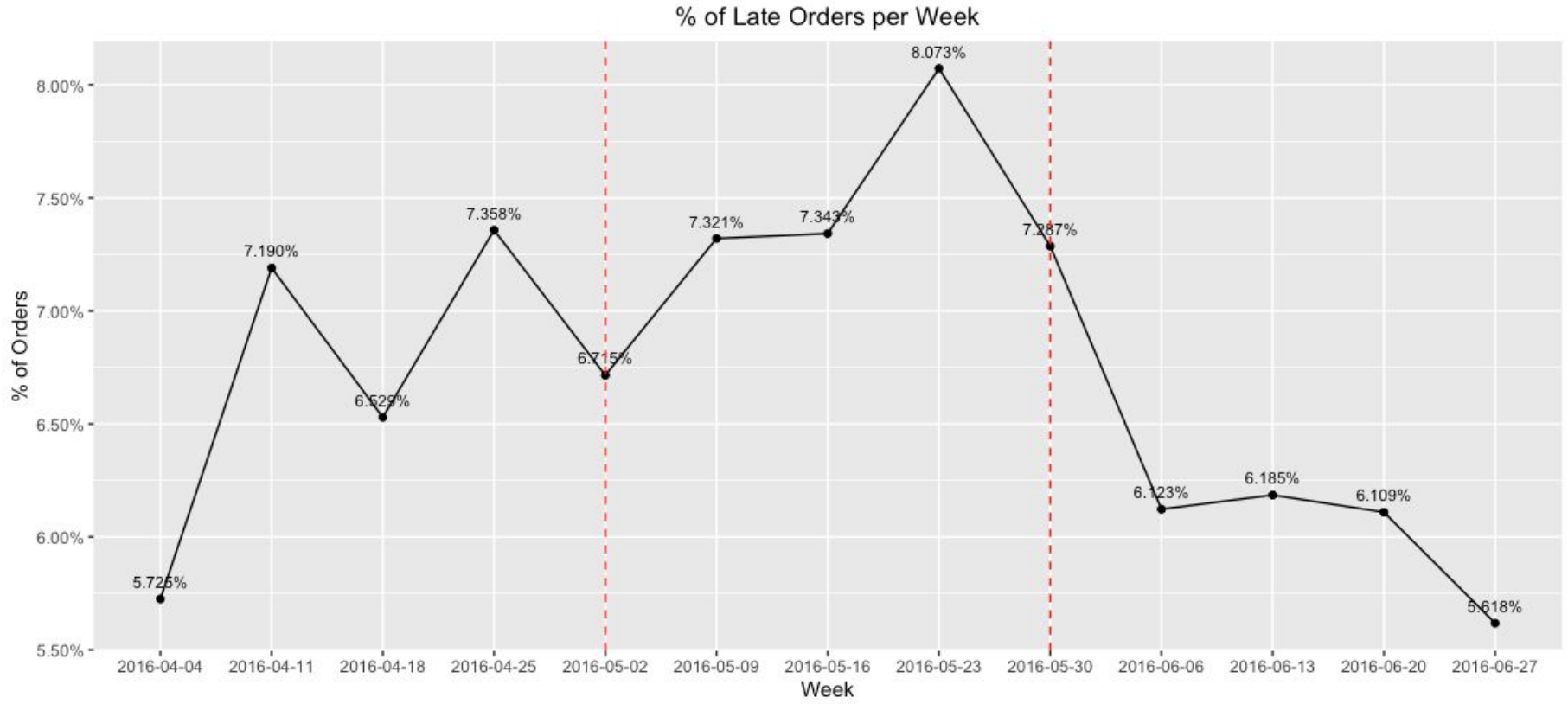
3. Negative Effects from Campaign Change in Prep Time



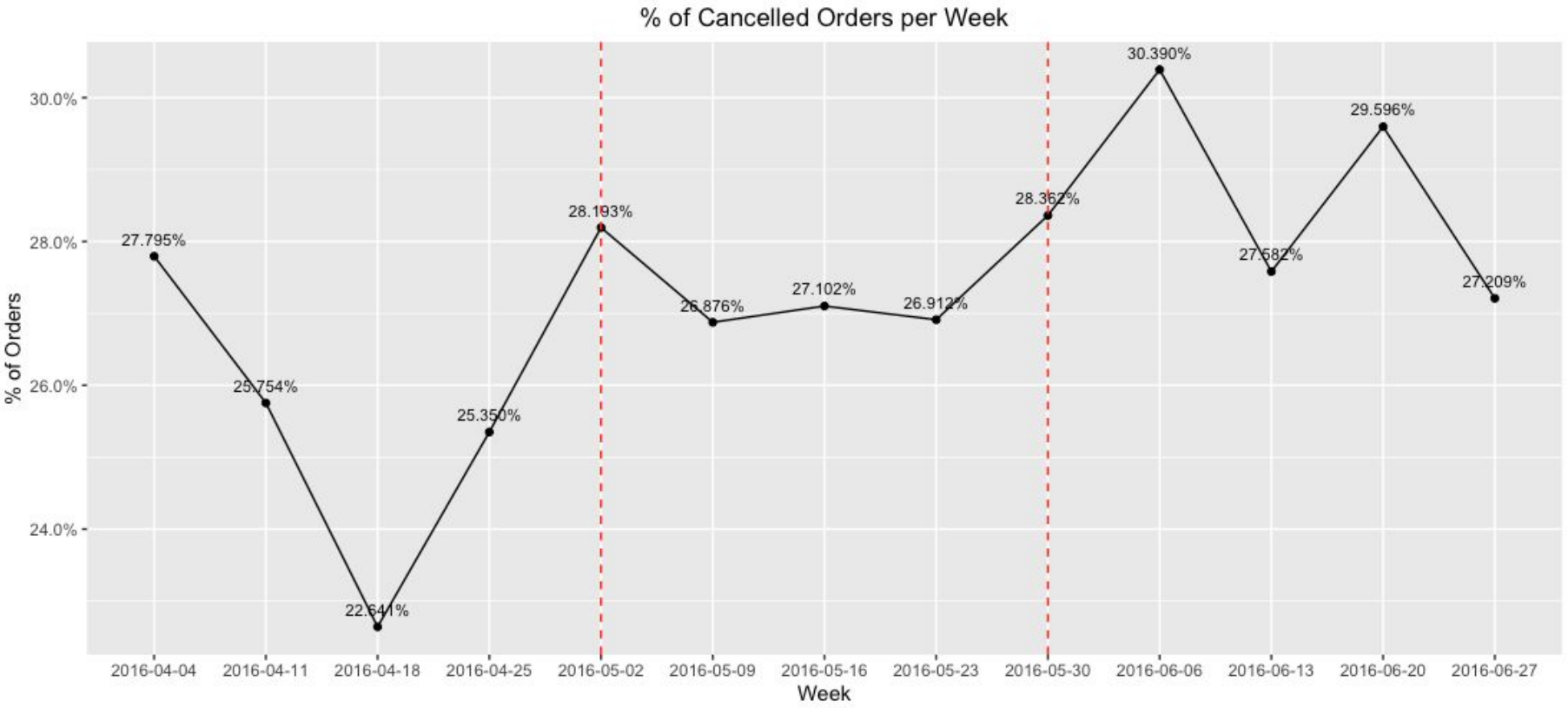
3. Negative Effects from Campaign Change in Late Time



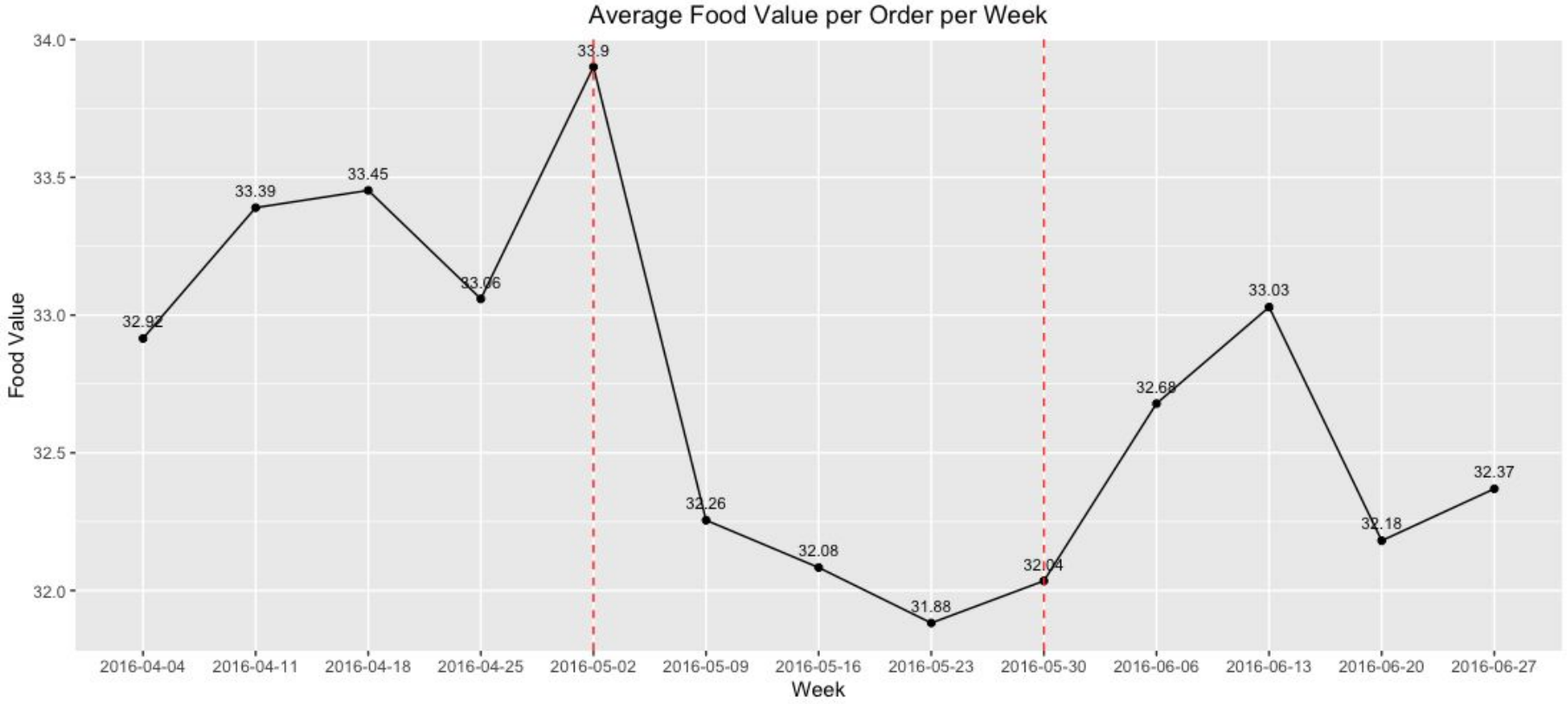
3. Negative Effects from Campaign
Change in Number of Late Orders



3. Negative Effects from Campaign
Change in Number of Cancelled Orders



3. Negative Effects from Campaign Order Value per Order per Week



4. Other Data Considerations

Segment orders by neighbourhoods within city (maybe run campaign for certain neighbourhood)	What was the overall marketing / advertising cost that can be attributed as acquisition costs back to users
Segment merchants by cuisine type (maybe run campaign for a certain type of food)	What are the current fee rates with merchants? Possibly split discount costs with the merchants
Demographics of users - specifically user age to see what kind of users are participating in campaign (power users vs deal seekers, new vs old users)	Merchant performance without campaign (run campaign for low volume merchants to stimulate business?)
Continue to monitor customers who participated in campaign for a certain time period after campaign to assess user quality / retention (do they drop off after participating in the campaign?)	Reasons for cancellations (over capacity, out of stock items, user manually cancelled, app glitches, etc) Can prepare in advance with Ops teams to ensure merchants are prepared in advance for the higher demand
Get item level info per order to see what kind of items users are ordering during the campaign. Can we apply discount at the item level rather than order level? Maybe we can apply discount to higher priced items exclusively	

5. Final Recommendations

I would recommend to run the campaign because:

- There is certainly an added boost in order volume
- Acquired new users
- Users who participated in the campaign tend to order more
- Vendors saw boost in order volume and revenue
- No increase in prep time given we have more orders
- No increase in average late time given we have more orders
- No increase in cancellation rate

Questions?

Appendix

All code, data files, and SQL code are saved in private repo here:
https://github.com/dktlee/marketing_campaign_analysis

SQL Question

```
WITH riders_with_bonus AS (
  SELECT wages.rider_id
  FROM WAGES AS wages
  WHERE wages.wage_type = "referral_bonus"
  GROUP BY wages.rider_id
),

riders_with_no_deliveries AS (
  SELECT
    riders.rider_id,
    riders.rider_first_name,
    riders.rider_last_name,
    riders.rider_email
  FROM RIDERS AS riders
  WHERE riders.num_deliveries_ltd = 0 OR riders.num_deliveries_ltd IS NULL
)

SELECT
  final.*
FROM
  riders_with_no_deliveries AS final
  INNER JOIN
  riders_with_bonus AS riders_with_bonus
  ON
  final.rider_id = riders_with_bonus.rider_id
ORDER BY final.rider_last_name, final.rider_first_name
```