

Ads Marketplace Analysis

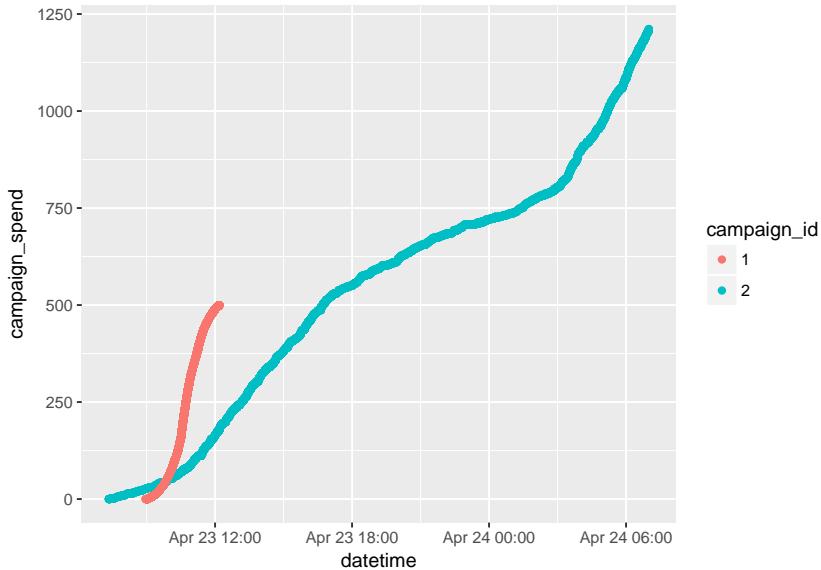
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In this assignment we will analyze the performance of 7 different twitter advertising campaigns during one day.

Comparing campaign 1 and 2

We start by looking at spend vs time for the campaigns 1 and 2:



```
##   campaign_id      duration     spent budget
## 1             1  3.24 hours  499.4127    500
## 2             2 23.65 hours 1211.3024   3550
```

We can see that, in campaign 1, all available 500\$ from its budget were spent in under 4 hours. On the other hand, campaign 2 spent only 1211\$ dollars out of 3550\$ available. Next, we take a look at the engagement rates of the campaigns:

```
##   campaign_id n_impressions engagement_rate view_rate success_rate_view
## 1             1          25719        0.0047    0.12        0.0385
## 2             2          17474        0.0017    0.23        0.0075
```

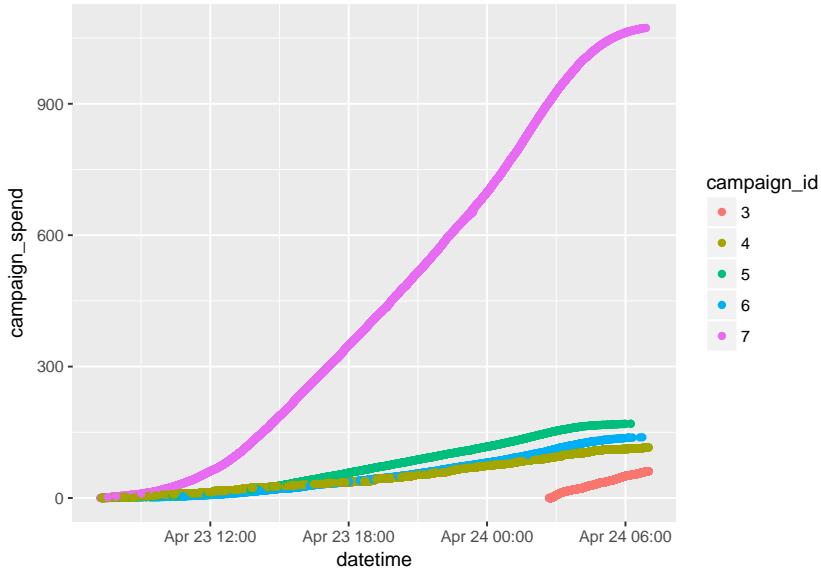
Campaign 1 has a significantly higher engagement rate than campaign 2. In campaign 1 approximately 0.47% of the impressions resulted in charges while campaign 2 had an engagement rate of 0.17%.

Campaign 1 has a maximum bid of 7.5\$ and a targeting criteria based on location exclusively. On the other hand, campaign 2 has a maximum bid of 1.15\$ and a targeting criteria comprise of location, age, language and gender.

Evidently, campaign 1 is too aggressive. In order to pay less per impression they could lower the maximum bid and add more targeting parameters to reach a more relevant audience. The latter will reduce the number of auctions they participate in, but has the potential of increasing the probability of charged engagements.

On the other hand, given that in campaign 2 they are not utilizing the whole budget, they could follow the opposite strategy. They could make the targeting criteria less stringent to increase the number of auctions they participate in and increase their maximum bid to win more auctions.

App-installs vs. Video Campaigns



```
##      objective n_impressions engament_rate view_rate success_rate_view
## 1 APP_INSTALLS          30957     0.0005      0.05        0.01
## 2 VIDEO_VIEWS          12197     0.0703      0.21        0.33
##
##   campaign_id duration budget    spend perc_spent   bid   objective
## 1           3 4.31 hours 1000.00   61.08      6.11 1.50 APP_INSTALLS
## 2           4 23.74 hours 1167.00  115.24      9.87 1.00 APP_INSTALLS
## 3           5 22.88 hours  170.00  169.47     99.69 0.50 VIDEO_VIEWS
## 4           6 23.40 hours  138.89  138.45     99.68 0.05 VIDEO_VIEWS
## 5           7 23.67 hours 1075.00 1073.20     99.83 0.50 VIDEO_VIEWS
```

We can see that video campaigns (5,6,7) have comparatively very low maximum bids but a high engagement rate, which results in good pacing. They spent the complete daily budget spread over the entire day. App-installs campaigns (3,4) have comparatively higher bids but a very low engagement rate which results in suboptimal pacing. Both app-install campaigns end up spending less than 10% of their daily budget.

The app-install campaigns have a significantly lower engagement rate as a result of lower success rate conditional on view and a lower view rate. The lower success rate conditional on view makes intuitive sense, installing an app can be seen as a bigger commitment from the user perspective than watching a video. On the other hand, the lower view rate could be due to app-install ads appearing further down the timeline of users, which matches the fact that those campaigns are doing comparatively worse.

Conclusions

I enjoyed the analysis. I think it's a good base for a conversation. I limited my analysis to answering the specific questions and wasn't completely sure how in depth I should've explore the different points. Some of the wording in the explanation of the auction confused me at first.