BUS 37304-81 – Spring 2017

Digital and Algorithmic Marketing

Professor Sanjog Misra

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Group Assignment 1
(Team 15)

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Homework Development

A: The loss if we target the entire sample with the DMP price is $57400. Cluster with all variables still gives us a $45 loss (Exhibit 1). A linear regression shows that the significant variables are household_size6, household_income6, and ecom_index. Going through the same cluster analysis as in class we get a max profit of $4413, compared with the $3559 from in-house analysis. The higher profit represents 75% of spend compared to 56% before (Exhibit 2).

B: We wanted to see if choosing a $10 spend cutoff was the best choice, so we set up a loop to try values from $1 to $150. The profit jumps around a bit, but we find the max profit with DMP comes when we target customers who spend at least $43, giving us a profit of $4626 (Exhibit 3). For the in-house option the max profit is $3615 by targeting customers who spend at least $59 (Exhibit 4).

Homework Questions

1. Would you go with the new DMP? Justify your answer.
Yes, profit is ~$4626 vs the ~$3615 if we target the most profitable segments of customers for the sample, leading us to believe profits will be 28% higher with DMP's approach.

2. Is there any circumstance when you would ignore the matching and go after the entire target file audience? Justify.
In the current situation, it's not likely. If we had a new product or new way to build CLV but no reliable data on their purchase habits it might be helpful to target all customers until we have that information. Depending on how the service wants to be paid, we may not have the funds upfront to pay for all targeted customers through DMP, so we could target everyone and avoid the upfront costs.

Github script
https://github.com/schzcas/digital-algorithmic-marketing/blob/master/homework/homework1-group/HW1_mhzDC.R

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Exhibit 1: DMP Profits All Variables

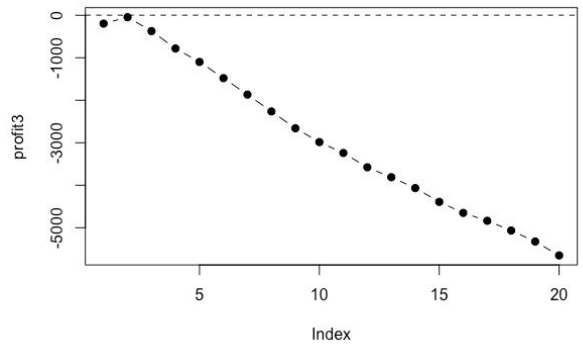

Exhibit 2: DMP Profits Significant Variables

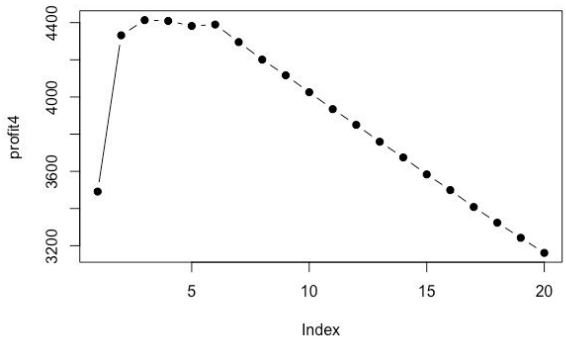

Exhibit 3: DMP Profits for Spend Cutoffs

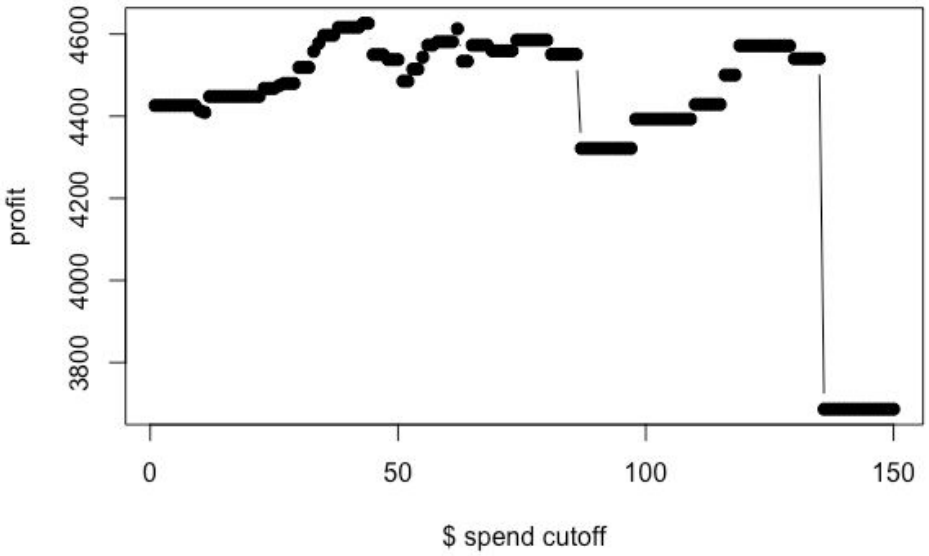

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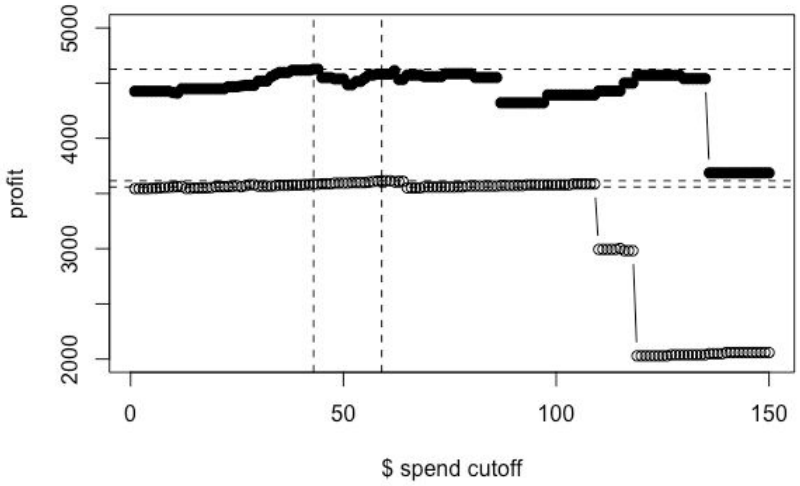
Exhibit 4:DMP and In House Profits for Spend Cutoffs



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