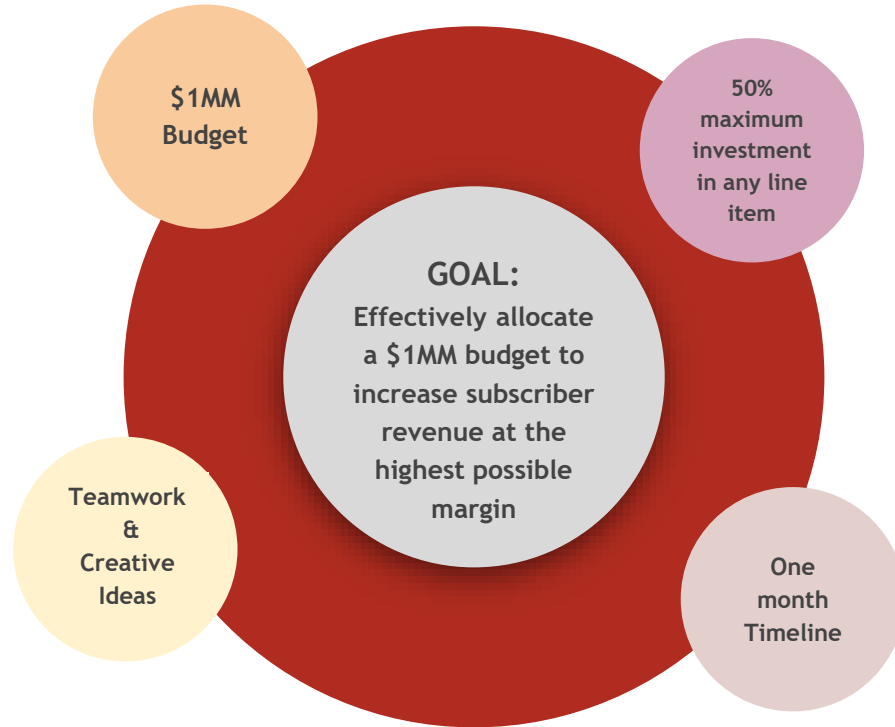


NETFLIX

Design Digital Operating Models
Group 10

Evelyn Chang
Riya Desai
Remin Esen
Ara Peterson
Suraj Rishi
Bradley Turcios

Challenge



Overall, based on the demand of each category, multiple targeting options and various rates of efficiency, we created an auction and memo strategy to find an optimal solution which maximizes the subscriber revenue while also increasing total margin for Netflix.



Initial Optimal Allocation

Goal: Maximize Profit Margin to Increase Revenue

Calculated the
highest margin
line items



Allocated the
maximum amount
to the highest line
item, then the next,
etc.



Constraints:

- Maximum 50% of budget could be spent on a given line item
- Could not buy more impressions or clicks than are available



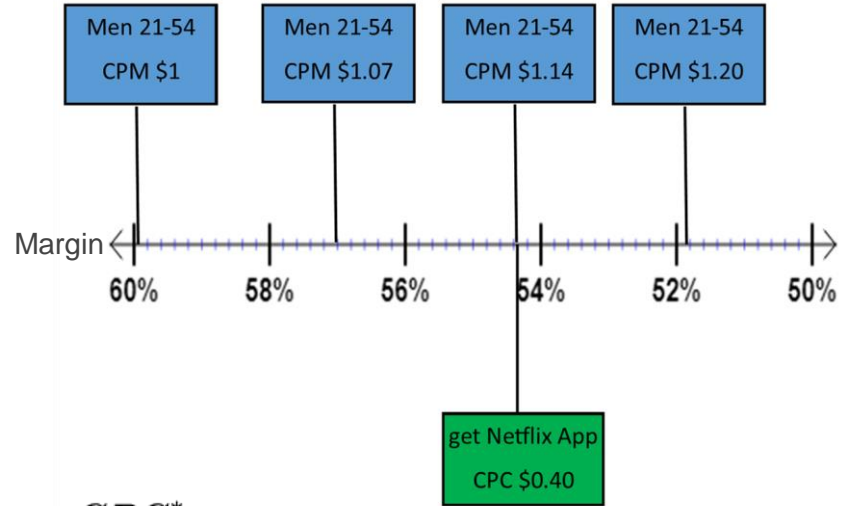
Initial Optimal Allocation

Target	Allocation (%)	Subscribers	Revenue (\$)	Total Cost (\$)	CPA (\$)	Margin (%)
Women 21-54	0.00%	0	\$0	\$0	\$0	0.00%
Men 21-54	3.80%	11,400	\$94,962	\$38,000	\$3.33	59.98%
Entertainment fans	8.00%	12,600	\$104,958	\$80,000	\$6.35	23.78%
Cable TV subscribers	0.00%	0	\$0	\$0	\$0	0.00%
Total	11.80%	24,000	\$199,920	\$118,000	\$4.92	40.94%
Keyword	Allocation (%)	Subscribers	Revenue (\$)	Total Cost (\$)	CPA (\$)	Margin (%)
get netflix	38.35%	61,950	\$516,043.50	\$383,500	\$6.19	25.68%
get netflix app	8.40%	22,050	\$183,676.50	\$84,000	\$3.81	54.27%
get netflix free	17.60%	33,600	\$279,888.00	\$176,000	\$5.24	37.12%
how to get a free netflix account	23.85%	35,775	\$298,005.75	\$238,500	\$6.67	19.97%
get netflix for free	0.00%	0	\$0	\$0	\$0	0.00%
get free netflix	0.00%	0	\$0	\$0	\$0	0.00%
Total	88.20%	153,375	\$1,277,613.75	\$882,000	\$5.75	30.97%



Allocation When Price Changes

- CPM and CPC inversely affect margin.
- There exists a threshold for each line item at which it is no longer the most profitable.
- Once the price exceeds the threshold, we would prioritize the next most profitable line item.



$$(CPA_{next\ most\ profitable} - CPA_i) \times \frac{CPC_i^*}{CPA_i} + CPC_i^*$$

*CPC and CPM are interchangeable



Auction Challenge

Goal: Bid closest to 2/3rds of the average bid

Memo Challenge

Our approach was to find the optimal allocation for a \$1MM budget to increase subscriber revenue.



Auction Challenge

For the auction, the challenge was to make sure our bids were the closest to 2/3rds of the average bid



Resultant Strategy

Knowing that the other teams would go for a variety of strategies to win, we decided to find a strategy that will account for different mindsets. Thus, we decided to run the game once within our group and use the results as a base for our calculations for the final bids.



Auction Strategy

01

First Approach

- Find a strategy
- Agree on a bid for each line item

02

Second Approach

- Simulate the auction
- Take 2/3rds of the average



Auction Simulation

BIDS	Ara	Remin	Riya	Bradley	Evelyn	Suraj	2/3rds Avg
Women 21-54	0.400	0.333	0.499	0.020	0.746	0.684	0.298
Men 21-54	0.310	0.292	0.555	0.025	0.988	0.760	0.326
Entertainment fans	0.820	1.370	1.166	0.030	1.254	1.597	0.693
Cable TV subscribers	0.930	0.641	0.949	0.035	1.113	1.445	0.568
get netflix	0.130	0.339	0.194	0.049	0.133	0.198	0.116
get netflix app	0.100	0.283	0.224	0.099	0.194	0.122	0.114
get netflix free	0.110	0.211	0.254	0.123	0.334	0.167	0.133
how to get a free netflix account	0.122	0.233	0.284	0.098	0.120	0.213	0.119
get netflix for free	0.150	0.255	0.314	0.037	0.230	0.259	0.138
get free netflix	0.150	0.175	0.334	0.028	0.215	0.274	0.131

Auction



Target	Average	2/3rds Avg	Another 2/3rds	Final Bid
Women 21-54	0.447	0.298	0.199	0.268
Men 21-54	0.488	0.326	0.217	0.293
Entertainment fans	1.039	0.693	0.462	0.624
Cable TV subscribers	0.852	0.568	0.379	0.511
Keyword	Average	2/3rds Avg	Another 2/3rds	Final Bid
get netflix	0.174	0.116	0.077	0.104
get netflix app	0.170	0.114	0.076	0.102
get netflix free	0.200	0.133	0.089	0.120
how to get a free netflix account	0.178	0.119	0.079	0.107
get netflix for free	0.207	0.138	0.092	0.124
get free netflix	0.196	0.131	0.087	0.118



Why is our strategy creative/credible?

Auction Strategy



- N=6 is not statistically significant, but...
 - Wide range of levels of thinking
 - Unbiased approaches
 - Similar bases of knowledge
 - Did not check others' answers when bidding
- Simulating the experiment allowed us to gauge others' thought processes
→ extrapolate

Optimal Strategy



- Allocated max amount to highest margin, then second highest, etc.
- Allocation adjustments allow Netflix to invest flexibly; minimize losses
- Calculations done with a spreadsheet