



A better way to fundraise

A horizontal blue banner with a pattern of white triangles pointing right. Two yellow triangles are positioned at the top left and bottom right corners of the banner.

Multivariate Testing



$$\begin{aligned}
Y = & 6.978 \times 10^{-4} (X_1 - X_4 + X_{11} - X_5) + X_{10} (0.00676 X_4 + 1.406 X_6 - 1.391) - 3804 X_6 \\
& + 0.04751 X_8 - 0.02176 \text{EXP} \left(\frac{6.456}{X_6} \right) + 1414 \text{EXP} (X_6) - 0.04752 \text{EXP} \left(\frac{-8.822}{E} \right) (X_9 - 3.059) \\
& + 0.04821 X_6 (X_{11} - 4.165) - \frac{(0.008708 X_6)}{(X_{11} - 3.904)} - \frac{0.03541 (X_{11} - X_4 \times \text{EXP} (X_6) + X_4 \times X_6 (X_6 - 0.2606))}{(X_{10} - \frac{X_8}{X_4})} \\
& + \frac{13.67 \times 10^{-4}}{X_{10}} + \frac{0.6228 X_7^2 \text{Ln}(\text{Ln}(X_7 \times X_3))}{X_2} + \frac{0.4003 X_2^2 \text{Ln}(\text{Ln}(X_3 \times X_2))}{X_7^3} \\
& - \frac{0.2011 \times 10^{-5} X_7^5 \times X_3^2 \times \text{Ln} X_7 (X_7 + X_2)}{X_2^4} - 35.519
\end{aligned}$$

What's the Purpose of Multivariate Testing

- **Speed to Market:** You could potentially get a year's worth of testing and learning in a single test, allowing you to roll out key wins more quickly
- **Risk Mitigation:** You can test more variables at lower total volumes, reducing overall financial risk of learning
- **Big Wins:** Allows you, *in theory*, to identify some big wins that could have significant positive impact on future revenue
- **Interaction Effects:** Allows you to identify how the combination of individual variables interact to influence your audience, even when they appear to be independent.

Heritage May DM MVT Factors v4									
Number	Factor	Idea	Status Quo	Change	Practical	Fast	Cost-free	Legal	???
1	A	OE - Priority Mail chevron	No	Yes	✓	✓	✓	✓	
2	B	OE - Heritage Logo	No	Yes	✓	✓	✓	✓	
3	C	Buckslip - Inflation	No	Yes	✓	✓	✓	✓	
4	D	RD - Planned Giving	Yes	No	✓	✓	✓	✓	
5	E	RD - Donor Advised Fund	Yes	No	✓	✓	✓	✓	
6	F	RD - Recurring giving	Yes	No	✓	✓	✓	✓	
7	G	Font size	12	14	✓	✓	✓	✓	
8	H	Letter margins	1" (confirm)	1.25"	✓	✓	✓	✓	
9	I	Member quote	No	Yes	✓	✓	✓	✓	
10	J	Member Renewal - Variable data	No	Yes	✓	✓	✓	✓	X number of members in stateXX have renewed and we need X+100 (0-24 months)
11	K	500k Renewal Counter	No	Yes	✓	✓	✓	✓	X number of our 500,000 members have renewed so far. Don't let us down! (0-24 months)
12	L	Slybroadcast voicemail	No	Yes	✓	✓	✓	✓	KDR or AMP
13	M	Heavily bolded copy	No	Yes	✓	✓	✓	✓	
14	N	Increase font on ask	No	Yes	✓	✓	✓	✓	
15	O	Black circle highest ask w/ copy on RD	No	Yes	✓	✓	✓	✓	"We really need this much"
16	P	Bullet - 7 priorities, Oversight, and 2025	No	Yes	✓	✓	✓	✓	7 Priorities, Oversight Project, and Project 2025 against control which is 4/7 priorities mentioned
17	Q	Add PPS	No	Yes	✓	✓	✓	✓	
18	R	Ask in PS	No	Yes	✓	✓	✓	✓	
19	S	PC tick box	No	Yes	✓	✓	✓	✓	
20	T	Ask string	HPC	MRC	✓	✓	✓	✓	

What's the *Potential* Value of Multivariate Testing?

- **Time Savings:** You can more efficiently test multiple variables at once
 - *Test, Fail, Learn, Optimize much faster*
- **Variable Interactions:** Unlike single variable A/B testing, MVT allows you to test the interaction of multiple variables to determine how multiple variables interact with one another to impact performance
- **Combination Optimization:** Allows you to identify the combination of variables that create the greatest net improvement in desired audience behaviors

What's the *Potential* Downside of Multivariate Testing?

- **Increased Complexity and Expense:** MVT's require significant and careful planning and set-up. Analyzing results requires a specific expertise, and unique technical tools and software.
- **Sample Size:** Because you're testing a multitude of variables you need a larger total sample size to achieve statistically significant results.
- **False Results:** Can create false positive/negative signals regarding the interaction of variables and/or overlook true differences.



Preparing for Multivariate Testing

- **Determine Goals and Risk Tolerance:** What do you want to learn? How comfortable is your team and your leadership with risk?
- **Engage Stakeholders:** Unlike simple A/B tests, this is a major undertaking and you'll want key stakeholder buy-in upfront. Understand that this kind of testing likely impacts multiple departments, and bring them into the conversation early.
- **Connect with an Expert:** It's almost impossible to design an MVT without expert help. Don't go it alone.

Preparing for Multivariate Testing

- **Managing Complexity:** An MVT requires strict discipline managing the structure of each test to ensure you can measure results.
- **Ideation:** A/B tests two ideas; MVT can measure numerous concepts – get creative. Seek input from people closest to our audiences.

Interpreting Multivariate Test Results

- **Understanding Performance Changes:** Are all changes in performance “wins”?
- **The Math is Complicated:** In-depth analysis required to accurately read and interpret results. This requires a unique set of skills and software designed specifically to support complex analysis
- **Connect with an Expert:** It’s almost impossible to design an MVT without expert help. Don’t go it alone.

Factor Letter	Factor Description	Status Quo	Change	Gross Revenue	Response Rate	Average Gift
A	OE - Priority Mail chevron	No	Yes	-714.85	-0.12%	-0.21
B	OE - Heritage Logo	No	Yes	676.71	0.11%	0.68
C	Buckslip - Inflation	No	Yes	476.86	0.09%	0.35
D	RD - Planned Giving	Yes	No	429.98	-0.08%	5.51
E	RD - Donor Advised Fund	Yes	No	95.48	0.02%	-1.02
F	RD - Recurring giving	Yes	No	-866.76	-0.11%	-2.53
G	Font size	12	14	-125.82	-0.05%	1.07
H	Letter margins (?)	.50"	.75"	-898.43	-0.20%	0.47
I	Member quote	No	Yes	-39.42	0.03%	-1.48
J	Member Renewal - Variable data	No	Yes	259.24	0.01%	1.42
K	500k Renewal Counter	No	Yes	163.40	-0.04%	2.04
L	Slybroadcast voicemail	No	Yes	553.71	0.00%	2.99
M	Heavily bolded copy	No	Yes	-200.84	0.02%	-2.14
N	Increase Font on Ask	No	Yes	479.59	0.01%	2.20
O	Black circle highest ask w/ copy on RD	No	Yes	261.10	0.04%	0.60
P	Bullet - 7 priorities, Oversight, and 2025	No	Yes	218.55	0.10%	-1.81
Q	Add PPS	No	Yes	-844.53	-0.06%	-4.02
R	Ask in PS	No	Yes	-439.23	-0.05%	-0.94
S	PC tick box	No	Yes	1,066.34	0.01%	6.65
T	Ask string	HPC	MRC	0.34	0.05%	-1.14
			Median	7,820.00	1.61%	47.66
			Sum of Helpful	3,253.21	0.00%	12.16
			Improvement	42%	0%	26%
			Mailings per TC	10,000		

**HIGH
RISK**



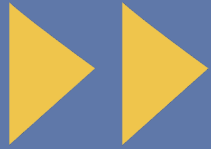
What Did We Learn?

- **Failures:** It happens to the best of us.
- **Victories:** Strategic, tactical, value propositions...you can test nearly anything.

A green directional sign with a white border is mounted on two wooden posts. The sign features the word 'Winners' in white, bold, sans-serif font, with a white arrow pointing to the right. Below it, the word 'Losers' is written in the same font, with a white arrow pointing to the left. The background is a bright blue sky filled with fluffy white clouds.

Winners →
← **Losers**





Thank you!

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