



Snap Judgment : Predicting Snapchat Impressions for Political Ads Based on Spend

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Presented by Team 1: Freak-uentists

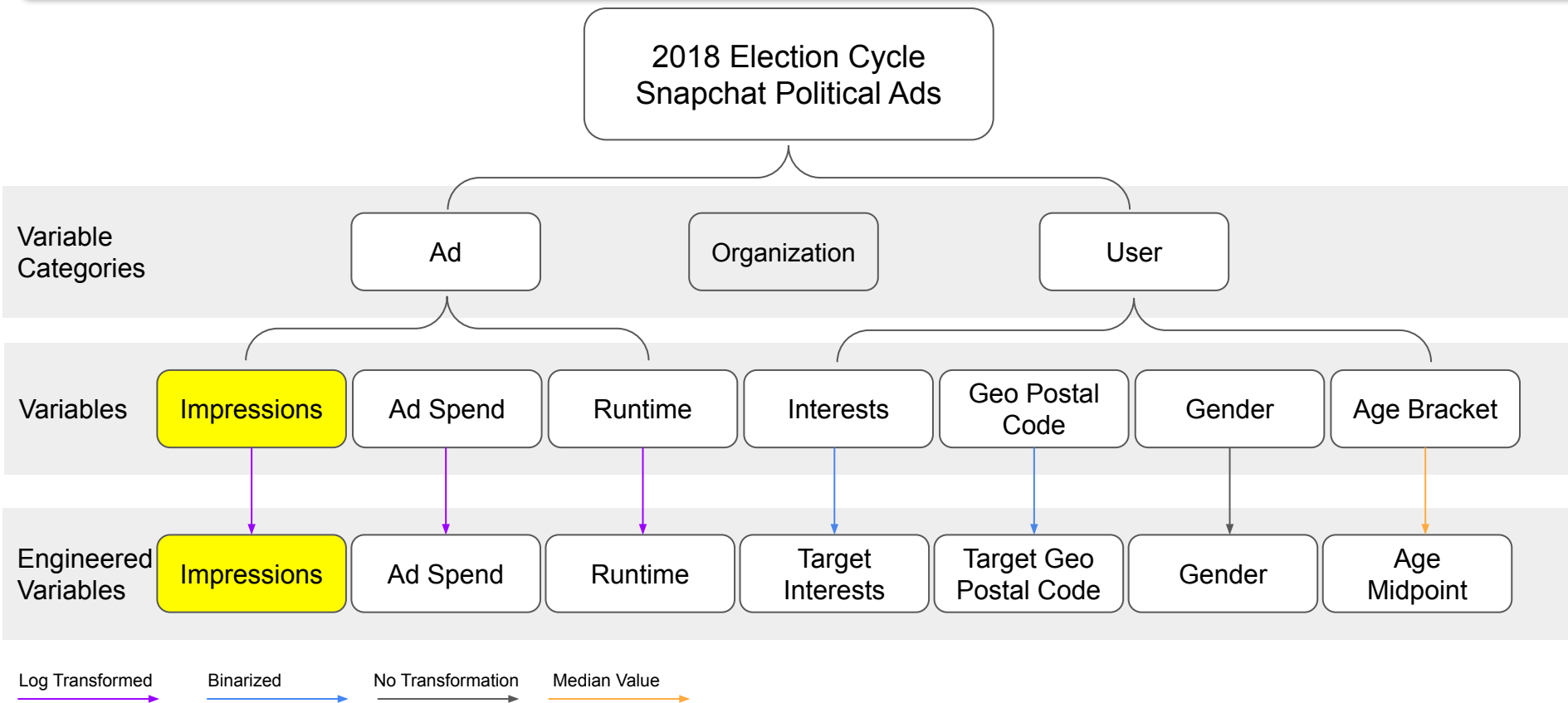
Instructor: Mark Labovitz

DATASCI 203-03

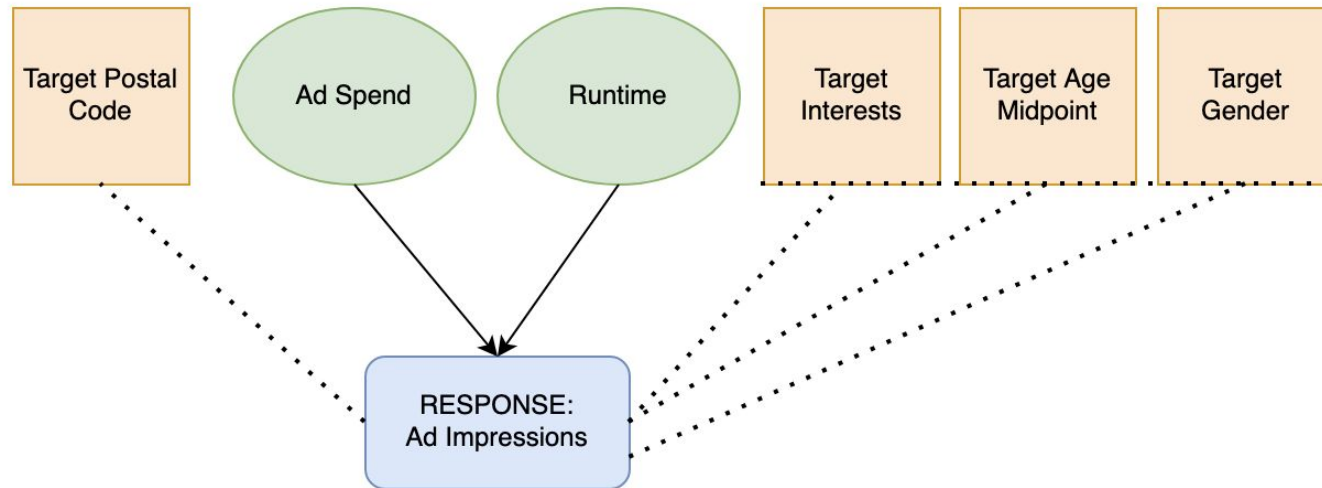
Research Question

What is the effect of ad spend on the impressions a political ad receives on Snapchat?

Data



Hypothesized Causal Pathway



Model

Table 2: Estimated Regressions for Impressions

	Output Variable: Log(Impressions)		
	(1)	(2)	(3)
Log(Spend)	0.972*** (0.016)	0.999*** (0.018)	1.001*** (0.020)
Log(Run Time)		-0.090*** (0.026)	-0.076** (0.026)
Gender - Female		0.091 (0.055)	0.046 (0.057)
Gender - Male		0.087* (0.044)	-0.096 (0.075)
Age Midpoint			-0.006 (0.011)
Target - Interests			0.134* (0.067)
Target - GeoPostal			-0.197* (0.077)
Constant	5.666*** (0.097)	5.982*** (0.121)	6.050*** (0.222)
Observations	306	306	306
R ²	0.908	0.911	0.915
Residual Std. Error	0.527 (df = 304)	0.521 (df = 301)	0.511 (df = 298)

Note:

HC₁ robust standard errors in parentheses.

Summary

Fit three models:

1. Base Model
2. Augmented Model
3. Full-Scale Model

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Key Result #1

Spend is a highly reliable predictor of impressions
(*perhaps a little too reliable*)

Interpretation

Increasing spend by 30% leads to 30% increase in impressions*

*ceteris paribus

Model

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Key Result #2

Longer run times lead to less impressions (*but not by much*)

Interpretation

Increasing run time by 30% leads to -1.97% increase in impressions*

*ceteris paribus

Model

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Log(Spend)	0.972*** (0.016)	0.999*** (0.018)	1.001*** (0.020)
Log(Run Time)		-0.090*** (0.026)	-0.076** (0.026)
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Key Result #3

Gender and midpoint are not statistically significant, but targeting interests and geo postal codes are

Interpretation

If we target interests, we see an increase of 14.3% increase in impressions*

While if we target a geo postal code, we see a decrease of 17.9% in impressions*

*ceteris paribus

Conclusion

Ad Spend (+)

Run Time (-)

Target Interests (+)

**Target Geo Postal
Code (-)**

Limitations:

- IID
- Omitted Variable Bias

Potential improvements:

- Include categorical interests
- Include Ad length, Time of day information

Future: Impact on voter turnout

Questions



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