

Winning an Election¹: Case Questions

Case questions require the following auxiliary data files, available on BB.

- *Election_data.csv*

Please write brief responses to be turned in on BB at the end of class, and be prepared to discuss and present your work with the class. You are free to work in teams and use the Internet, but must write up your own solutions and create your own excel files.

Case Questions:

1. Compute the percentage of supporters who pledge their support on social media for each of the three variants. Are there any variants statistically better than Variant 1 at a 2.5% level?
Hint: You probably want to use an Excel Pivot Table to compute all the relevant information needed for the formula we used in class.
2. Repeat the computation in Question 1, but separately for each party affiliation. Now are any methods statistically better than Variant 1 at a 2.5% level? If so, which Variants are better than Variant 1 for which parties?
3. Think carefully about what you've done in Question 1 and Question 2. What does this tell you about parties as confounding variables?
4. **(Optional:)** Your very smart data scientist friend points out that because of multiple testing, it's not the case that both your conclusions in parts 1 and 2 and hold simultaneously at a 2.5% level. Rather she says, they hold at a higher significance level. Do you agree? What level? Why?
5. Compute the probability a supporter donates under each variant. Do your analysis separately for each party. Are any variants statistically better than Variant 1? If so, how, and at what significance level?
6. Compute the average amount a supporter donates under each variant. Do your analysis separately for each party. Are any variants statistically better than variant 1? If so, how, and at what significance level?
7. Compute the probability a supporter signs up for the newsletter under each variant. Do your analysis separately for each party. Are any variants statistically better than variant 1? If so, how, and at what significance level?
8. Compare all of your answers above. Which variant would you recommend and why? Justify your opinion quantitatively.

¹ This case was developed for USC Marshall's BUAD 425 by Prof. Vishal Gupta.