

Local Elections 2003

(Disclaimer: for legal and moral reasons, the names, geographical locations, and even URLs used in this problem statement are entirely fictional. Any similarity to real events and places should be deemed a coincidence; such similarities, however, may be useful in determining reasonable parameter values for your model.)

You represent a political consultancy firm in the city of MithacaL.

In the recent elections in a nearby town of zEnfield, representatives of party R won by a landslide, ousting five incumbent members of party D (who have served for a number of years as council members, town supervisor, town justice, and town clerk.)

The last days of the elections campaign were somewhat controversial.

As reported by the local "MithacaL Journal", a flier written by the acting R committee chairman was sent to every zEnfield household. That flier alleged that 3 of the candidates from party D "have significant legal problems" stemming from their illegal activities while in office. All of the mentioned candidates denied any wrongdoing, and according to the police, no charges were ever filed against any of the incumbents.

(See, for example,

<http://www.theMithacaLjournal.com/news/stories/20031112/localnews/624869.html>

<http://www.theMithacaLjournal.com/news/stories/20031114/opinion/638320.html>)

The ousted members of D claim that the "smear campaign" (started by the party R several days before the elections) is responsible for their defeat.

However, many others believe that the voters' dissatisfaction with the past performance of these candidates was the deciding factor. You were contracted by the local committee of party D to help in planning their future actions.

If words could hurt...

Build a model to investigate how much a negative campaign really affects the voters' decisions. Can it back-fire? Does it have a different effect in large and small communities? Is it more "effective" when the competing political parties are numerous?

To sue or not to sue? Supposing that the allegations are easy to refute, the committee can try using that to challenge the results. Based on your model, determine if the vote results could be significantly different if it were not for the misleading flier. Predict the results of the new elections, if the previous are declared invalid. (This is a different question: try factoring in the frustration of voters who would have to fulfill their civil duties yet again.)

Mathematical models & their presentation in mass media.

Suppose that the conclusions of your study were leaked and appeared in local newspapers in a redacted and oversimplified form. Write a letter for publication in "The MithacaL Journal" discussing the predictive power of your modeling approach and its limitations.