**Statistical Design Consulting**

**SEMESTER REPORT**

**Sprint 2024**

**Client:** Hanne Sistek  **File Number:** 23-056

**Department:** Political Science **Major Prof:** Cherie Maestras

**Consultant:** Sumeeth Guda **Follow Up Meeting Date:** 09/10/24

**Meeting Attendees:** Sumeeth Guda, Hanna Sistek, Bruce Craig, Cherie Maestas

**Statement of Problem:**

To test a reputational cost theory of disinformation dissemination by political elites and to measure the impact of media fractionalization on the disinformation.

**Goal of This Project:** PhD Dissertation and Journal Publication

**Background:**

The client is a PhD student in Political Science who needs help analyzing their data and understanding their results pertaining to how disinformation and bias within media impacts the political polarization amidst various countries. Specifically analyzing the polarization gap from years before and after 2016. The time span of her current data she is focusing on the years between 2018-2023. Her data comes from the survey organization V-Dem which rated over 100 countries based on polarization and disinformation criterion for democratic governments. The expert raters rate the country’s polarization on a scale from [-5, +5] . From this data, the client developed a theory with respect to the reputational cost to answer the following research questions:

1. Politicians in democracies should care about reputation for re-election chances. So why risk it by disseminating disinformation?
2. What explains the global variation in disinformation dissemination domestically by political elites?

Originally the client was continuing in the summer of 2024, and they needed help fitting their data using plm(). Specifically, she was having predictors being dropped from the model without explanation. Because plm() is a specialized mixed-effect program, we suggested using the more flexible LMM software for analysis. The methodologies and analysis techniques would be discussed during the fall semester.

The ultimate goal for the client is to create a model to test their theory about the tradeoff between reputational cost for politicians and increasing disinformation and political polarization to emerge as key actors in a majoritarian system.

In Fall 2024, the client and consultant worked weekly to improve the code and fit a better fitting model working through strategies to fit the better fitting models for both majoritarian and non-majoritarian systems. And towards the end of the semester, they worked through marginal effect plots.

All of the analysis work for this project is now completed.

**Progress During Current Semester:**

This semester Hanna was focused on her other SCS project (24-127) but confirmed that this project is mostly complete. A few times she and Sumeeth met to discuss this project and made minor changes to her R code. As well as gave clarification on how to interpret and tweak the marginal effects plots using ggplot. Overall while Hanna confirmed that she is not completely done with this project, she wouldn’t need the help of the SCS anymore since she is defending her thesis during the summer hence won’t need the services of the SCS anymore.

**Current Status: Complete**