**Statistical Design Consulting**

**SEMESTER REPORT**

**Fall 2023**

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

**Department:** Political Science **Major Prof:** Dr. Cheri Maestas

**Consultant:** Youha Shin **Initial Meeting Date:** 04/04/2023

**Meeting Attendees:** Hanna Sistek, Youha Shin

**Statement of Problem:** To test a reputational cost theory of disinformation dissemination by political elites.

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

**Background:**

This research project investigates the factors influencing disinformation dissemination by political parties and elites in the US. The client’s reputational cost theory is tested by examining the relationship between party disinformation dissemination and variables like political polarization and electoral systems.

The analysis aims to identify patterns and variations in disinformation dissemination across countries and over time, considering factors such as election cycles and different units of analysis. The discussion includes recommendations for data visualization, model selection, and statistical techniques (e.g., clustered standard errors, fixed effect vs. mixed effect models) to address questions effectively.

**Progress During Current Semester:**

The study originally started in the Spring of 2023 and was handed off to the current consultant during the Summer 2023.

Throughout the Fall 2023 semester, the client inquired primarily about the data acquisition and sample size aspects of the study. More specifically, given that the data pulled by the client comes from diverse sources, the client had to make many decisions regarding the specific time frame for analysis.

The client asked about the potential reduction in sample size and statistical power that may occur when selecting specific time snapshots for analysis, and whether using data from the past five years would provide more data points and variability in the main exploratory variables.

It was recommended to plot data across different countries over time to determine if any notable patterns were detected, which would guide this decision-making process. Futhermore, the client recommended starting with a yearly analysis to understand how predictors work across years, which could inform the combination of data. However, it was noted that if all countries had the same data each year, then one year of data would be as informative as ten years.

Thereafter, the client had questions regarding the feasibility of increasing the sample size for a survey experiment (vignette study), particularly by using bootstrapping. After discussion with Dr. Craig, it was recommended to the client that bootstrapping is not generally designed for this purpose and may carry many risks, particularly by reinforcing any biases present in the survey results.

It was made clear that there needs to be careful thought and consideration made on how subjects are distributed among the different groups. The consultant and client agreed to have a follow-up meeting in Spring 2024 to refine the survey design to help facilitate the analysis.

**Current Status:** Continuing.