Perspectives on Computational Research

Problem Set #2: Critical Review

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Assigned paper

Is the Internet Causing Political Polarization? Evidence from Demographics

(a) Research Question

How trends in political polarization relate to respondents' propensities to obtain news or information online or from social media. Specifically, this research is built on the bases of nine previous measures that show political polarization is increasing, and examine whether demographic differences in these measures are consistent with an important role for the Internet and the social media.

(b) Data

The primary source of data is the American National Election Studies (ANES). And the used data sets are 1948-2912 Time Series Cumulative, 2008 Time Series Study, and 2012 Time Series Study data. In addition, this study uses a supplemental micro-data from the Pew Research Center to plot trends in social media use from 2005 to 2012, since the ANES does not provide information regarding social media usage.

(c) Theory

Political polarization. By many previous measures, Americans have become increasingly polarized in recent decades. And in this field, there is a hypothesis that the Internet is a primary driver of increasing political polarization. Built on the basis of political polarization theory and existing measurements, this paper examines and provides evidence against this hypothesis.

(d) Classification

This paper is a combination of descriptive study and identification exercise. This paper is relatively stronger in its descriptive part than in identification part.

For descriptive analysis, this paper uses table and graphs to indicate trends in Internet access and political polarization, with a new combination of datasets (ANES and the data of Pew Research Center). Figure 1 shows trends of Internet access and social media use are different among age groups. Figure 2 provides evidence to support that trends in political polarization are increasing by all of the existing 9 measures and the 1 constructed index. And Figure 3 indicates that trends in polarization are different among demographic groups. These three figures highlight unexplained (yet) relationships among age, Internet access, and political polarization, being suggestive of more rigorous analysis.

For identification, this paper provides more rigorous presentation of the relationships. In Table 1, it shows quantitative detail and standard errors of the 9 measures and 1 index among age groups. In Appendix Figure 1, this paper also provides trends of polarization in detail, which are measured with each of the 9 measures, by demographic group, predicted Internet access and actual Internet access. The demographic distribution of predicted Internet access is shown in Appendix table 1. And in Appendix Figure 2 and 3, it checks robustness to use the restricted sample (by cohorts, gender, and self-identification).

(e) Computational Methods

This study uses computation of 9 measures of political polarization, constructs a new general index, and use graphs for relationship visualization. These 9 measures are: partisan affect polarization, ideological affect polarization, partisan sorting, straight-ticket, issue consistency, issue divergence, partisan-ideology polarization, perceived partisan-ideology polarization, and religious polarization.

Age of the respondents is grouped into several cohorts. Particularly, the cohort of age 18-39, the cohort of age 65+, and the cohort of age 75+ are used in analysis. And the predicted Internet access is estimated on the sample of year 1996 with a weighted least squares regression. The equation is: $\Pr(\text{internet}_i = 1 | X_i) = X_i'\beta$, where β is a vector of parameters and X_i is a vector of demographic characteristics including indicators for age group, gender, race, education, and whether an individual lives in the political South.

According to results of these computational approaches, the increase of political polarization is largest among the groups least likely to use the Internet and media,

which are consists of older respondents. Thus it argues against the hypothesis that the Internet in general or social media in particular are the main drivers of increasing political polarization. This paper does not provide explanations for latent mechanisms, but provides the link between political polarization and Internet use.

(f)   Suggestions

First, this paper does not provide descriptive statistics of the original data or the restricted sample. So we could not know from the paper whether the demographic distribution of the observations is consistent with the population. Thus, we could not tell whether the sample used by this study is representative to the population without any bias, which is vital to the validity of the result of this paper.

Second, this study is not strong enough in supporting its identification of relationships among political polarization, age, and Internet access. It depends highly on figures and descriptive tables, instead of statistical analysis. Although it calculates scores of political polarization and uses a weighted regression to provide predicted Internet access, it does not use regression to examine the relationship indicated by figures. Figures could be good indicators, but they may not be sufficient to verify the findings.