test

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5/18/2020

Introduction

Since 2015 throgh today, calls to increase government regulaton of social media tech compaiins have grown. Social media companines have an inherent interest in limitting increased regulations which can disrupt many aspects of bussiness models and growth startagies.

Public opinion is an important motivator of politicians actions, and the publics veiws towards social media comaines and the extent to which they are regulated can either motivate or prevent politicans from altering existing frameworks. Political ideaology and identies are inherently related to individuls opinions about regulation and government intervention, with those identifying as more conservative favoring less government invovlement and those identifying as more liberal favoring a more active government. While political persuation is likely remains a critically important determinant in individuals views on regulating the tech secotr, individuals experiances directly interacting with social media sites and prodcuts may also influence thier views.

This analysis ustilizes Bayesain methods to test is public opinion on regulating social media compaines can be explained einterly as a function of ones political views or if the types of content and experiances users interact with on social medias sites is also associated with thier views on regulation. Put another way, are opinions towards regulating big tech all just politics, or can altering aspects of the social media expernace increase the publics favorability towards social media companines?

If opinons towards regulation are associated with aspects of the social media experiance or engaging wit specifc types of social media content, social media compaines may be able to strucute alorithmic changes that downregulate these types of content as a means of increasing thier favorability and preventing increased government intervention.

The Data

In 2018 the Pew Research Center surved a representative sample of Americans on their use or and feeling toward social media. Particiants were asked wether the government should regulate social media compaines more than they already are, about the same as they are now or less than they are now. This item was dictomized such that respondents indicatign current or lower levels of regulation were coded as being against expnading regulation and compared against those favoring expanding regulation. After dictomizing, this item was used as the outcome varible in all subseqent analyses. Favoring more regulation was coded as 1 while being againt an expansion of regulations was coded as 0.

Demographic items were respondents indicated their political identy, race and age were used as measures of political persuation and itentity. Political ideaology was descibded as either very conservative, conservative, moderate (reference class), liberal or very liberal. Age was divided by users who were 18-29, 30-49 (reference class), 50-64 or 65 and above. Respondents could indicate thier race as wither white (reference class), black, asian, mixed race or other.

User experiances with social media conrent was measured throgh three seperate variables: the frequency of encounter posts that increased negative affect, the frquency of encoutering politically charged, triggering and controversial content and the frequency of ecnountering disinformation.

Factor analysis was used to combine 3 seperate items about the frequency of seeing content that made users feel angry, depressed and lonely into a single continous latent varible representing negative affect. Simmilalry, a factor socres were used to combine a series of 4 seperate items asking about the frequency that users encountered posts about race relations, sexual harasment/assult, gun control/gun violance and immigration into a single continous latent varibale representing politically charged content. A single item where respondents were asked to descriebe if they saw more posts proting deception, saw more posts trying to point out misinformation or an equal amount each (reference class) was included as a measure of disinformation.

To understnad the relationship between political identiy, social media content and views on regulation 3 candidate models were created and compared against each other.

Hypotheses: comparing 3 seperate models

Model 1: Views on regulation as a function of political ideaology, age and race

Model 1 is the uses only political identification, race and age to predict wether a given individual factors expanding existing regulations of social media companies or beleives current regulatory practices are sufficent. If model fits the data the best, this implies that opinions on the regulation of social media compaies are an extention of already existing political beleifs.

$$regulation_i \sim Binomial(n, p_i)$$
$$logit(p_i) = \alpha + \beta veryconservative_i + \beta conservative_i + \beta liberal_i + \beta veryliberal_i +$$
$$\beta age : 18 - 29_i + \beta age : 50 - 64_i + \beta age : 65andup_i +$$
$$\beta black_i + \beta asian_i + \beta mixedrace_i + \beta race : other_i$$

Model 2: Views on regulation as a function of political ideaology, identiy and features of social media sites

Model 2 includes the same political and identiy predictors as model 1 abut adds the measures of social media based features (negatvie affect, charged content and deceptive vs corrective information).

If model 2 fits the data better than the other models this supports the hypothesis that views towards the regulation of social media companines is not a purly political issues but is also related to the content and types of experiances encoutered by users.

$$regulation_i \sim Binomial(n, p_i)$$
$$logit(p_i) = \alpha + \beta veryconservative_i + \beta conservative_i + \beta liberal_i + \beta veryliberal_i +$$
$$\beta age : 18 - 29_i + \beta age : 50 - 64_i + \beta age : 65andup_i +$$
$$\beta black_i + \beta asian_i + \beta mixedrace_i + \beta race : other_i +$$
$$\beta negativeaffect_i + \beta chargedcontent_i + \beta deception_i + \beta correctingmisinformation_i$$

Model 3: Views on regulation as a function of identiy and features of social media sites with the role of user experiance varying across different political ideaologies

Model 3 allows the relationship between social media content and opinions on regulation to vary across different political ideaologies. The opinions of those with less extreame political opinions may be more mailible that those who identify as highly ideaological. By estimating different slopes for each political identiy, model 3 allows for these differential effects.If model 3 fits the data best, this implies that for some political identites, views on social media is are only a function of political identity, but for other political identies views on regulation vary with different experiances on soical media sites.

$$regulation_i \sim Binomial(n, p_i)$$

$$logit(p_i) = \alpha_{ideaology_i} +$$

$$\beta_{ideaology_i} negative\ affect_i + \beta_{ideaology_i} charged\ content_i +$$

$$\beta_{ideaology_i} deception_i + \beta_{ideaology_i} correct\ misinformation_i +$$

$$\beta age : 18 - 29_i + \beta age : 50 - 64_i + \beta age : 65andup_i +$$

$$\beta black_i + \beta asian_i + \beta mixedrace_i + \beta race : other_i$$

$$\begin{bmatrix} \alpha_{ideaology} \\ \beta_{ideaology} \end{bmatrix} \sim \ MVNormal \ \left(\begin{bmatrix} \alpha \\ \beta \end{bmatrix}, S \right)$$

$$S = \begin{pmatrix} \sigma_\alpha & 0 \\ 0 & \sigma_\beta \end{pmatrix} \ R = \begin{pmatrix} \sigma_\alpha & 0 \\ 0 & \sigma_\beta \end{pmatrix}$$

$$\alpha \sim Normal(0, 2)$$

$$\beta\ negative\ affect \sim Normal(0, .25)$$

$$\beta\ charged\ content \sim Normal(0, .25)$$

$$\beta\ deception \sim Normal(0, 1.5)$$

$$\beta\ correct\ misinformation \sim Normal(0, 1.5)$$

$$(\sigma_{alpha}, \sigma_{beta}) = Exponential(1)$$

$$R = LKJcorr(1)$$