

New Approach to Measure Public Opinion in Politics:
To Gauge Presidential Approval Using Online Media in
South Korea

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대통령 지지율을 측정하는 새로운 방법:
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I. Introduction

What are people's preferences? This is a critical question for Democracy. Democratic countries perform under the notion that the system reflects citizens' preferences. Elections systematically send representatives of people to the legislature and the administration. Legislators. These elected legislators and administrators reflect the preferences in policymaking. Public opinion influences elections, representation, and making and implementing policies. In other words, it is an influential and fundamental factor for essential factors of Democracy.

For democracy to operate, it is crucial to understand the public's sentiment. The members of the National Assembly have to know wills of constituencies and the general public to practice politics. The president or the government's legitimacy comes from the support of the people. Thus, it is crucial to find out what the public wants correctly. Not everyone can join politics. People put their representatives to the Assembly and the government through elections. The well-measured public opinion strengthens the representation. This is the reason why we are interested in measuring public opinion and desire to have a more accurate and insightful measure.

Public opinion is a group expression or consensus of people who are sharing a same or similar interest (MacDugall 1954). It is, by nature, challenging to distinguish interest groups in the realm of politics. People can have more than one preference and be a part of multiple interest groups at the same time. Until today, polling is the dominant method to estimate public opinion. Polling agencies form a sample which they believe is the best representation of the population and survey their opinion regarding various issues. Presidential approval is often used to gauge people's inclination towards the current political status of a country. It is possible to make a statement that the most popular measure for the performance of a

government is presidential approval or government approval. It is widely used among countries to explain how much public support an incumbent leader of the state or a working government since the Gallup asked the question, "do you approve or disapprove of the way the incumbent is handling his job as president?", In the 1930s (Gronke & Newman 2009). This popular measure has gained its importance and influence. It has become one of the most essential indicators or illustration for the state of political affairs.

Every news outlets emphasize ups and downs of presidential approval and discuss why changes occur in the ratings. The public pays attention to these numbers, and these possibly give influence on how people perceive the current state of politics. South Korean media outlets report these ratings weekly — however, the scores from significantly different among different research organizations. Depending on their political ideology and method, the result can be positive or negative to a particular government. The public does not know much about how these firms measure presidential approval. Then, how can the public distinguish which is more accurate and which is to believe? Is this approach of measuring presidential approval indeed illustrate the public's sentiment? The result of a survey on a particular issue may show the greater distance from the public's feeling. For example, people's disgust towards opposite sex seem augmented in numbers to emphasize a government's wrongdoing.

The world has been changed dramatically since the same polling method began to measure public opinion. However, the way of gauging public opinion has not changed much. A medium of asking has been altered from the face-to-face questioning to the telephone survey. This change has happened to accommodate changes in people's lifestyle and accomplish a better sampling. The spread of a smartphone has altered how people live. Especially social network services have influenced the behavior of communication and interaction among people. The response rate of a telephone survey decreases as people use more alternative ways like mobile chats and social network services than traditional voice communication. Considering

the change, modifying the survey to incorporate the internet and social network environment is critical for measuring public opinion in the future.

The internet and social network services also affect politics. Politicians use online tools to communicate with the public. President Trump and Obama have been using Twitter. The congresswoman of New York Ocasio-Cortez broadcasts her actions through Twitter. South Korean politicians use YouTube. Before social network comes into politics, everyone uses webpages and blogs. This indicates that these new media outlets are a dominant source of communication for the public. The existing ways to measure presidential approval does not include online platforms. Can it be possible to modify or enhance president approval by incorporating new media like Twitter? Or can presidential approval use online sources supplement current researches?

Therefore, in this research, I am trying to reveal presidential approval can be measured using online media including social networks, aggregate news providers, internet communities, etc. if it is possible, I would analyze new measure's validity and reliability. Measuring presidential approval through data gathered from the internet and social network services reveals that it is possible to gauge public opinions of different issues using other forms of data than the traditional survey data. This can add value to the existing studies by removing spatial and temporal constraints. The public opinion can be obtained anywhere and anytime if people are using the internet and social network. It also allows getting public opinion on various issues in a timely manner. This can be helpful to studies of issue saliency and political events by providing previously unavailable data. Also, measuring presidential approval and public opinion of various issues using online data requires comparably much fewer resources like time, labor, and capital. This indicates that there can be an affluence of data to research.

This research is regarding creating a complementary method to appraise presidential approval using data collected from the internet. Chapter II explains previous studies

conducted in relations to the research question. It includes how politics discuss and measure public opinion and presidential approval. In Chapter III, I introduce a new way to measure presidential approval. Chapter IV provides the application of the new method. This chapter illustrates how this approach can be applied to existing studies of presidential approval. Chapter V provides the conclusion including possible values that this study proposes.

II. Literature Review

A. Public opinion in politics

Public opinion has been the prominent topic in politics. Researchers in politics always desire to know what people think or believe because it is a base of why democracy performs. A poll has made this possible. It has added value to politics by providing technical and organized information to people who are in politics and study politics (Ranney 1946; MacDougall 1952). Early studies on public opinion discuss its definition and scope. They also indicate possible difficulties interpreting a poll. In general, public opinion is ideas, thoughts, expressions, interests, or beliefs of certain people who are a part of broader society (Gallup 1939, Allport 1937, MacDougall 1952, Erikson, Luttbeg, and Tedin 1988; Stimson 1999). This traditional or mainstream definition includes a notion that public opinion exists naturally among people and can be discovered. However, there is another understanding of public opinion although it is not a mainstream argument. According to this perspective, public opinion is forged through related researches (Bourdieu 1979).

People tend to believe that polling results represent an entire population, but this is incorrect (Erikson, Luttbeg, and Tedin 1988). Understanding the scope of the public is critical. MacDougall explains the boundaries of public opinion clearly in his writing. A public is not categorized based on geographical distinctions. There can be multiple publics. A person

can have numerous ideas or thoughts based on issues. This illustrates one person can be a part of various interest groups, which, according to MacDougall, can be interpreted as publics. Lastly, people in the same public have a sense of belonging. People in the same public share interests, thoughts, or beliefs, and provide a similar expression towards a specific issue.

Since the definition of public opinion is closely related to survey polls, the previous works of literature indicate that there are limitations of a poll (MacDougall 1952; Erikson, Luttbeg, and Tedin 1988; Herbst 2001; Splichal 2012). Surveys rarely measure a direction and magnitude at the same time. A result of polls can vary. This happens because a result can be different based on the wording of a question. It is possible to get a more positive or more negative result with an intended question. People lack sufficient information on every political issue. This can cause polls to be biased. Polls use a sample to gauge population. However, it is impossible to know the true population, so the polls always have potential that a result is not a representative.

Public opinion is closely related to issues and its relative importance. Presidential approval is one of the standard measures of public opinion (Anstead and O'Loughlin 2014). This is also relevant for studies in presidential approval. There are many studies concerning issue saliency, and it is possible to group them into two based on the speed of issue evolution (Gonzalez-Balio, Banchs, and Kaltenbrunner 2010). One group of studies are about the long-term trend of an issue. The studies observe generations and how perspective on a subject changes over a long period (Erikson, MacKuen, and Stimson 2002; Stimson 1999; Page and Shapiro 1992). The others focus on short-term volatile factors such as gender-gap and volatility of presidential approval to public opinion (Clarke, Stewart, Ault, and Elliott 2004; Kriner and Schawartz 2009; Muller 1973).

B. Presidential approval in politics

The presidential approval began with the question, “Do you approve or disapprove of the way the incumbent is handling his job as president?” (Gronke and Newman, 2009) This question is still the backbone of how we measure the approval of a president or government. The subject of presidential approval has been studied since John Mueller’s seminal study in 1970. The reviews of presidential approval are categorized into three main areas. First, there are studies to reveal factors that may influence presidential approval. Second, the researches attempt to explain presidential approval theoretically. Third. The researches also desire to explain how the approval rating effect on other political issues.

Factors influencing the presidential approval are the most popular and frequent research topic within the subject of presidential approval. As Mueller indicates in his book called *War, Presidents, and Public Opinion* (1973), a war is an influencing factor for presidential approval. Prolonged war and increase in death count, especially for U.S. military, brings approval down. This war factor was confirmed in various other studies (Kernell 1978; Ostrom & Simon 1985; Gartner & Segura 1998). War is one kind of extraordinary events. As an extension to this research on war and its influence on the presidential approval, events can influence the approval. (Mueller 1973, Mackuen 1983, Ostrom & Simon 1985, Newman & Forcehimes 2010) Extraordinary events like 9/11 certainly influence the approval rating.

Furthermore, smaller and frequent events can also have an effect on approval. Smaller and frequent events include various types of elections. The result of different polls and campaigns affect the presidential approval rating.

In addition to the factors indicated above, a condition of the economy is an influencing factor for presidential approval. Economic condition is an important factor confirmed by many studies. (MacKuen, Erikson, & Stimson 1992; Clark & Stewart 1994; Norpoth 1996). Objective economic conditions can be a factor as well as people's perception of the economy. However, Berlemann and Enkelmann (2014) recently revealed that the relationship between

the economy and presidential popularity changes over time.

A war, the extraordinary events, and an economic condition cause changes in the presidential approval. The political ideology or partisan predisposition decides levels of voter's presidential approval (Lebo & Cassino 2007; Jacobson 2007; Gronke & Newman 2009). Voter's with Democrat background will be more understanding towards Democrat president or government, and vice versa. The political ideology of voters is not the factor which moves the presidential approval to a particular direction, yet it set a tone or a base for voter's approval rate for a president, government, or a policy.

The first group of studies is about how various factors alter the presidential approval. The second group of literatures regarding presidential approval is an attempt to explain the subject theoretically. There are two major explanations regarding what causes presidential approval. First, presidential approval can be measured because there is issue saliency (Mueller 1973; Lee 1977; Kernell 1978; Edwards 1990; Brody 1991). An individual has its value preference or priority. This set of saliencies influence how people evaluate a president or a government. This also explains why people's evaluation changes, and one influencing factor loses its effect occasionally. The second explanation is the expectations gap. (Stimson 1976; Kimball & Patterson 1997; Waterman, Jenkins-Smith, & Silva 1999). People have their expectation towards a president or a government. There is a gap when actual performance does not meet the expectation. The more significant difference can be a reason for the low approval rating. These two are the main theoretical illustrations of how people evaluate a president or government's performance.

There are studies regarding how presidential approval influence other subjects in politics. Presidential approval influence the president's policy proposals (Canes-Wrone & Schotts 2004; Canes-Wrone 2005). President with mediocre approval rating will follow more popular option supported by the general public. The extreme will select extreme policy measures.

President's approval influences its public positioning (Eshbaugh-Soha & Rottinghaus 2013). President with above average approval rating will take a more partisan supported political position. Presidential approval also affects a president's presence in the legislative body (Canes-Wrone & de Marchi 2002). President's popularity partially influences legislation success. High presidential rating increases the possibility of complex and salient policies to be legislated.

C. Use of online media in social science

The internet and social networks have altered people's lifestyle dramatically. They have made people in a society more connected and instantaneous. Data from the online sources opens up new areas to research in the realm of social science, especially in the field of public opinion. There is a constant real-time inflow of information as people restlessly communicate in the online environment, which can benefit researches in social science. The previous studies can be categorized into two broad groups; technical and non-technical. Technical researches are about sentiment analysis, which is a way to understand emotion or sentiment in a text through a computer. Sentiment analysis is a part of Natural Language Processing. The analysis tool takes raw text data, extract and tokenize the texts, and analyze the processed words (Liu 2012). There are supervised and unsupervised learning methods available for sentiment analysis. The first uses training data which contains predetermined sentiment regardless of domain and eventually build a model predicting uncategorized text data. The later uses already established dictionary and sentiment categories. Since the unsupervised learning is less sophisticated method compared to the other, more researches have conducted about the subject of online communication (Bollen, Pepe, and Mao 2011; Dodds and Danforth 2009; Dodds et al. 2011; Golder and Mach 2011; Gonzalez-Bailon, Bachs, and Kaltenbrunner 2012; Thelwall, Buckley, and Paltoglow 2011; Young and Soroka 2012).

These studies mainly compare the performance of the different dictionary upon various data sources. Supervised learning is a relatively new approach, and most of the studies make performance comparison to unsupervised learning (Gonzalez-Balio and Paltoglou 2015).

Differently, from the studies explained above, non-technical researches focus on how to interpret data obtained from online sources like social networks. Researchers have considered online data can be useful to gain insight for various public or the public. In the field of social science, the most considerable interest is towards predicting election results using social media (Franch 2013; Jenson and Anstead 2013; O'Connor et al 2010; Tumasjan et al 2011). The studies provide different signals about the possibility of predicting election results. Depending on a choice of dependent variables and analysis tools, models' predictability and performance vary quite much. The predictability is measured by comparing the calculated value with the actual election outcome. Another area of interest in social science concerning the use of social media is in the subject of issue saliency. Similar to presidential approval literatures, researches attempt to illustrate significant factors influencing election results. Studies are focusing on short-term events such as election debates (Elmer 2013; Shamma, Kennedy and Churchill 2009) and long-term factors like economic condition or environment (Gonzalez-Bailon, Banchs, and Kaltenbrunner 2010). These researches illustrate that these events can influence an election and presidential approval.

D. Studies of presidential approval in South Korea

The reviews of presidential approval in South Korea follow the similar logical structure of the presidential approval literatures explained in the previous section. There are two opposite directions to the researches. One being presidential approval becomes an influencing factor, and the other investigates factors affecting presidential approval (Moon 2012). Presidential approval is a factor influencing by-elections (Cho, Choi, and Ga 2006).

High presidential approval is beneficial for a ruling party if the by-election is held at regions friendly to a ruling party. There are more studies that have conducted to identify factors affecting presidential approval. This can be interpreted as there are more studies in South Korea attempting to analyze elements causes changes in public opinion. Perspective towards national economy, political scandals, media reports, bipartisan support, and personal economic conditions are factors influencing presidential approval in South Korea (Ga 2006; Ga 2008; Jeon 2006; Ga and Noh 2010; Cho and Hahn 2010). Most of the studies regarding presidential approval in South Korea are about perspective on the national economy and its impact on presidential approval. This economic perspective is compared to another significant factor, political scandal including conflicts with North Korea. Relative importance between economic outlook and political events to presidential approval varies among different presidential election (Park 1993; Jung and Song 2006; Kim 2007; Lee 2008). The most influencing factor changes according to political environments when the vote occurs.

In addition to these studies to search influencing factors to presidential approval, studies are examining for problems the current polling system has in South Korea. The most critical issue is that the current poll can severely distort the representation of a certain generation, especially women in their twenties and thirties (Jung 2015; Koo 2017). Polling agencies and related government agencies try to address this problem by applying different sampling and collecting methods, yet nothing completely solves the problem.

Data from online media or social networks can be a great complement to the existing polls in South Korea. A primary user group of social networks and the internets are the twenties and thirties. Moreover, certain services has more women users than men. It is possible to mix data sources and get a better representative sample for a particular population group.

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