MEASURING THE IMPACT OF ACTIVISM
ON HYDRAULIC FRACTURING POLICY GLOBALLY

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ABSTRACT

Hydraulic fracturing, or "fracking," is a practice energy companies use globally to pump large volumes of water, sand, and chemicals to crack shale, releasing natural gas into wells. Communities and environmental organizations have mobilized globally to protest fracking, citing dangers to people, animals, communities, and the natural environment. While the U.S. is the undisputed leader in shale gas development and use, the practice has been explored, proposed, or instituted globally in a number of countries. This paper surveys global fracking and activism, offering a framework for developing specific measures of that impact. We propose three key measurement criteria for judging effectiveness: (1) goal attainment (i.e., whether desired outcomes are obtained, and the progress of proposed policy through the legislative or bureaucratic process); (2) participation, influence, and share of voice (i.e., which actors are participating in public debate, which actors are not participating, presence and issue engagement online, what is the nature of the debate, and evidence that the activists and their positions are considered credible and valuable to the debate); and (3) organizational maintenance (i.e., whether the organization has needed resources and whether it is growing) Our measurement framework also addresses the impact of media and political systems on the environment for public relations practice that are relevant to the issue of hydraulic fracturing debate.

Keywords: activism, public relations, hydraulic fracturing

INTRODUCTION

The public relations efforts of activists—individuals organized in groups with the goal of influencing one or more target organizations through action—are a legitimate area of public relations scholarship (Coombs & Holladay, 2007; Smith & Ferguson, 2010). One important social role of activists and their organizations is to elevate a society's value standards; for example, environmental groups have pushed for higher environmental standards in the United States and globally in countries exploring the practice of hydraulic fracturing. While many studies have examined either activist or organizational campaigns, it is the clash of messages between activist and target organizations that produces and reproduces issue definitions and influences the development of the conflict (Smith, 1995). Greater understanding of this clash is required in order to understand and predict how relationships between activists and organizations develop (Smith & Ferguson, 2010). To best understand the influence of activists on policy change over time, longitudinal studies that examine the interactions between community

members, activist organizations, and their targets' responses are needed (Smith and Ferguson, 2001). Assessing the influence of activists on public opinion and policy change requires comprehensive, specific, and measurable outcome criteria.

This study surveys the practice of hydraulic fracturing globally and anti-fracking activism, and offers a framework for developing specific measures of that impact on public opinion and policy decisions. We propose three key measurement criteria for judging effectiveness: (1) goal attainment; (2) participation, influence and share of voice; and (3) organizational maintenance. Our measurement framework also addresses the impact of media and political systems on the environment for public relations practices that are relevant to the issue of the hydraulic fracturing debate.

Public Policy Issues and Fracking

Hydraulic fracturing, or fracking, is a process by which fissures holding pockets of natural gas deep within the shale are broken up (fractured) by high-pressure injections of up to five million gallons of water mixed with sand and chemicals so that gas may be released and pumped to the surface (Sjolander, Clark, Rizzo, & Turack, 2011; Smith & Ferguson, 2013). Two processes are used to extract natural gas trapped in shale formations: first, drilling down to the sedimentary rocks, sometimes as far as ten thousand feet and, second, drilling sideways for a mile or more (McBride & Sergei, 2015). The water used in fracking usually returns to the surface during drilling, where it must be stored and disposed of (Ferguson & Smith, 2012a).

Growth and extent of fracking in the United States. Approximately one million American wells have been fracked since the practice began in the 1940s (Brantley & Meyendorff, 2013). The majority are vertical wells that tap into limestone or porous sandstone. Since the 1990s, however, gas companies have had the technology to harvest the gas trapped in the original shale source through hydraulic fracturing, a type of horizontal drilling (Brantley & Meyendorff, 2013). An increase in drilling in 2008-2013 led to the U.S. becoming a leading natural gas producer and potential gas exporter (McBride & Sergie, 2015), development that has been designed to reverse a decades-long trend of increasing reliance on foreign oil and gas. By 2012, the U.S. Energy Information Administration (EIA) reported that more than one-quarter of U.S. natural gas production was from shale, and is estimated to increase to one-half by 2035 (McBride & Sergie, 2015).

While the U.S. is the undisputed leader in shale gas development and use, the practice has been explored, proposed, or instituted globally in a number of countries.

International fracking development. **Globally**, shale exploitation is significantly behind the scale in the United States; political and economic circumstances that fostered development in the U.S. are hampering international exploration (McBride & Sergie, 2015; McMahon, 2015). As fracking in the United States has increased and global energy prices have fallen, other countries are studying the U.S. example and exploring tapping their shale resources. The 2013 ARI analysis of global shale formations outside the United States revealed that more than half of the world's shale oil resources are located in China, Argentina, Libya, and Russia.

China is in the early stages of a fracking revolution, attempting to replicate the rise in U.S. shale-gas production in an effort to combat unhealthy levels of pollution and meet a surge in energy demand. China began hydraulic fracturing in 2012, and within five years output is expected to reach 15% of all the nation's gas production (Sjolin, 2015). China is sitting on almost as much shale as the United States and Canada combined (potentially the largest shale gas deposits in the world), but mountainous terrain, water shortages, and technological and market challenges hamper exploration (McBride & Sergie, 2015).

Argentina is estimated to hold the world's second largest reserves of shale gas and the fourth largest reserves of shale oil, second to China ("Energy companies eye Argentina…," 2015). The government crafted a strategic plan to guide the development of these reserves and passed energy regulations to attract companies to invest, but the country lacks the domestic technology and experience in hydraulic fracturing. Similarly, Libya's production has drastically slowed down due to the country's civil and political upheaval (Kaufman, 2015).

Some countries see their shale resources as having the potential to transform geopolitical regions. In particular, Turkey, Ukraine, and Poland, which is set to focus on coal and shale gas, and renewable energy sources, envision reducing their dependence on conventional gas from Russia and Iran (McBride & Sergie, 2015; Zehr, 2013). However, Turkey's production has been stalled due to terrorist attacks and civil unrest (Kashi, 2013). Ukraine, presumed to have Europe's third-largest shale gas reserves, is poised with government approval and energy company investments to begin fracking explorations, but civil unrest and no specific legislative framework for shale gas exploration have stalled development plans ("Shale development in Ukraine," 2016). Experts say that the fighting serves Russia in delaying fracking exploration by energy companies, and that Ukraine's push for shale development is one of the key reasons Russian separatists are fighting, since development would endanger Russia's monopoly over the multi-billion euro gas supplies to Europe (Batkov, 2015).

Russia holds the world's largest natural gas reserves—five times that in the U.S.—yet the country is still nearly 15 years away from commercial production of shale. Threatened by low oil prices as a result of hydraulic fracturing, Russia has been charged with financing the anti-fracking movement in the United States and spreading misinformation to destabilize shale (McMahon, 2015; Pashley, 2015; Rogan, 2015). However, to preserve its stake in the global energy mix and maintain its geopolitical influence in the world, Russia is being pushed toward developing shale and other unconventional gas deposits (Pashley, 2015). Russia's confrontation over Ukraine has delayed hydraulic fracturing development, and has restricted American energy companies from offering fracking technology, equipment, and services to Russian drilling projects (McBride & Sergei, 2015).

Global opposition to fracking. The global green community has been nearly unanimous in opposing hydraulic fracturing (Brantley & Meyendorff, 2013). Opposition has been most prevalent in Europe, where environmental concerns have blocked fracking. France (which relies heavily on nuclear energy) and Bulgaria—countries with the largest shale-gas reserves in Europe—are the only European Union nations to have banned fracking. Although Greenpeace and other environmental organizations dismiss the claim, NATO chief Anders Fogh Fasmussen charges that Russia has funded anti-fracking activism across Europe as well as in the U.S.:

Well-organized and well-funded environmental opposition to fracking in Europe sprang up suddenly in countries such as Bulgaria and Ukraine, which had shown little prior concern for the environment but which are heavily dependent on Russia for energy supplies. Similar movements have also targeted Europe's plans to build pipelines that would offer an alternative to reliance on Moscow. (McMahon, 2015, para. 5)

Protesters are blocking potential drilling sites in Poland and England (Brantley & Meyendorff, 2013). Lithuania has strengthened environmental restrictions for developing shale-gas technologies, requiring an environmental impact study and public consultations before explorations can begin (Zehr, 2013). The anti-fracking movement in Spain's Basque region has utilized diverse activist tactics such as covering towns and villages in No Fracking (Fracking EZ) flags, holding hundreds of meetings, and building alliances with Basque Parliament and local municipalities. As a result, Parliament passed a "triple filter" of laws that prevent hydraulic fracturing, and in July 2015 the Basque Country hosted Frackanpada, the first international gathering of fracking activists "from Kurdistan to Brazil, from Ukraine to Portugal and Algeria," (Rushton, 2015, para. 1). That this international gathering of hundreds of activists occurred on land that was intending for fracking is a strong statement of the movement's global successes.

Despite the government interest and incentives in developing shale deposits in Argentina, national and local officials are in a power struggle with municipalities and environmental groups that opposi hydraulic fracturing. Public opposition led 50 municipalities to invoke fracking bans. The Assembly of Fracking-Free Territories, a network of groups opposed to hydraulic fracturing, works to preserve the will of the people and their right to live in their hometowns and to protect their water from pollution ("Energy companies eye Argentina…," 2015).

Environmental impact of fracking

Although the boom in hydraulic fracturing has been accompanied by increased profits for energy companies, the injection of business from energy company employees into communities, financial benefit to citizens in lease payments for drilling on their land and, more recently, falling global energy prices, there are concerns about the costs of fracking and the risks to health and the environment by analysts, environmental and community groups, and government.

Hydraulic fracturing since the 1990s has used greater volumes of chemical-laden water, injected at higher pressures. Methane gas can escape into the environment out of any gas well, creating the real, though remote, possibility of dangerous explosions. Water from the gas wells often returns to the surface, containing extremely low but measurable concentrations of radioactive elements and heavy concentrations of salt, a mixture that can be detrimental if not disposed of properly (Brantley & Meyendorff, 2013). In addition, because fracking puts a previously inaccessible supply of carbon into the atmosphere, it contributes to global climate change (Brantley & Meyendorff, 2013).

Scientific studies of the impact of fracking have found conflicting results. A 2014 New York state health department report synthesized multiple studies carried out across the United States, finding serious concerns including respiratory health, drinking water, seismic activity, soil

contamination, and impact of new roads and infrastructure on local communities (McBride & Sergie, 2015). In June 2015, however, a report from the Environmental Protection Agency (EPA) found no "widespread, systemic impacts" on drinking water (McBride & Sergie, 2015).

Who gets to set fracking policy?

The nature of complex public policy disputes is that policy decisions are made at many different levels of government and can take a variety of forms (Smith & Ferguson, 2013. For some issues, no clear national mandate exists to regulate particular activities, and thus many issue battles are fought locally. Toth (2006) argued that for organizations to be successful, leaders must understand and build public policy relationships through active collaboration with local and national public officials.

From a strategic standpoint, government entities might be more receptive to a particular industry or environmental group's concern either because of an industry's significant presence in a particular location or the political climate, such as when an election produces a legislature more amenable to business interests. Thus, a key strategic decision for issue managers is to determine an appropriate place, or locus, where a policy should be developed and determined. In cases where the legal authority over decisions is clear, there is little to debate about the locus of decision making and limited strategic positioning. However, in complex issues with policy propositions that could be decided by any number of agencies or governmental units at the local, national, or international level, the potential exists for issue managers to argue over the appropriate locus of policy decision making. Establishing the legitimacy of the locus of decision making helps increase the chance that a policy resolution is more widely accepted and implemented (Coombs, 1992; Toohey, Dailida, & Bartholomew, 2003). It is not surprising, then, that claims and counter claims about the legitimate locus of policy decision making would arise in issue management discourse.

PUBLIC RELATIONS AND PUBLIC POLICY

Issue management

Issues management is the process by which various advocates identify, prioritize, define, analyze, promote, and seek to influence the resolution of questions of public policy (Botan & Taylor, 2004; Crable & Vibbert, 1985; Heath & Palenchar, 2009; Jones & Chase, 1979; Smith & Ferguson, 2013). Botan and Taylor (2004) argued that "at the heart of issues management is a belief that organizations and publics can engage each other in ways that allow for one or both parties to change" (p. 654). Issues management research suggests that issue advocates must draw attention to the problem, position themselves as legitimate advocates, and successfully argue for their recommended resolutions to the problem (Crable & Vibbert, 1985; Heath, 1997; Vibbert, 1987). Issues are commonly described as having a lifecycle comprising five stages: early, emerging, current, crisis, and dormant (Crable & Vibbert, 1985). As the issue moves through the first four stages, it attracts more attention and becomes less manageable from the organization's point of view. Through its public relations activities, an organization communicates its positions on issues, solicits support for action and, ideally, engages target organizations in policy discussions (Ferguson & Smith, 2012b).

Issues Management and Activism

In democracies, policy formation is often contested in public, and involves multiple parties. Interacting with activists is something that many governments and organizations resist (Smith & Ferguson, 2001). In early research, activists were viewed as problems for organizations (see L. Grunig, 1992). J. Grunig (1989) argued that "when members of active publics join activist groups, they contribute to the constraints on organizational autonomy that create a public relations problem and bring about the need for a public relations program" (p. 3). Smith (1995) argued that activists are often treated as threats to other organizations because they may disrupt an organization's routine, influence the development of issues that may be threatening to an organization, use tactics that may appear threatening, and are perceived as being made up of members whose commitment to a cause is threatening. More recently, the public relations efforts of activists have become a legitimate part of public relations scholarship (Smith & Ferguson, 2010).

Activism centers on effecting policy change on issues, which evolve over time and tend to be either a question ready for decision (Jones & Chase, 1979), an organizational decision that creates problematic conditions for publics (Grunig J., 1989; Grunig & Hunt, 1984), or a condition to which people attach meaning and create arguments (Crable & Vibbert, 1985). For example, if an environmental or community organization believes that government policy would resolve an environmental problem, it utilizes public relations tactics designed to generate support for legislative remedies (Smith & Ferguson, 2001).

Issues management theorists have contended that issues are cyclical—that is, they rise and fall in status on the public's agenda (see Crable & Vibbert, 1985; Downs, 1972; Hainsworth, 1990; Jones & Chase, 1979). As issues gain status, activist organizations gain attention, members, and resources. When issues appear to be resolved or otherwise fall from the public's agenda, activist organizations suffer (Ferguson & Smith, 2012b). Activists "recognize issues earlier and package them to shape the interpretation of others" (Zietsma & Winn, 2008, p. 71). To survive, activist organizations must adjust to changes in their "issues environment" (Jopke, 1991; Smith, 1995).

Public relations and activist goals

Activist organizations engage in public relations for two primary, interrelated purposes: 1) to rectify the conditions identified by the activist publics; and 2) to maintain the activist organization or sustain the movement (Smith & Ferguson, 2010). For example, environmental groups pursue environmental issues; anti-war activists seek an end to an armed conflict. Activist organizations operate in the "tensions between what is and what ought to be" (Heath & Palenchar, 2009, p. 201), or oppose institutional behaviors that violate what the activists believe would be more legitimate and socially responsible. Activists pursue a preferred resolution to an issue, which provides the first goal of activist public relations—achieving the outcome desired by the organization. There are three sorts of goals activist organizations pursue: (1) to elicit or resist change on the part of a target organization or, more broadly, an industry or field; (2) to seek public policy or regulatory changes that would, in turn, effect change in institutional or public behavior; and/or, most broadly, (3) to change social norms (Smith & Ferguson, 2010).

A number of studies have examined how activists apply public relations techniques to achieve their goals. These studies have primarily looked at public relations strategies, or the general approach to communicating to achieve a goal and/or objective, and tactics, or the particular tools used in public relations, such as news releases, websites, social media, and other computer-generated, technology-dependent techniques. Several of the studies in this area seek to add to our understanding and refine the typologies of tactics used by activists and by institutions in responding to activism. In a review of 34 cases of activism, L. Grunig (1992) concluded that activists' tactics ranged along a continuum and included contact with the media, direct solicitation campaigns aimed toward the public or regulators, lobbying, public forums, petition drives, litigation, pseudoevents, public education, picketing, boycotts, and sit-ins.

MEASURING ACTIVISM'S IMPACT

Measuring the outcomes of public relations efforts has long been a quest undertaken by both scholars and practitioners. From Cutlip, Center and Broom's (1985) Preparation, Implementation, and Impact (PII) Model and Nager and Allen's (1984) PR Management by Objectives to the recently revised Barcelona Principles (Jackson, 2015), many models have been developed to measure the impact of public relations. The development of the Barcelona Principles indicates that identifying and measuring public reations outcomes is a global concern. However, as Likely (2015) observed,

> …these models have not been compared to each other in any systematic way, nor have they been tested and peer reviewed. The result is that the profession has a variety of competing models – and no standard for a multi stage goal setting and measurement process… (para. 6)

Like much of the study of public relations management, many of these models were developed primarily for corporate and institutionalized nonprofit organizations to justify the use of public relations and to identify the most effective and efficient strategies for achieving results.

To the extent that the management of activist organizations has been studied at all, much of the research has focused on how the organizations were formed (J. Grunig, 1989) and the strategies employed to influence their institutional targets (Gamson, 1990; Jackson, 1982). Less attention has been paid to the goals of activist organizations and the measurement of those outcomes.

The first step in measuring activists' impact on target organizations and/or public policy is to determine the purpose of activists' communication efforts and the criteria by which those outcomes would be measured. This section refines and expands the two purposes of activist organizations discussed above (to rectify a condition and to maintain the organization), especially as they pertain to public policy formation in a global context, and proposes specific measurement methods.

Activists have a variety of options available to them when attempting to rectify problematic conditions, including direct negotiations with target organizations. Spar and La Mure (2003) suggested that

…an NGO identifies a problem that it and its supporters feel passionately about redressing. In an effort to gain maximum impact from their finite resources, they select a target with the greatest potential to affect the problem at hand and the greatest susceptibility to external pressure. (p. 81)

While the target may be a specific organization, often activists try to influence the development of laws or government regulations meant to address specific issues. With this in mind, this essay proposes three major criteria for evaluating activist organizations' outcomes: (1) the impact on the public policy process, or the extent to which a public policy that rectifies the problematic conditions identified by the activists is adopted, and the progress of the proposed policy through the legislative or bureaucratic process; (2) participation, influence, and share of voice, the extent to which the activist organization is allowed to participate in the public policy debate and is deemed a credible and valued voice that influences public opinion; and presence and issue engagement online; and (3) organizational maintenance, or the extent to which the activist organization can sustain itself (i.e., secure needed resources, maintain support, and grow).

Public Policy Process and Resolution

The public policy formation process provides the opportunity for activists to leverage the enforcement power of the government over a number of target organizations within an industry (Kriesi, 2004). In the United States, laws are passed by legislative bodies at the local, state, and federal levels (Smith & Ferguson, 2013). Regulations are instituted typically by agencies or departments, and often have the force of law.

Very generally speaking, a number of policy outcomes might ameliorate or rectify a problematic condition. With regard to the hydraulic fracturing issue, these outcomes could include restrictions on where fracking takes place, how it is done and, at the extreme, whether fracking is allowed at all. Actual public policy often contains provisions that are much more subtle than these broad outcomes, and are often borne of negotiation among policy-makers, industry targets, experts, and activists as the policy is developed. However, the main point for evaluation purposes is that the policy outcome reflects the activist organization's desired solution to the problem.

A final policy decision does not happen quickly. Indeed, there are a number of incremental steps that, depending on the structure of the legislative or regulatory body, present numerous opportunities for evaluation throughout the policy campaign (Kriesi, 2004). Thus, while a ban on fracking may not have been passed, legislation to do so might have been introduced in committee and sent along for debate before the full assembly. In tracking the public policy outcomes sought by an anti-hunger lobbying organization, Smith (1995) discovered that the organization regularly reported the incremental introduction of favorable legislation and claimed each advancement as a victory for the group. A number of these policy waypoints exist, depending on the structure of the legislative or regulatory unit developing the policy. These waypoints may include the point at which a policy proposal is adopted for consideration in committee; the extent to which the policy is deliberated within the committee structure; the point at which the proposal proceeds through committee, as well as the extent to which desired provisions remain intact; the point at which the policy recommendation proceeds to the full assembly for deliberation; and the points at which the policy recommendation is put up to a vote, adopted, and implemented. Of course, at any of these points, the proposed policy may be defeated or rejected.

Assessing activists' goal achievement. The measurement of public policy process and formation thus features two dimensions: (1) an evaluation of the extent to which the proposed policy reflects the activist group's desired resolution of the issue, and (2) a record of how the proposed policy proceeds through the legislative or bureaucratic process.

One common tool for evaluating policy outcomes vis-à-vis the organization's desired outcome is a so-called "scorecard." These scorecards review legislative and regulatory action over a certain period of time (usually annually) and judge the outcomes. Sometimes, as in Clean Water Florida's legislative scorecard, the evaluative scale is qualitative—"good" or "bad" (Clean Water Florida, n.d.). Other scorecards award grades or attempt to put a numeric value on the outcome. For example, legislation that completely reflected activists' desired outcome may be ranked from one to ten on a ten-point scale; anything that represented either a compromise or did not reflect the organization's positions at all would be ranked lower. It should be noted that these scorecards are subjective, and reflect an organization's approach to policy making and its desired remedy to a problematic situation.

A number of tools exist to track policy proposals as they proceed through the legislative or regulatory process. Several major research firms, such as Lexis-Nexis, offer tracking services for a subscription fee. In the United States, some legislative units provide tools via their websites to allow citizens to monitor the status of a particular bill. The United States' Congress, for instance, hosts its own tracking service at Congress.gov. An independent website, GovTrack.us, also allows users to track legislation through the various regulatory agencies. An independent Web site, GovTrack.us, also allows users to track legislation through the various regulatory agencies. Even the news alert tools built into browsers (e.g., Google) can allow activists to track the progress of important bills.

Participation and Public Influence

The second major criteria by which activist outcomes may be evaluated is the extent to which the activist group is allowed to participate in public discussions about the issue and relevant legislative process, and activist organizations' influence over public discussion of the issue. Fracking is an issue that has generated a great deal of debate globally. In most democracies, robust public debate involves a variety of actors, including politicians and regulators, organizations within the energy industry itself, citizens who perceive they are affected by the practice, and activist organizations. Each of these organizations seeks to gain a voice in the debate as well as a seat at the table when policy is formulated and enacted. An activist organization cannot claim to be effective if it does not participate in attempts to influence the policy process and the public deliberations over various policy options.

Legitimacy occurs when a society and its actors grant approval to organizations to operate (Stokes, 2013). While this approval is sometimes formal (e.g., through licensure), more often it occurs when organizations earn trust, credibility, and the right to participate in public policy debates. Two outcomes—the extent to which activists (a) gain legitimacy for their role as issue advocates and (b) demonstrate the legitimacy of their positions on those issues—form the foundation for evaluating participation and influence (Smith & Ferguson, 2010).

Assessing activists' legitimacy. Several indicators can demonstrate the extent to which an activist organization has become a legitimate advocate for an issue. For instance, when

government bodies begin to formulate policy, are representatives from an activist organization invited to participate or testify at public hearings related to the issue? Do organizations representing the industry target, body(ies), or other stakeholders acknowledge the activist organization, or engage in direct discussions with its members? Do third-party observers of the debate, such as the news media, recognize that the activist organization as a credible source for opinion and information about the issue?

These questions about the activist organization's legitimacy as issue advocate may be answered using a variety of methods. Official statements from either industry actors, such as individual energy companies, or from industry trade groups that clearly identify an activist organization may be a sign that the organization has gained the right to participate in the discussion, even if there is disagreement. Third-party accounts and media coverage of the issue that cite an activist group, interview its leaders as experts, or acknowledge the activists' influence may be taken as signs of legitimacy. Traditional media and social media tracking techniques can be utilized in this instance. During the policy formation and deliberation process, the number of appearances to testify in support of a policy before a legislative body may be counted; subsequent media accounts of that testimony may be assessed for tone and accuracy.

With regard to whether the activist organization's position on an issue has gained wider legitimacy, acceptance and influence, there are several indicators that might be examined. These indicators are familiar to many public relations professionals, since they are widely used. Traditionally, activists have been able to monitor news media coverage of their issues, seeking the same data that businesses utilize: placement of news releases and stories authored by activist organizations, number of mentions in media coverage originating from news outlets or other sources, and the tone of the story (e.g., positive, negative, or neutral). Rather than looking for mentions of a product, however, an activist organization looks for mentions of its organization, issue and its policy solutions. A number of media monitoring tools and services exist for this purpose.

More recently, the explosion of online news media, bloggers, and social media means that not only are issues covered, but they are also discussed and debated online. For organizations operating in this environment, the metric called "share of voice" has become increasingly important. In some respects, share of voice is similar to traditional media monitoring in that it seeks to determine whether an organization is mentioned online and the sentiment or tone of those mentions. Share of voice monitoring takes this one step further by comparing organizations' and other actors' presence to one another. For instance, if one activist organization has been mentioned online 500 times in one month, but another group has been mentioned 1000 times, then the first activist group has a smaller share of the conversation. This is important because it is assumed that conversations win converts to a cause or issue in online activism. As with traditional media monitoring, there are many options encompassing free tools and paid services to develop reports based on share of voice (Lasica, 2011).

Finally, an activist organization's influence over public opinion is often a result of its participation in public conversations, media coverage, and presence on social media. The central questions here are whether the organization has gained public awareness of the issue and generated positive public opinion toward the policy solutions it advocates. In addition to

monitoring media coverage, organizations can examine public opinion polling on the issue, and proposals regarding its resolution.

Activist Organization Maintenance

The final major criteria for measuring activism's success is the extent to which the activist organization can sustain itself over time by gathering the necessary human and financial resources. While this is an important public relations function for activist organizations (Smith & Ferguson, 2010), relatively little attention has been paid to it. For instance, Giugni (2004) claimed that activist communication strategies were aimed at two distinct audiences: political officials and the general public. However, Smith and Ferguson (2013) argued that an activist group must recruit members and coordinate their activities, including advocacy on particular issues, communicating to keep the organization's issue(s) relevant, and fundraising to sustain the organization. Sociologists have found that despite the loose-knit grassroots organizations that characterize a movement's early phases, successful policy initiatives are led by strong, centralized, well-organized activist groups (Gamson, 1990; Giugni, 2004).

Assessing maintenance of activist organization. A range of indicators can be used to assess an activist organization's health, including membership levels, donation levels, support for specific initiatives, the number of members participating in organizational initiatives (e.g., rallies, lobbying efforts), and the ability to marshal resources to maintain basic organizational functions. Annual reports and other financial records, as well as reports on an organization's owned media platforms, such as the website or newsletters, can provide some evidence of the organization's sustainability.

In review, we have attempted to create a framework for evaluating the impact of activist organizations on the public policy process from a public relations measurement standpoint. The framework proposes three main criteria for evaluating the work of activists: public policy outcomes, public participation and influence, and organizational maintenance. A number of methodological tools already exist or are emerging to provide data to determine the influence activists have had on public policy.

Interrelatedness and Contextual Factors

Interrelatedness of criteria and outcomes. Before turning to how these three criteria might be applied to measuring the outcomes of fracking activists, two important observations should be made. First, the three categories each contribute to the outcomes of an activist group's effort; thus, these broad outcomes are interrelated. Having a sustainable structure helps an organization earn legitimacy in the eyes of government officials; the ability to influence public opinion on an issue may also increase the ability to move a policy proposal through the legislative process. For activist practitioners, this means that a multi-pronged approach to both goal setting and evaluation is necessary. For researchers, this means that describing and analyzing activist organizations' advocacy efforts requires a broad methodological approach to judge activists' impact.

Cultural and environmental factors. The second and, perhaps more important, observation is the recognition that while we believe this framework can be universally applied to analyzing

activist activity in any particular country, making comparisons between countries and drawing general conclusions about the impact of activism is highly dependent on the political, cultural, and economic context of the countries being examined. Sriramesh and Vercic (2003) proposed that the practice of public relations in a particular country is influenced by a country's cultural factors such as its economic, political, and legal infrastructure—and its history of activism. Based on his ethnographic study of public relations practices in India, Sriramesh (1992) argued that as the instrument of communication with external constituencies, public relations "will thrive only in a society that possesses a potent external environment consisting of alert and challenging media, conscientious environmental and consumer advocacy groups, and special interest groups" (p. 230). Public relations scholars also believe that societal culture has a significant impact in shaping an organization's culture and its practice of public relations (Grunig & White, 1992). Sriramesh (1992) argued that "because a society's culture affects the way its members communicate, culture also should have a direct bearing on the public relations practices of organizations" (p. 11).

Hofstede (1980) identified four key dimensions of national culture: individualism/collectivism, power distance, uncertainty avoidance, and masculinity-femininity. In the measurement of activists' success, the first three dimensions are most relevant. *Power distance* refers to the extent to which power, prestige, and wealth are distributed disproportionately among people of different social strata or classes (Hofstede, 1980; Vercic, L.A. Grunig, & J.E. Grunig, 1993). Power distance has been found to correlate positively and significantly with authoritarianism, while low power distance countries are democratic (Hofstede, 1980). A high level of power distance is likely to induce government and organizations in that society to operate in a domineering manner, paying "little attention to public perception; neither are they challenged by specific publics or competitors" (Sriramesh, 1992, p. 239). The emphasis by government and powerful institutions, then, is on how to manipulate the public to accept the government or organization's positions and/or policies (Ferguson, 1998). *Individualism-collectivism* represents the degree to which a society emphasizes that everyone is expected to look after himself/herself with loose ties between individuals, or integrates people from birth onward into strong, cohesive in-groups, often extended families, which continue protecting them in exchange for unquestioning loyalty (Hofstede, 1980; Vercic et al., 1993). *Uncertainty avoidance* reflects the degree to which a society tolerates ambiguity (Hofstede, 1980). At the root of a society's mechanisms to deal with uncertainty is its cultural heritage, which is typically transferred through basic social institutions such as the family, the school, and the state. These mechanisms, therefore, are reflected in the collectively held values of the members of a society. Freedom, for example, breeds uncertainty because individuals have a greater amount of leeway to formulate and enforce their actions. Totalitarianism tries to counter this uncertainty by curtailing freedom (Sriramesh, 1992).

Embedded in Hofstede's (1980) cultural dimensions are a variety of cultural factors, including the society's history and government system. Additionally, the structure of the media industry in a country shapes the practice. In a broad sense, freedom of expression in a society is essential to citizens' participation in government decision making (Emerson, 1963). Not only does the extent to which citizens and the media are allowed freedom of expression predict whether media outlets exist to challenge organizations and government, but also the degree of expression permitted impacts many aspects of a society's cultures. Government and government officials in cultures

where broadcast media are controlled by the state, for example, rarely face opposition from radio and television outlets. In free speech societies, media can highlight the opposition of external constituencies to the activities of organizations and government or, by their challenging of organizational actions, behave as activist publics (Ferguson, 1998). Because organizations must pay increased attention to these activist groups and their ability to influence public opinion, proactive media relations becomes an increasingly vital aspect of public relations strategy (J.E. Grunig, 1989).

Thus, culture, activism, and public relations are interconnected, and this interconnection is uniquely manifested. As Giugni (2004) observed, ""strategies that work in a given context may simply be ineffective in other political settings and vice versa" (p. 25). Thus, while it may be desirable to identify some transnational postulates about activism's influence on policy, it is also nearly impossible to do. While one nation's political structure may allow relatively open access to activists, another country's system might be relatively closed (Decock, 2015). Cultural and contextual factors also make it difficult to support claims of causality (i.e., that a particular strategy directly resulted in a specific outcome). Finally, even in an individual nation, conditions for activism may change over time. Longitudinal studies that attempt to capture the influence of activism on particular issues may offer some common points of comparison both within single countries and in comparison with others (Giugni, 2004; Smith & Ferguson, 2010).

MINI-CASE APPLICATION TO FRENCH BAN OF FRACKING

As the practice of hydraulic fracturing has increased in the U.S., more countries have begun exploring drilling options, development, and production. These three criteria for measuring activist success in banning or stalling fracking offer ways to assess the effectiveness of activists' efforts in achieving the two goals of rectifying a problematic situation (i.e., fracking) and maintenance of the activist organization (i.e., anti-fracking activists). Such studies may examine activist strategies and tactics in a single country or in a comparative study. For example, in a rare comparative study, Kadar (2014) found that although the anti-fracking movement was the most important impetus behind the French ban, Polish fractivists' influence failed to extend beyond a local presence, with no long-term policy impact.

We offer the following mini-case study of activists' efforts and impact on the banning of hydraulic fracturing in France, one of only two European Union countries to ban fracking, using the three criteria proposed above: 1) goal attainment; 2) participation and influence, and share of voice; and 3) maintenance of the activist organization(s).

France reportedly has the second largest shale reserves in Europe, located in several regions of the country ("Shale development in France"). However, hydraulic fracturing has been used only 15 times, and any use of fracking techniques to explore or develop gas reserves has been banned since 2011.

Activist Impact Test 1: Achievement of Activist Goals—EFFECTIVE

In March 2010, the French Ministry of Ecology, Energy, and Sustainable Development (MEESD) approved three corporations' requests for "exploration authorizations" in southeast France (Keeler, 2016). By February 2011, after waves of protest, opposition in social and

traditional media, and political maneuvering by left and right parties, the government temporarily suspended the three exploration permits for shale gas and created parallel consultative teams: one industry and energy entity and one focused on the environment and sustainable development (Keeler, 2016). Both were charged with submitting reports documenting the environmental consequences of extracting shale gas. Five bills that banned hydraulic fracturing or shale gas extraction under any condition were submitted to parliament, weeks before the commissioned reports were completed.

The government supported the Jacob Bill, which banned fracking on the grounds that it violated the Environmental Charter that was passed in 2005, but allowed for the possibility of shale gas extraction if a "clean and safe" alternative to fracking were developed (Keeler, 2016). After parliamentary debates in March-May 2011, the Jacob Bill passed by the National Assembly; on June 30 it received a majority in the Senate, and became law on July 13, 2011. This ban on fracking, the first in the world, occurred only 15 months after the first MEESD decision.

The final state of the Jacob Law process was on October 11, 2013, when the appeal by Schuepbach Energy LCC was upheld by the French Constitutional Council ("France cements fracking ban," 2013; Keeler, 2016).

Activist Impact Test 2: Participation and Influence, and Share of Voice—Effective

In March 2010 when the exploratory permits were approved, public consultation was not required prior to such an authorization; this provision had been struck down in 1994. Neither were the research applications required to state the specific technique that would be employed in exploration, nor was there a requirement to quickly and widely disseminate the information to elected officials and the public (Keeler, 2016).

Thus, it took months for the French public to learn about the authorizations to explore hydraulic fracturing, and until October 2010 for the first highly provocative article to appear in a French publication, criticizing MMESD official Jean-Louis Borloo for approving the permits and citing the newly released anti-fracking American documentary *Gasland;* this documentary played a significant role in mobilizing French opposition to hydraulic fracturing.

By late December 2010 and January 2011, people rose "as one bloc to express their radical refusal" of shale exploration and began holding information meetings and displaying unified identification through bumper stickers, t-shirts, and posters (Keeler, 2016, p. 6). Activists in France avoided creating a formalized structure for the anti-fracking movement, but did organize Collectif 7 to centralize information, manage a primary website (http://www.stopaugazdeschiste07.org/), and coordinate activities. (For this reason, and due to space constraints, the third test for activist impact, organizational maintenance, will not be examined in this mini-case of France hydraulic fracturing.)

Opposition to fracking was spreading by social media and local activists' networks (Keeler, 2016). Regular stories appeared in traditional media outlets (e.g., Badkar, 2011), websites (e.g., www.stopaugazdeschiste07.org and www.nongazdeschisteinfos.com and blogs, as well as songs and videos on Youtube. References to shale gas in Google Trends registered no activity until late December 2010, but spiked dramatically over the next two months (Keeler, 2016). Raoul (2011)

called the internet "a powerful too, a sort of permanent a la carte general assembly in which each could participate when and how he wanted" (p. 23).

By February 26, 2011, the movement and its allies had organized the largest anti-fracking protest in France with 20,000 attending a demonstration in Velleneuve-de-Berg (Keeler, 2016). Even in a country where anti-government protests are common and part of a revered tradition, the 2011 anti-fracking protest movement in France have been considered to be "extraordinary in its intensity, scope and ultimate impact" (Keeler, 2016, p. 7; see also Badkar, (2011; see also Fracking: Big business wants, 2014).

Although this case study of the anti-fracking movement in France is brief, it reveals the effectiveness of French activists in attaining their goal of effecting public policy banning hydraulic fracturing, and highlights some of their participation and influence from late 2010 when the public became aware of three exploration permits through May 2011 when fracking was banned by the French government. In a comprehensive case study analysis, measurement tools discussed above would be employed, and the extent to which the social collectives organized to oppose fracking have been maintained would be assessed. In addition, the influence of historical, political, economic, media, and other cultural dimensions would be examined.

CONCLUSION

Our paper has reviewed global fracking and activism, and offers a framework for developing specific measures of that impact. Examining the purposes of fractivists' strategies and tactics using these measurement criteria and considering the influence of political, economic, media, and other cultural factors would provide insights about the effectiveness and impact of their efforts to effect change.

This framework for measuring activists' effectiveness in achieving desired goals; mobilizing participants, and achieving a significant voice and influential role in public debate; and securing resources for organizational maintenance, takes into account traditional as well as digital and social media. The anti-fracking movement is particularly adept at organizing online through social media, as seen in the mini-case study of the . The extensive use of free or low-cost online platforms has both facilitated grassroots participation and increased organizational efficiency (Helman, 2013). Measurement of share of voice, following, and engagement will further understanding of how social and digital media advance an activist organization's influence and mobilizing supporters to effect change.

Based on the number of countries exploring and practicing hydraulic fracturing and the related activism by the energy industry and community and environmental organizations, application of these criteria would provide avenues for research into the foreseeable future and could inform measurement of activism efforts on a variety of issues.

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QUARTERLY REVIEW OF BUSINESS DISCIPLINES

August 2016

Volume 3
Issue 2