Common Approaches for Studying the Advocacy Coalition Framework: Review of Methods and Exemplary Practices

Jonathan J. Pierce*, Katherine C. Hicks*, Holly L. Peterson**, and Leanne Giordono**

*Seattle University and **Oregon State University

Abstract

This paper strives to better understand the methodologies that scholars use in applying the advocacy coalition framework (ACF) across purposes and contexts, as well as to address past criticisms of ACF methodology. Content analysis is conducted of 161 English language peer reviewed journal articles published between 2007 and 2014. Methods of data analysis and collection for ACF applications are collected and categorized according to theory analyzed, topical policy domain, and continent of application. Results indicate that the majority of ACF articles use qualitative analysis and make use of interviews and/or documents. Frequency varies depending on theory analyzed, policy domain, and continent of application. In addition, methodologically exemplary articles for each of the ACF’s three theories are identified to help guide future research. Overall, this paper contributes a snapshot of current and historical methodological variation among ACF applications and identifies future opportunities for ACF research methods.

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Introduction

Jenkins-Smith et al. (2014) argue that to continue developing the advocacy coalition framework (ACF), common methodological approaches should be established, and applications should continue to expand to unique contexts (207). To these ends, Jenkins-Smith et al. (2014) identify three key issues to be addressed in support of the ACF’s advancement. This paper adopts those three issues as its research questions: (1) Which approaches to analysis and data collection are currently being used to study the ACF, and do they vary by ACF theory? (2) To what degree is the ACF applied to different contexts, both policy domains and governing systems, and are these contexts associated with different methods of analysis and data collection? (3) What exemplary methods exist for analyzing coalition structure, policy change, and policy-oriented learning?

Advocacy Coalition Framework

The ACF comprises three major theories: advocacy coalitions, policy change, and policy-oriented learning. A brief introduction to each follows.

Theory of Advocacy Coalitions

Advocacy coalitions are defined by their shared beliefs and coordinated actions (Jenkins-Smith et al., 2014). Researchers studying coalitions often explore questions related to identification and formation of coalitions, coalition stability over time, degree of shared beliefs, coordination, and expression of actor viewpoint (Pierce et al., 2017A). The five hypotheses identified by the ACF regarding coalitions can be found in Sabatier and Weible (2007, 220).

Theory of Policy Change
The ACF posits that policy change reflects a winning advocacy coalition’s policy beliefs (Pierce & Weible, 2016). Accordingly, major policy change reflects alterations in policy core beliefs, which concern policy problem definition and policy objectives. Minor policy change reflects alterations in secondary or instrumental beliefs (Sabatier & Jenkins-Smith, 1999). Policy change can be bottom-up or top-down. Four primary pathways are associated with bottom-up policy change: coalitions taking advantage of perturbations or events external to the subsystem; coalitions taking advantage events internal to the subsystem; policy-oriented learning among or between coalitions; and negotiated agreements between coalitions (Sabatier & Weible, 2007; Jenkins-Smith et al., 2014). Jenkins-Smith et al. (2014) hypothesize that these pathways and combinations thereof are necessary, but not sufficient conditions for policy change. A fifth, top-down pathway to policy change is imposed by a hierarchically superior jurisdiction (Sabatier & Jenkins-Smith, 1993, 217). This pathway is identified in a second policy change hypothesis by Jenkins-Smith et al. (2014).

Theory of Policy-Oriented Learning

Jenkins-Smith and Sabatier (1993A) define policy-oriented learning as “enduring alterations of thought or behavioral intentions that result from experience and which are concerned with the attainment or revision of the precepts of the belief system of individuals or collectives” (42). Learning refers to lasting changes in beliefs and strategies that are rationally instrumental. Changes in beliefs may concern problem perception and causality, identification of viable alternatives, or strategies (Jenkins-Smith et al., 2014). Jenkins-Smith et al. (2014) identify five hypotheses about the conditions that facilitate policy-oriented learning among and between coalitions.
**Limitations and Criticisms of the ACF**

Fischer (2003) building on Hajer (1995) argues that the ACF is too empirical leading to neglect of social and historical contexts, stating the framework,

neglects the social and historical context in which such [policy] change takes place ... contextless statements are essentially a consequence of Sabatier’s empiricist desire to develop empirical hypotheses that are universally applicable to the widest range of social contexts. To engage in this kind of science, however, important explanatory factors have to be put in ‘black boxes’. In short, they have to be placed outside the analysis (101).

ACF scholars are thusly constricted in their understanding of coalitions, policy change, and learning because they value empirical generalizability over specificity. This study considers the critiques of Fischer (2003) and Hajer (1995) by exploring the degree to which ACF applications use qualitative analysis as well as incorporate data collection methods that can provide context from interviews and documents.

A second critique voiced by scholars (John, 1998; Parsons, 1995; Andersson, 1998) is that because of its roots in American populism, the ACF may have limited applicability to a European setting. In addition, Jenkins-Smith et al. (2014) argue that the ACF is not being applied comparatively across different political systems. However, ACF applications outside North America and by non-North American authors have burgeoned in recent years. In fact, there are now more European ACF authors and applications to European policy process than any other continent (Pierce et al., 2017A). Applications to other continents have also appeared; Henry et al. (2014) identify and discuss 27 articles applying the ACF outside of North America and Western Europe, and Jang et al. (2016) identify 67 articles applying the ACF to South Korea (most of which are in Korean) between 2002 – 2014. Therefore, this study identifies articles
that compare across political systems, and compares the methods used to study policy processes in North America, Europe, and other continents including Asia.

Weible et al. (2011) argue that there is a need to better understand how the ACF applies to different policy domains. Jenkins-Smith et al. (2014) make a related argument about the need to better understand what methods of analysis and data collection are being used to study the ACF in different contexts. Most ACF applications have historically been in the environment and energy policy domain, which constituted a majority of applications from 1987 to 2006 (Weible et al., 2009). But among more current applications, from 2007 to 2014, environment and energy represented only a plurality of articles (Pierce et al., 2017A). Therefore, we compare the methods used to study environment and energy with other policy domains.

With this expansion to new contexts and policy domains comes a need to better understand their methodological trends. Scholars have already begun this work; Henry et al. (2014) and Jang et al. (2016) identify that applications of the ACF outside of North America and Europe use informal methods depending on documents. Pierce et al. (2017A) discuss methods in general, but not specifically related to different theories, political systems, or policy domains. This paper seeks to continue this inquiry by systematically comparing the methods of data analysis and collection used in ACF applications to North America, Europe, and Asia, Africa and Australia.

Despite some skepticism and criticism, ACF applications continue to grow. We expect that a systematic analysis will clarify the state of the ACF literature, address selected criticisms, and contribute to the framework’s advancement.
Methods

This paper uses content analysis of 161 ACF articles published in English language peer-review journal articles between 2007 – 2014. The unit of analysis is each article. This paper builds on the data collection efforts associated with previous publications (Pierce et al., 2017A, and Pierce et al., 2017B). Articles are coded on six characteristics. Applications tend to focus on one of the ACF’s three theories (advocacy coalitions, policy change, and policy-oriented learning). (1) Articles are coded for theory of focus, with combinations of theories categorized as using multiple theories. Articles are also coded for policy domain or topic (2). After environment and energy applications, the next most frequent policy domain is public health, with only 15 articles. Thus, articles are coded dichotomously as primarily analyzing the environment and energy (n=70) versus other policy domains (n=91). Articles are also coded for continent of the policy process in a manner similar to Weible et al. (2009) and Henry et al. (2014). Continent rather than geographic location of first author is utilized because the former best captures political context. Regardless, the continent of the policy process is 86% positively associated with the continent of the first author, suggesting this grouping decision does not greatly vary results. (3) Continent is coded as Europe, North America, and an “other” category including Asia, Africa and Australia. There are no articles applied to South America in the dataset.

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1 A list of the 161 articles and details of past data collection efforts available in the appendix.  
2 While many articles compare across policy domains, only one article (Fischer, 2014) compares an environment and energy policy with other policy domains. In this case, it was coded as “other” policy domain because the vast majority of policy domains analyzed (10) are not environment and energy.
To evaluate methods of data analysis and collection, three additional codes are used for analysis method, data collection, and whether or not number of observations (n) are reported. Analysis method indicates if articles use quantitative and/or qualitative methods (4). In other words, the 23 articles that use quantitative and qualitative analysis are coded as belonging to both categories. Quantitative analysis indicates the use of inferential statistics (i.e. probability), while qualitative analysis refers to the explicit or implicit use of logic, including interpretive approaches (Goertz & Mahoney, 2012). Qualitative analysis can include numbers such as descriptive statistics, but does not include inferential statistics. For example, Crow (2008) and Fidelman et al. (2014) both use descriptive statistics and logic but not inferential statistics, so they are coded as qualitative articles. Similar to Goertz and Mahoney (2012), we do not argue that one form of analysis is superior to the other, but rather that both are appropriate for different research tasks and goals.

Data collection methods (5) are also coded, with four possible options: documents, interviews, surveys, and/or “other” forms. Data collection methods are only coded if they are explicitly identified in the text of the article, footnotes, or endnotes. Documents refer to primary sources such as government reports, media sources, etc. that are explicitly referenced in the article. Articles do not need to identify interview subjects to meet this collection method. Surveys also include questionnaires. “Other” forms of data collection include participant observation such as attending public meetings or hearings and focus groups. Last, coders indicated whether or not articles reported the total number of observations (6). In cases where the number of observations is reported for one form of data collection and not another, the article is coded as reporting the number of observations.
A discussion of how the population was identified, the sampling scheme, and inter-rater reliability is in the appendix. At least 50% of the articles are randomly selected for inter-rater reliability and the results are over 80% percentage agreement with a Cohen’s Kappa score of 0.4, indicating moderate agreement (Landis and Koch, 1977).

Exemplary articles are identified to demonstrate a range of clear and transparent methods for operationalizing the main dependent variables associated with each ACF theory: coalition structure, policy change, and policy-oriented learning. This list is not exhaustive or systematic; its purpose is to model a range of high-quality methodological practices.

Results

The results are organized in three sections. The first section reports the frequency that all six categories of inquiry (theory used, policy domain, continent of application, quantitative vs. qualitative, data collection method, and reported observations) occur among the 161 articles. The second section organizes the results of the methods of analysis and data collection into three categories of inquiry based on the research questions and criticisms: theory, continent analyzed, and policy domain. The third section discusses exemplary methods for operationalizing and analyzing coalition structure, policy change and policy-oriented learning. This section is followed by a discussion of how these results address the present study’s research questions as well as past criticisms and reviews of the ACF.
**Overall Results**

Table 1. Frequency of All Categories of Inquiry including Theory, Continent Analyzed, Policy Domain, Data Analysis, Data Collection, and Number of Observations Reported

<table>
<thead>
<tr>
<th>Categories</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Theory</strong></td>
<td></td>
</tr>
<tr>
<td>Multiple</td>
<td>42% (67)</td>
</tr>
<tr>
<td>Only Coalitions</td>
<td>41% (66)</td>
</tr>
<tr>
<td>Only Policy Change</td>
<td>9% (14)</td>
</tr>
<tr>
<td>Only Learning</td>
<td>9% (14)</td>
</tr>
<tr>
<td><strong>Continent Analyzed</strong></td>
<td></td>
</tr>
<tr>
<td>Europe</td>
<td>46% (71)</td>
</tr>
<tr>
<td>North America</td>
<td>36% (56)</td>
</tr>
<tr>
<td>Other</td>
<td>18% (28)</td>
</tr>
<tr>
<td><strong>Policy Domain</strong></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>57% (91)</td>
</tr>
<tr>
<td>Environment/Energy</td>
<td>43% (70)</td>
</tr>
<tr>
<td><strong>Data Analysis</strong></td>
<td></td>
</tr>
<tr>
<td>Qualitative</td>
<td>91% (147)</td>
</tr>
<tr>
<td>Quantitative</td>
<td>23% (37)</td>
</tr>
<tr>
<td><strong>Data Collection</strong></td>
<td></td>
</tr>
<tr>
<td>Interviews</td>
<td>67% (108)</td>
</tr>
<tr>
<td>Document Analysis</td>
<td>60% (96)</td>
</tr>
<tr>
<td>Survey</td>
<td>18% (29)</td>
</tr>
<tr>
<td>Other</td>
<td>11% (17)</td>
</tr>
<tr>
<td><strong>Number Observations Reported</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>69% (111)</td>
</tr>
</tbody>
</table>

Table 1 shows the frequency that all categories occur. Several trends can be observed. Articles tend to either analyze multiple ACF theories at once (42%) or focus on coalitions (41%). In contrast, few articles focus only on policy change (9%) or learning (9%). Environment and

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3 This does not include six articles from the original 161 that are comparative across geographical categories (n=155).
4 This total is greater than 161 articles and 100% as the 23 articles that include qualitative and quantitative analysis are included in both categories.
5 This total is also greater than 161 and 100% because most articles include multiple forms of data collection.
energy (43%) is not studied by a majority of articles. The most frequent geographic location studied is Europe (46%), followed by North America (36%) and Other (18%). Twenty articles compare multiple countries, but most do so within a single continent. Six articles compare across continents, such as the US with European countries (Montpetit, 2009), as well as European countries with those in Africa and Asia (Huntjens et al., 2011). To limit confusion about categorization, these six articles are not analyzed as part of the geographic application section of the results. They are included in the subsequent analysis of theories and policy domains.

Over 90% of the articles use some form of qualitative analysis, but less than 25% use quantitative analysis. Twenty-three articles use both quantitative and qualitative analysis. In total, 14 articles are quantitative-only and 124 articles are qualitative-only. Both interviews and documents are used in at least 60% of articles. In contrast, surveys and other forms of data collection (i.e. participant observation, focus groups, etc.) are used in less than 20% of articles. Finally, 68% of all articles report the number of observations made, and 32% do not.

Table 2. Frequency by Data Analysis of Collection and Number of Observations Reported

<table>
<thead>
<tr>
<th>Collection</th>
<th>Qualitative (n=147)</th>
<th>Only Qualitative (n=124)</th>
<th>Quantitative (n=37)</th>
<th>Only Quantitative (n=13)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interviews</td>
<td>72% (106)</td>
<td>71% (88)</td>
<td>54% (20)</td>
<td>8% (1)</td>
</tr>
<tr>
<td>Documents</td>
<td>63% (93)</td>
<td>66% (82)</td>
<td>38% (14)</td>
<td>23% (3)</td>
</tr>
<tr>
<td>Surveys</td>
<td>12% (17)</td>
<td>4% (5)</td>
<td>65% (24)</td>
<td>85% (11)</td>
</tr>
<tr>
<td>Other</td>
<td>12% (17)</td>
<td>13% (16)</td>
<td>3% (1)</td>
<td>0% (0)</td>
</tr>
<tr>
<td>Number Observations Reported</td>
<td>65% (96)</td>
<td>60% (74)</td>
<td>100% (37)</td>
<td>100% (13)</td>
</tr>
</tbody>
</table>

The associations between data analysis and collection methods are presented in Table 2. Articles that use qualitative analysis (n=147) depend mostly on interviews (72%) and
documents (63%). The use of surveys (12%) and other forms of data collection (12%) is infrequent. Thirty-five percent of articles that include qualitative analysis do not report the number of observations. Articles that use only qualitative analysis (n=124) have similar patterns. Interviews (71%) and documents (66%) are the preferred forms of data collection. Other forms of data collection occur infrequently (12%), and surveys are rarely used (4%). Also, the number of articles that do not report the number of observations slightly increases from 35% for all qualitative articles to 40% for articles that only use qualitative analysis.

Articles that use quantitative analysis (n=37) depend mostly on surveys (65%) and interviews (54%). Document analysis is also a common form of data collection (38%), but not other forms of data collection (3%). In addition, in all cases of quantitative analysis the number of observations are reported. Among the 13 articles that only use quantitative analysis, 85% use surveys, 23% documents, and only 8% interviews. None use other forms of data collection or fail to report the number of observations.

In comparing qualitative and quantitative analysis, there are a couple of clear differences. Articles that use quantitative analysis (65%) are almost six times more likely to use a survey than articles that use qualitative analysis (12%). In contrast, articles that use qualitative analysis collect data using documents (+25%), interviews (+18%), and other forms of data collection (+9%) more than articles that use quantitative analysis. Reporting of observations always occurs among quantitative articles while only 65% of articles using qualitative analysis do so. These trends comparing methods of data collection and reporting observations between articles that use qualitative and quantitative analysis are even starker when articles that use both forms of analysis are removed.
Description of Methods by Theory, Continent Analyzed, and Policy Domain

Table 3. Frequency by Theory of Methods of Data Analysis, Collection, and Number of Observations Reported

<table>
<thead>
<tr>
<th></th>
<th>Multiple (n=67)</th>
<th>Only Coalitions (n=66)</th>
<th>Only Policy Change (n=14)</th>
<th>Only Learning (n=14)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Analysis</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Qualitative</td>
<td>99% (66)</td>
<td>86% (57)</td>
<td>100% (14)</td>
<td>71% (10)</td>
</tr>
<tr>
<td>Quantitative</td>
<td>16% (11)</td>
<td>30% (20)</td>
<td>0% (0)</td>
<td>43% (6)</td>
</tr>
<tr>
<td><strong>Collection</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interviews</td>
<td>73% (49)</td>
<td>64% (42)</td>
<td>57% (8)</td>
<td>64% (9)</td>
</tr>
<tr>
<td>Documents</td>
<td>73% (49)</td>
<td>44% (29)</td>
<td>71% (10)</td>
<td>57% (8)</td>
</tr>
<tr>
<td>Surveys</td>
<td>12% (8)</td>
<td>24% (16)</td>
<td>0% (0)</td>
<td>36% (5)</td>
</tr>
<tr>
<td>Other</td>
<td>13% (9)</td>
<td>8% (5)</td>
<td>7% (1)</td>
<td>14% (2)</td>
</tr>
<tr>
<td><strong>Number Observations Reported</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>69% (46)</td>
<td>70% (46)</td>
<td>57% (8)</td>
<td>79% (11)</td>
</tr>
</tbody>
</table>

There are multiple associations between methods based on theory analyzed, in particular when theories are analyzed in isolation. A majority of articles use qualitative analysis, but this varies from a low of 71% among articles analyzing only learning to 99% for multiple theories and 100% for only policy change. In contrast, quantitative analysis is used in almost half of only learning articles (43%), while it is never used in only policy change articles. In articles focusing on only coalitions, quantitative analysis is used in 30%, almost double the rate it is used in multiple theory articles (16%). Among the multiple theory articles, there are eight articles that include policy change that use quantitative analysis. All eight of these articles quantitatively analyze policy actor beliefs focusing on coalitions rather than explicitly policy change. Therefore, there are no articles that quantitatively analyze policy change. Qualitative analysis is the predominant form of analysis across all three theories, while quantitative analysis tends to be only used to study learning and coalitions.
Most articles use interviews in frequencies ranging from a low of 57% in only policy change articles to a high of 73% in multiple theory articles. Documents are used by a majority of the articles that study multiple theories, only policy change, and only learning, while they are used in 44% of only coalition articles. Surveys are utilized with great variation. While 36% of only learning articles and 24% of only coalition articles use surveys, 12% of multiple theory articles and none of the only policy change articles do so. Other forms of data collection are infrequent, but tend to be used to study only learning (14%) and multiple theories (13%). Overall, the form of analysis and data collection differ depending on the theory analyzed.

Articles that focus only on policy change (57%) are the least likely to report the number of observations made. In comparison, articles that study only coalitions (70%), only learning (79%), and multiple theories (69%), include the number of observations more frequently. Regardless of theory analyzed, about 20 – 40% of articles do not report the number of observations.

**Table 4. Frequency by Continent Analyzed of Methods of Data Analysis, Collection, and Number of Observations Reported**

<table>
<thead>
<tr>
<th></th>
<th>Europe (n=71)</th>
<th>North America (n=56)</th>
<th>Other (n=28)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Analysis</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Qualitative</td>
<td>96% (68)</td>
<td>88% (49)</td>
<td>96% (27)</td>
</tr>
<tr>
<td>Quantitative</td>
<td>18% (13)</td>
<td>29% (16)</td>
<td>14% (4)</td>
</tr>
<tr>
<td><strong>Collection</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interviews</td>
<td>70% (50)</td>
<td>68% (38)</td>
<td>68% (19)</td>
</tr>
<tr>
<td>Documents</td>
<td>66% (47)</td>
<td>60% (34)</td>
<td>54% (15)</td>
</tr>
<tr>
<td>Surveys</td>
<td>8% (6)</td>
<td>30% (17)</td>
<td>11% (3)</td>
</tr>
<tr>
<td>Other</td>
<td>4% (3)</td>
<td>11% (6)</td>
<td>29% (8)</td>
</tr>
<tr>
<td><strong>Number Observations Reported</strong></td>
<td>65% (46)</td>
<td>80% (45)</td>
<td>57% (16)</td>
</tr>
</tbody>
</table>
A plurality of articles analyze policy processes in the continent of Europe (46%), including comparative studies among members of the European Union. The next most frequent continent is North America (36%), where studies are limited to the US and Canada. The other category, which includes Asia, Africa, and Australia, amounts for 18% of the total. Six articles were not included in the analysis because they compare across continents. Examples include Montpetit (2009, 2011), who compares policy processes in North America to Europe, and Huntjens et al. (2011), who compares policy processes in Europe, Asia, and Africa.

Qualitative analysis dominates all three continental categories. Articles analyzing Europe (96%) and other continents (96%) use qualitative analysis only slightly more frequently compared to North America (88%) articles. As was true for theory, a minority of articles among all three continental categories use quantitative analysis but there is variation. Articles studying North America (29%) use quantitative analysis two times more likely compared to Europe (18%) and other continents (14%).

A majority of articles analyzing Europe, North America, and other continents use interviews and documents to collect data. Interviews are used at about the same rate across all three geographies. Documents are used at varied rates, most frequently in articles analyzing Europe (66%), followed by North America (60%) and other continents (54%). While a minority of articles across all three geographic locations use surveys and other forms of data collection, they are used differentially. North America (30%) articles are three times more likely to use surveys compared to those studying Europe (8%) or other continents (11%). Articles studying other continents (29%) are about three times more likely to use other forms of data collection compared to those studying North America (11%) or Europe (4%).
Articles studying all continents are likely to report the number of observations made, but reporting occurs at different rates depending on geographic location. Articles studying other continents (57%) are the least likely to report the number of observations, followed by Europe (65%). The reporting of the number of observations occurs most frequently among articles analyzing policy processes in North America (80%).

Table 5. Frequency by Policy Domain of Methods of Data Analysis, Collection, and Number of Observations Reported

<table>
<thead>
<tr>
<th>Analysis</th>
<th>Other (n=91)</th>
<th>Environment/Energy (n=70)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Qualitative</td>
<td>90% (82)</td>
<td>93% (65)</td>
</tr>
<tr>
<td>Quantitative</td>
<td>15% (14)</td>
<td>33% (23)</td>
</tr>
<tr>
<td>Collection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interviews</td>
<td>66% (60)</td>
<td>69% (48)</td>
</tr>
<tr>
<td>Documents</td>
<td>59% (54)</td>
<td>60% (42)</td>
</tr>
<tr>
<td>Surveys</td>
<td>13% (12)</td>
<td>24% (17)</td>
</tr>
<tr>
<td>Other</td>
<td>13% (12)</td>
<td>7% (5)</td>
</tr>
<tr>
<td>Number Observations Reported</td>
<td>67% (61)</td>
<td>71% (50)</td>
</tr>
</tbody>
</table>

Table 5 presents the results of data analysis, collection and number of observations reported categorized by policy domain. Other policy domain articles include public health (n=15), education (n=14), social welfare (n=12), science and technology (n=12), and many other domains. Qualitative analysis is utilized in almost all articles, occurring at about the same frequency among other policy domain articles (90%) as environment and energy articles (93%). Quantitative analysis is used in a minority of articles, and is used in environment and energy articles (33%) at more than double the frequency of other policy domain articles (15%).

Interviews and documents are used by both policy domains a majority of the time and at about the same rate. Meanwhile, surveys and other forms of data collection are used in a
minority of articles in both domains, but occur at differential rates. Articles studying environment and energy (24%) are about twice as likely to use surveys to collect data compared to other policy domains (13%). In contrast, articles studying other policy domains (13%) are about twice as likely to use other forms of data collection compared to environment and energy (7%). About one in three articles in both domains fail to report the number of observations (33% of other domains and 29% of environment/energy domains).

Exemplary Applications

Jenkins-Smith et al. (2014) call for the development of best practices methodologically for analyzing coalition structure, policy change, and learning. The articles identified and discussed below are not necessarily best practices methodologically, but provide a range of clear and transparent examples for how to operationalize and analyze the main dependent variables associated with each ACF theory: coalition structure, policy change or policy-oriented learning. The common adoption of these methods of operationalizing key dependent variables by scholars will increase transparency, replicability, and comparability which are a first step towards methodological best practices.

The study of advocacy coalition membership and structure can be considered the most established part of the ACF, as suggested by the availability of detailed methodological appendix instructing how to conduct content analysis of policy elite beliefs by Jenkins-Smith and Sabatier (1993B), as well as the prevalence of articles focused on the ACF theory of advocacy coalitions, identified in this research as well as by Weible et al. (2009). There are several exemplary articles that operationalize and analyze coalition structure that represent a range of policy domains and in both North America and Europe. Many researchers follow
Jenkins-Smith and Sabatier’s (1993B) prescription of using documents to gather data about policy beliefs. Among these applications, the documents used to collect data include government documents (Nohrstedt, 2008; Pierce, 2011), media sources (Leifeld, 2013), or documents from the coalitions (Heikkila et al., 2014). Other applications use surveys with a wide range of respondents, ranging from about 50 by Ansell et al. (2009) to hundreds of respondents by Henry (2011). Others use interviews, such as Ingold (2011) and Ingold and Fischer (2014). The content analysis as well as survey and interview questions from these articles are examples of how to operationalize policy beliefs that are essential for studying coalition membership and structure.

Most articles that offer an exemplary analysis of advocacy coalitions are focused on coalition membership and structure, and typically use social network analysis (SNA) or cluster analysis. Both depend on quantitative analysis, but data gathering can be done also using qualitative approaches of content analysis and interviews. SNA can be used to identify coalitions by mapping coordination (Ingold, 2011, DeBray et al., 2014), beliefs (Leifeld, 2013), or both (Fischer, 2014; Ansell et al., 2009; Ingold and Gschwend, 2014). Another approach is cluster analysis, which focuses on analyzing the beliefs of policy actors and clustering them into coalitions based on shared beliefs. Exemplary articles include Weible (2007), Nohrstedt (2008), and Weible and Sabatier (2009).

While exemplary articles that study advocacy coalitions often make use of quantitative forms of analysis, exemplary articles studying policy change are qualitative. Two main challenges of studying policy change include operationalization of policy change and contextualization (see Howlett and Cashore, 2009). Three exemplary approaches to
operationalizing policy change are by Cairney (2007), Fischer (2014), and Nohrstedt (2010). Cairney (2007) uses policy design to understand the degree of policy change over time by analyzing eight policy instruments. Fischer (2014) distinguishes between minor and major policy change by using closed-ended interview questions that ask respondents how much specific policies have changed over time on a Lickert scale of 1 to 5. Nohrstedt (2010) identifies both successful and failed policy changes by chronicling the outcomes of public referendum records and parliamentary bills over a period of about 20 years. These articles are examples of how to operationalize the degree of policy change as well as policy stasis and change.

Jenkins-Smith et al. (2014) echo Fischer (2003) and Hajer (1995) in their assertion that ACF studies of policy change should include social and historical contexts. An example of providing social context is Heikkila et al. (2014). The authors conduct interviews with a wide range of stakeholders including government officials, members of interest groups, and media about the policy process, as well as conduct content analysis of documents from competing coalitions before, during, and after public hearings to best capture the overall social context of a policy change. Historical context over a decade or more is provided by Lodge and Matus (2014), using media documents, and by Nohrstedt (2010), using government hearings and comments. In all of these articles the number of interviews and documents analyzed is reported.

Jenkins-Smith et al. (2014) argue that exemplary applications of the ACF should identify how to clearly conceptualize and measure policy-oriented learning. ACF scholars are typically concerned with two main concepts related to policy-oriented learning: (1) information and (2) beliefs and/or strategies. Articles tend to analyze the production of information that concerns
either the policy subsystem or problems and/or solutions. Information can be studied using data collected from surveys (Leach et al., 2014), documents (Lodge & Matus, 2014), or a combination of documents and interviews (Beem, 2012). These sources typically ask policy actors directly about the production of such information (Leach et al., 2015; Beem, 2012) or chronicle the existence of and references to such information over time in documents (Lodge & Matus, 2014; Beem, 2012).

ACF scholars studying beliefs and/or strategies tend to study changes in opinions towards information that may occur in professional forums (Leach et al., 2014; Lodge & Matus, 2014; Beem, 2012), and changes in beliefs or strategies that occur after acquiring information (Leach et al., 2014; Lodge & Matus, 2014; Beem, 2012; Montpetit, 2009; Nedergaard, 2009). Exemplary articles use surveys (Leach et al., 2014; Montpetit, 2009; Nedergaard, 2009), documents (Lodge & Matus, 2014) or a combination of documents and interviews (Beem, 2012). These are operationalized either directly, through interviews or surveys asking policy actors if learning and/or belief change has occurred (Leach at et al., 2015; Beem, 2012; Montpetit, 2009; Nedergaard, 2009), or by analyzing belief changes using content analysis of documents in association with acquiring information (Lodge & Matus, 2014).

Discussion

This paper explores three research questions around the methodological issues identified by Jenkins-Smith et al. (2014), as well as past criticisms of the ACF. The first research question asks what approaches to analysis and data collection are currently being applied by ACF scholars, and if methods vary by the theory analyzed. The results show that the majority of articles employ qualitative analysis with data collected using interviews and documents.
Different forms of data analysis are associated with different forms of data collection. While the majority of articles using quantitative analysis collect data using surveys this approach is rarely used in association with qualitative analysis. In contrast, articles using qualitative analysis are more highly dependent on documents and interviews as well as other forms of data collection than articles using quantitative analysis. Finally, the reporting of the number of observations is a problem occurring in about 35% of articles using qualitative analysis.

We also find there are differences in analytic and data collection methods depending on the theory analyzed. Articles that focus on only learning are more likely to use quantitative analysis and less likely to use qualitative analysis than other articles. Articles that focus on only policy change do not use quantitative analysis. In addition, the eight articles among the multiple theories that analyze policy change and use quantitative analysis all only analyze coalition membership. Thus, a future direction for ACF research is to quantitatively operationalize and analyze policy change. Data collection methods also vary by theory. Compared to articles that study policy change alone, the study of only coalitions and only learning rely more on interviews and surveys. Documents are more commonly used among articles that study multiple theories and policy change, compared to articles that only analyze coalitions. Articles that only study policy change are the most likely to not report the number of observations. Overall, methods should vary depending on different research goals (see Goertz & Mahoney, 2012), and this is reflected in the variation of analysis and data collection by theory.

The second research question asks to what degree the ACF is applied to different policy domains and governing systems, and if these contexts in turn are associated with different methods of analysis and data collection. While environment and energy (n=70) is the most
frequently studied policy domain (the next most frequent domain is public health with 15 articles), it does not represent a majority of articles. This differs from previous research on ACF articles spanning 1987 to 2006 by Weible et al. (2009). More importantly, it shows that the methods of analysis and data collection used for articles studying environment and energy are similar to methods used for other policy domains. A majority of both categories of articles use qualitative analysis with data collected using interviews and/or documents, and a minority of articles use quantitative analysis along with collecting data using surveys and/or other methods. Both fail to report the number of observations at about the same frequency. The major difference between the two groups are that articles studying environment and energy are about twice as likely to use quantitative analysis and surveys than those studying other policy domains.

The ACF faces questions about its applicability outside of the US and pluralist governing systems (Sabatier, 1998), and more recent questions have arisen about its applicability outside of North America and Europe (Henry et al., 2014). This research shows that the most frequent geographic location for applying the ACF is Europe. In addition, only about one third of articles are applied to North America. While articles outside of Europe and North America are less frequent, there is a substantial amount. This is supported by a recent review by Henry et al. (2014), which identifies 27 articles applying the ACF between 1999 and 2013 to countries outside of North America and Europe. Further, both Henry et al. (2014) and this research may under-count the number of applications outside of North America and Europe due to language constraints. For example, one recent review of the ACF identified 62 articles from 2002 to 2014 that were applied to South Korea and written in Korean (Jang et al., 2016). Finally, we identify
20 articles that use the ACF to compare policy processes in multiple countries, including six that compared across continents. We can therefore conclude that the ACF is being applied outside of the US and pluralistic political systems; it is being applied outside of North America and Europe; and is being used comparatively across political systems.

The ACF is being applied in a similar manner in Europe, North America, and in other continents, but there are some key differences in the frequency of methods used. Overall, a majority of all articles use qualitative analysis, using data collected from interviews and/or documents, and reporting the number of observations, while a minority use quantitative analysis, using surveys or other methods. Articles studying North America are more likely to be quantitative, use surveys for data collection, and report the number of observations as compared to articles analyzing Europe and other continents.

One study (Henry et al., 2014) finds that articles studying continents other than North America and Europe tend to rely on informal document analysis, while some studies use interviews and even fewer use surveys, which seems to indicate a lack of quantitative analysis. However, our analysis of 26 articles analyzing policy processes outside of North America and Europe between 2007 and 2014 provide mixed support for Henry et al. (2014). While articles applied outside of Europe and North America rarely use quantitative methods of analysis and surveys for data collection, these methods are utilized at about the same frequency as articles analyzing policy processes in Europe. Also, the use of documents occurs less frequently, compared to articles analyzing Europe and North America. Articles studying Asia, Africa, and Australia (the other category) tend to use other forms of data collection rather than surveys, such as participant observation and focus groups.
Finally, Fischer (2003) and Hajer (1995) argue that ACF applications are overly empirical and lack context, especially those studying policy change. While this may have been the case prior to 2003, current articles are highly contextual. About 90% of all ACF articles use qualitative analysis, and a majority collect data using interviews and/or documents. This is similar to other policy theories as a recent review of 311 multiple streams approach articles from 2000 to 2013 finds that 88% rely on qualitative analysis (Jones et al., 2014). Fischer’s criticism is therefore not supported.

A previous review of the ACF and its methods by Weible et al. (2009) has similar overall findings with this paper, despite somewhat different classification systems. While Weible et al. (2009) do not specify the analytic method (qualitative or quantitative), or frequencies of data collection by theory, policy domain, or continent of application, they produce comparable findings about data collection methods and reporting of observations. For example, Weible et al. (2009) find that 40% of articles use interviews, 17% use surveys, and 3% other forms of observation for data collection. In comparison, this research finds that 67% use interviews, 18% use surveys, and 11% use other forms of data collection including participant observation. Thus, recent articles are more likely to use interviews and other forms of data collection, while surveys continue to be used at the same frequency. Weible et al. (2009) specify qualitative content analysis, which occurs in 20% of articles, rather than the broader source of data collection of documents that is used in this research. However, Weible et al. (2009) do report that an additional 41% of articles use existing documents and reports in an underspecified manner. Therefore, we can estimate that about 61% of ACF articles analyzed by Weible et al. (2009) use documents, which is consistent with the 60% found here.
Weible et al. (2009) also find that among 80 articles from 1987 to 2006, 41% “used methods that were underspecified and appeared to rely on unsystematic collection and analysis of existing documents and reports” (p. 125). Similarly, this research finds that a substantial minority (32%) do not report the number of observations made. However, our finding is likely an underestimate, because unlike Weible et al. (2009), it only reports if the number of observations are not reported.

Conclusion

The ACF has changed dramatically over the past couple of decades. It has transformed from a framework that was criticized in the 1990s and early 2000s for being US-centric, mostly applied to the environment and energy, and too dependent on empirical and quantitative analysis; to one that is mostly applied to policy processes in Europe, to policy domains other than environment and energy, and is mostly qualitative. It is being applied to political systems around the world and in comparative contexts. Depending on the theory analyzed, researchers differ in their purpose, leading to some differences in data analysis and collection. This is a positive sign for the ACF as different research tasks and goals should have different forms of data collection and analysis (Goertz & Mahoney, 2012).

This research has multiple limitations. It only includes English language articles, therefore articles in other languages such as Spanish, Korean, etc. are not included in the analysis. This research only compares policy domain in a binary fashion, rather than deeper analysis of other topics such as education and social welfare. Similarly, it categorizes analysis by continent applied for ease of comparison rather than by country, political system, or first author. In addition, only a couple of exemplary articles are identified in relation to each theory.
There are many more articles that could be identified, in particular those articles published prior to 2007. These are all limitations of this paper, but overall the paper achieves its purposes of describing the current states of methods used to study the ACF by various categories as well as addressing past criticisms.

If the observed trend continues, the ACF will probably continue to grow more diverse in terms of policy domains and political systems applied. Scholars will continue to study the ACF to identify and analyze coalitions in the policy process, and should further expand their research on policy change and policy-oriented learning, as also argued by Jenkins-Smith et al. (2014). Methodologically, the future of the ACF is uncertain. Similar to the first two decades of articles (Weible et al., 2009) this past decade has seen a consistently large minority of articles lacking transparency. Despite that observation, this paper identifies multiple articles within each theory that use various forms of data collection and analysis to operationalize and measure the central variables of concern for ACF scholars: coalition membership and structure, policy change, and policy-oriented learning. In order for the ACF to balance theoretical generalization with unique contexts, scholars should continue to use diverse methods of analysis and data collection, but should seek common conceptual operationalization.
References


Appendix.

Coding Methods

This review uses methods of article selection based on recent reviews of the Multiple Streams Approach (Jones et al., 2016) and the ACF (Pierce et al. 2017). A list of peer-reviewed journal articles citing at least one of the six foundational documents developing the ACF (Sabatier 1986, 1988, 1998; Sabatier and Jenkins-Smith 1993, 1999; Sabatier & Weible 2007) was generated using the Web of Science database. Due to resource constraints, as well as the existence of the previous systematic review of the entire ACF from 1987 to 2006 by Weible et al. (2009), the sampling frame was limited to English peer-reviewed journal articles published between 2007-2014, producing an initial data set of 1,067 peer-reviewed articles.

Content analysis of these articles proceeded in three rounds. First, five coders recorded the bibliographic information of each article. This included 10 identification codes such as title, author, and journal name. Four codes were utilized to determine whether an article was an application of the ACF. These codes identified keywords (coalition, learning, or advocacy) in the title, abstract, and keywords sections, and whether or not theoretical foundation citations were used at least twice. This practice led to the identification of 512 articles. However, relying only on the frequency of keywords and citations may lead to Type I errors. In addition to keyword and reference searches, coders examined articles to determine if they include data and/or a case study about a topic, and identify and analyze at least one theory of the ACF (coalitions, policy change, and/or learning). To mitigate subjectivity, inter-coder reliability assessments for this coding were conducted on a random sample of 256 articles being reviewed by an inter-coder. This process narrowed the pool to 161 articles identified as ACF applications.
In the second round of coding, seven coders analyzed the remaining 161 articles to identify the theory, methods of data analysis and collection, as well as country of application. In this round 87 articles or 54% were subject to inter-rater reliability. The results of this coding are in Pierce et al. (2017A). For a third round of coding was conducted again on these 161 articles by four coders to identify the theory (single or multiple), continent of application, policy domain, and greater emphasis on methods of data analysis and collection as discussed in the methods section. This third round of coding was completed for this paper because of the shift in focus on methods in comparative contexts and purposes in comparison to Pierce et al. (2017A) which focused more on a general description of how the ACF is being applied.

For each round of coding, at least 50% of all articles were randomly selected for inter-coder reliability. Round one included 256/512 articles, round two 87/161, and round three 86/161 articles, all of which are appropriate sample sizes for determining inter-rater reliability (Lombard et al., 2002). Percent agreement was calculated at or above 80% for all coders during the first round of coding which is sufficient (Lombard et al., 2002; Riffe et al., 2005). The second and third rounds of coding achieved both at or above 80% agreement and a Cohen’s kappa score of 0.4, indicating moderate agreement (Landis and Koch 1977). Cohen’s kappa is used to mitigate the effect of chance agreement as all of the codes are binary indicating presence.
List of All Articles (n=161)


