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Advancing a qualitative-based research construct: Methods and applications

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Abstract

A research framework, or construct, provides researchers with generally accepted guidelines to organize scholarly efforts and foster methodological rigor. Originating through applications of the scientific method, many qualitative research frameworks have become fully vetted and recognized in recent years, including action research, grounded theory, and the phenomenology, among many others. Over the last decade, the Policy Research Construct has evolved into a refined framework for qualitative and mixed method studies. This paper continues to define the PRC, and includes a meta-review of multiple applications of the PRC to examine policy-related research questions, as well as organizational change and program effectiveness research.

Introduction

The Policy Research Construct (PRC) first appeared in a 2004 article by Bowen and Lu, documenting the methodology for a working construct focused on policy and organizational settings. The PRC “is a proposed research framework containing the merits of both policy analysis and evaluation and is an attempt to bridge the gap between the policy dyad” (Bowen & Lu, 2004, p. 32). Through the resulting model, researchers are provided with a roadmap for enhancing the accuracy and effectiveness of policy and related research question examination (Bowen, Block & Patankar, 2009). To demonstrate applications of this framework, the authors used a meta-review to provide examples of the PRC applied to specific and unique settings over the decade since its creation. This meta-review is not to be considered an application of meta-analysis to a given body of literature. It is intended to provide a concise representation of specific applications of the PRC to various areas of inquiry. While selected and restrained to a manageable number of studies, detailed summaries are provided of PRC implementation in the areas of safety ratings, safety management systems, quality, collaboration, and evaluation.

The purpose of this work is threefold: to synthesize current applications of the PRC, to document the continuous improvement of the model, and to present a current “state of the model” for discussion and dissemination by fellow qualitative researchers. Through the creation of a literature base about the PRC, this study provides an archive of the PRC developmental literature and a collection of key applications of the PRC in a variety of areas. Seldom is a researcher able to engage in the creation of an overarching research framework that is readily adaptable to a wide variety of disciplines or research questions. It is hoped that all participants who engage in this discussion will be valued contributors to the continuing dissemination of the PRC.

Significance

Consequences of poor public policy

A recent government-citizen conflict in Taipei City, Taiwan (Li, April 16, 2012; Shih-jung, April 15, 2012) has raised some concerns as a result of the forced demolition of a residential building under the Urban Renewal Act. Designed to update older neighborhoods in need of renovations, the act was recently used to justify the demolition of an entire neighborhood block, despite one family’s refusal to consent. The city decided that the renewal project included the entire block on which the buildings were located (instead of individual buildings), and that only a simple majority of residents needed to approve the plan in order to demolish the entire block. This overreach of government authority has led residents and researchers alike to ask questions such as: “how can a government enforce a policy in the best interests of each policy recipient?” “was the voice of the policy recipients important to or even heard by the policymakers?” “can a good policy end up hurting individual citizens?” “how can the interests of minority groups be protected?” and, “how can a government design good policies?”

While public policy research has undergone many refinements in recent decades, there traditionally has been a barrier between policy analysis and policy evaluation, which has, to a great extent, reduced the accuracy and effectiveness of both. Dynamic dialogs and reciprocating interactions have been used to enable policy recipients, local community leaders, and policy

makers to work together for more appropriate and better decision-making (Bae, 1997). Citizen participation in proposed policies not only can weed out irrelevant issues, but also efficiently collect valuable input (Box, 1998). By utilizing both policy analysis and evaluation simultaneously, researchers can effectively serve the public's best interests.

Foundational Literature

Foundations of policy research pre-PRC

See Bowen and Lu (2004) for a more extensive review of the literature. This work will merely summarize and then update that previous, more in-depth publication. *Methods for Policy Research* (Majchrzak, 1984) defined policy research as “conducting research on, or analysis of, a fundamental social problem in order to provide policymakers with pragmatic, action-oriented recommendations for alleviating the problem” (p. 12). This definition includes a number of assumptions about what conditions are necessary for good policy research. Also, since provisional policy recommendations may ultimately face unexpected challenges to implementation, data collection should not be limited to a single group or method and research questions should be open ended so as to incorporate unexpected, serendipitous findings. Good policy research should be “multi-dimensional, empirico-inductive, malleability-oriented, reciprocating, and communicating” (Bowen and Lu, 2004, p. 36).

Hutjes (1991) recognized the historical duality necessary for policy research – the simultaneous generation and testing of ideas. In order to create polished public policy, preliminary policies must be modified through the same process used to generate them. Subsequent policies are further refined with each succession, fulfilling four requirements: 1) focus on the design and interpretation phase of research; 2) interact with diverse postulates and crystallize the diagnostic process; 3) conduct in-depth investigations of an unsolved problem; and 4) select the best channel for implementing results.

Similarly, Weiss (1991) also concluded that many repetitions of evaluation and refinements were necessary for effective public policy. While feedback from participants is crucial, she cautions that conflicts of interest from external sources, incomplete information from researchers, and incorrect interpretations can reduce the information gained from inclusion.

Rogers (1994) mirrored Weiss' concern about external sources influencing the feedback process, particularly in sponsored public policy research “stemming from the relations between researchers and clientele” (p. 3). The results may reflect “the interests of those who sponsor them” (p. 3) more than the participants themselves. After analyzing the United States Political Science Documents database (USPSD), Rogers found that organizational context has an influence on policy research and the type of sponsorship affects research performance, but no solutions were offered.

Haas and Springer (1998) gave three approaches to policy decisions: policy analysis, program evaluation, and statistical analysis, but advised that the strategy chosen depends on the purpose of the study and will guide the data collection method. They advise the following four steps:

Step 1: Define the policy problem and information needs.

- Step 2: Compile issues being addressed, select the appropriate research design, and form operational steps.
- Step 3: Collect data specifically for research goals and analyze data.
- Step 4: Apply results of data analysis to the problems and report to policy makers and clients (Haas & Springer, 1998, p. 70).

Gaps in the Pre-PRC Literature

Data analysis techniques included in Majchrzak's are problematic; several research methods mentioned are unable to gather quantitative data for mixed methods analysis, but the only validation methods mentioned are statistical analyses, inappropriate for qualitative research. Likewise, while Hutjes discussed both qualitative and quantitative methods, she does not stress the importance of policy evaluation, limiting her research perspective to generating and testing ideas only, stopping short of objectively evaluating their worth. Weiss' identified two public policy issues: a lack of reciprocal and discursive data contribution, and a lack of public auditing in policymaking. Policy research is useless if it includes the voice of the participant but does not adapt the policy to suit the needs of the participants. Also, without constant feedback from the participant, potential biases may creep in. Although Weiss criticized current frameworks for public policy research, she offered no workable alternatives. Rogers sought unbiased policymakers, but likewise proposed no solutions. Haas and Springer's policy research model, although descriptive, is linear and fails to include an evaluation/re-examination phase.

Criticality of the Voice of the Participant

The field of policy research has recognized that, without considering the voice of the participant – the policy receivers – local needs would be difficult if not impossible to adequately address (Bernstein, 1983; Rorty, 1982). Robson (1993) says that research into public policy is an invitation to external participation as well as the vehicle for those concerned with determining policy (Robson, 1993). The scientific method's promise of absolute truth and universal applicability are not surprisingly inadequate, according to postmodern public administration scholars (Fox & Miller, 1996; Smith, 1998; White, 1999). Indeed, successful action research into policy issues emphasizes participation over theoretical concepts (White, 1999). The social connectedness that pervades our lives currently can easily be utilized to capture local opinions and guide policymakers (Box, 1998; Hakim, 2000; Tritter, 1995). Good policy research should be "an analysis of community needs and potential ways of addressing those needs" (Nyden, Figert, Shibley, & Burrows, 1997, p.8). Policymakers have habitualized themselves to either discourses of policy analysis (i.e., documents) or policy-evaluation (i.e., numbers) (Smith, 1998), but the high cost of re-engineering ineffective policies means that any and all sources of information should be considered (Richardson, 2001).

Previous Applications of the Policy Research Construct (PRC)

Policy research has long applied tools for use in making policy decisions, but such research had yet to be recognized as a tool on its own merit (Bowen & Hansen, 2000). Schaaf (2001) successfully used Bowen and Hansen's policy construct to identify the legislative gaps, causal

linkages, and possible solutions for policy changes in a study about air rage. Tarry and Bowen (2001) then updated their research construct to include community participation in both evaluation and feedback steps (Bowen & Metz, 2001), and used the resulting model to examine operational issues presented by the Small Air Transportation System (SATS).

In 2002, 2003, and 2004, Bowen and Lu sought feedback on the policy construct from both domestic and international scholars, and introduced a new systemic policy-making model, named the Policy Research Construct (PRC). The model was first used in the aviation security field to demonstrate the necessity of including local requirements in designing the national airspace system. The PRC currently includes three policymaking phases—Policy Review, Policy Research and Policy Action, with eight stages:

- 1) defining regulatory problems,
- 2) forming policy issues,
- 3) identifying regulatory acquisition,
- 4) determining data collection tools,
- 5) conducting policy analysis,
- 6) examining findings,
- 7) pilot-testing resolution and evaluation, and
- 8) issuing policy recommendation (See figure 1).

Instead of treating each phase or stage as a linear, one-time process, Bowen and Lu’s Policy Research Construct (PRC) combines policy review, policy research, and policy analysis as a cyclic, discursive whole. The model is able to incorporate new information in each step, then either proceed or back-track as appropriate.

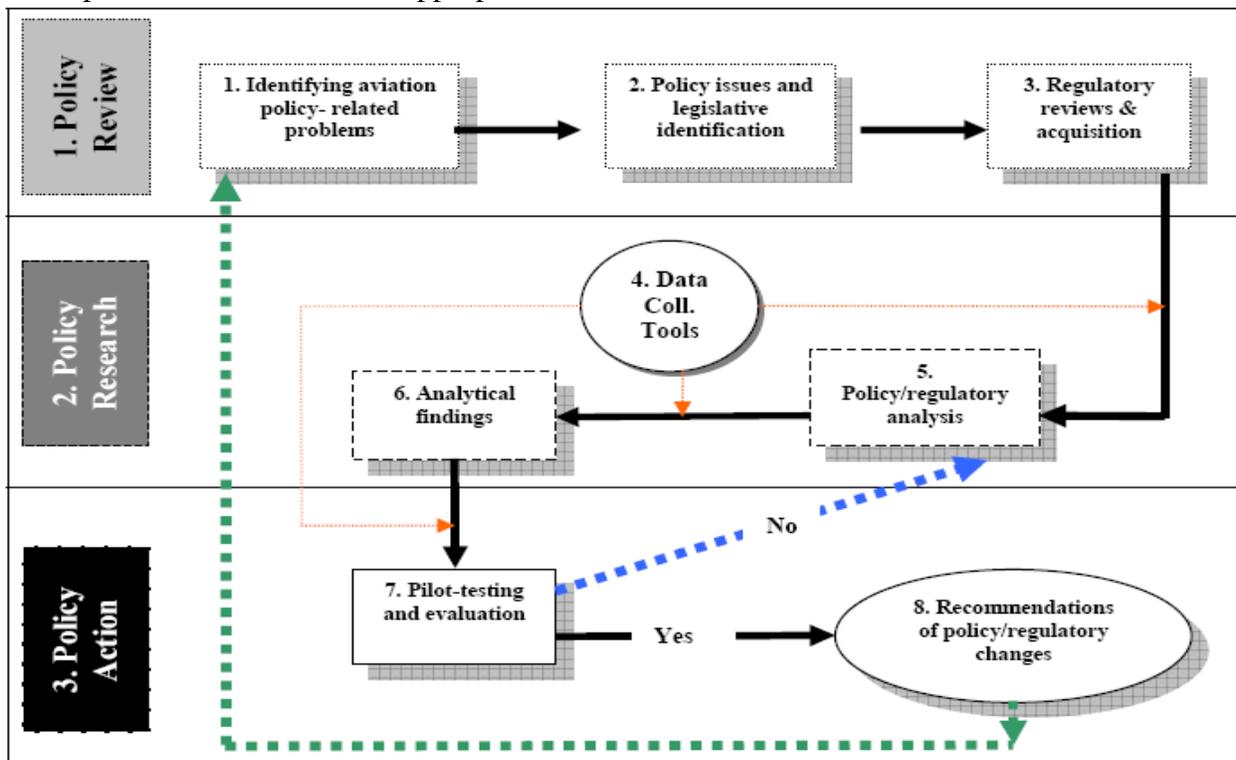


Figure 1. Procedures of Policy Research Construct (PRC) (Bowen & Lu, 2004)

Meta Review of Applications of PRC-based Articles

a. FAR 139 Class IV Airport Security

After the terrorist attacks on September 11th, the Transportation Security Administration (TSA) and the Department of Homeland Security (DHS) have focused more intensely on the security measures in place at all airports, but mainly airports that have regularly scheduled airline flights. There are hundreds of airports across the country, however, that fall under Federal Aviation Regulation (FAR) Part 139, Class IV – while they do not have regular airline service, they are still used for non-scheduled airline operations, including chartered flights by NCAA member universities. Although they may be used by the exact same aircraft as larger airports, they are not subject to the same stringent security measures, and therefore represent a possible threat to aviation security. Cason, Lu and Schreckengast (2010) utilized the PRC to evaluate several potential security threats that could potentially affect the non-commercial airport system stemming from its lack of security measures. After a thorough review of security regulations and extensive interviews with airport operators related to Class IV airport security, they identified policy gaps: the chance of a “security breach leading to a passenger’s injury/fatality, aircraft hijack or facility damage at a GA [general aviation] airport is remote, but certain peak high-value operations significantly increase their vulnerability” (Cason, Lu, & Schreckengast, 2010, p.99).

In the absence of a public policy requiring these airports to provide specific security measures, not all the interviewed Class IV airports had adequate security measures to protect airport users. While security vulnerabilities do exist and do affect the GA airport system, the government and industry must work together and take action to proactively mitigate potential threats.

b. Safety Management Systems

A safety management system (SMS) is an organization-wide approach to managing safety risks and assuring the effectiveness of safety risk controls (ICAO, 2010). It provides our operations with a set of decision-making processes and procedures to plan, organize, direct, and control activities, to enhance safety and to ensure compliance with regulatory standards. It includes safety policy; formal methods for identifying hazards, controlling risks, and continually assessing changes in risk level; and promotion of a safety culture. SMS incorporates these procedures into day-to-day processes and identifies potential organizational deficiencies and enables the administration to address safety issues before noncompliant or unsafe conditions occur. The PRC model (from policy problems to policy recommendations) has been widely applied to aviation rulemaking processes, including SMS rulemaking.

In 2008, Lu and Asfoor used the PRC to conduct a study on SMS at airports across the country about their SMS, and found that airports did not have a clear understanding of SMS principles.

Policy Review.

Because there was no requirement to operate an SMS, most airports authorities had chosen to wait another year for guidance from the Transportation Research Board (TRB) before starting

their own SMS. The Federal Aviation Administration (FAA) has been promoting SMS as a way to systematically improve safety airline and airport operation since 2000 (FAA, 2000), but, since all guidance so far has been non-regulatory, only a few airports have actually complied (FAA, 2010).

Policy Research.

The aviation agency of the United Nations – the International Civil Aviation Organization (ICAO) – has mandated that all signature states implement an SMS, and the FAA has begun to comply. An Aviation Rulemaking Committee (ARC) has been formed to provide implementation guidelines to the industry (FAA, 2009), and an Advance Notice of Proposed Rulemaking (ANPRM) has been distributed to allow potentially affected operators to time to review and comment on the proposed mandatory SMS (Federal Register, 2009, p. 36414).

Policy Action.

Most NPRM comments from the airline industry were supportive, and some airlines had actually voluntarily started their SMS program. On August 1, 2010, Public law 111-216 *The Airline Safety and Federal Aviation Extension Act (formerly called HR 5900)* was signed into law, requiring all airline operators to implement an SMS by the end of July, 2012 (GPO, August 1, 2010). While the airline industry was supportive of the regulatory process, airports remained less so. On October 7, 2010, the FAA proposed another NPRM to collect comments from the airport industry (Federal Register, Oct. 7, 2010). Due to the large number of comments received, two extensions were made to the deadline for comments, and the FAA conducted two rounds of airport SMS pilot testing in order to ensure that the regulation was easily compliable. (FAA, Feb. 28, 2007). After pilot testing, the FAA issued another NPRM in order to collect comments on the pilot-tested SMS.

c. Collaborative network

In 2009, Bowen, Block and Patankar utilized the PRC to design a network collaborative tool for the dissemination of safety research. It originated as an informal, ad-hoc collection of researchers and practitioners focused on high-consequence industry safety, sharing information and best practices at the Safety across High-Consequence Industry (SAHI) conferences (Bowen & Block, 2008). Through application of the PRC, it was determined that stakeholders both within the established network and outside could benefit from the sharing of safety information, leading to the formation of the Safety across High-consequence Industries (SAHI) Collaborative Network. Currently there are over 100 active participants from the medical, public health, power and aviation industries sharing relevant safety information, discussing solutions to current challenges, and guiding directions for future research in safety.

Conclusions

There are still significant opportunities for the PRC to be applied to other areas of public policy research. As shown previously, it can be used to identify gaps in current public policies, guide public policy rulemaking, and create collaborative networks. It has been extensively applied to aviation, but other areas to which the PRC could be applied include areas of heavily regulation, areas where there is a current lack of current policy, or even areas of global impact, with many

stakeholders. The possibilities are virtually limitless. There is still room for the qualitative research community to further define and improve the PRC model.

As an example of how the PRC could be applied to a real-world policy research example, consider the government-citizen conflict in Taipei City. In the initial policy review stage, the problem of private property rights is identified; then, the policy issues and legislative rules are identified and reviewed. Next, policy research is conducted. This includes reviewing both the applicable legislation found in the policy review stage, and other sources of data – interviews with affected citizens, similar public policy issues, etc. This analysis reveals that the Urban Renewal Act does not specify the “unit” needed for modernization. Modernization could have been conducted on a house-by-house basis, not necessarily for an entire block at a time. Moreover, the entire block was not even demolished – although the building in dispute was included, three houses next to it were not. The area to be demolished could have been restructured to include only those buildings whose residents had agreed to participate in the proposed construction. Finally, in the policy action stage, residents could have been given a second chance to review the area to be affected and to approve the proposal. A unanimous approval could have been required in order to ensure that all personal property rights were respected.

Another more abstract example would be to apply the PRC to curriculum development at the collegiate level. In the first phase (policy review), policy/regulatory information about the issue is gathered and important stakeholders are identified. Phase two (policy research) involves combining the information gathered with data from the stakeholders – curriculum guidance from accreditation boards, educational requirements from industry members, and opinions from incoming students, current students, and recent graduates. Problems such as equipment obsolescence and changing industry trends are identified. It’s important to note that quantitative data from stakeholders is incorporated at three distinct points in phase two: before policy/regulatory analysis is conducted, after policy/regulatory analysis, and again after analytical findings are concluded. In phase 3 (action research), solutions found are presented to stakeholders for opinions and feedback. Pilot-testing is conducted and evaluated; possible recommendations are then-entered into phase 1 for additional information gathering and stakeholder identification in order to examine any unexpected issues with new-found recommendations. Through this continuous improvement process, the end product is of the highest quality and includes input from as many stakeholders in as many possible iterations as possible.

Instead of treating each phase or stage as a linear, one-time process, Bowen and Lu’s Policy Research Construct (PRC) combines policy review, policy research, and policy analysis as a cyclic, discursive whole. The model is able to incorporate new information in each step, then either proceed or back-track as appropriate. The strength of the PRC is that it breaks the traditional barrier between policy research and policy evaluation by incorporating both in a format that is more representative of how opinions are formed. The PRC is ripe for usage in settings other than aviation, and could have a large impact on the world of public policy.

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