

Chapter 3

What You See Depends Upon Your Lens: A Case Study Using the Advocacy Coalition Framework

This chapter outlines the research orientation, the research methodology, and the digital product that accompanies the traditional textual dissertation. As a non-traditional research endeavor, this chapter also addresses those items not typically found in dissertation research, such as the construction of a virtual reality world, visualization, and the co-mingling of digital representations with abstract and conceptual artifacts. The challenge of visually constructing meaning within an intellectual tradition more closely aligned to textual representations is also addressed. As to presentation order, this chapter addresses research orientation, methodology, and the basis in theory for the study. It concludes by discussing Policy World construction and visualization.

3.1 The Pluralistic and Plastic Character of Reality: A Constructivist Approach

Before committing to research methodology, Guba and Lincoln advise that consideration be given to the more basic question of paradigm. "Questions of method are secondary to questions of paradigm, which we define as the basic belief system or worldview that guides the investigator, not only in choices of method but in ontologically and epistemologically fundamental ways."¹³⁰

Paradigm, in their view, is comprised of three elements: epistemology, ontology, and methodology. In research construction, methodology is dependent upon ontology, which in turn is dependent upon epistemology. Each of these elements is important to this research, and therefore one must ask different questions. Paraphrasing Denzin and Lincoln, one might ask the following: In the realm of epistemology, how do we know the world of public policy? In the realm of ontology, what is the nature of the reality

¹³⁰ Guba, Egon G., and Yvonna S. Lincoln. "Competing Paradigms in Qualitative Research," in Denzin, Norman K., and Yvonna S. Lincoln, eds., *Handbook of Qualitative Research*, Thousand Oaks, CA: Sage Publications, Inc., 1994, pp. 105-117.

(policy subsystems) that we are exploring? And in the realm of methodology, how might one gain knowledge of issue transformation and policy change through this endeavor?¹³¹ Any given paradigm represents “the most informed and sophisticated view that its proponents have been able to devise, given the way they have chosen to respond to the three defining questions.”¹³²

Epistemologically, Guba and Lincoln note that “except for positivism, the paradigms discussed are all still in formative stages; no final agreements have been reached even among their proponents about their definitions, meanings, or implications.” Of the paradigms examined, constructivism is most closely aligned with the approach of this project. Constructivism is able to accommodate the diverse intellectual foundations and ideas that are contained within this research (as outlined in the previous chapter). Constructivism accepts research approaches and products that combine traditional and experimental components in new and innovative ways, and accommodates the lack of a previous research model for a Policy World. The relative novelty of constructivist-oriented research also implies a willingness to embrace methodological experimentation, such as the virtual case study approach used in this project.

Guba and Lincoln define a constructivist epistemology as one in which “the investigator and the object of investigation are assumed to be interactively linked so that the ‘findings’ are *literally created* as the investigation proceeds.” In its ontology, “Constructions are not more or less ‘true,’ in any absolute sense, but simply more or less informed and/or sophisticated. Constructions are alterable, as are their associated ‘realities.’” Such a construct fits well with the purposes of policy research. And concerning methodology, “The variable and personal nature of constructions suggests that individual constructions can be elicited and refined only through interaction *between and* among investigator and respondents. . . . The final aim is to distill a consensus construction that is more informed and sophisticated than any of the predecessor constructions.”¹³³

¹³¹ Denzin and Lincoln, *Handbook of Qualitative Research*, p. 99.

¹³² Guba and Lincoln, “Competing Paradigms,” p. 108.

¹³³ Guba and Lincoln, “Competing Paradigms,” p. 109-111. The paradigms noted are positivism, post-positivism, critical theory, and constructivism.

Schwandt provides a more complete outline of the constructivist position.

Proponents of this paradigm, he notes,

share the goal of understanding the complex world of lived experience from the point of view of those who live it. . . . [I]n particular places, at particular times, [actors] fashion meaning out of events and phenomena through prolonged, complex processes of social interaction involving history, language, and action. . . . Constructivists emphasize the pluralistic and plastic character of reality – pluralistic in the sense that reality is expressible in a variety of symbol and language systems; plastic in the sense that reality is stretched and shaped to fit purposeful acts of intentional human agents. . . . In this sense, constructivism means that human beings do not find or discover knowledge so much as construct or make it. We invent concepts, models, and schemes to make sense of experience, and further, we continually test and modify these constructions in the light of new experience.¹³⁴

The perspective offered by constructivism provides a means for examining the policy evolution of information resources management, for integrating Kronenberg's notion of "issue transformation" as bridging the end and the beginning of policy activities, and for visualizing the "cloud" as a metaphor for the indeterminate boundaries of key policy activities.¹³⁵ And importantly, constructivism encourages crafting innovative research approaches, such as a virtual reality-based visualization of issue transformation within a policy subsystem, as a means to create and enhance understanding of policy activities in their environmental and institutional contexts.

3.2 A 28-Year Case Study: The IRM Policy Subsystem

A qualitatively oriented case study, following the theoretical approach of Sabatier and Jenkins-Smith's advocacy coalition framework,¹³⁶ is the method selected to investigate issue transformation throughout the evolution of the IRM policy subsystem.

¹³⁴ Schwandt, Thomas A. "Constructivist, Interpretivist Approaches to Human Inquiry," in Denzin, Norman K., and Yvonna S. Lincoln, eds., *Handbook of Qualitative Research*, Thousand Oaks, CA: Sage Publications, Inc., 1994, pp. 118-137.

¹³⁵ Kronenberg, *Chaos and Re-Thinking the Public Policy Process*, pp. 258-260.

¹³⁶ Sabatier and Jenkins-Smith. *Theories of the Policy Process*, pp. 117-166.

Qualitative approaches, suggest Denzin and Lincoln, offer both flexibility and robustness. “Qualitative research is multi-method in focus, involving an interpretive, naturalistic approach to its subject matter. This means that qualitative researchers study things in their natural settings, attempting to make sense of, or interpret, phenomena in terms of the meanings people bring to them. Qualitative research involves the studied use and collection of a variety of empirical materials—case study, personal experience, introspective, life story, interview, observational, historical, interactional and visual texts—that describe routine and problematic moments and meanings in individuals’ lives.”¹³⁷

The case study approach, better than any other research approach, accommodates the character of this research endeavor. It allows one to investigate phenomena that span a considerable period of time, yet it permits examination and interpretation of discrete events and activities within this temporal space. Yin notes that “the major rationale for using this method [i.e., a case study] is when your investigation must cover both a particular *phenomenon* and the *context* within which the phenomenon is occurring,”¹³⁸ a condition fitting the policy issues under investigation and the broader temporal and societal context in which they exist.

Stake, a social constructionist, advocates a qualitative case study approach that incorporates both *intrinsic* and *instrumental* components. Such an approach, he notes, exhibits its *intrinsic* characteristics when it is “undertaken because one wants better understanding of this particular case,” while the *instrumental* component of the case study is highlighted when the “particular case is examined to provide insight into an issue or refinement of theory.”¹³⁹ This research endeavors to satisfy Yin’s criteria for using the case study while pursuing Stake’s concept of a case study with intrinsic and instrumental qualities.

Given these distinctions, this research is seen as *intrinsic* in its efforts to examine information resources management and what that field means for contemporary public

¹³⁷ Denzin, Norman K., and Yvonna S. Lincoln. "Introduction: Entering the Field of Qualitative Research," in Denzin, Norman K., and Yvonna S. Lincoln, eds., *Handbook of Qualitative Research*, Thousand Oaks, CA: Sage Publications, Inc., 1994, pp. 1-17.

¹³⁸ Yin, *Applications of Case Study Research*, p. 31.

¹³⁹ Stake, *Case Studies*, pp. 236-247.

administration. Examining the policy history of IRM equips one to better assess and appreciate the contribution of information resources (i.e., information, information technology, telecommunications, and the knowledge to use them effectively) in complex public organizations. Such awareness has been lacking within the public administration community in the past, as can be seen from its absence from PA educational offerings. The intrinsic aspects of this research are part of the hoped-for contribution to public administration practice and education. Information resources management, in all its particularity and ordinariness, should be of interest to public administration practitioners, scholars, theorists, and educators.

The *instrumental* dimension of this case study is found in the focus on issues and issue transformation in a policy sub-system. Examining the topic of issue transformation, it is hoped, may shed some light on the role of issues in policy activities and in policy change. Questions such as the following are considered. What is issue transformation? In what ways and by what means are issues transformed? And what is the relationship of issue transformation to policy change? These are but a few of the questions that are of interest to policy scholars and theoreticians. Thus this effort aims to provide some instrumental insight into policy activities.

In form and construct then, this research uses a constructivist orientation in crafting a case study to examine policy issue transformation within the information resources management policy sub-system. As a case study, this effort examines both the “particular phenomena and the context” advocated by Yin’s quantitative orientation, and the “intrinsic and instrumental” components that Stake recommends for inclusion in qualitatively oriented case studies. The next section outlines the theoretical approach used to construct and give meaning to this study.

3.3 The Advocacy Coalition Framework: Policy Change Over Time

This section provides an overview of the advocacy coalition framework (ACF), a theory of policy change developed by Paul Sabatier and Hank Jenkins-Smith. The initial presentation of the ACF in 1988 has been refined over time through the research experience of the authors, their collaborators, and independent researchers. The concepts that comprise the advocacy coalition framework outlined here draw mainly

from the most recent of three principal works by Sabatier and Jenkins-Smith that span more than ten years; ideas from earlier versions of the work, where used, are noted.¹⁴⁰

3.3.1 ACF Concepts

The advocacy coalition framework is a theory of policy change over considerable periods of time. Its genesis was the search for an alternative to the stages heuristic that, despite its conceptual strengths and wide acceptance, was viewed as having “serious limitations as a basis for research and teaching.”¹⁴¹ The ACF provides an approach to the entire policy process and to understanding policy change over long periods of time.

The advocacy coalition framework rests on five premises. First, technical information about the nature and complexity of the problem is essential to informed policy decision-making. Administrative agencies, legislators, and analysts need to know and understand as much about the problem, its causes, and the likely impacts of various interventions as they deliberate, craft, and implement public policies. This suggests a role for technical specialists in policy activities. Second, understanding policy change and policy learning requires time spans of a decade or more. This premise is based on Weiss'¹⁴² research into the importance of the “enlightenment function” of policy research showing how learning over time can alter the perceptions of policymakers. Policy implementation literature also points out the need to look at a longer timeframe in order to observe a complete policy cycle, from policy formulation through implementation, and back to policy reformulation.

Third, the ACF uses the policy subsystem as the most useful unit of analysis. A policy subsystem, in Sabatier’s terms, “Consists of those actors from a variety of public and private organizations who are actively concerned with a policy problem or issue ... -

¹⁴⁰ The original version of the ACF appeared in *Policy Sciences* (1988), and is referred to as Sabatier, “An Advocacy Coalition Framework of Policy Change.” The ACF was also highlighted in an edited volume of case studies using the approach (1993). See Sabatier, Paul A., and Hank C. Jenkins-Smith. *Policy Change and Learning: An Advocacy Approach*. Boulder, CO: Westview Press, 1993, and, when used, is referred to as Sabatier & Jenkins-Smith, *Policy Change and Learning*. The most recent version of the ACF (1999) focuses on assessing the framework, and is referred to as Sabatier & Jenkins-Smith, *Theories of the Policy Process*.

¹⁴¹ Sabatier, “An Advocacy Coalition Framework of Policy Change,” p. 132.

- [including] actors at various levels of government active in policy formulation and implementation, as well as journalists, researchers, and policy analysts who play important roles in the generation, dissemination, and evaluation of policy ideas.”¹⁴³

Fourth, the ACF defines policy subsystems more broadly than earlier conceptions such as the “iron triangles.” This view of policy subsystems more completely encompasses the variety of interests and voices actively involved in policy discussions, and more closely models the “lived experience” of policy participants.

And fifth, the ACF views public policies as “incorporating implicit theories about how to reach their objectives, and thus can be conceptualized in much the same way as belief systems. Public policies, or policy solutions involve value priorities, perceptions of important causal relationships, perceptions of world states (including the magnitude of the problem), and perceptions of the efficacy of policy instruments, etc.”¹⁴⁴ Again, this perspective is highly congruent with the experiences of policy participants, regardless of their status as winners or losers in the policy game. This premise embraces the notion that ideas matter. As Stone notes, “Ideas are the very stuff of politics. People fight about ideas, fight for them, and fight against them.”¹⁴⁵

These five premises provide a foundation for examining policy change that incorporates the temporally-bounded nature of policy, policy learning, and policy adjustment. This framework broadens traditional concepts of participation in policy activities to accommodate the realities of policy deliberation by including media, interested and knowledgeable participants, policymakers, and practitioners from all levels of government. The ACF assists scholars and practitioners in eschewing the problematic view of public policy as being “value-free.” This framework acknowledges and incorporates the normative power of ideas in shaping policies, guiding policy implementation, and in recasting policies to more closely conform to ideals.

¹⁴² Weiss, Carol. “Research for Policy’s Sake: The Enlightenment Function of Social Research.” *Policy Analysis*, 3(Fall 1977), pp. 531-545.

¹⁴³ Sabatier, “An Advocacy Coalition Framework of Policy Change,” p. 131.

¹⁴⁴ *Ibid.*, pp. 131-132.

¹⁴⁵ Stone, *Policy Paradox*, p. 32.

3.3.2 ACF Structures

The advocacy coalition framework has three primary and interacting structural components: two external systems that pose opportunities for and impose constraints upon the subsystem coalitions, and the policy subsystem. External constraints are a very real part of policy activities. “Policy-making in any political system or policy subsystem is constrained by a variety of social, legal, and resources features of the society of which it is a part.”¹⁴⁶ One of these external systems is composed of fairly stable system parameters, such as the basic constitutional structure, that are unlikely to change over the course of several decades or longer. The other external system is composed of external events that are dynamic and more likely to change over the course of a decade or so. This includes cyclical changes, such as the voting cycles, that can result in changes in the systemic governing coalition. Dynamic external events exert influence on policy subsystems and may result in major policy changes. The external components of the ACF model are graphically and schematically depicted in Figure 3-1, and discussed in the following paragraphs. The discussion will first address the stable external factors.

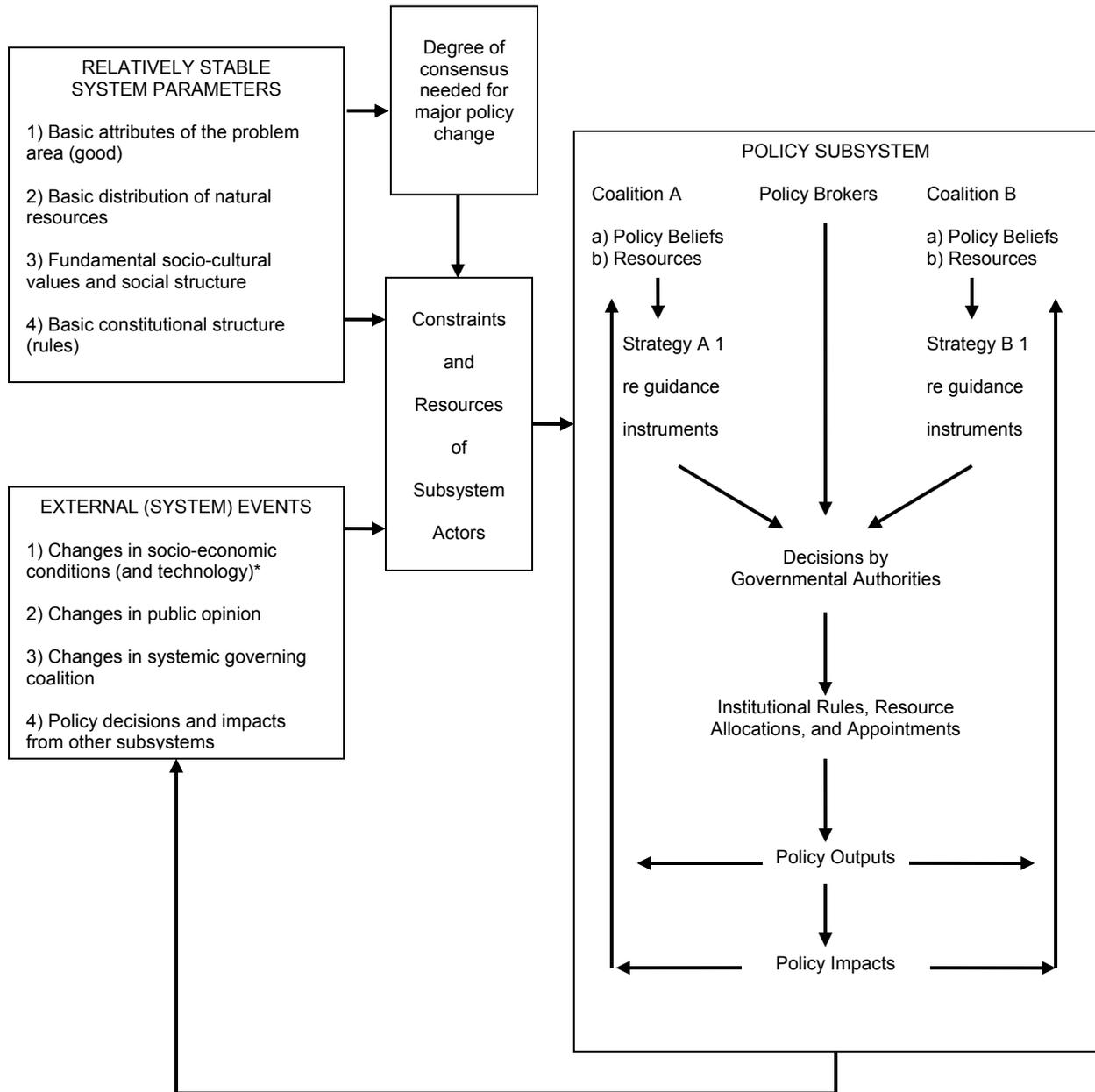
Given the ACF’s focus on policy change, the stable external factors must be distinguished from the dynamic and changeable factors. These foundational policy features provide an enduring and stable foundation for all policy subsystems and therefore are unlikely to contribute to policy change. Termed the “Relatively Stable System Parameters” (the upper left box of Figure 3-1) this group comprises policy constraints and opportunities that, by their very nature, are extremely difficult to change. And due to their stability, these parameters underpin all policy activities of a given society. Coalitions seldom find these parameters useful in developing coalition strategies for policy change. The four stable parameters outlined in the ACF are:

1. The basic attributes of the problem area (or ‘good’).
2. The basic distribution of natural resources.
3. Fundamental socio-cultural values and social structure.
4. The basic constitutional structure (rules).¹⁴⁷

¹⁴⁶ Sabatier, “An Advocacy Coalition Framework of Policy Change,” p. 134.

¹⁴⁷ Sabatier, *Theories of the Policy Process*, p. 149.

The Advocacy Coalition Framework



* See discussion below about the inclusion of technology as an external system event.

Figure 3.1 General Model of the Advocacy Coalition Framework (1998)

(Redrawn from Sabatier, *Theories of the Policy Process*, Figure 6.4, p. 149.)

The second group of external constraints, termed the “External (System) Events” in Figure 3.1, is composed of four dynamic or systemic events that can cause perturbations in the policy environment. These factors may vary substantially over the course of a few years, and are frequently the cause of major policy change. These dynamic events also inject considerable variety and variability into the actions and deliberations of coalition actors as they position themselves to exert influence within the policy subsystem. Given that these dynamic events are external to the policy subsystem and are frequently unforeseen, they present coalition actors with a constant challenge to anticipate and respond within the constraints of their beliefs and interests. The categories of dynamic events are:

1. Changes in socio-economic conditions¹⁴⁸ (and technology).
2. Changes in public opinion.¹⁴⁹
3. Changes in systemic governing coalitions.
4. Policy decisions and impacts from other subsystems.

The first category of external (system) events, changes in socio-economic conditions (and technology), addresses “economic dislocations or the rise of social movements”¹⁵⁰ that can “undermine the causal assumptions of present policies or significantly alter the political support of various advocacy coalitions.”¹⁵¹ As students of public policy are well aware, perturbations of socio-economic conditions are likely to impact a variety of policies. Less recognized as a change factor, technology has affected socio-economic conditions (such as the railroad, the automobile, and today’s information technology). Technology, here viewed as information technology, is reintroduced as an external event because of the role information technologies have played and continue to play as drivers of management and policy decisions in information resources management and numerous functional areas. Any discussion of IRM as a policy subsystem must consider the role played by information technology,

¹⁴⁸ The words “and technology” are found in the 1988 and 1993 versions of the ACF, but are absent from the 1998 version. The 1988 discussion alludes to the big technologies such as nuclear power or pollution control technologies; adding information technologies to this framework is discussed below.

¹⁴⁹ The 1988 version of the ACF did not include this as a dynamic event. It was added in the 1993 version to give additional weight to public opinion, especially regarding the role of public opinion to alter spending priorities.

¹⁵⁰ Sabatier and Jenkins-Smith, *Theories of the Policy Process*, p. 120.

¹⁵¹ Sabatier and Jenkins-Smith, *Policy Change and Learning*, p. 22.

especially personal computing, networks, and the Internet. Information technologies are being included in this research as external events because most, although not all, computing and telecommunications innovations were developed as private sector products, not as the result of policy decisions. And given the growth and increasing centrality of IT to products, processes, and policy agendas such as electronic government, it fits most closely within this category.

The second category, changes in public opinion, was introduced into the ACF in the 1993 version.¹⁵² It was added to give weight to the impact public opinion can exert on coalition strategies. While recognizing that the public generally lacks the time, inclination, or expertise to participate in policy subsystem activities, changes in public opinion remain significant enough to warrant separate attention.

Changes in systemic governing coalitions, the third category of dynamic external events, can generate significant perturbations in a policy subsystem and stimulate policy change. Elections, especially recurring and cyclical elections, are one of the primary mechanisms for achieving system-wide change to the governing coalition. Especially important to policy subsystems are elections that change the chief executive, because of the political appointive powers. And while many political appointees raise barely a ripple in policy subsystems, “those who combine extensive knowledge of a subsystem with technical and political skill can produce waves of some magnitude.”¹⁵³

The final category of external system events, policy decisions and impacts from other subsystems, recognizes the interconnectedness of policy activities. One subsystem may be nested within another, or the interactions may be along functional or jurisdictional lines. “Or two subsystems may overlap with each other (i.e., they interact with each other frequently enough so that a subset of actors is part of both).”¹⁵⁴ This gives rise to a situation in which some coalition actors may be “regulars” while others are “periodic,” confining their participation to selected issues or policies. With this background of external influences, it is now time to focus on the heart of policy activities, the policy subsystem.

¹⁵² Ibid., p. 223.

¹⁵³ Ibid., p. 222. An example is the IT leadership role played by Mark Forman, OMB Associate Administrator for Information Technology and Policy, and the E-Government Administrator, 2001-2003.

¹⁵⁴ Sabatier and Jenkins-Smith, *Theories of the Policy Process*, p. 137.

Policy subsystems are composed of actors representing a variety of institutional interests. For analytical purposes these actors are aggregated into a small number of coalitions. The notion of an “advocacy coalition” assumes shared beliefs; therefore an advocacy coalition is one whose members engage in “a non-trivial degree of coordinated activity” over time, [and] “share a set of normative and causal beliefs and who often act in concert. At any particular point in time, each coalition adopts a strategy envisaging one or more institutional innovations which it feels will further its policy objectives. Conflicting strategies from various coalitions can be mediated by a third group of actors, here termed ‘policy brokers,’ whose principal concern is to find some reasonable compromise which will reduce intense conflict.”¹⁵⁵ In the end, the policy and goal preferences of the coalitions, as well as the alternatives offered by the policy brokers, are acted upon by governmental authorities, yielding authoritative decisions. When finally handed off to the administrative apparatus of government, one or more government programs typically results. Outputs then lead to policy impacts, side effects, and perceptions about the adequacy of the policy intervention, and may result in the coalitions altering their strategies or revising their beliefs. Coalitions may even go outside the policy subsystem to seek changes from the dominant electoral coalition.

Belief systems of elites and advocacy groups are important in the functioning of the policy subsystem. Based on the assumption that individuals participate in policy activities in order to translate their beliefs into policy actions, the ACF posits a three-tiered structure of belief systems (reproduced in Table 3.1). The first is “a deep core of fundamental normative and ontological axioms that define a person’s underlying personal philosophy; the second tier is a near (policy) core of basic strategies and policy positions for achieving deep core beliefs in the policy area or subsystem in question; and the third tier is a set of secondary aspects comprising a multitude of instrumental decisions and information searches necessary to implement the policy core in the specific policy area. The three structural categories are arranged in order of decreasing resistance to change, that is, the deep core is much more resistant than the secondary aspects.”¹⁵⁶

¹⁵⁵ Sabatier, “An Advocacy Coalition Framework of Policy Change,” pp. 133-139.

¹⁵⁶ Ibid., pp. 30-32.

	Deep Core	Policy Core	Secondary Aspects
Defining Characteristics	Fundamental normative and ontological axioms.	Fundamental policy positions concerning the basic strategies for achieving core values within the subsystem.	Instrumental decisions and information searches necessary to implement policy core.
Scope	Across all policy subsystems.	Subsystemwide.	Usually only part of subsystem.
Susceptibility to change	Very difficult; akin to religious conversion.	Difficult, but can occur if experience reveals serious anomalies.	Moderately easy; this is the topic of most administrative and even legislative policymaking.
Illustrative components	<p>1) Human nature</p> <ul style="list-style-type: none"> i) Inherently evil vs. socially redeemable. ii) Part of nature vs. dominion over nature. iii) Narrow egoist vs. contractarians. <p>2) Relative priority of various ultimate values; freedom, security, power, knowledge, health, love, beauty, etc.</p> <p>3) Basic criteria of distributive justice: Whose welfare counts? Relative weights of self, primary groups, all people, future generations, non-human beings, etc.</p> <p>4) Sociocultural identity (e.g., ethnicity, religion, gender, profession).</p>	<p>Fundamental normative precepts:</p> <ul style="list-style-type: none"> 1) Orientation on basic value priorities. 2) Identification of groups or other entities whose welfare is of greatest concern. <p>Precepts with a substantial empirical component:</p> <ul style="list-style-type: none"> 3) Overall seriousness of the problem. 4) Basic causes of the problem. 5) Proper distribution of authority between government and the market 6) Proper distribution of authority among levels of government. 7) Priority accorded various policy instruments (e.g., regulation, insurance, education, direct payments, tax credits). 8) Ability of society to solve the problem (e.g., zero-sum competition vs. potential for mutual accommodation; technological optimism vs. pessimism) 9) Participation of public vs. experts vs. elected officials. 10) Policy core policy preferences. 	<ul style="list-style-type: none"> 1) Seriousness of specific aspects of the problem in specific locales. 2) Importance of various causal linkages in different locales and over time. 3) Most decisions concerning administrative rules, budgetary allocations, disposition of cases, statutory interpretation, and even statutory revision. 4) Information regarding performance of specific programs or institutions.

Table 3.1 Structure of Belief Systems of Policy Elites

(Reproduced from Sabatier, *Theories of the Policy Process*, p.133.)

Within a policy subsystem, policy change can best be described as the product of two processes. “First, advocacy coalitions within the subsystem attempt to translate the policy cores and secondary aspects of their belief systems into governmental programs. . . . [T]he second process is one of external perturbation, that is, the effects of *system-wide* events – changes in the socioeconomic conditions, outputs from other subsystems, and changes in the system-wide governing coalition – on the resources and constraints of subsystem actors.”¹⁵⁷

This depiction of the key causal relationships provides the basis for understanding both incremental policy adjustment and wholesale policy change. Evolutionary policy change is described and accounted for as normal interactions and politics of coalitions within the policy subsystem, as that subsystem is influenced by a dominant coalition. Significant policy changes, resulting in noteworthy or dramatic policy shifts, are viewed within a broader set of external parameters – such as changes in the system-wide governing coalition – that may result in policy changes across numerous policy subsystems. With these structural attributes and causal relationships identified within the ACF, one can address the evidence generated by research.

3.3.3 The ACF and Evidence: Coalitions and Values

Understanding policy change in an environment of competing coalitions and external events requires examining and interpreting qualitative information. While most of the ACF literature focuses on articulating the framework, Sabatier and Jenkins-Smith’s 1993 work contains a useful methodological index that explains the ACF as a research strategy.¹⁵⁸ The authors’ preferred approach, and the approach followed here, is to measure change in elite beliefs over a period of time, using content analysis of public documents. While content analysis itself is not new, the ACF’s approach of using content analysis to study changes in belief systems is new. And content analysis of public documents, especially testimony by coalition actors to legislative committees, represents a largely untapped resource of information about beliefs and preferred implementation mechanisms.

¹⁵⁷ Ibid. p. 34.

¹⁵⁸ Ibid., pp. 237-256.

The ACF's authors advocate using "content analysis of governmental and interest-group documents to explore the beliefs, interests and policy positions of relatively large numbers of elites over periods of a decade or more."¹⁵⁹ Content analysis as a means of gathering evidence involves three activities. First, one must identify a source of relevant information (the target population) and then select relevant documents within that target population for coding. Second the researcher must develop a coding frame that addresses and elicits, from the target population, the relevant elements of the belief systems. And third, the researcher must code these documentary sources, attending to concerns about the reliability and validity of the coding.

Finding documentation of the initiation and evolution of the IRM policy subsystem was challenging. The scant coverage given IRM activities and issues in the public administration literature was already discussed in the preceding chapter. Better coverage of these issues was found in the writings of the library and information sciences field, but was oriented toward library science issues and points of view. Little executive branch information, other than the finished policies, was available to inform research on this topic. Insight into deliberative activities of the executive branch was widely scattered from Presidential Libraries to individual agencies' historical records maintained by the National Archives and Records Administration. Some relevant information was available from the trade press, but much of that was either product information or anecdotal and episodic information – however interesting. One complete set of documents was found that covered the entire time frame of interest: the Congressional Information Service's (CIS) Index of congressional hearings. That set of documents contained transcripts of congressional hearings at which the issues and policies of interest were discussed. The CIS Index provided not only an index to the hearings of interest over the 28 year period, but included full hearing transcripts and witnesses' statements for the record.

Using the CIS Index, however, raised concerns about skewing and bias in the evidence, especially when using congressional hearings as the primary source of information and evidence about a policy subsystem. Two concerns related to skewing

¹⁵⁹ Ibid., p. 240.

and bias are raised and addressed: first, is a concern over control of the policy agenda, a concern that focuses on who determines the topic under discussion; and a second concern that deals with the selection of witnesses, a focus on who decides who can contribute to the policy discussion and whose views are considered.

Concern over control of the policy agenda is a legitimate concern, but a concern that should be tempered by considering the political reality of the Congress. In his updated volume, Oleszek notes, “As one House chairman said, the ‘real power’ of the chairmen is ‘to set the agenda, mark the course and lead.’”¹⁶⁰ “The decision to hold hearings is the fundamental prerogative of committee chairs . . . [they] determine their committees’ hearing schedule, setting the date, place and subject matter of any hearing.”¹⁶¹ This power to set the agenda however, has its limits and is not wielded in a vacuum. “Congress is involved with every significant national and international issue. Its agenda compels members to respond to changing constituent interests and needs. Congress also is subject to numerous other influences, particularly the president, pressure groups, political parties, and state and local officials. Finally, Congress is a collegial, not hierarchical, body. Power flows not from the top down, as in a corporation, but in practically every direction. . . . There is often little centralized authority at the top; congressional policies are not announced but made commonly by shifting coalitions that vary from issue to issue. And Congress’s deliberations are more accessible to the public than those of perhaps any other kind of organization. . . . Inevitably, these differences affect the decision-making process.”¹⁶²

The second concern focuses on the selection of witnesses, the question of who decides who can contribute to the policy discussion – whose views are considered and why. Again, Oleszek’s experience and insight are informative. “Committee members and staff typically plan with care who should testify, when, and on what issues. . . . Witnesses who have experienced issues or problems firsthand and can tell their stories to lawmakers are especially sought after, because they put a human face on public problems. . . . Committees often want witnesses who will provide a broad coalition of

¹⁶⁰ Oleszek, Walter J. *Congressional Procedures and the Policy Process*, 6th ed. Washington, D.C.: CQ Press, 2004, p. 89.

¹⁶¹ *Ibid.*, p. 91.

¹⁶² *Ibid.*, p. 11.

endorsements for their predetermined position and promote political and public support for this course of action.” But hearings also serve other functions. “They may be used to assess the intensity of support or opposition to a bill, to gauge the capabilities of an executive agency official, to publicize the role of politically ambitious committee chairs and members, to allow citizens to express their views to their representatives, to promote new ideas or agendas, to assert the jurisdictional reach of committees, or to build public support for an issue. . . . Congress also uses oversight and investigative hearings to explore problems and issues and assess program performance. These hearings serve several purposes. They promote efficient program administration, secure the information needed to legislate, and inform public opinion.”¹⁶³

Witness selection is integrally related to the purpose of the hearing. An earlier work by Davidson and Oleszek outlines five distinct types of hearings, each serving a different purpose: an exploratory hearing; a legislative hearing; a visibility hearing; an oversight hearing; and a complaint hearing. The exploratory hearing examines the need for legislation, with witnesses defining the problem in a variety of ways; problem perspectives, the seriousness of the problem, and extent of support for various problem definitions are examined by witnesses at an exploratory hearing. Legislative hearings examine bills proposing legislative interventions. At a minimum testimony is sought from administration witnesses, congressional sponsors, and interest groups supporting or opposing the legislation. Visibility hearings are used to publicize and give visibility to the chairman and members of the committee. Such hearings typically reveal investigative findings, publicize the work of the chairman and/or committee, or voice support for policy positions favored by the chairman. Oversight hearings, reviewing the executive branch implementation of laws, present witnesses from the administration (typically OMB), the affected executive branch agencies, and the Government Accountability Office (GAO). Public interest advocates are also frequently invited, as are other related interest groups. The last hearing type, complaint, provides citizens and their advocates the opportunity to voice grievances and frustrations.¹⁶⁴

¹⁶³ Ibid., p. 95.

In reflecting on his six years as a professional staff member for a select Senate committee, Currie offers insight into the hearing process. “First of all, a hearing is not an equal contest. The congressional committee holds all the cards. Its members set the agenda, schedule the time, and tell you what they want you to talk about. They control the hearing room, and they invariably put you on a lower level physically, so that they can look down upon you from on high.”¹⁶⁵ In response to the question of why one would testify before a congressional committee, Currie notes that “you are invited to appear in the same way that the Internal Revenue Service invites you to respond to their request for additional information about your tax return. In the words of the Godfather, it is an offer you cannot refuse.”¹⁶⁶

“Despite their limitations, hearings remain an integral part of the legislative process. They provide a permanent record of the positions of committee members and various interest groups on a legislative proposal. In fact, the executive agencies and interest groups give high priority to preparation of congressional testimony. Above all, hearings are important because members of Congress believe them to be important. The decision to hold hearings is often a critical point in the life of a bill.”¹⁶⁷

Concern over the possibility of a legislative bias led to a before-the-fact decision to exclude, that is not to code, the opening remarks or statements of committee chairmen/chairwomen and committee members. This concern also led to a non-intuitive discovery. An after- the- fact examination of the organizational affiliations of the 431 witnesses whose testimony was coded, revealed the following:

- 18 instances of testimony by members of Congress;
- 41 instances of testimony by General Accounting Office officials;
- 28 instances of testimony by OMB officials; and
- 105 instances of testimony by officials of executive branch agencies.

¹⁶⁴ Davidson, Roger H. and Walter J. Oleszek. *Congress and its Members*, 4th ed. Washington, DC: Congressional Quarterly, 1994, pp. 226-227.

¹⁶⁵ Currie, James T. “Testifying on the Hill: A Survival Guide.” In *Parameters*, Winter 1992-93, pp. 80-88. Available online at <http://carlisle-www.army.mil/usawc/parameters/1992/currie.htm>. Downloaded October 17, 2004. Currie served as a congressional staffer for almost eight years, the last six of which were spent on the professional staff of the Senate Select Committee on Intelligence.

¹⁶⁶ Ibid.

¹⁶⁷ Davidson and Oleszek, *Congress and its Members*, p. 93.

Executive branch witnesses constituted 30.9% of the instances of coded testimony and legislative branch witnesses 13.7%. Given the frequent occurrence of oversight hearings (36 of 91 or 39.5%), the mix of participants in these 91 hearings may be more balanced than is apparent at first glance.

Having selected a target population, the number of useful hearings contained in the CIS Index was identified. First, the target population was narrowed by limiting the hearings to those conducted by the congressional committees having primary jurisdiction over information resources management policies and related policy issues. This narrowed the field to two committees, the Senate Governmental Affairs Committee and the House Government Reform Committee. Second, all the hearings conducted by these two committees were scanned, and only hearings for which the title suggested association with either IRM policies or the issues of concern to this study were selected for further review. This resulted in a reduced target population of approximately 125 hearings. In the coding process, each of the 125 hearings was scanned for applicability, relevance, and duplication. As is seen in the following chapter, ninety-one hearings covering the 28 years of this study comprise the final target population, and within that target population, the testimony of 431 witnesses was coded.

A key piece of the ACF's research approach, as noted above, was developing the coding frame. A coding frame contains the set of items that are applied to the testimony in order to measure beliefs and solicit information of interest in a given policy area. In discussing the development of a coding frame, as well as in the sample coding frame provided, Sabatier and Jenkins-Smith propose a design and a mechanism to capture a wide range of information. That information ranges from the "deep core" norms through the "policy core" as well as the "specific perceptions of causal relationships and perceived states of the world regarding the policy issue (the secondary aspect of beliefs)."¹⁶⁸ This typically results in a 10-12 page coding frame that examines deeply held beliefs, such as the nature of mankind and the role of democratic beliefs in society. While such questions are important in assessing an individual's belief system, such "deep core" beliefs are rarely revealed in congressional hearings targeting specific issues.

Recent research experience led Professor Sabatier to recommend a change in constructing the coding form. He now recommends developing an abbreviated coding form of 1-2 pages surveying several policy core beliefs while focusing on the key secondary or instrumental aspects of belief systems.¹⁶⁹ The abbreviated coding frame developed for this study as a result of this advice is discussed in greater detail later in the chapter. However in brief, it collects eleven items of information from the testimony of each witness, items that provide information on his or her values, policy issue interests, and definition of individual issues. These items provide the basis for identifying coalitions and the issues of importance to them, and provide the issue definitions needed to identify and assess issue transformation.

A major methodological concern with the ACF's content analysis is the validity of the coded results. The first issue is the validity of the "speaker's" remarks in that particular forum, or the degree to which the remarks may have been tailored for that specific forum. Given that each of these speakers is testifying before a committee of Congress, and that these individuals intend to continue participating in this policy subsystem, it is believed that "the problems of content analysis of public documents are probably no more serious than in survey questionnaires. At least the content analyst knows the (official) source of the statements coded – which is certainly more than can be said for mail or telephone surveys, where anyone at the respondent's address may be the actual source."¹⁷⁰ The second issue is intercoder reliability, which is endangered by the propensity for two coders to code a given transcript differently. Since the author coded all transcripts used in this research, intercoder reliability was not a problem; the challenge was that faced by all coders, to code the transcripts with consistency.

3.4 Applying the ACF to the IRM Policy Subsystem

This section expands upon the advocacy coalition framework as a research methodology and discusses how the ACF is used to guide this project. Primary attention in this section is given to explaining how the ACF helps to organize and

¹⁶⁸ Ibid., p. 242.

¹⁶⁹ E-mail exchange with Paul Sabatier, April 15, 2003, in which he recommended using a 1-2 page coding frame patterned after one developed by Granville Sewell. My thanks to Professor Sabatier for sharing his research insights, and to Mr. Sewell for graciously sharing his intellectual efforts.

structure this 28-year case study, to explaining the research instrument and its application, and to identifying those areas where this research pushes beyond the ACF's conceptual boundaries. The five component parts of this section deal with (1) the role of the chronology in assessing and understanding policy change; (2) contributions to and extension of the ACF; (3) dealing with issues in a policy subsystem; (4) constructing, justifying and using the coding frame; and (5) identifying coalitions, their values, and their issue affinities. In each of these five areas as appropriate, the sources of the information used in this research are identified.

3.4.1 Time and Policy Change: The Role of Time

Time is a key determinant in understanding policy change, the reasons for policy change, and the participants in effecting policy change. Sequences of events are important in establishing links of influence, and in filtering perceptions of those events. In research as in storytelling, time is typically manifested in the form of a chronology, and the story is told as a temporally-organized narrative. This research follows that tradition, as the chronology spans 28 years and addresses each of the components of the IRM policy subsystem.

Policy change, as defined in the ACF, results from changes in the structure of the belief system of policy elites. Such changes may result from external events, coalition activities within the policy subsystem, or the maturation of the policy subsystem. Policy changes are characterized as either major or minor. "Major policy change is a change in the policy core aspects of a governmental program, whereas minor policy change is change in the secondary aspects. Thus it is the *topic* and the *scope* of the policy change that determine whether it is major or minor."¹⁷¹ Table 3.1, discussed earlier, outlines some illustrative components in both the "policy core" and the "secondary aspects" that must change to be considered policy change. For example, a change in the "overall seriousness of the problem," or a change in the "basic causes of the problem," are sufficient for categorization as a major policy change – as is a change in the "orientation on basic value priorities." Major policy changes are typically

¹⁷⁰ Oleszek, *Congressional Procedures and the Policy Process*, p. 243-44.

¹⁷¹ Sabatier, *Theories of the Policy Process*, pp. 147-150.

subsystemwide in their scope. Minor policy change, by contrast, might encompass “most decisions concerning administrative rules, budgetary allocations, disposition of cases, statutory interpretation, and even statutory revision.”¹⁷² Minor policy changes apply only to parts of a policy subsystem.

The chronology is constructed to address each of these elements as key to understanding policy change and therefore examining issue transformation. Therefore this chronology addresses: (1) the dynamic external (system) events that may influence policy change; (2) the events and interactions internal to the policy subsystem that chronicle policy change and its implementation; and (3) the maturation of the policy subsystem as it coalesces into self-awareness, and evolves from a nascent policy subsystem through the policy life-cycle of formulation/implementation/reformulation, into a mature policy subsystem.

The content and structure of this chronology are discussed in the following paragraphs. Within each part of the chronology, criteria for including events are outlined, and sources of information are identified. It is important to remember that this chronology seeks to show interactions and likely areas of influence, and, within the conceptual outlines of the advocacy coalition framework, tell the story of the IRM policy subsystem. Causal relationships outlined in the ACF, wherever found, are verified, however the primary focus is on identifying issue transformation and assessing its relationship to policy change, if any.

External events, the leadoff item in each section of the chronology, create a backdrop for orienting the reader, understanding the specific time period, and identifying events relevant to policy subsystem activities. As described earlier, the external events of interest are ones that impose constraints or provide resources for the policy subsystem. These events can be grouped into four categories: 1) changes in socio-economic conditions (and technology); 2) changes in public opinion; 3) changes in the systemic governing coalition; and 4) policy decisions and impacts from other subsystems. These categories provide a set of filters for identifying external events that should be included in the external chronology.

¹⁷² Ibid., p. 133.

Information sources that consistently present information over long periods of time are not easily found. Specific sources are noted in Chapter 4, but in general, information on changes in socio-economic conditions was drawn primarily from an edited volume retrospectively reflecting on events in the 20th century. Information on information technology was drawn from two sources, one a chronological history of the personal computer, and the other a history of the Internet. Information on changes in public opinion and changes in the systemic governing coalition was also drawn from the 20th century retrospective volume and from congressional hearings. Information about policy decisions and impacts from other policy subsystems, where available, was generally found in hearings during the coding process.

Policy events comprise the second part of the ACF chronology, and are documented by chronicling the policy subsystem in its interactions with the external environment, and in the interaction of its internal components – the coalitions, the policy brokers, and the governmental authorities that collectively comprise the policy subsystem. Creating this chronology documents the collective actions of the policy subsystem. It creates a sequence of policy change, and permits readers and viewers to examine and assess the influences exerted to create policy change. In a typical ACF-based analysis, this long-term view of a policy subsystem contributes to both “the enlightenment function” of coalition members, and to policy oriented learning that results in “alterations of thought or behavioral intentions.”¹⁷³ This chronology therefore documents not only policy change and participation by relevant legislative, executive, and judicial policy actions, but may also document policy learning on the part of those individuals participating as policy subsystem actors.

The public record is used to construct the chronology of policy subsystem activities, using the testimony and statements of policy subsystem actors appearing before committees of the Congress. Due to fortuitous committee jurisdictions within the Congress, all of the hearings upon which this research is based were conducted by two committees, one in the U.S. House of Representatives and the other in the U.S. Senate. In the Senate, the Governmental Affairs Committee has had jurisdiction over all IRM-

¹⁷³ Sabatier and Jenkins-Smith, *Policy Change and Learning*. See their discussions in Chapters 2 & 3 on policy change and policy learning, respectively.

related functions of the Federal government since the inception of the policy subsystem. Likewise in the House of Representatives, jurisdiction resides with the Government Reform Committee (previously called the Government Operations Committee until its renaming in 1995.)¹⁷⁴ A listing of the hearings that contribute to the policy chronology is included as Appendix A.

Coding the hearings provides final pieces of the policy chronology. The coded hearing transcripts provide the evidence needed to identify coalitions and their values, understand various coalitions' treatment of issues, and examine coalitions' positions on policy change. While coalitions are typically identified by their value systems alone, the coding frame developed for his study also identifies the issues of interest to each witness. The extended nature of this research allows viewing coalitions, their values, and interest in issues across the entire policy subsystem maturity model. That model, in turn, provides a framework for organizing the chronology.

Maturation of the policy subsystem is implicitly embedded in this chronology. As noted in Chapter 1, the ACF differentiates between a *nascent* policy subsystem, one in the process of forming, and a *mature* policy subsystem, and it posits four necessary and sufficient criteria for the transition to a mature policy subsystem. The first criterion is the self-conscious presence of a semiautonomous community sharing a domain of expertise. Second, a mature policy subsystem has influenced policy over a considerable period of time (at least one cycle of policy formulation, implementation, and reformulation). Third, specialized units exist at appropriate levels of government to deal with the topic. And fourth, interest groups exist that consider this a major policy topic.¹⁷⁵ These conditions were satisfied by the end of 1996 for the IRM policy subsystem. Therefore, this research characterizes the IRM policy subsystem as mature from 1997 through the end of 2002. By contrast, the IRM policy subsystem is viewed as a nascent policy subsystem from its beginnings in 1981 until the end of 1996.

The maturity phases of the policy subsystem structure the narrative of Chapter 4. At the macro level, Chapter 4 begins with the pre-policy subsystem concerns culminating with passage of the Paperwork Reduction Act of 1980, then discusses the

¹⁷⁴ For a history of this committee see <http://reform.house.gov/UploadedFiles/grchistory.pdf>.

¹⁷⁵ Sabatier and Jenkins-Smith. *Theories of the Policy Process*, pp. 135-136.

nascent policy subsystem from 1981-1996, and the mature policy subsystem from 1997-2002. Each of the maturity phases is further subdivided into 4-year increments that coincide with the presidential terms in office. This structure gives policy cohesion to the narrative; highlights the change brought about by systemic governing coalitions; highlights the role of politics in policy endeavors; and highlights possibilities for policy change, especially as political appointees reaffirm or articulate new policy directions.

Each of the four-year time periods is structured and discussed similarly in the narrative. External (system) events provide the setting or backdrop. Policy events are extracted from the public record and the hearings and are crafted into a narrative. Hearing transcripts are coded to provide identification of coalitions and their values, and to assess coalition treatment of the six policy issues. The public record also supplies documentation of any policy changes that occur during the time period. For example, the narrative of the time period 1981-1984 is organized as follows:

- 4.2.1 Welcome to the Revolution: The Policy Environment
 - 4.2.1.1 Putting America Back to Work: The External Environment
 - 4.2.1.2 Government is the Problem: The Policy Subsystem
 - 4.2.1.3 Finding a Voice: Coalitions
 - 4.2.1.4 Seeking Connections: Issues
 - 4.2.1.5 Competition as Equity: Policy Change

But how did the IRM policy subsystem come into existence? Little is said in the ACF about the formation of a policy subsystem. This research, due to its length, explores the early formation and evolution of the concerns that lead to policy subsystem formation. It traces those concerns over time, as they evolve into the key policy issues that are central to the existence and identification of the policy subsystem. Documenting the early evolution of the concerns, issues, and pre-policy subsystem activities are substantial contributions to the advocacy coalition framework.

3.4.2 Extending the Advocacy Coalition Framework

The authors of the ACF note that further research is needed in “scenarios of, and the factors affecting, subsystem development over time.”¹⁷⁶ This research, documenting the early deliberations and actions of those individuals concerned with paperwork and associated problems of government, advances the advocacy coalition framework and contributes to both theoretical and practical understanding of subsystem formation and early coalition building activities. Simultaneously, these efforts create a focus on the concerns and issues that are at the heart of a policy subsystem, a focus necessary for exploring the notion of issue transformation.

This study is principally concerned with issue transformation. That is, it seeks to understand change or stability in policy issues over time, as the issues are the focus of deliberation and policy action. Whereas the ACF methodology focuses mainly on identifying the normative and policy core values in order to determine coalitions and their policy preferences, this study focuses on the secondary or instrumental values. Problem definition is seen as key, with coalitions defining problems in ways consistent with their core values. Tracing the stability or change of a policy issue requires examining the statements of witnesses in their testimony before congressional committees. Changes to the accepted problem definition may signal an attempt to alter the definition of an issue, to broaden or to narrow the issue, or to break some alliances and to forge others. This focus on the definition of policy issues, and the linkage of definition to issue transformation, extends the explanatory power of the advocacy coalition framework by highlighting the application of values in defining and redefining issues at the heart of policy conflict.¹⁷⁷

Secondly, consideration of technology as an external parameter is reintroduced in this study. In discussing external events, Sabatier and Jenkins-Smith’s 1998 schematic and discussion omitted technology. This research suggests that inclusion of relevant technology is not only appropriate but may be necessary to understand the dynamics of policy choices. Just as technology was a part of the initial ACF when considering the application of technology in an environmentally-related policy

¹⁷⁶ Ibid., p. 153.

¹⁷⁷ Stone, *Policy Paradox*, pp. 32-34.

subsystem, so too, information technology plays a very significant role in the information resources management subsystem. This study would lose a great deal of its richness and be woefully incomplete if one did not address the topic of information technology.

A third area where this study may benefit the advocacy coalition framework is in its coverage of policy subsystem formation. In addition to problems and their identification, ideas are believed to play key roles in policy activities. This study covers not only the official recognition of IRM as a policy subsystem, but also the struggles for idea primacy. It is anticipated that disputes over ideas may shed additional light on the role of ideas in coalitions, on coalition formation, and attempts to influence the “core concerns” of a policy subsystem.

3.4.3 Policy Issues: Ideas Within a Policy Subsystem

This research focuses on six core policy issues selected as the subjects for examining issue transformation. To be included in this study, candidate issues were subjected to a number of screening criteria. Policy issues considered for selection were those that represented both the scope of the policy subsystem and its duration. In other words, to be included in the study, an issue had to be of concern to the members of the 1975 Commission on Federal Paperwork. This constraint also served to delineate the initial boundaries of the emergent policy subsystem. Additionally, to be included in the study each issue had to satisfy four additional screening criteria.

- the issue must be apparent and relevant prior to 1975;
- the issue must be relevant in the literature throughout the entire study period;
- the issue must still be apparent and relevant at the end of the study period; and
- the issue must pass the pracademic professional’s “so-what” test.¹⁷⁸

Six issues of interest to the IRM policy subsystem survived this series of filters and are examined throughout this chronological case study: paperwork; privacy; management reform; IT acquisition; computer security; and records and information. For the purposes of this study, these six are the core policy issues of the IRM policy subsystem.

¹⁷⁸ Discussion of these criteria as applied to the six issues is contained in the next chapter.

However, one must not assume that these issues exist exclusively and entirely within this policy subsystem. Policy subsystems, as well as the issues with which they are concerned, may overlap one another. For example, while the issue of privacy is of interest to coalitions in the IRM policy subsystem, privacy is also of interest to a coalition of civil libertarians in a law enforcement context. Likewise, computer security is of interest to the business community in securing their e-business systems and assets. This overlap is acknowledged in the ACF, the authors noting that some actors in a subsystem are “regulars” (i.e., they are involved in virtually all issues), whereas those from overlapping subsystems are “periodic” members (i.e., they are involved only in a distinct subset of topics).¹⁷⁹

3.4.4 Coding Congressional Hearings

The instrument used to identify coalitions and their values is a coding frame, a series of targeted questions that guide the researcher in coding the content of witnesses’ testimony. The intent, of course, is “using content analysis of governmental and interest-group documents to explore the beliefs, interests, and policy positions of relatively large numbers of elites over periods of a decade or more. . . . The most useful source we have found consists of the set of public hearings conducted over time on the relevant policy issue area.”¹⁸⁰ As noted above, this case study follows the authors’ recommendation and relies on the hearings conducted by two committees of the U.S. Congress over a period of 28 years. But before coding, one must construct the coding frame, and as the authors caution, constructing an effective coding frame is perhaps the most difficult part of the research, an iterative task involving considerable knowledge of the policy subsystem under consideration.¹⁸¹

The coding frame used in this research has two parts. The first part of the coding frame is the identification section, containing the hearing title, date, and the CIS number,¹⁸² as well as the name of the speaker and his or her institutional affiliation. The body of the coding frame is designed to elicit insight into policy core beliefs and

¹⁷⁹ Sabatier and Jenkins-Smith, *Theories of the Policy Process*, p. 137.

¹⁸⁰ Sabatier and Jenkins-Smith, *Policy Change and Learning*, p. 240.

¹⁸¹ Sabatier and Jenkins-Smith, *Policy Change and Learning*, p. 243.

preferred problem definitions of the witness, and to determine the range of issues of interest to the witness. The resulting two-page coding frame is at Attachment B;¹⁸³ the following discussion provides the rationale for each of the items contained in the coding frame.

The identification section of the coding frame identifies the hearing by date and title, the witness and his or her affiliation, and the source of the information. These are the minimum information requirements for identifying coalitions and their members, and to document the original source of the information.

Hearing and Witness Identification: Title: _____ Hearing Date: _____ CIS No: _____ Speaker: _____ Speaker Affiliation: _____

Table 3.2 Coding Frame, Identification Section

The heart of the coding frame contains the key questions that are applied to each of the witnesses' testimony. These questions are framed to wring a maximum amount of information from either an oral or a written statement. Witnesses seldom announce their policy beliefs, so insights must be found in the testimony they present. Questions 1-3 elicit information on witnesses' policy core beliefs by exploring the nature of the problem using a variety of approaches. Question 1 focuses on the witnesses' perception of the domain of the problem and the type of expertise involved. Question 2 elicits witnesses' perception of the problem in terms of five commonly used evaluative criteria. And Question 3 focuses on identifying the witnesses' view of how the problem manifests itself. Each of these questions is discussed in additional detail below.

Question one focuses on the perceived problem domain as one way to describe the nature of the problem. This question offers five problem domains ranging from technical to political as possible responses. A witness' statement typically identifies the problem domain as one of these five where governance issues are concerned. The

¹⁸² The Congressional Information System (CIS) number uniquely identifies a particular hearing in the Lexis-Nexus data base.

¹⁸³ Researchers interested in the evidence collected should contact the author.

particular domain identified may additionally suggest the type of expertise needed for problem resolution – not infrequently the domain expertise of that witness. Lastly, the way in which the problem domain is defined may provide insight into the witness’ perceived locus of blame for the problem.

<p>What is the nature of the problem addressed by this hearing? These questions focus on conceptualizing the problem. Responses span the fact-value dichotomy and characterize key attributes of the problem.</p>		
<p>1. The nature of the problem addressed is:</p> <ol style="list-style-type: none"> 1. technical and narrow in scope. 2. managerial and administrative in scope. 3. regulatory and legal in scope. 4. policy and oversight in scope. 5. political and legislative in scope. 		<p>1: _____</p>
<p>2. The problem addressed is primarily one of:</p> <ol style="list-style-type: none"> 1. efficiency. 2. effectiveness. 3. responsiveness. 4. accountability. 5. equality. 		<p>2: _____</p>
<p>3. The problem is manifested in the following ways (max 3 in priority order):</p> <ol style="list-style-type: none"> 1. information sharing. 2. paperwork burden or inadequate forms clearance. 3. government productivity. 4. costs of regulatory compliance. 5. accountability and control. 6. cost and lack of control over computing resources. 7. records management. 8. systems of records and archival capabilities. 9. privacy of personal and individual information. 10. access to public information. 11. computer security and data access protection. 12. computerized data access and/or information reliability. 	<p>3.a: _____</p> <p>3.b: _____</p> <p>3.c: _____</p>	

Table 3.3 Coding Frame, Nature of the Problem

Question two provides a second method of characterizing the problem, this one providing a normative and values-based characterization of the problem. In this characterization problems are defined across a range of evaluative responses that range from efficiency at one end to equality at the other. In characterizing the problem with this approach, witnesses also identify their “policy core” tendencies. For example,

in defining the problem as one of efficiency, it can be inferred that the current condition is perceived as inefficient, and an efficiency-oriented approach, typically found in a business or market model, would be an improvement. Problem characterizations that use these evaluative definitions frequently hint at a related preference for problem resolution.

Question 3 explores the nature of the problem by using analogy. To answer this question, the coder is asked to pick the problem manifestation that most closely matches the witness' statements. Possible responses are listed as dichotomous pairings of problem perceptions. In the list of twelve problem manifestations, two differing manifestations of each of the six issues are offered. For example, paperwork may be identified as either a problem of "information sharing," or a problem of "paperwork burden or inadequate forms clearance." The "information sharing" view of the problem suggests that internal information sharing might yield efficiencies; this definition does little to finger likely culprits and lay blame for the condition. On the other hand, the "paperwork burden or inadequate forms clearance" vilifies bureaucrats who "impose" paperwork burdens or whose forms clearance processes are viewed as inadequate. Issues can also be characterized by using any of the other problem manifestations. That paperwork issue may be seen as a problem of "accountability and control," or it may be seen as a "government productivity" problem. Still others may view the paperwork issue as a problem of "records management" or a problem of "privacy of personal and individual information." In a change from the previous questions, the coder may indicate up to three statements, in priority order, describing the problem in different ways. This construction also allows the coder to accommodate a situation in which the witness is addressing several problems in a single hearing. The resulting problem manifestations are non-parametric or categorical information, despite their numbering on the coding form.¹⁸⁴ Again, it should be emphasized that the twelve responses refer to the six policy issues with each issue framed in two widely held, but divergent perspectives of the problem:

¹⁸⁴ Siegel, Sidney. *Nonparametric Statistics for the Behavioral Sciences*. New York: McGraw-Hill Book Company, 1956, p.3.

Paperwork	{ information sharing paperwork burden/forms clearance
Management Reform	{ government productivity costs of regulatory compliance
IT Acquisition	{ accountability and control cost of/control over computing resources
Records & Information	{ records management systems of records/archival capabilities
Privacy	{ privacy of personal information access to public information
Computer Security	{ computer security/data access protection computer data access/information reliability

Questions four through nine of the coding frame help to align witnesses with their issues of interest and concern. As was noted earlier, some witnesses are interested in all the issues of the policy subsystem, yet congressional hearings tend to be issue specific. Coalitions and their members, while tending to specialize in particular issues, may make interesting alliances. For example, within the IRM policy subsystem the American Civil Liberties Union (ACLU) is interested primarily in privacy, while the American Library Association (ALA) is interested primarily in records and information. Yet when poor computer security was blamed for failing to protect the privacy of individuals, the ACLU weighed in citing the need to improve computer security as a means to protect privacy. The ALA likewise weighed in expressing their concern over inadequate security in disseminating records and information to libraries. This series of questions helps identify membership in coalitions, and understand the dynamics of interests and issue-based alliances.

What issue or issues are important to this witness? These questions focus on the issue(s) of interest to the witness and the importance of those interests.

- | | |
|---|-----------------|
| <p>4. As an issue, “privacy” is:</p> <ul style="list-style-type: none"> 1. unimportant. 2. somewhat important. 3. quite important. 4. very important. | <p>4: _____</p> |
| <p>5. As an issue, “paperwork” is:</p> <ul style="list-style-type: none"> 1. unimportant. 2. somewhat important. 3. quite important. 4. very important. | <p>5: _____</p> |
| <p>6. As an issue, “management reform” is:</p> <ul style="list-style-type: none"> 1. unimportant. 2. somewhat important. 3. quite important. 4. very important. | <p>6: _____</p> |
| <p>7. As an issue, “information technology acquisition” is:</p> <ul style="list-style-type: none"> 1. unimportant. 2. somewhat important. 3. quite important. 4. very important. | <p>7: _____</p> |
| <p>8. As an issue, “computer security” is:</p> <ul style="list-style-type: none"> 1. unimportant. 2. somewhat important. 3. quite important. 4. very important. | <p>8: _____</p> |
| <p>9. As an issue, “records and information” is:</p> <ul style="list-style-type: none"> 1. unimportant. 2. somewhat important. 3. quite important. 4. very important. | <p>9: _____</p> |

Table 3.4 Coding Frame, Issue Interests, and Importance

3.4.5 Coalition Identification: Values and Issues

Within the ACF coalitions are typically identified by their adherence to a set of values and by their working together over significant periods of time to achieve a common purpose. And while witnesses do not typically preface their testimony with a statement of their values, many times those values can be inferred from the comments

made, or by the proposals that an individual either supports, or impugns. Within this study, the first two questions in the codeform focus on the nature of the problem, and are primarily used to assess the values orientation of the witness. While no fixed formula exists, the combination of domain identification and evaluative characterization provide useful clues into the values of individuals testifying before congressional committees.

Identifying coalitions requires examining the values orientations of individuals over a period of time and aggregating those individuals into larger groups pursuing common objectives. Identity with an organization can also help group witnesses into appropriate coalitions. The codeform identification section provides the organizational affiliation of the witness. This identification is quite useful, as many organizations, and especially professional associations, typically include a statement of their purposes and objectives on their Web sites. And while the individuals may change, the role and orientation of the professional association remains fairly stable over time.

A similarity of interests also provides an important clue to coalition identification. As noted above, the ACLU is primarily interested in privacy within the IRM policy subsystem. Therefore one might expect that other individuals or organizations with an interest in privacy may coordinate their activities or their positions in pursuit of a common privacy-oriented purpose. One might also find, after examining numerous hearings, that the staff members who organize the hearings tend to group the witnesses into panels, each panel having similar objectives (and most likely a similar set of values).

These then are three approaches one might use to identify coalitions. First, one can look for indications of values in the testimony of witnesses and code these indicators. Second, one can track the organizational affiliation of witnesses, and over time identify those organizations that embrace certain positions or values. And third, one can look for individuals and organizations that exhibit common interests in the issues under study. When used in parallel, these approaches can provide reinforcing evidence of coalitional activity, collaboration, and strategizing.

3.5 Searching for Issue Transformation

Up to this point, the term “issue transformation” has been used extensively, but with only the barest definition. As is characteristic of a large segment of the policy sciences literature, we have up to this point presumed both a broad understanding of the concept of a policy issue and a generally agreed-upon definition.¹⁸⁵ Several useful and explicit definitions do exist, however. Dunn defines a policy issue as “a disagreement or conflict among policy actors about an actual or potential course of government action.”¹⁸⁶ Coplin and O’Leary are more specific. “A public policy issue develops when an existing or proposed government action has a broad impact on society and is controversial.” They further note that public policy issues are composed of three elements: actual or proposed government actions, the conditions in society that have generated the issue, and players who disagree over the policies or social conditions. “Players are individuals, groups, or institutions that work to shape public policies. Players can be elected officials, appointed officials, organized groups, or private individuals who seek to shape policies.” Policy players (or advocacy coalition members) exhibit attributes of goals, means, and interests. Two frequent sources of disagreement concern the goals of a particular policy action, or the means by which the goal is obtained. A third source of disagreement involves interests, those publicly and privately oriented motivations,¹⁸⁷ and what are termed “policy core” beliefs in the ACF.

3.5.1 Issue Transformation

While advocacy coalitions deal in policy issues, they also deal in policy operations. During policy operations, members of competing coalitions work together, recognizing circumstances in which a disagreement has been resolved to at least some satisfactory degree by an authoritative decision. That decision is recognized by all parties as creating or affirming the operational status quo, a condition of policy stasis, or the condition under which most policy activities take place and under which most policy

¹⁸⁵ For example, Thomas R. Dye’s *Understanding Public Policy* (7th ed., Englewood Cliffs, NJ: Prentice-Hall, 1992), does not list the terms “issue” or “policy issue” in the index. Also of interest, the terms “issue” and “policy issue” do not appear in *The Public Administration Dictionary* (Chandler, Ralph C. and Jack C. Plano. *The Public Administration Dictionary*, 2 ed. Santa Barbara, CA: ABC-CLIO, 1988.).

¹⁸⁶ Dunn, *Public Policy Analysis*, p. 85.

¹⁸⁷ Coplin and O’Leary, *Public Policy Skills*, pp. 3-25.

outcomes are achieved. A condition of policy stasis does not mean, however, that coalition members have changed their normative and ideological stances. No “conversion” has taken place, and given favorable circumstances and resources, the policy status quo will again become a dynamic and perhaps contentious debate.

This research therefore tentatively posits that issue transformation denotes an abrogation of existing policy agreements and issue definitions,¹⁸⁸ in favor of a significant and contentious reappraisal of policy goals and means. It also means a rejection of policy stasis by at least one subsystem coalition, and an assertion that previous problem definitions, previous policy goals, or policy instruments are insufficient or ill suited to the conditions at hand; it is an evolution, not an event. Issue transformation therefore signals a significant and intentional shift in the balance of political resources, due to either internal subsystem politics or to external events. In that it provides the conditions for reevaluating public policies, issue transformation may be a necessary – though not necessarily sufficient – condition for policy change.

3.5.2 Research Questions

The foregoing discussion provides a means to refocus on the key questions of interest in this research. As stated earlier, the operative questions are: In what ways are the core issues underlying public policies transformed over time? Furthermore, what is the relationship between issue transformation and policy change? To apply these questions in terms of US Federal information resources management policies, in what ways and by what means were the issues underlying Federal paperwork policies of the 1970's transformed into the issues, information resources management policies, and e-government mandates facing today's agency Chief Information Officers?

Translating these operational questions into research questions involves explicitly framing two sets of questions, one concerning issue transformation, and the other concerning the relationship between issue transformation and policy change. Research questions concerning issue transformation, examined first, include the following:

¹⁸⁸ Conversation with Dr. Philip Kronenberg on the nature of issue transformation.

- How prevalent is issue transformation? In other words, in what situations, and relative to what issues, did issue transformation take place within the policy history of the IRM policy subsystem?
- Is issue transformation synonymous with issue re-definition (changing an issue's operative definition in a policy subsystem)? In other words, does issue transformation always involve changing an issue's definition? Conversely, does changing an issue's definition imply issue transformation?
- Who is involved in changing an issue's definition? The ACF model (Figure 3.1) ascribes policy change to coalition actors, policy brokers, government authorities, and external agents. Are these actors also responsible for changing an issue's definition?
- What causal factors influence change in an issue's definition? Are these causal factors internal to the policy subsystem, or the product of external events? Do these factors exert direct or indirect influence to change an issue's definition?

Research questions concerning the relationship between issue transformation and policy change follow from the above, and include the following:

- Do all instances of policy change involve issue transformation? Conversely, do all instances of issue transformation involve policy change?
- What is the sequential relationship between issue transformation and policy change? In other words, does issue transformation precede or follow policy change?
- What is the consequential relationship between issue transformation and policy change? In other words, is issue transformation a prerequisite to policy change? If not, in what ways does issue transformation influence policy change or vice versa?
- What is the temporal relationship between issue transformation and policy change? In other words, what is the lead or lag time between issue transformation and policy change? To what extent are time factors consistent?

3.6 Policy World: Visualizing the IRM Policy Subsystem

Policy World is a visualization of both the policy sciences and public administration. These disciplines provide a context for the substance, a basis in theory, and the practical-academic orientation of this research. One would reasonably expect that this disciplinary context be visualized in the digital representation of this project. Similarly, a viewer has reason to expect to see a representation of the advocacy coalition framework as the policy theory, and to see a representation of information resources management as the substantive policy area of interest in this study.

No precedent exists for a virtual reality model of either public policy or public administration. However, the substantive policy area of information resources management and the theoretical and methodological context of the advocacy coalition framework provide a certain amount of intuitive and prescriptive guidance about what should be represented and visualized. As a minimum, a number of “representations”¹⁸⁹ need to be factored into the design and visualization of Policy World. These representations help to carry the narrative of Policy World by explaining, to the viewer or VR traveler, the who, what, when, where, why, how, and how much of Policy World – the “five Ws and two Hs” of storytelling.¹⁹⁰

First, Policy World requires a spatial context or thematic representation to provide an overall orientation for a visitor. This attribute partially answers questions concerning the “who, what, and why” of the virtual world. Second, since this project involves policy change over time, a temporal representation is required to help explain concerns for “when and why.” Third, a policy representation is needed to highlight the notion of policy activities, contributing to descriptions of “who, what, why, and how much” of the external events and coalition activities. Fourth, a theoretical representation is needed to incorporate the ACF’s constructs, structures, and causal relationships. This representation helps explain the “who, what, why, and how” components represented in theory.

¹⁸⁹ Stuart, *Design of Virtual Environments*, pp. 78-79. Stuart identifies seven types of representation; realistic, scale-altered, property-altered, modality altered, iconic, reified, and abstract. He notes that it is particularly hard to represent intangibles.

¹⁹⁰ Meyer, *Designing Infographics*, pp. 35-39.

Policy World combines presentation with representation. Some of the artifacts and evidence contained in this study are relatively easy to depict; other elements, by their abstract nature, are less well suited for visualization. Therefore, while some information is presented directly, other pieces of information and evidence are represented by visual artifacts.

3.6.1 Contextual and Temporal Representation

A “scale-altered model of reality”¹⁹¹ is used to create the context of Policy World. With Federal IRM as the theme, the visitor to Policy World enters the world on the National Mall, facing the entrance to the CIO Center. While no real “CIO Center” exists, the virtual CIO Center was modeled after Washington’s MCI Center¹⁹² and relocated to 7th and Constitution Ave NW. Here it provides a locus for CIO-related information, activities, and teleports in a convention-style structure with integral information displays, theaters, and virtual classrooms.

Policy World is loosely modeled after the “federal core” of Washington, D.C.; that portion of the nation’s capital, clustered around the National Mall, containing the buildings that house many of the Federal executive departments, the US Capitol and legislative offices, the Supreme Court and judicial buildings, and the key national monuments. It is a reasonable representation of the Federal core, with a high degree of fidelity to a tourist map of Washington. This fidelity in representation aids visual orientation and helps with wayfinding¹⁹³ in the virtual world. A visitor can follow Constitution Avenue from the White House to the Capitol, visit the Washington Monument, and pause for reflection at the Vietnam Veterans Memorial. Most Cabinet-level departments’ headquarters buildings are represented with a high degree of visual fidelity. Some buildings though, like the CIO Center and especially the Pentagon, were relocated to fit the purposes and dimensions of the virtual world.

¹⁹¹ Stuart, *Design of Virtual Environments*, p. 78. Stuart would term this a “realistic” representation.

¹⁹² A Washington, D.C., sports arena, home to the Washington Wizards of the NBA and the Washington Capitals of the NHL.

¹⁹³ Darken, Rudolph P., and John L. Siebert. “Wayfinding Strategies and Behaviors in Large Virtual Worlds,” In *CHI 96 Electronic Proceedings*, ACM, Inc., 1996. Wayfinding behavior is defined here as purposeful, oriented movement during navigation, that is, how we find our way in a VR world. [Online at http://www.acm.org/sigchi/chi96/proceedings/papers/Darken/Rpd_txt.htm.]



Figure 3.2 The CIO Center in Policy World

A visitor enters Policy World across from and facing the CIO Center. Figure 3.2 portrays the entrance to Policy World and to the CIO Center. To the visitor's right is a self-service newspaper stand, advertising "Policy World Tours." By clicking on the newsstand, visitors are teleported to the beginning of a self-guided Policy World Tour. Or, if interested in sightseeing, one may opt to move about in the world, using the arrow keys on the keyboard (up=forward; down=back; left=turn left; right=turn right).¹⁹⁴ Clicking on the interactive signs for the CIO Center (the cursor will turn into a hand) will take you into the lobby of the CIO Center.

Alternatively, one might opt to visit the "Information Technology and Policy Cemetery," located directly behind your initial position in Policy World. This cemetery is dedicated "to all the public servants, information policies, and information technologies that have come and gone." Here one can stroll amid the memories of past policies, personages,

¹⁹⁴ Peruse the navigation options in the small browser window on the right side of the screen. In addition to walking, one can speed-walk (control-arrow); slide sideways (shift-arrow); ascend (+ key) and descend (- key); teleport (go instantly to a pre-determined location); and warp (go swiftly to a pre-determined location). Try flying – ascend vertically then speed walk – to cover significant distances quickly.

and technologies, especially those relating to information resources management. As you relax in this peaceful place, visually browse, and reflect on the temporal nature of technology and policy, and the extent of policy change over time. Figures 3.3 and 3.4 depict the Information Technology and Policy Cemetery.

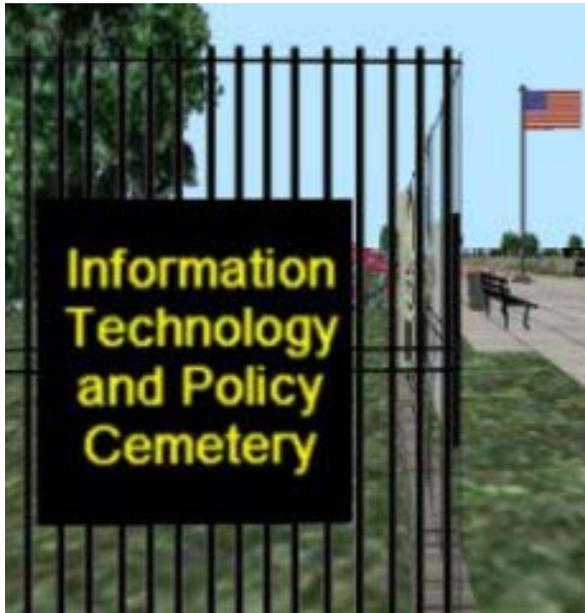


Figure 3.3 The Cemetery



Figure 3.4 Cemetery Dedication

Policy World incorporates a temporal representation that complements and visualizes the ACF's key contribution, the ability to show policy change over substantial periods of time. Given that this project spans a bit over 28 years, and that time is a fundamental theoretical and practical aspect of this research, time becomes the unitary thread of continuity throughout the project. Issues may be transformed, coalitions may come and go, and administrations may change, but time constitutes the consistent organizing characteristic to which all events are referenced.

Policy World encourages visitors to walk through time, as the representation of IRM policy is chronologically organized. Horizontal hash marks, the mechanism used to represent time, allows visitors to see where they are in time, regardless of whether they are strolling through or flying over the linear policy chronology. These hash marks, like the yard markers on a football field, serve to orient viewers and signal the passage of time. Each hash mark is color coded and represents a calendar quarter: January's blue

hash mark signifies cold weather and the first quarter of the year (1Q); April's hash mark is green symbolizing spring (2Q) ; gold symbolizes the strong bright sunshine of July (3Q); and the russet color of fall represents October (4Q). Run the cursor over the hash



Figure 3.5 The Policy World Temporal Scale

mark and the date appears in a small text box. Figure 3.5 shows an avatar looking at the hash marks in mid-1989. As the central reference feature of the exhibit, this time reference runs longitudinally through the entire chronology. Features of interest along the way are highlighted by a variety of billboards, sign posts, and other information display mechanisms. Many objects display text explanations or date references when the cursor is moved over the object.

3.6.2 Conceptual Representation

It almost goes without saying that a representation of public policy, both in concept and in its realization, is essential. This is a significant challenge, to simultaneously represent both the conceptual reality of public policy and its manifestation as an administrative reality. Policy World addresses this challenge by

objectifying the ACF's structure and constructs, thereby depicting the dual nature of public policy with a variety of representations.

The policy subsystem, the dynamic external environment of the ACF, and the internal mechanisms of the policy subsystem all need to be represented. Given that external events exert influence on policy subsystem activities, one must visually differentiate between events within the policy subsystem and those in the external environment. Then, in depicting the external environment, each of the five types of influences should be visualized; the four external influences outlined in the ACF, plus information technology.

Internal to the policy subsystem a variety of events and actors also require representation. Coalitions, policy brokers, and government authorities may require visualization, as will policy artifacts such as the authoritative decisions, institutional implementation mechanisms, policy outputs, and policy impacts. The following paragraphs describe how the ACF and policy activities are represented. Graphics are inserted in the text to show how each of the policy constructs is represented.

The policy subsystem and its boundaries are depicted by a semi-circular object that resembles a Quonset¹⁹⁵ hut without ends. This structure is colored a gauzy white, and is a non-solid object. In other words, one can pass through the walls or ceiling of the policy subsystem with no restrictions, signifying the ease of movement between the external environment and the policy subsystem environment. The gauzy white color of the object draws attention to the extent and limits of the policy subsystem, and provides a boundary for positioning "boundary-spanning objects" such as external influences that affect the policy subsystem. As an aid to temporal orientation, the year will appear in a text box whenever the cursor is placed on one of the panels that make up the policy subsystem boundary. Figure 3.6 shows an example of the policy subsystem. Color is used to help indicate policy phenomena. First, each of the policy issues of concern in this study is color coded:

- Information Technology Acquisition, involving money, is colored green.
- Privacy is colored gray, as it traditionally is a gray area of policy implementation.

¹⁹⁵ Webster's II New Riverside University Dictionary defines "Quonset" as "a trademark for a prefabricated portable hut having a semicircular roof of corrugated metal that curves down to form walls."

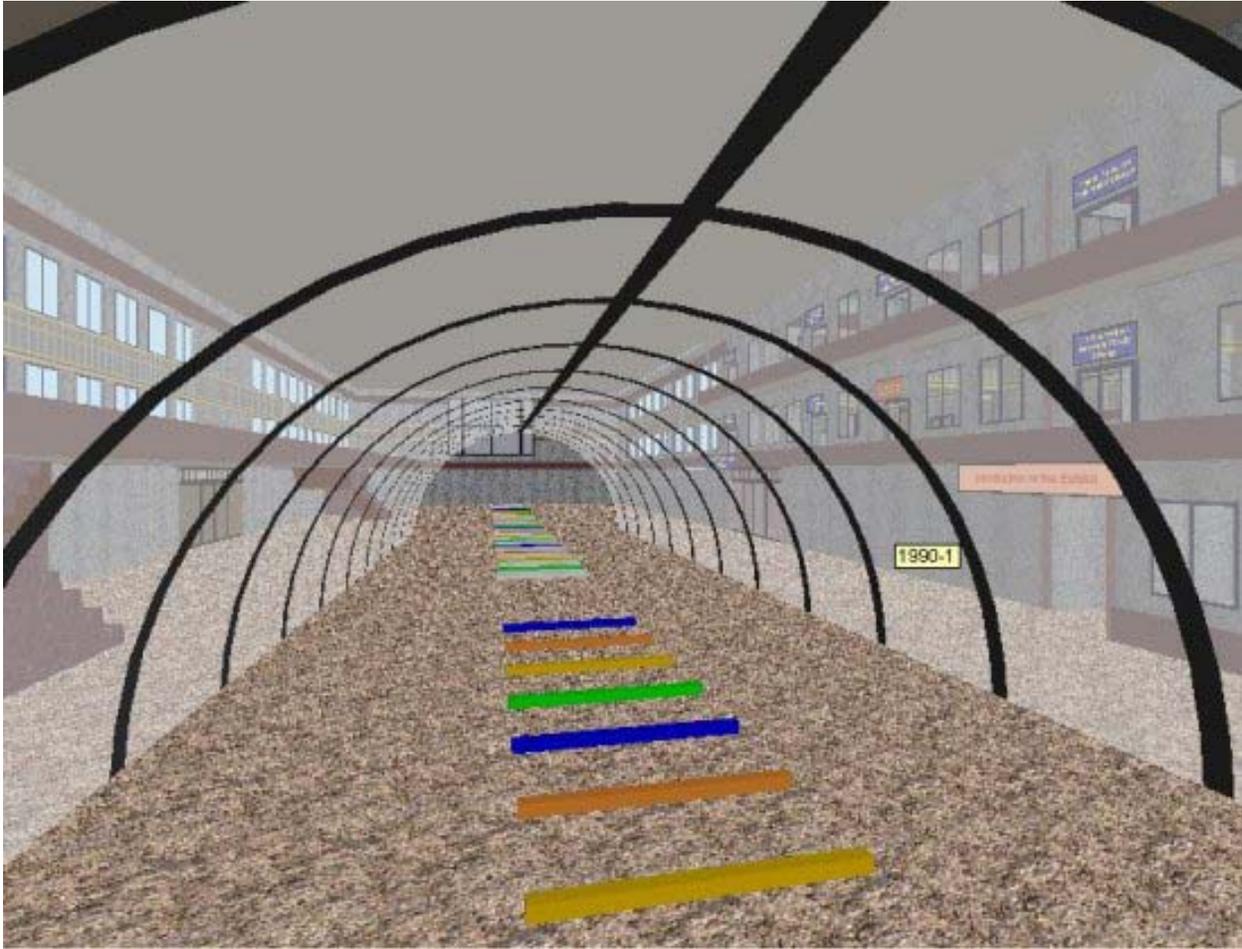


Figure 3.6 Visualizing the Policy Subsystem's Structure and Boundaries

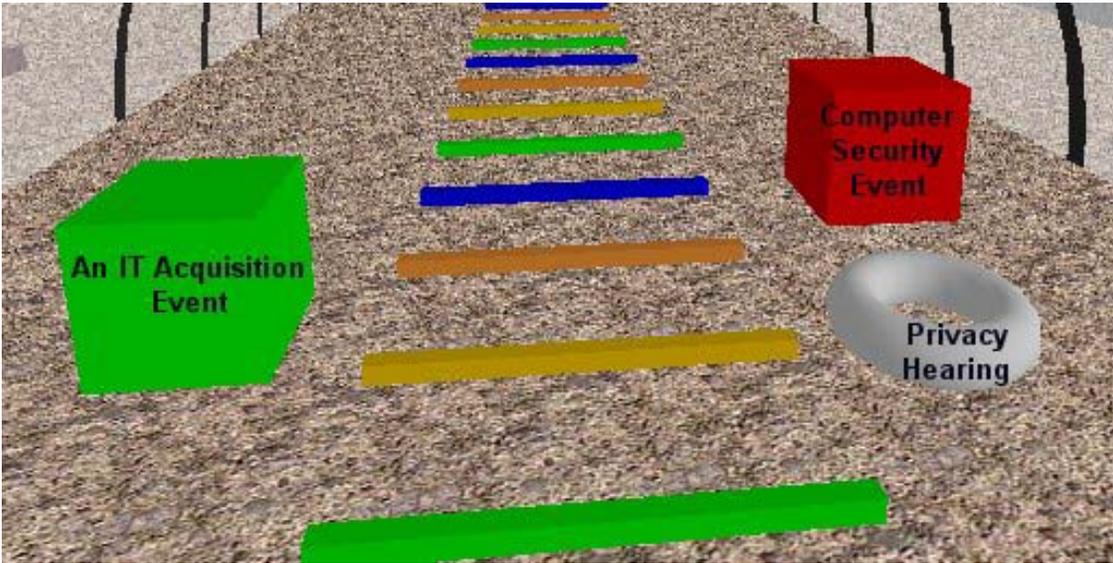


Figure 3.7 Two Policy Events and a Privacy Hearing

- Computer Security is colored red as it is a continual problem area.
- Management Reform is colored blue, a traditional color of good management.
- Paperwork is coded orange, representing one of society's least favorite colors.
- Records and Information is coded yellow, a color and an area with many meanings.

Policy artifacts are portrayed using geometric primitives (cubes, spheres, cones, and tori) using the same color code as the issues. For example, subsystem policy events are depicted as cubes. Therefore, a policy event relating to paperwork would be represented as an orange cube, and positioned at the approximate date of that event in the policy chronology. Each Congressional hearing is indicated by a torus; a Congressional hearing dealing with computer security would be represented by a red torus – a red donut-shaped object – positioned on the floor, at the chronological date of the hearing. Figure 3.7 shows two policy events, one dealing with IT acquisition (green cube), the other with computer security (red cube), and a Congressional hearing on privacy (gray torus). Policies are represented by linear rails, positioned perpendicularly to the hash marks, and running longitudinally through the policy subsystem to represent the continuity of policy. Policies also use the color coding introduced above.

Illustrated in Figure 3.8 are the extant policies of 1987: reading from left to right are the Brooks Act of 1965 (green rail represents IT acquisition); The Freedom of Information Act of 1966 (yellow rail represents Records and Information); the Privacy Act of 1974 (gray rail represents Privacy); the Paperwork Reduction Act of 1980 (orange rail represents paperwork); and OMB Circular A-130 (blue rail represents management reform).¹⁹⁶ Also shown in Figure 3.8 is an inverted black cone, the symbol used to represent policy change. In this case, indicated is passage of the Computer Security Act of 1987. Notice the red rail, signifying a computer security policy, that begins at the black cone (indicating policy change) and extends into the future. Also shown are a red torus (a computer security-related hearing), a yellow cube (a records and information-related policy event), and a gray torus (a privacy-related hearing).

¹⁹⁶ As will be discussed later in Chapter 4, OMB Circular A-130, *Management of Information Resources*, is considered a “management reform” policy.

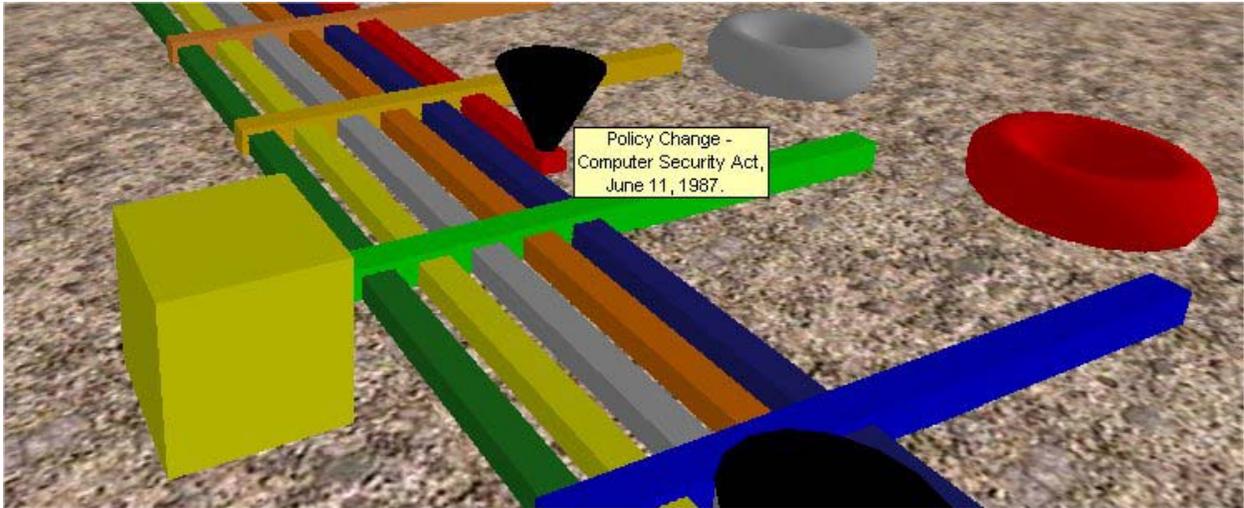


Figure 3.8 Policies Depicted as “Rails”

External events are indicated by colored spheres, outside of, yet surrounding the policy subsystem. Given the four categories of external events, four colored spheres are used to depict these external events: gold spheres represent “socio-economic conditions”; teal-colored spheres represent “public opinion”; orchid-colored spheres represent “governing coalition”; and maroon spheres represent the effects of “other

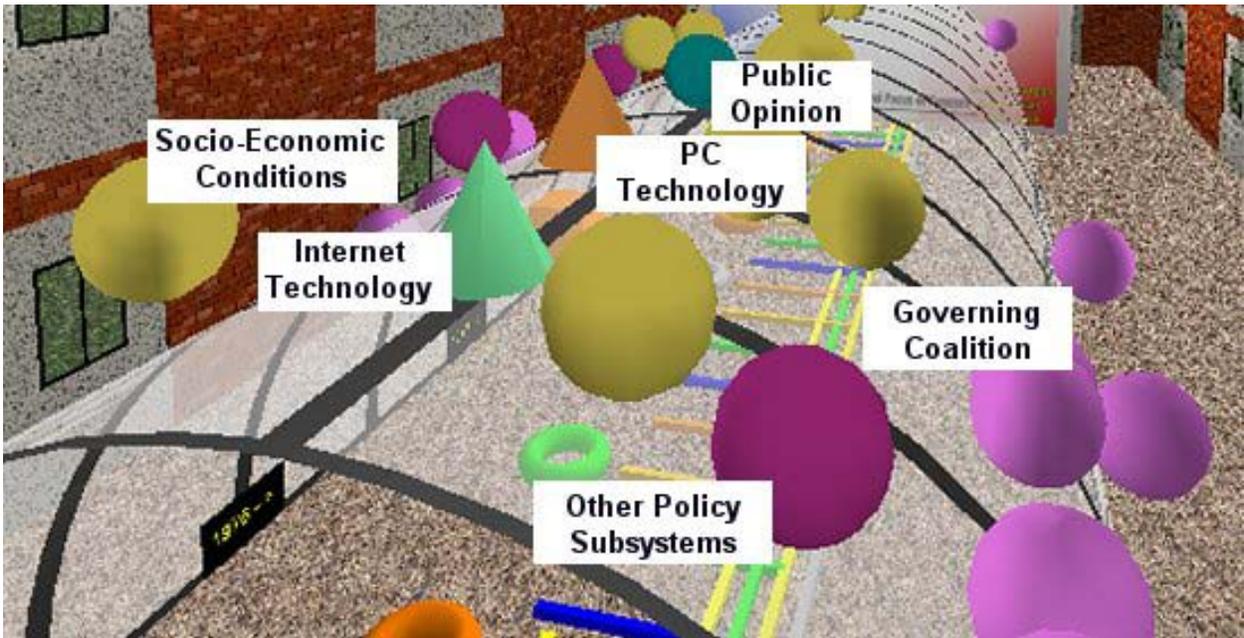


Figure 3.9 Four Categories of External Events, Plus Technology

policy subsystems.” Cones, indicating technology, are of particular interest in this research: aquamarine-colored cones indicate “Internet technology,” while copper-colored cones indicate “PC technology.” External events are shown in Figure 3.9.

Policy subsystem actors, such as coalition members or governmental authorities, are represented by avatars, digital and static representations of individuals. Visitors to Policy World are also represented as avatars, albeit dynamic avatars that respond to the actions of their human counterparts. These avatars lend a sense of realism and human warmth to an environment otherwise devoid of human form. Static avatars in Policy World can engage in limited interactions. Policy World visitors encountering static avatars may interact by proximity, by bumping, or by clicking on the avatar. Such “triggers” activate scripted behavior, simulating an interaction with the visitor. Static avatars are temporally located and situationally scripted to provide information on a specific policy event. When used as coalition representatives, the avatars are scripted to provide information about their coalition, and their view of the issue at hand. Figure 3.10 depicts “Alicia,” an avatar for the Information Technology



Figure 3-10 Static and Dynamic Avatars in Policy World

Association of America (ITAA) discussing hearings on paperwork and records management with the author's avatar (identified as Citizen 1).

The chapter that follows chronicles the evolution of the IRM policy subsystem. As the story is constructed, evidence is gathered to help answer the questions about issue transformation and policy change. At this point readers should have a useful and realistic cognitive map of this endeavor. The preceding chapters have introduced the problem, its setting, and the several bodies of literature. With this chapter's introduction to the advocacy coalition framework and to Policy World, the reader is prepared to participate in exploring the information resources management policy subsystem – textually and digitally.