

Research Administration in the Electronic Age: Public Policy Concepts

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Author's Note

Government regulations affect all aspects of research administration. Concepts from the field of public policy can provide a framework for understanding this relationship.

Abstract

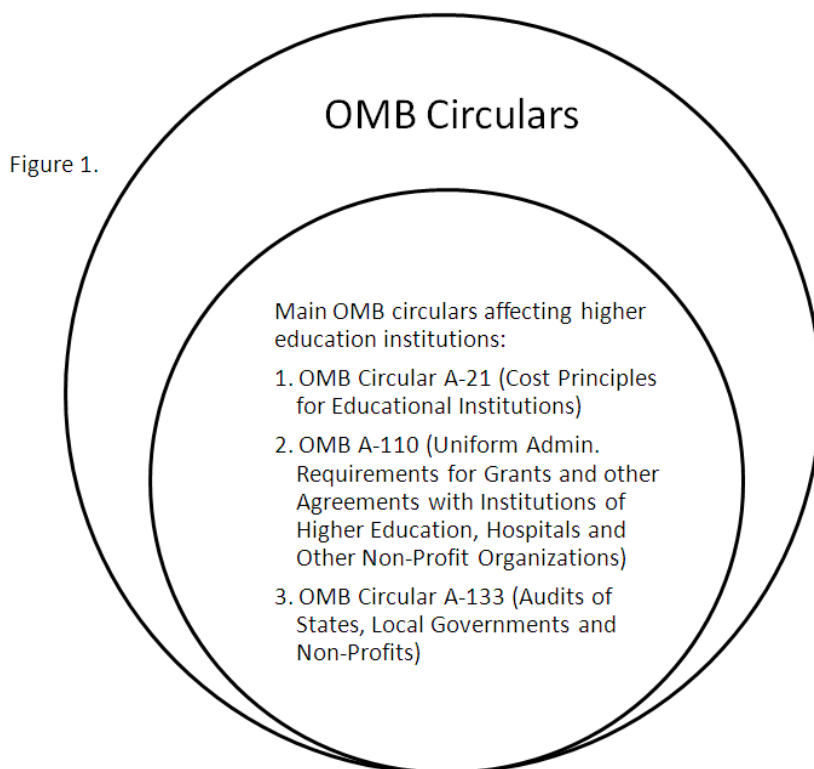
Over ten years have passed since the National Institutes of Health (NIH) first proposed the idea for a Federal Electronic Research Administration (ERA) Commons system to handle the submissions and awards process for all federal grants (Kulakowski, 2006). The industry wide move away from paper and towards an electronic means of grants management has transformed the form, function and operation of both grantor organizations as well as central and departmental research administrative offices at grantee organizations. These institutions continue to have mixed success in the adoption, implementation and operation of these ERA systems to apply for and manage grant funding. This paper will use ideas and concepts adapted from the field of Public Policy and Administration, such as John Kingdon's concept of "windows of opportunity" and multiple streams theory, to provide an explanation or framework for understanding the development and adoption of these ERA systems and policies. Currently, a fully integrated, widely available ERA system continues to elude research institutions. Adapting these concepts from Public Policy can help explain why this is currently the case and may give insight into how an integrated system can be achieved in the very near future.

Introduction

Public policy is an integral part of the field of research administration. What governments choose to do or not do can be defined as public policy (Birkland, 2005, pg. 17). Public policies or government actions then directly affect the structure and operation of the research enterprise and research administration in general. Government regulations dictate for example, that recipients of federal research funds provide assurances to the federal government stating that these recipient institutions will abide with federal laws and specific regulations such as having a drug-free workplace, having no debarment or suspensions in previous federal grants, no federal lobbying and that equipment purchases are not duplicative in nature. Federal regulations also provide guidance to agencies and grantee institutions on cost principles, pre- and post-award administrative requirements and applicable audit requirements through the Office of Management and Budget (OMB) Circulars. Some of the key OMB circulars affecting educational, research institutions are listed in Figure 1. OMB Circulars A-21, A-110 and A-133,

provide, respectively, cost principles for educational institutions, uniform administrative requirements for grants and other agreements with institutions of higher education and audit requirements. The intersection of public policy and research administration has a long history through these circulars as well as other government policies.

Government policy and regulations have also had an impact on the way institutions conduct e-business. These regulations have made it possible for the creation and expansion of electronic research administration (ERA) systems. At the center of governmental policy affecting ERA is *Public Law 106-107*, the *Federal Financial Assistance Management Improvement Act*, which was signed into law in November 1999, and was meant to simplify Federal grants management and make it easier to apply for and report progress on Federal Grants (OMB, 1999). This legislation led to numerous federal granting agencies working together and developing a common portal for finding and applying for federal grant programs. This common portal continues today as Grants.gov and provides users the opportunity to find and apply for over \$400 billion worth in annual awards (OMB, 1999). Although *Public Law 106-107* expired in November 2007, the Grants Policy Committee formed under the Chief Financial Officer's Council continues the efforts started under the public law and seeks to continue the streamlining of processes among federal granting agencies (CFOC).



The effort to consolidate agency practices under Grants.gov has been a long-term process. Some agencies still maintain and use their own native systems for some application processes. Agencies such as Department of Education (ED), National Science Foundation (NSF) and National Aeronautics and Space Administration (NASA), for example, still maintain their systems for the application process. At grantee institutions, likewise, there is no comprehensive ERA system that is used from one institution to another. There is a wide range of systems with varying levels of success. The challenge still remains both at the grantor and grantee institutions for comprehensive and integrated ERA systems that can handle all functions from pre-award to post-award activities in grants management. With advances in technology why has it taken so long for these integrated systems? Why do some grantor agencies still cling to and operate their own systems? This paper will apply ideas and concepts adapted from the field of Public Policy

to provide an explanation or framework for understanding the development and adoption of these ERA systems.

Public Policy Frameworks

The field of Public Policy provides basic concepts that can be adapted to help explain and provide a framework for understanding the development, adoption and implementation of ERA systems within the research administration environment. In addition, these concepts help explain the relationship of governmental agencies tasked with implementing these systems and also the research institutions that have to adapt to emerging policies. In the following paragraphs, some of these concepts will be discussed to help in the understanding of these relationships.

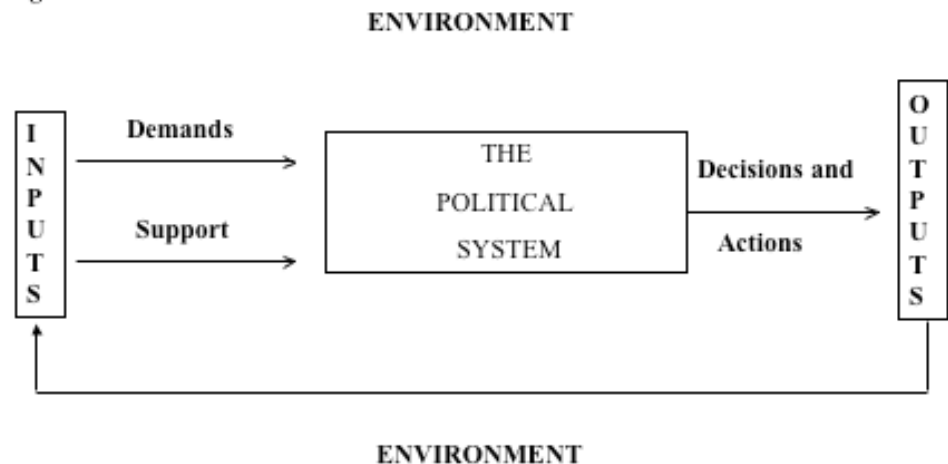
Context

Author David Easton (as cited in Shafritz, 2005, pp. 9-18) provides a framework and context that can be applied to the field of research administration and the policy of implementing ERA. Easton proposed a “systems model” for understanding the political system. Any political system takes inputs in the form of demands and turns them into actions or policies in the form of outputs. The environment affects and has a direct impact on these inputs and outputs. Also, the output decisions then become the input variables for subsequent actions or decisions. This systems model is depicted in Figure 2 (Shafritz, 2005, pg.14).

This systems model can be applied to the field of research administration and the decision to implement ERA systems both at the grantor and grantee institutions. In the case of ERA, inputs in the way of demands or support can be seen in the mandated policy changes prescribed by *Public Law 106-107* that required the streamlining of

processes at grantor institutions. These inputs were then processed within the political system made up of the different agencies, committees and other actors to come up with the decision and action to implement ERA systems and develop Grants.gov. This policy or decision then becomes the input variable and the process continues. The environment affects this process at every step. Some environmental factors can be technological advances in hardware or software that can affect ERA systems and their implementation. Currently this political process continues as agencies vie to control their own ERA systems rather than adopt or fold in to Grants.gov. Some examples of agencies that still operate their own ERA system as cited before are NSF, NASA and Department of Education.

Figure 2.



This political systems model can also be applied to grantee institutions. For grantee institutions, inputs in the way of demands and support can be thought of as the implementation of the Grants.Gov system. This input then gets processed within the grantee institutions' political systems and the output decisions and actions are taken, for example, to implement a local ERA system. The environment at the grantee institutions affects the process at every step. Some environmental factors can be resources, budgetary constraints, personnel, etc., available to the grantee institutions to implement their local ERA systems. Easton's systems model provides a framework for understanding how systems change and adapt to environmental factors.

The Bureaucracy in the system

The many agencies operating within this system and also grantee institutions make up part of the bureaucracy in the political system. German sociologists Max Weber used the term bureaucracy to describe these large organizations that manage government programs in modern societies (Birkland, 2005, pg. 66). Many of these government agencies fall under the direction of the Executive Branch and are tasked with implementing policies and programs enacted by legislation or administrative law. These bureaucratic agencies are experts in their fields as they provide guidance to user groups and go about implementing their projects and programs. The agencies and institutions play a vital role in the operation and success of programs and policies.

Each agency, however, may have specific activities and agendas of their own and coordination may be at times difficult as each agency tries to accomplish their specific mission. That each agency has its own agenda may explain to some degree the resistance of some of these agencies to adopt Grants.gov as the established and "common" system. These institutions continue to have mixed success in the adoption, implementation and operation of common ERA systems because of divergent agency missions.

How Decisions are Made

Given this environment and the number of actors involved, how decisions are made in the system becomes an important factor. Author Charles Lindblom proposes that decisions and policies are not made in a rational-comprehensive manner but in an incremental fashion given short term political factors. Because of these political and legal constraints, decisions are made from "relatively few values and relatively few alternative policies among the countless alternatives that might be imagined" (Lindblom, 1959, pg.80). According to Lindblom, it is impossible to make a rational decision knowing all the possible alternatives and taking everything important into account. Therefore, decisions are made and policies are changed through incremental adjustments and not in drastic measures. Policies are not made once and for all but are made and re-made endlessly knowing that policies may only achieve part of what is intended and may have unintended consequences that may need to be addressed through subsequent decisions (Lindblom, pg. 86).

This incremental process of decision-making may explain why the move to a fully integrated ERA system has taken longer than expected. *Public Law 106-107* was signed into law in 1999. Incremental steps have been taken since then to implement the goals of the law. The e-Grants project was created in 2002, re-branded as Grants.gov in 2003 with Phase II and Phase III expansions in February 2004 to February 2006 and February 2006 to September 2007, respectively (Kulakowski, 2006, pg. 303-304). The public law has now expired but these ERA

efforts continue under another agency, the Grants Policy Committee, as previously mentioned. These expansion efforts are likely to continue in an incremental fashion. Remaining agencies will also make

decisions to join Grants.gov in an incremental way rather than all at the same time. As each agency makes their decisions and policies in an incremental way under this approach, Linblom points out that “every important interest or value has its watchdog” ensuring that all points of view are held in regard for the best outcome for all, more so than decisions made using the rational-comprehensive approach (Lindblom, 1959, pg.85).

Approaches to Policy Decision Making

<u>RATIONAL COMPREHENSIVE</u>	<u>INCREMENTALISM</u>
<ol style="list-style-type: none"> 1. All values and objectives identified separately. Empirical analysis of alternative policies follows identification of objectives 2. Means-end analysis. Ends are isolated and means to achieve them are sought 3. “Good” policy is one that can be shown to be best means to desired end 4. Analysis is comprehensive. Every important factor taken into account. 5. Theory is heavily relied upon 	<ol style="list-style-type: none"> 1. Selection of value goals and empirical analysis of needed action closely intertwined 2. Means and ends are not distinct. Means-end analysis is often limited or does not apply. 3. “Good” policy is one that various analysts agree on (not necessarily agreeing that policy is most appropriate means to objective) 4. Analysis is limited. <ul style="list-style-type: none"> -important outcomes are neglected -important alternative policies are neglected -important values are neglected 5. Succession of comparisons eliminates reliance on theory

Table 1. From Lindblom, C. (1959). The science of muddling through, *Public Administration Review* (pg. 81).

Characteristics of both the rational comprehensive approach and the incrementalism approach are listed in Table 1 (Lindblom, 1959, pg.81). The incrementalism approach can explain how decisions are made under scarce resources, the need for expediency and the lack of knowledge of all the alternatives available. In the case of implementing ERA, Grants.gov is an example of a good policy where many stakeholders agreed on the concept and forged ahead with the decision to implement the system. This approach can also be used to describe decisions made at the grantee institutions when implementing ERA systems. Because a comprehensive ERA system may not be possible given system constraints, grantee institutions implement ERA systems in a piece meal fashion and modify this decision over time as action items are revisited. That these decisions are not perfect or all inclusive does not matter.

Under incrementalism, both the decision to implement Grants.gov or local ERA systems and the way the systems are implemented can be modified and changed over time. That some agencies have not adopted the Grants.gov system yet or grantee institutions have dissimilar systems is not unusual as these decisions can be revisited time and time again to improve on or incrementally change past decisions. Incrementalism provides an explanation for how decisions are made in practice and can be used to describe decisions taken in the implementation of ERA systems.

Windows of Opportunity for Action

If decisions are chosen from a limited rather than comprehensive list, author John Kingdon describes the process of how these agenda items come to the attention of policy makers and are acted upon. Kingdon describes “streams” of problems, policies and politics each acting

independently in the political system. When these streams are coupled or come together, the issue can receive attention by policy makers and may be ripe for a solution. Focusing events can accentuate a problem and can open an opportunity window where advocates or entrepreneurs, of a policy which addresses the particular issue, can attempt to enact their proposed policy or solution to the problem. The coupling of the streams and the opening of opportunity windows increases the likelihood of success in enacting the solution (Kingdon, 2003, pp. 201-204).

In the case of implementing ERA systems, the coupling of the problem - the need for ERA systems in grants administration, the policies - *Public Law 106-107*, and politics - the coordination of various agencies, opened an opportunity window for the establishment of Grants.gov as a solution for the need for a common ERA system. The different agencies acting as advocates for a solution pushed ERA given the window of opportunity. When these three aspects, the problem, policies and politics are brought together, the corresponding issue (in this case ERA) bubbles to the top of everyone's agenda. As this occurs, the likelihood of a successful policy change is maximized. Kingdon's concepts are depicted in Figure 3.

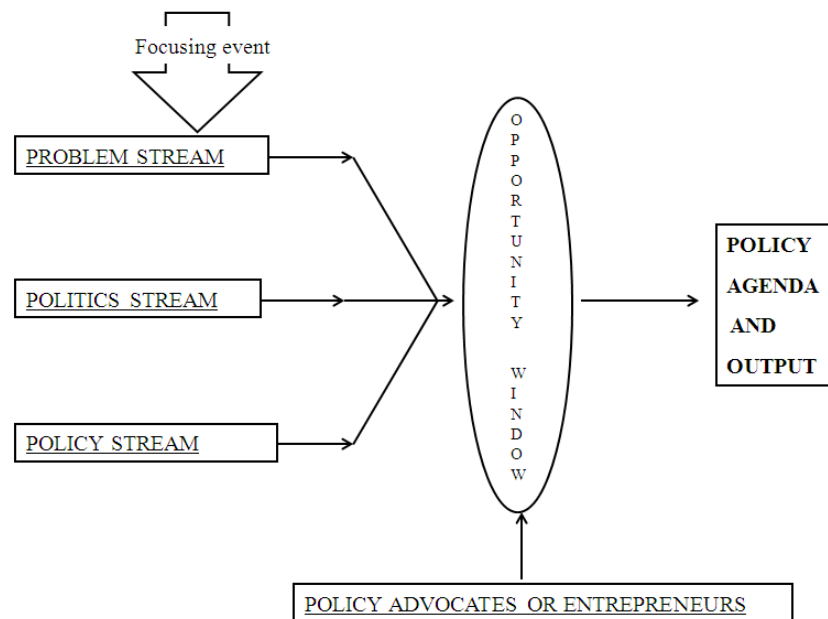


Figure 3. Adapted from Kingdon, John W. (2003). *Agendas, alternatives, and public policies*. Second edition. New York: Longman.

Kingdon points out that windows of opportunity stay open for only short periods of time and if “participants cannot or do not take advantage of these opportunities, they must bide their time until the next opportunity comes along” (Kingdon, 2003, pg. 166). The idea of opportunity windows provides an explanation for how ERA policies have been implemented both at the grantor and grantee institutions. As the problem, policies and politics of an institution come together, a policy window can open up that allows the implementation of the ERA systems. As windows quickly close, policy makers must wait for an opportunity window to open again to enact further change or developments to their ERA systems.

This framework provides a mechanism for understanding what has occurred in the research enterprise with respect to the implementation of ERA systems. Also, this framework can provide a prospective look at what may occur in the future if a focusing event occurs, for example new legislation or advances in technology, and the ERA problem, policies and politics are brought together opening a window of opportunity. If this occurs, advocates can push for advancements in ERA systems and a fully integrated ERA solution can become a reality.

Relevance and Conclusion

A modern ERA system forms an integral part of the practice of research administration both at grantor and grantee institutions. ERA systems form the infrastructure to many research administration practices. The advent of a federal ERA system has had a profound effect in research administration specially at institutions of higher education who received over \$15 billion alone in NIH awards for fiscal year 2008 (NIH, RePORT Tool). Research funding continues to be an important element for the research mission of institutions of higher education and also as a source of budget funding. These institutions continue to have mixed success in the adoption, implementation and operation of these ERA systems to apply and manage grant funding.

Concepts adapted from the field of Public Policy in this paper can be used to understand the development and implementation of these ERA systems. These concepts also provide a framework for understanding the dynamic processes involved in research administration. Public policy, or what governments do or don't do, affects all aspects of the research enterprise. From public laws, to OMB circulars, to government assurances, public policy intersects closely with research administration. Public policy concepts such as incrementalism, windows of opportunity and the role of the bureaucracy help explain the intersection of public policy and research administration. As the implementation of ERA systems has shown, there are many actors involved in the research enterprise. Some of these actors may have agendas that conflict with one another and must be reconciled during the policy process. Given the many actors involved, it is not unusual to note that a fully integrated, widely available ERA system continues to elude research institutions. Perhaps advances in technology and other events will soon provide an opportunity for this fact to change and truly thrust ERA systems into the 21st Century.

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