IT Governance to Fit Your Context: Two U.S. Case Studies

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ABSTRACT
Creating effective information technology (IT) governance is an important, yet difficult undertaking that has taken on global significance. Despite the amount of literature and experience available, the complexity of establishing a governance framework continues to present a challenge to public sector officials. Systematic examinations of these efforts are providing new insights to assist officials in anticipating challenges and creating context-specific frameworks that enhance the public value of IT. This paper presents case studies of two U.S. states with centralized and federated IT governance structures. Drawing on a research project at the Center for Technology in Government that included an environmental scan and interviews with state-level IT leaders, we describe how these two states approached the creation of IT governance frameworks from different contextual perspectives. The cases highlight how despite similarities in terms of political support for IT governance, cultural and organizational factors in each state led to the adoption of quite different, yet seemingly appropriate, IT governance frameworks. Despite significant differences across the two states, we are able to capture design advice that spans across both centralized and federated IT governance frameworks.

Categories and Subject Descriptors

General Terms
Management, Design, Human Factors

Keywords
Information Technology (IT), Governance, Management

1. INTRODUCTION
As information technology evolves and government information becomes increasingly interconnected, information technology (IT) governance has gained a prominent role in international conversations about responsible stewardship of public funds. Research has provided insight into public sector IT governance in the U.S. at many levels, as well as in other countries and in international organizations that govern across nations. Although there are differences across each of those contexts, many of the challenges are the same.

IT governance can take many forms; what determines the quality of the chosen design is its fit with the surrounding context. This paper presents two case studies from the United States to illustrate how context plays a role in the development of an IT governance framework. The case studies describe IT governance in two U.S. state-level governments with centralized and federated structures. The case studies present descriptions of contextual features that made the frameworks feasible in those particular states; insights about barriers and enablers to creating IT governance are also presented.

2. DEFINING IT GOVERNANCE IN THE PUBLIC SECTOR
Definitions of governance generally focus on two elements: decision-making and authority. A widely used definition from Peter Weill and Jeanne Ross indicates that IT governance consists of “specifying the decisions, rights, and accountability framework to encourage desirable behavior in the use of IT. Governance answers the questions: What decisions must be made? Who should make these decisions? How will decisions be made? What is the process for monitoring results?” [1] In order for decisions to be made, governance must also identify the arrangement of authority patterns for IT activities across an organization. [2]

Today “many organizations, including governments, are looking to enterprise IT governance to support portfolio management, closer business-IT alignment, and prioritization across projects and across agencies.” (p.5)[3] In order to achieve those goals, organizations require a decision-making framework that will meet the needs and expectations of a wide range of stakeholders: elected leaders, business and programmatic executives, and IT leaders and their staff.

3. IT GOVERNANCE: AN INTERNATIONAL DIALOGUE
There are a number of internationally recognized institutes and research centers that provide guidance about governing IT. The Center for Information Systems Research at the Massachusetts Institute of Technology has been a leader in understanding IT governance in the private sector. Specifically, Ross and Weill are responsible for much of the work surrounding defining and classifying IT governance structures [1]. The IT Governance Institute has also taken a leadership role in IT governance,
particularly through its stewardship of two governance tools: Control Objectives for Information and related Technology (COBIT) and Val IT (see http://www.itgi.org/ for more details).

As governments have recognized the need for new kinds of IT governance, they have worked to adapt these frameworks. As this process has played out, there has been increasing recognition that while many of the best practices available (such as COBIT, VAL IT, and ITIL) are useful for specific functions (e.g., security, compliance, or customer service), they do not represent a full IT governance design [3-5]. Designing governance requires more than simply applying an existing framework; it should include “a tailor-made suite of reporting and monitoring processes” [6]. It involves an assessment of the current state of IT governance, the potential value that could be gained through changes, and the ideal state of governance tomorrow.

4. RESEARCH METHODOLOGY

To gain a comprehensive understanding of IT governance within the United States, staff at the Center for Technology in Government conducted an environmental scan from May 2008 through January 2009. The scan was divided into two phases: a review of the academic literature on governance and a review of IT governance within state government. The material for this paper comes from the second phase of work, which consisted of an examination of IT governance in a total of eighteen states. Data was collected in a two-step process.

The first step in this research involved website reviews of publicly available documents from thirteen states based on a purposive sample representing: (1) states with publicly available information about IT governance efforts posted on their website; (2) states ranging in the total size of government (i.e., size of IT budget and IT workforce); and (3) states at various stages of IT governance implementation.

The second step was a series of semi-structured interviews with IT executives in eleven states. Interviewees were selected based on our earlier document review and additional contacts made through the National Association of State Chief Information Officers (NASCIO). The interviews were semi-structured and the questions addressed different aspects of the IT governance design process, including value propositions for its creation, planning processes, organizational structures, interagency collaboration, and its evolution over time.

5. IT GOVERNANCE IN THE UNITED STATES: RESULTS OF THE ENVIRONMENTAL SCAN

In U.S. state governments, there are two primary authority models for IT decisions: federated or centralized. Although there is IT leadership at the national level, states are not governed by a national chief information officer (CIO) or other IT director. All of the states we interviewed have a state CIO or equivalent position. The CIOs we interviewed were also all supported by a central IT office—or in some cases, multiple offices—that focuses on two key areas: IT services and IT policy and strategy. These central IT offices work with state agencies in a variety of ways to leverage individual agency decisions into statewide benefits.

6. TWO CASE STUDIES IN IT GOVERNANCE

Drawing on these data sources, the cases describe an insider’s perspective on the development and implementation of IT governance in two state-level governments. State A has a federated IT governance framework, while State B has a centralized model.

6.1 A Federated IT Governance Framework

State A has a federated IT governance framework. Each individual agency has its own IT staff and is responsible for managing its internal IT operations. The state CIO (working with staff in the central IT organization) is responsible for providing IT services, oversight, and planning for the state enterprise.

Figure 1. Overview of IT Leadership in State A

State A established a federated IT governance model when it first created IT governance capability. When the decision was made to reorganize the state’s IT governance, a federated model remained the ideal structure. The IT leader we spoke to from State A saw a variety of reasons to support a federated model.

State A’s CIO was a cabinet level position. However, our interviewee described the role of the CIO as being heavily collaborative:

“About 4 years ago the Governor [combined] the service, regulatory, policy, and oversight functions into a cabinet level state CIO. Prior to this time it had essentially been an assistant commissioner-level within the Department of Administration. This moved it to the cabinet and gave it more exposure and substantially more authority, but there were some practical checks on the ability to execute that authority—it required the agreement of a sub-cabinet that was dealing with administrative affairs. It was a clear message that we were going to proceed along a common path in information management, but it wasn’t absolute freedom to do whatever the CIO wanted to do. It really required a working relationship with the agencies.”

The Governor’s decision to bring the state CIO up to be a direct advisor indicated a high level of political support for the use of IT within government. State A had the necessary political capital to
push for new IT governance capability. However, a major issue for State A was the fact that the state CIO had few resources to back up the authority of the position:

“The CIOs position has inherited more authority than god all mighty. Trouble is there are no resources to execute it. […] There are a lot of other things that we are allowed to do that we choose not to execute because it is not a realistic relationship to have with the agencies.”

Although the state CIO was granted a high level of authority, the organizational reality was that the CIO could not control the state agencies in a direct fashion. Collaboration needed to be a key component of any IT governance framework the state’s IT leaders decided to pursue.

In State A, the decision to create a federated IT governance model was not solely a gubernatorial initiative. Instead, the Governor relied on a stakeholder input program to reconsider how state government operates overall. Although the IT leader acknowledged that the program did not have a high degree of buy-in or adequate funding, the program did yield important insight about the type of IT governance that would fit State A:

“A federated model emerged from that, as did a new emphasis on unified enterprise architecture, it reinforced the need to have standards around project management and governance, and customer service, the need for metrics and for a new approach to how we do services. It didn’t produce a lot of solutions, but it raised all the right questions and helped us establish a direction. That was really an emphasis for a lot of this; it came out of that evaluation.”

6.2 A Centralized IT Governance Framework

State B operates with a centralized IT governance framework. All of the IT staff in state government belong to the central IT organization, led by the state CIO.

The two state IT leaders we spoke with in State B emphasized a variety of factors they believed to be key elements leading to the success of their governance framework. Since the central IT organization was at the center of State B’s IT governance structure, much of the interview focused on organizational characteristics that influenced how the governance framework operates.

IT governance gained traction in State B when the Governor expressed support for IT not just as an administrative function, but as a critical component of state government. One of the IT leaders described the unique relationship they had with the state’s elected leadership:

“Most IT organizations have a very difficult time getting invited to the meetings where business strategy, strategic plans, tactical plans are put together from a program or agency or business perspective. We’re in a very unique position because not only are we invited, but we actually help facilitate that process with the governor’s office.”

In conjunction with the explicit support of the Governor for IT, State B’s CIO sits in the Governor’s cabinet. The position of the CIO as a direct advisor to the Governor increases both the CIO’s access to the Governor and the overall perception of the CIO’s authority within state government.
State B’s political leadership has two perspectives that contribute to their understanding of the need for effective IT governance: (1) a tendency to look across state agencies for collaborative, cost-saving opportunities and (2) an appreciation of IT as a critical resource in transforming government.

In order to create its centralized structure, State B shifted all of the state’s IT workforce from being employees of individual programmatic agencies to become staff for the centralized IT office. A serious challenge to that shift was the absence of a change management plan for human resources. The absence of this plan generated some mistrust among the staff. To alleviate the sense of mistrust from that centralization effort, the state’s central IT organization focused on building a culture of customer service:

“I think when you take a look in the public sector and government, consolidated organizations, whether you’re a department of management and budget that’s consolidated, finance and budget, I think there’s a thought process that they’re kind of a big brother type of organization and they’re going to dictate things. We’ve taken a complete opposite approach. That is, we are a very, very service-oriented organization.”

Delivering quality services was not an instant fix; the IT leaders recognized that overcoming resistance from individuals was a long, ongoing process. However, due to the support of top leadership and the relatively centralized structure of the overall state government, a centralized IT governance structure was a feasible reality in State B.

In addition to these self-identified success factors, there seemed to be another contextual issue that influenced the ability of the IT leadership to implement a centralized structure: the size of government. State B has 19 programmatic agencies that are responsible for the state’s operations, services, and activities. The ability to centralize IT reflects the state’s already consolidated structure.

7. DISCUSSION
Centralized and federated IT governance structures both have advantages and disadvantages; the decision about which structure delivers the highest benefits with the fewest drawbacks for any one state is a subjective one. Within State A, a federated IT governance structure allowed the programmatic agencies to retain a high level of control over their IT operations. Although that might have been seen as a disadvantage in State B, it was an advantage for the IT leader in State A. Although IT leaders from State B clearly felt their centralized IT governance framework was delivering on its expected public value, the IT executive from State A felt that a similar consolidation of IT authority was not feasible or desirable within that state’s context.

State A’s IT leader expressed his support for a federated model over a centralized one:

“We have not been advocating here for a [State B]-style solution, where you centralize all your IT functions. That tends to work pretty well from an IT efficiency standpoint, but from a program service standpoint, which is why the IT exists in the first place, that hasn’t been terribly successful from what we’ve seen. We think the federated model in some guise is a better way to run the show.”

Given the observations from State A’s IT executive about the skeptical attitude that programmatic agencies had toward the state’s central IT office, imposing a centralized IT governance framework could easily conjure the “big brother” image that State B described. A federated approach was a better fit for State A’s context.

Looking across the two case studies, both State A and State B had a high level of support from the state’s top political leadership. Each state sought to leverage IT to increase the public value of government. And yet each state developed two different IT governance frameworks—one centralized, one federated. Despite the existence of some common features, states are adopting many difference governance models. Cultural and organizational characteristics, such as trust in a central IT authority and the state’s history of centralized governance at a programmatic level, play a role in selecting an IT governance framework. The case studies provide insight about the role of political support as a threshold requirement for creating new IT governance capability. Once leadership support for IT governance exists, cultural and organizational factors come into play in shaping IT governance frameworks.

Regardless of the contextual differences found across governments, we believe the insights from these cases are likely to apply in other settings. For instance, a study of IT governance in Tanzania found that “inadequate or absent ICT policies and procedures is another problem that is also consistent across most of [the organizations]” (p.9) [5]. Throughout our research with U.S. state governments, the issue of missing or unclear policies was a consistent challenge for many U.S. states as they created new IT governance capabilities. As we look across the globe, we may find other similarities in the challenges and enablers of IT governance.

In a roundtable discussion with IT leaders from across Europe, Paul Williams of the IT Governance Institute stated, “We shouldn’t focus on the process—governance—but what you want governance for” [4]. Both State A and State B were confident that they had been able to build IT governance frameworks that delivered on their original purpose: leveraging IT for greater public value. By focusing on the public value of IT governance, governments have the opportunity to take a globally recognized initiative—IT governance—and customize it to benefit their own specific context.

8. IMPLICATIONS FOR PUBLIC SECTOR IT GOVERNANCE
Although IT governance frameworks cannot be directly replicated across different states, we discovered some consistencies across the different contexts. Below is a set of advice about how to approach IT governance in the state context.

Focus on return on investment (ROI). The movement toward enterprise IT governance is largely being driven by the desire to maximize the organization’s return on IT investment. In the public sector, ROI is not just about money, but about generating different forms of value for citizens and government itself. Along with budgetary pressures, public organizations are also dealing with increased need for interagency information sharing, an ever increasing volume of data that needs to be successfully managed,
and the need for cross-boundary collaboration for complex, multi-organizational problems.

**Recognize how IT is embedded in the institutions of government.** IT governance does not exist independently from statewide governance. Other governance frameworks, such as the state’s financial management, operate alongside and interact with IT governance.

**The CIO is central to enterprise IT governance.** State-level CIOs are held accountable for IT within a state and are typically charged with improving service delivery, achieving efficiencies, and effectively using IT and information to achieve the mission of state government. Although political support from outside the CIO’s office is an important resource, CIOs themselves often have a significant amount of political capital. Good leadership practices are an important piece of the IT governance puzzle.

**An incremental approach is key to successful implementation.** In our review, the states that faced the most challenges or pitfalls were the ones that attempted a total and immediate revamping of their current structure. That strategy should also recognize that the needs for and demands on an IT governance structure will remain in flux. Adjustments and review of IT governance should be a permanent part of the framework.

9. REFERENCES


