Chapter 13

OVERCOMING RESISTANCE TO A PARADIGM SHIFTING CHANGE IN THE FEDERAL SECTOR: SHARE-IN-SAVINGS CONTRACTING—FROM CONCEPT TO APPLICATION

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INTRODUCTION

The passage of the E-Government Act of 2002 represented the latest attempt by Congress to persuade federal agencies and industry that performance-based management concepts should be the rule rather than the exception. A key provision in Sections 210 and 317 of the Act, entitled *Share-in-Savings (SiS) Contracting*, expanded the authority established in the Clinger Cohen Act of 1996 and addressed many presumed legal impediments. Under the concept of SiS, agencies may launch or expand information technology (IT) programs with little or no upfront funding, while linking payment to performance. Payment to a contractor is made from future savings (or revenue) achieved by improving the efficiency and/or effectiveness of a technology system. As an added incentive for agencies, they are authorized to keep a portion of the savings for use on other IT-related programs. These monies can be retained indefinitely, which will afford agencies significant flexibility and discretion to augment their budgets.

Since payment is made based on accrued savings, the risk to government is minimized. By amending Title III of the Federal Property Act, as codified in 41 USC 266a (b) (3), Congress clarified that an agency can enter into a contract without funds "made specifically available for the full costs of cancellation or termination of the contract." As such, any lingering doubts about violation of the Anti Deficiency Act were satisfactorily addressed (Buck, 2004).

The requirement that an agency have adequate budget authority before it enters into a contract or other obligation for payment was established in the late 1800s in the Adequacy of Appropriations Act, 41 U.S.C. § 11, and

the *Antideficiency Act*, 31 U.S.C. § 1341. The financing approach known as full funding has broader requirements than those found in these two Acts and is enforced by policy rather than statute (GAO Report 03-1011, p. 2). The main distinction is that the Acts apply to individual contracts while full, up-front funding applies to a useful segment or an entire project, which may involve several contracts. An illustrative example of the distinction is that full funding would require budget authority for the construction of a whole ship, even though the construction may involve several contracts, while the Adequacy of Appropriations and Antideficiency Acts would require budget authority for a single contract, for example, to construct the hull of the ship" (GAO, 1993, p. 14).

In testimony to Congress, GAO advocated the full funding concept as the best way to ensure recognition of commitments embodied in budgetary decisions and to maintain governmentwide fiscal control. However, it was noted that federal agencies were granted the authority to use an array of approaches to obtain capital assets without full, up-front budget authority. The report concluded that "In an era of limited resources and growing mission demands, many agencies have turned to these alternative approaches as a practical way to finance capital, even though over the long run they may result in a higher cost to the taxpayer (GAO, 03-1011, p. 4).

The testimony from GAO can be interpreted as a validation of SiS as alternative means of financing programs even though it may result in a *short term* higher financing costs from contractors. However, what is notably absent from GAO's analysis is a balanced assessment of opportunity costs presented by alternative funding means. For example, many laudable programs that would clearly improve the efficiency of government are either not funded or severely under funded. This results in no improvement action or, more likely, the launching of a less efficient system or program. The GAO testimony fails to consider that there can be higher costs to the taxpayer by *not* funding programs that could ultimately improve the efficiency and effectiveness of government operations. SiS and other alternative funding mechanisms can help offset any higher financing costs. As outlined in the conclusion to this paper, additional research should be done to define the risks and inherent costs associated with launching under funded programs and the long-term liability to government by having to employ strategies such as "design to cost".

LITERATURE REVIEW

As a means to understand resistance and its impact on change, this literature review focuses on scholarly work addressing how general change

has been adopted in the federal sector with a focus on both organizational culture and organizational behavior. A secondary review will analyze literature on SiS applications in the federal sector and if resistance is a factor in low adoption rates.

Organizational Change

Inability to change the culture has been identified as the most serious obstacle to change in the federal government (Kettl, 1994; Carroll & Lynn, 1996). The concept that organizations have specific cultures may be traced to Jacques' (1951) *The Changing Culture of a Factory*, which introduced the concept that culture is as much a part of personality as it is part of a social structure, such as an organization. In essence, culture is to an organization what personality is to an individual. Organizational culture has been defined as a set of key values, guiding beliefs, and understandings that are shared by members of an organization (Myer, 1982). As such, culture is seen as defining basic organizational values and communicating to both old and new members the appropriate way to think, act and "how things ought to be done" (Shein, 1969; 1984).

More specific to this research was the finding that organizational culture appears to have a profound effect on individuals in government organizations, especially in the federal acquisition community (Cole, 1979; GAO, 1992b). These findings influenced the Clinton-Gore reinvention model for changing the federal bureaucracy. The Clinton-Gore model was operationalized in 1993 when President Clinton announced, "Our goal is to make the entire federal government both less expensive and more efficient, and *to change the culture* of our national bureaucracy away from complacency and entitlement toward initiative and empowerment" (Gore, 1993). The National Performance Review (NPR), the program that was created to implement this goal, specifically targeted the federal acquisition community and challenged leaders to move from a "risk adverse culture to one that focused on results and not just process"(Gore, 1993, p. 43).

Critics of NPR found that their focus on culture was too simplistic, nebulous and unrealistic in its approach (Diliulio, 1994; Garvey, 1994). Along with Wilson (1989) and Barzelay (1992), there were those that believed that culture had very little impact on an organization's ability to adopt change. Instead, leadership was the primary factor in determining whether an organization is successful in adopting change.

The argument for why change is difficult in federal procurement community is complex. Procurement is traditionally considered one of the more risk adverse functional areas within government. It would be

inaccurate to conclude that any one factor (i.e., resistance, incompetence, fear) is the driving factor. Each of these factors, in addition to a person's attachment to ways they have done business in the past, can help to explain why change is slow to be adopted in the procurement community. But the literature that simply views resistance as the primary factor for lack of change adoption, without accounting for the social arrangements that create discontent, unfairly skews the results (Kelman, 2004)

This particular research effort found that change management is not an either/or proposition. With SiS, both leadership and organizational culture play equally strong roles in determining whether federal agencies adopt paradigm-shifting change. This paper considers both culture and leadership as variables that influence the adoption rates shown in Table 4. With regard to SiS, research reveals that the degree of leadership is as significant a factor in the adoption of change as is an organization's culture. In a comprehensive review of SiS efforts at the state, local and federal levels, the Council for Excellence concluded "enlightened leadership is a key factor in successful SiS applications" (CEG Report, p. 1).

The early work of Paulo Freire, a pioneer who focused on the nature of change in a hierarchal organizational structure concluded that the only effective way to implement transformational change is to inquire into other people's views of events to understand the reasoning that underlies their fear of change (Chowdhury, 2001).

David Kantor (1997) addressed organizational resistance by theorizing that individuals have an 'openness gap' that is created when one's capacity for change does not develop in parallel with learning capabilities. They feel unsafe when new ways of operating are suggested without the benefit of a clear action plan. This openness gap creates fear and anxiety which affects one's ability to commit to any transformational activity. This fear clearly manifests into risk adverse cultures, something that is prevalent in the federal acquisition community (Kelman, 1993).

This research was also influenced by the work of MIT's Deborah Ancona (1992). In *Demography and Design- Predictors of New Product Team Performance*, she revealed that any new product or idea needs "external ambassadors" that place themselves and the rest of the team on compatible context with the rest of the external organization. A single ambassador often lacks the credibility and energy to sell a new idea on their own and will face burnout by trying to defend the idea or concept (Ancona, 1992).

Share-in-Savings Literature

Specific research on SiS at the federal level has been limited, focusing mainly on energy savings performance contracts (ESPCs). The journal articles on ESPCs are generally informational in nature and do not provide any empirical data or models to demonstrate the methodology behind the application to energy contracts. The research does report on results from several General Accounting Office reports between 1997 and 2004, claiming that agencies had saved millions of dollars through ESPCs.

The 2002 GAO report examined four non-government examples, none of which fell into the information technology domain. The report was very limited in its scope and offered no concrete recommendations. However, it did touch upon the need for a "culture of commitment" between the government and industry (p. 4).

The Council's report provided a deeper analysis of where SiS had been accomplished in the state and local sector. While the research was limited to interviews with project leaders and not comprehensive, it found that two key factors were present in all programs that had successfully adopted SiS. Those factors include:

1. Cultural Characteristics
   - Enlightened Leadership;
   - Integrated Project Teams where the Program Manager had either actual authority or had a contracting officer as a direct report;
   - Support from the legislative branch;
   - Fear of taking risk due to over zealous scrutiny or that SIS changes would result in the loss of their job; and
   - Very close working relationship with industry.
2. Business Characteristics
   - Clear and measurable baseline;
   - Large benefit pool with savings/cost ratios of at least 3:1;
   - A solid program evaluation tool; and
   - A solid Life Cycle evaluation model.

Both the GAO and CEG reports alluded to the need for culture change by using descriptors such as 'enlightened leadership' and 'collaborative environment.' In the state sector, it was noted that inherent in each agency

was an internal culture that understood innovation and, more importantly, had alignment among the key functional groups that were most impacted by the SiS concept. The linkage of four functional areas was deemed to be essential.

First, the budget officials were described as being closely involved in developing procedures that allowed for the collection and distribution of any accrued savings. Since public agencies traditionally do not operate without first receiving an appropriation from the legislative branch, embarking on a SiS initiative where funds are not appropriated in advance of contract award presents a significant departure from the traditional means of handling funds.

The second group most impacted by SiS is the procurement function. Given their tendency toward risk adverse behavior, adoption of a change that is not supported by law or regulation generally meets resistance (Kelman 1993). The third key function is the legal function. Even with statutory authority, attorneys are typically reticent to engage in behavior that departs from that precedent. The final group was most impacted by technology officer, or Chief Information Officer (CIO). Given limited budgets, most of the information technology officials are more supportive of innovative concepts such as SiS. However, they are typically more controlling in terms of wanting to draft design specifications which are more restrictive and limit the options a contractor has to proposed creative solutions (Kelman 1993).

Given the limited number of SiS applications, it appears that most agencies are challenged by the inability to change internal behavior to be more collaborative. The CEG report identified several agencies that had good SiS business cases, but did not possess the necessary “enlightenment” to move the SiS concept from theory to application (p. 25). The successful applications were able to overcome internal resistance and were able to form integrated teams that operated independently and felt empowered to make tough decisions. This behavior change was able to happen because leadership within those agencies supported the concept and allowed lower level teams to operate in non-traditional modes (p. 13.)

History of Share-in-Savings

The SiS concept is not new to government. The basic principle, that is compensating a contractor from accrued savings, has been applied for decades to energy savings performance contracts and through value engineering provisions (Warren 2004). However, those applications are less complex than those in the information technology environment since

the baseline costs are generally more clearly identified and savings against the baseline somewhat easier to measure. In energy savings contracts, there are often meters which offer objective and credible baselines against which to measure accrued savings or revenue (Warren, 2004). In the value engineering arena, the contracts are already established which allows for a more credible parametric baseline analysis based on historical data.

The application of SiS to IT-related programs, while adopted by several state governments, has been limited at the federal sector (Council for Excellence Report 2001). One of the chief reasons is the federal government's inability to deploy reliable cost accounting systems, which makes it difficult to formulate credible cost baselines (General Accounting Office Report, 2003).

There are additional reasons for the slow adoption of performance-based type concepts such as SiS. These include: absence of clear policy guidance on how to structure and manage SiS acquisition; structured models to assist with fair evaluations of competitive proposals; little understanding of the nuances of incentive/performance based contracting by government acquisition officials; and resistance on the part of agencies to allow industry access to key documents and information (GAO Report 2003, Warren 2004).

In the past five years, the only application of the SiS concept for a major IT system was accomplished by the Department of Education. In this now famous case study conducted in 1999, Education consolidated several legacy systems under their Student Financial Aid program. Despite the government's estimate that the consolidation would cost a company nearly $25 million over a five-year period, Education awarded a contract for "zero" dollars to a company, Andersen Consulting, with a promise that it would pay the contractor its costs from any savings realized by the government. This represented a huge risk to Andersen since their total payment was tied directly to the savings they generated.

Andersen agreed to finance the development and implementation of a new and complex system through replacement and consolidation of antiquated legacy systems. In return, they were given a seat at the Steering Committee table which made them an equal partner on key programmatic decisions. Ultimately, nearly $40 million in savings were realized. Andersen received a share and was able to recover their costs plus receive a much higher profit than they would have received under a traditional fixed price contract (Laurent, 2000). This concept proved to be a natural incentive for the contractor to manage its costs and produce a quality solution in the shortest possible time. In interviews with senior officials at

Education and Andersen, it was revealed that the successes of SiS were attributable to the creation of an open and collaborative environment. Education's willingness to share the leadership role with the contractor helped reduce Andersen's risk by allowing them to be an active part of key programmatic decisions, including government personnel assignments.

In November 2002, Education's Inspector General (IG) released an audit report entitled *Audit of FSA's Modernization Partnering Agreement.* In that report, the IG found fault with the calculations used to develop the baseline cost figures and also the appropriateness of using the GSA Schedules as the acquisition vehicle (p. 10-15). However, there was no dispute that the SiS concept achieved the reported savings.

Based on success of the Education case study, it was assumed that adoption of the SiS concept would increase among federal agencies. Since Education had established a process that was deemed by many to be a success, observers presumed that the adoption rates would increase exponentially. The General Services Administration (GSA), an independent agency, was tasked with serving as a central authority for helping agencies identify suitable projects and apply the concept where appropriate.

Critics of Share-in-Savings

Despite evidence that SiS is a legitimate type of performance-based contract, no other federal agency adopted SiS under the Clinger Cohen authority (Laurent). In fact, there was open resistance by some agencies to adopt the concept. Some described SiS as Ph.D. level contracting and, therefore, too hard to do (Warren, 2000).

In addition to being too difficult to apply, critics have argued that the SiS concept is actually more expensive since the financing costs for industry-funded programs are significantly higher than government funded programs (Tiefer, 2001). Further, while the intent of SiS contracting is to encourage savings and efficiency, some have argued that the lack of proven benchmarks to calculate savings leaves the process entirely subjective and open to manipulation (Brian, 2002). Finally, critics contend that SiS contracts undermine Congressional appropriations and oversight, which raises the risk of program performance. (Tiefer, 2001).

This paper will focus on recent efforts within government to formulate a structured methodology that addresses the critical feedback while incorporating the best practices experienced elsewhere. This will included a detailed analysis of available simulation modeling tools for business case

development and proposal evaluation as well as the significant phenomena that have impacted the rate of adoption of the SiS concept by government officials.

RESEARCH DESIGN AND METHODOLOGY

The research question associated with this particular research effort is: "What are the key factors to overcoming resistance to a paradigm shifting change in the federal sector."

The researcher, as an active participant in the unfolding process, has chosen to use data driven action research as a mode of inquiry to study this process and to identify the impact of key changes on adoption rates. Action research, as a theoretical framework, purports to study the cycles or spirals as a means to measure effectiveness and provide flexibility and responsiveness for effective change (Argyris, Putnam & McLean Smith, 1985). Action research can be described as a regular cycle of planning, action and review/reflection (Kermmis & McTaggart, 1988). Figure 1 illustrates the classic model for action research.

As described in Figure 2, SiS has followed an evolutionary cycle consistent with the pattern defined in Figure 1. Each step along the path followed the classic action research model. The first step (planning) was taken by Congress to develop legislation for SiS pilot authority. This

FIGURE 1
Classic Model for Action Research

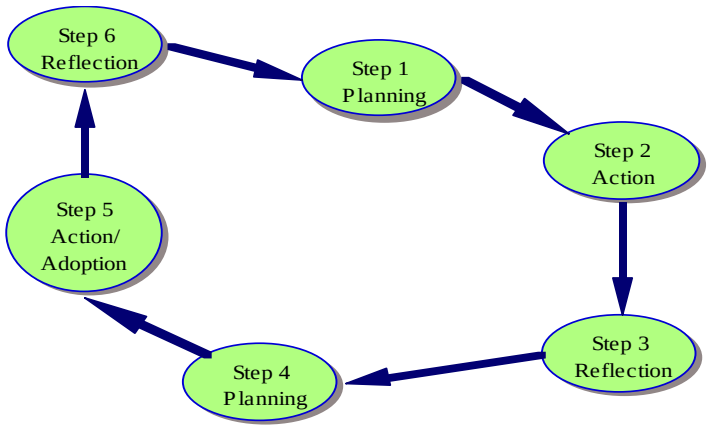
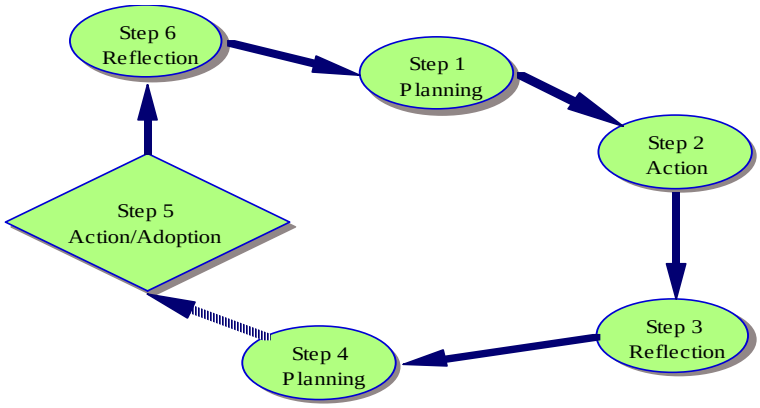


FIGURE 2
SiS Adoption Model under Clinger Cohen Authority



process ultimately led to the passage of the Clinger Cohen Act of 1996 (Step 2). Step 3, reflection, was a process by which federal agencies determined "next steps" for implementing the SiS on a government-wide basis. Step 4 of the cycle was envisioned to include a planning phase for the promulgation of some sort of guidance, since the statute did not set forth an instruction to do so.

As indicated later in this paper, the absence of formal policy is one reason why the federal acquisition community did not embrace the SiS concept under Clinger Cohen. There are additional reasons that will be discussed later but the lack of formal guidance was a key factor in creating a break in the flow between Steps 4 and 5, as indicated by the broken line.

The model in Figure 2 represents a graphic depiction of a process that remained static, not deepening because of a break in the process flow. By contrast, Figure 1 defines a spiral process where the flow of information is unbroken, with each step building on the preceding step to create an environment open for adoption of a specific change (Dick, 1993).

Change Management Methodology

In November 2001, the researcher reflected on the poor results under the Clinger Cohen authority and set forth to deepen his understanding of the resistance points to acceptance of the paradigm shifting change. Given the counter-intuitive nature of SiS, most government acquisition officials

expressed resistance, albeit passive, to embrace a transformational change that would place them at risk for failure.

Moving from the reflection to the planning stage, the researcher developed a strategy for approaching the next phase of SiS. Adopting the theories of Freire and especially Ancona, he expanded the research design to include a strategy that viewed SiS as both a product and the federal and industry participants as potential ambassadors. In cooperation with Professor Steven Kelman at Harvard University, a series of workshops were conducted with a broader base of the federal acquisition community, vendors from the federal IT community, state government officials that had successfully implemented SiS, and other interested parties that included critics of the SiS concept.

These interviews were structured around the identification of perceived barriers to adoption of SiS and whether the new legislation would help to remove some of the key barriers. Over a six-month period, 230 individuals participated in the interview/workshop process and provided a wealth of information. The researcher hypothesized that if certain barriers were removed, there would be more acceptance of SiS in the federal community.

The results of this process yielded the following summarized feedback. The common themes are in no particular order of importance:

- Expand the statutory authority to beyond the pilot stage so any agency could conduct SiS without prior approval;
- Develop clear Federal Acquisition Regulation (FAR) policy;
- Establish a training curriculum;
- Address the need for an open and collaborative environment;
- Develop a methodology to develop a quantifiable baseline;
- Develop e-tools to assist program managers with identifying suitable SiS projects;
- Draw linkages to already established performance-based contracting guidance; and
- Offer incentives for agencies to embrace SiS by allowing them to keep a share of any savings.

In addition to the concrete steps defined above, it was revealed that there were many other subtle barriers present. Many of these dealt with behavior (Buck, 2004). For example, participants expressed concern that the inherent nature of the acquisition process was still risk averse and structured

to prevent the kind of open and collaborative environment necessary for SiS-type contracts. For the most part, the nature of the federal procurement structure requires a clear point of demarcation between government and industry (Kelman, 1993). Despite attempts in the mid-1990s to create a more open and collaborative acquisition environment, there is still a perception among the private sector that the federal acquisition community is too 'risk averse' and that sharing too much information (i.e., internal cost data, independent government estimates) is not in the government's interests. While there are valid reasons for a degree of 'arms length' between industry and government, the working groups expressed concern that the government is too protective and not willing to embrace concepts that are outside of the normal operating procedures.

This belief, whether real or imagined, has served as a disincentive for contractors to work with agencies that are unwilling to create an open and collaborative environment (ITAA interviews, 2004). The industry group felt it unwise to absorb a disproportionate share of the risk by investing in programs where the culture does not embrace a spirit of partnership. Lack of open communication perpetuated an environment of mistrust, the antithesis of the type of relationship that is needed to successfully implement SiS contracting. And even in cases where there was willingness, many federal agencies did not have reliable systems in place to collect accurate data (Laurent, 1999).

Many agencies felt that the approval procedures set forth in the Clinger Cohen Act were cumbersome. Further, there were not clear operating policies to guide agencies through the process. Finally, there was no incentive on the part of agencies to deviate from the normal process since any savings beyond what was paid to the contractor had to be returned to the Treasury.

Based on feedback from the interviews, Congressional staffers began drafting new legislation. In December 2002, the E-Government Act was signed into law and expanded the previous authority set forth in the Clinger Cohen Act of 1996. Specifically, it established that contracts must be performance based, must have a quantifiable baseline for establishing share ratios, granted authority for agencies to retain a portion of any savings, and expanded the definition of 'savings' to include enhanced revenue. (Warren, 2004). It also added that GSA should promulgate official policy.

In January 2003, GSA established a central program office that was responsible for overseeing the development of online tools, promulgation of effective policy, and assisting agencies with identifying suitable projects to

apply the SiS concept. The methodology used to design simulation models and how they integrate into the holistic approach to SiS is as follows.

Business Case Tool Methodology

The Business Case Decision Tool is the first step in the process of determining if the share-in-savings project is a suitable candidate. Table 1 contains the qualitative elements and Table 2 displays the quantitative elements. By answering a series of questions and entering budget estimates, the simulation model will guide the user through the thought process necessary to develop and manage a share in savings project. Features of the model include:

- A scoring system that will rank the suitability and risk factors associated with the project;

TABLE 1
Business Case Model: Qualitative Inputs

Qualitative Questions	Relative Weights	Assigned Values
1. Has the project been analyzed through the A-11(300b) process?	Yes - 1 No - 0	Yes = 12, No = 0, Not Required = 6
2. If yes, has the project been rejected by the A-11(300b) process?	Yes - 1 No - 0	Yes = -35 No = 0
3. Is there a methodology in place to measure performance?	Yes - 1 No - 0	Yes = 5, No = 0
4. Is there a risk management plan in place?	Yes - 1 No - 0	Yes = 5 No = 0
5. Is there a quality plan in place?	Yes - 1 No - 0	Yes = 5 No = 0
6. To what degree does your agency executive leadership support?	Range: 0 –10	0-3 = 0, 4-6 = 6, 7-10 = 12
7. To what degree does your agency culture support a collaborative internal environment?	Range: 0 –10	0-3 = 0, 4-6 = 6, 7-10 = 12
8. Is there an integrated program team (IPT) within your agency to manage the effort?	Yes - 1 No - 0	Y = 12/N = 0
9. If no, will one be created as a part of the project?	Yes - 1 No - 0	Yes = 12< 2:1 = 99
10. Will government FTEs (Full-Time Equivalents) be redeployed?	Yes - 1 No - 0	Yes = 0 No = 5

TABLE 1 (Continued)

Qualitative Questions	**Relative Weights**	**Assigned Values**
11. How much funding is currently appropriated for the project in Year 1?	Integer	
12. What is the anticipated benefit to the government?	Cost savings - 1, Cost avoidance - 2, Increased revenue - 3	Cost Savings =2, Cost avoidance = 1, Increased Revenue = 2
13. Is past performance a key evaluation factor?	Yes - 1 No – 0	Yes = 5 No = 0
14. Is the requirement competitive to the maximum extent practicable?	Yes - 1 No - 0	Yes = 5 No = 0

TABLE 2
Business Case Model: Quantitative Inputs

A. Current Baseline Costs to Operate Legacy Systems (in millions)					
I.	Procurement Costs (annual)	Environmentals (annual)	Government Personnel (annual)	Ancillary Procurement Costs (annual)	Total Baseline Cost
2003	$22	$6	$1	$4	$33
2004	$22	$6	$1	$4	$33
2005	$22	$6	$1	$4	$33
2006	$22	$6	$1	$4	$33
2007	$22	$6	$1	$4	$33
Total	$110	$30	$5	$20	$165
B. SiS Alternative (in millions)					
II.	Procurement Costs (annual)	Environmentals (annual)	Government Personnel (annual)	Ancillary Procurement Costs (annual)	Total Baseline Cost
2003	$24	$6	$1	$4.5	$35
2004	$12	$3.5	$1	$2	$18.5
2005	$6	$2	$1	$1.5	$10.5
2006	$2	$1	$1	$.25	$4.25
2007	$2	$1	$1	$.25	$4.25
Total	$48	$14	$5	$8.5	$72.5

Note: The procurement costs over the five-year period represent no increase. This is for demonstration purposes only and not likely a reflection of reality.

- A methodology for determining the baseline, both current and projected;
- Identification of the benefit pool (savings or enhanced revenue); and
- A graphic depiction of the payback period for the industry partner.

The design of the model was based on segments from risk analysis methodologies developed by Price Waterhouse Coopers and IBM. However, the unique elements and weighting factors were established based on information gathered during workshops, interviews, OMB guidance and market research. The model has been segmented into two parts, qualitative and quantitative, being weighted at .40 and .60 respectively. The data collected from inputs into the model serve as one of the elements to determine the adoption rates contained in the Results Section of this paper.

A graphic depiction of the data entered in Table 2 is displayed in graphic form in Figure 3.

Figure 3 defines the relationship between payback period and the assigned value. The payback period and the total amounts of savings are the primary factors in determining the risk score for the quantitative portion of the business case. These factors were derived based on a determination by policy leaders that the most important elements of the SiS model are the amount of savings that can be generated and the amount of time it takes the

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contractor to recover its costs. The assumption for the risk calculation is that the shorter the payback period, the lower the risk for the project.

RESULTS

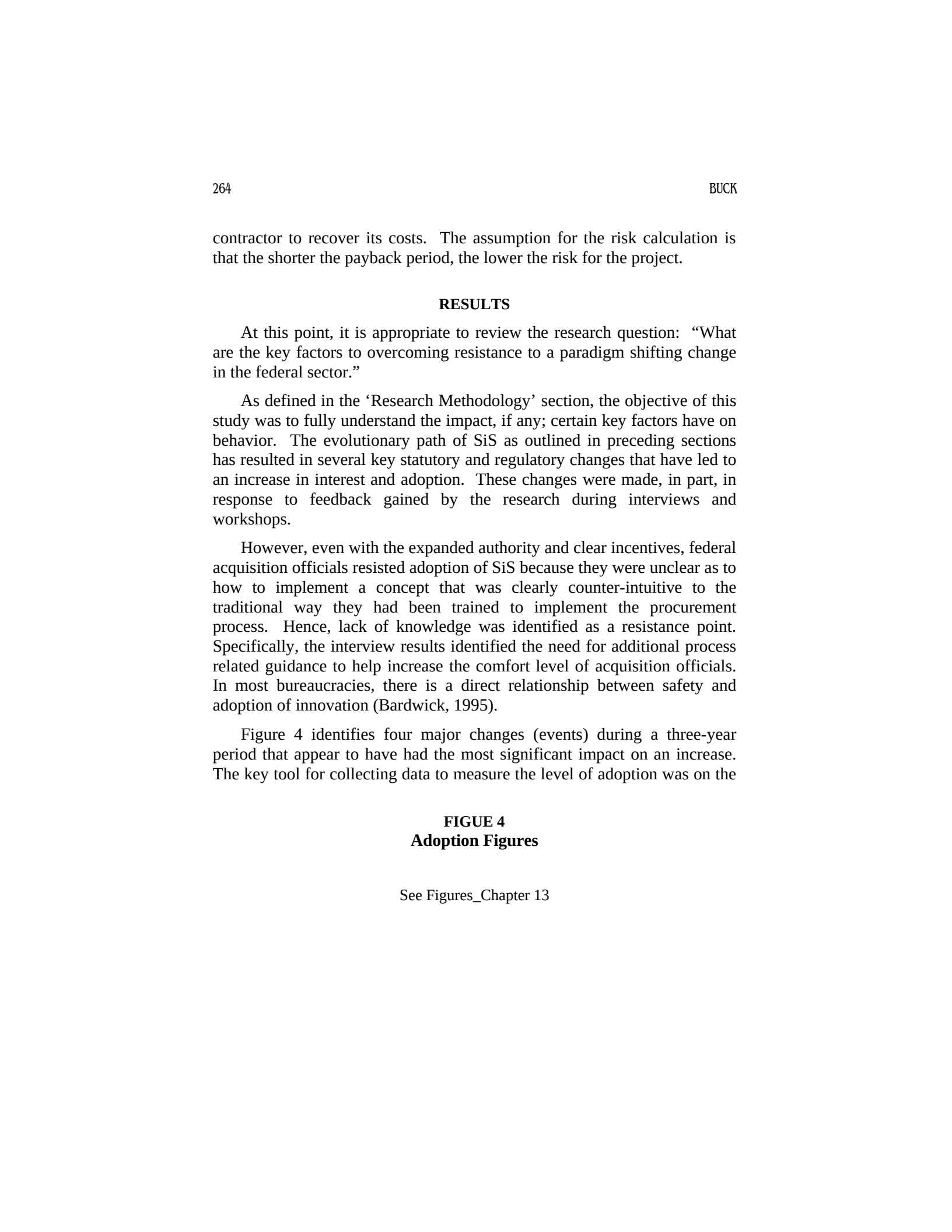
At this point, it is appropriate to review the research question: "What are the key factors to overcoming resistance to a paradigm shifting change in the federal sector."

As defined in the 'Research Methodology' section, the objective of this study was to fully understand the impact, if any; certain key factors have on behavior. The evolutionary path of SiS as outlined in preceding sections has resulted in several key statutory and regulatory changes that have led to an increase in interest and adoption. These changes were made, in part, in response to feedback gained by the research during interviews and workshops.

However, even with the expanded authority and clear incentives, federal acquisition officials resisted adoption of SiS because they were unclear as to how to implement a concept that was clearly counter-intuitive to the traditional way they had been trained to implement the procurement process. Hence, lack of knowledge was identified as a resistance point. Specifically, the interview results identified the need for additional process related guidance to help increase the comfort level of acquisition officials. In most bureaucracies, there is a direct relationship between safety and adoption of innovation (Bardwick, 1995).

Figure 4 identifies four major changes (events) during a three-year period that appear to have had the most significant impact on an increase. The key tool for collecting data to measure the level of adoption was on the

FIGUE 4
Adoption Figures



online business case tool. The key independent variables used to determine adoption are: 1) the number of inquiries, and; 2) the actual number of SiS contracts issued.

DATA ANALYSIS

The data in Figure 4 clearly reflects a dramatic increase over time in the adoption by federal agencies in applying the SiS concept. The data is segmented into two categories. The first category measures the number of inquiries made of the business case tool. The business case tool represents one of the initial steps in the process and indicates that federal officials are beginning to consider the viability of applying the SiS concept to specific programs. From January 2003 when the tool was first published by GSA until May 2004, the number of inquiries increased by 126%. The fact that there was only a 25% increase in the actual number of formal SiS contracts is less significant since there is a significant time lag between when a business case is developed and when a contract is awarded. It is anticipated that the number of formal contracts will increase proportionately with the rate increases experienced with the business case tool.

The significant changes identified in Figure 4 occurred chronologically, each representing a deeper level of commitment by government to address the resistance points identified during interviews and workshops. The passage of the E-Government Act of 2002 greatly expanded the authority for SiS, but that event alone had little impact on the number of SiS contracts that were issued. The low rate of adoption despite of expanded statutory authority suggests that congressional mandates alone were not enough to increase usage. This seems to support the theory of Freire that inquiry into other people's views of events is needed in order to understand the reasoning that underlies their fear of change. Further, Kantor's observation that clear action plans are necessary to help overcome fear seem equally pertinent.

The second significant change occurred in early 2003 with the formation of a government-wide program office that was responsible for creating the necessary guidance and methodology for individuals to follow. In addition, the program office began meeting with agencies and industry to espouse the virtues of SiS and to address concerns that the concept, while counter-intuitive to traditional procurements, was legal. While there is no scientific correlation, the data reveals that soon after the program office was created and some rudimentary online tools were made available, a slight increase was experienced in the number of business case inquiries. While only one small SiS contract was completed in the telecom audit area, it still

represented movement toward a change in behavior and an embrace of SiS by the federal acquisition community.

The third significant change was the publication of Proposed Rule, which outlined in detail a process by which SiS could be accomplished. This event, along with the issuance of blanket purchase agreements to six contractors, resulted in the most dramatic increase. As indicated in earlier workshops, participants expressed the need for cogent policy guidance and a structured methodology to follow. The issuance of the guidance, albeit in draft form, and award of the BPAs appears to have had the most significant impact on the adoption rates. The award of the BPAs also created the ambassadors referenced in Ancona's work. These particular actions appear to have reduced that resistance level on the part of the government to engage in a new way of doing business. The contractors selected under the BPA process had past experience with SiS and were also well regarded in the federal acquisition community.

The data also reveals that statutory authority alone does not significantly affect the rate of adoption of a paradigm shifting change. While statutory authority is necessary to remove legal barriers, additional changes are needed to address the human element.

CONCLUSION

The data reveals a positive trend toward adoption of the SiS concept by federal agencies. This increase in adoption rates can be linked to the initiation of several significant changes that were introduced based on feedback from contracting officers and industry representatives. Each of these changes addressed a specific need. However, it is too early in the process to conclude whether the changes that have been implemented will result in a sustained increase in adoption rates.

As of June 2004, several agencies had developed strong business cases and were seeking internal approvals before seeking to move forward with the procurement process (Buck, 2004). It is unclear whether the internal culture within these agencies will be open and collaborative enough to allow for adoption of SiS.

Based on this, it is concluded that there is direct relationship between the specific changes implemented and the reduction of resistance, which appears to have had an impact on the increase in the trend toward more acceptance of the concept. Whether this trend continues will be contingent upon ability of the leadership to continue to reinforce the behavior that embraces managed risk. It will be necessary to continue to use workshops

to gain continuous feedback, reflect on the feedback received, and take action when established policies and procedures need to be adjusted.

IMPLICATIONS/NEXT STEPS

In the short term, the results of this study and the ensuing adoption of SiS within the federal government will have implications on whether Congress extends the SiS authority when it expires in September 2005. In the long term, the degree that SiS can be more widely adopted could serve as a predictor for the success of performance based contracting. SiS requires that agencies work more collaboratively than normal, both internally and externally.

There are some in Congress that question the value of SiS and whether it will lead to abuses on the part of federal officials to circumvent the appropriations process by implementing programs outside of Congressional oversight. The legislative branch and Office of Management and Budget each have important oversight responsibilities over how appropriated funds are expended. The budget process is a key tool used by both entities to exercise control of these responsibilities. If SiS is not managed properly, it could lead to programs being implemented outside of the normal process and, therefore, outside of the control of both Office of Management and Budget and Congress. Clearly, control and reporting mechanisms are required to ensure that agencies provide appropriate reports and project status.

Follow-up research is planned to examine the progress of the business cases currently under development. This research will also analyze the cost impact of SiS, both from an internal cost of money perspective and to determine if it helps to save money by incentivizing the contractor to maximize efficiency, thereby minimizing cost. It will also review the cost impact of programs that are not launched or under scoped due to insufficient funding. A possible research question could be "What is the cost impact to government for under funding programs or not implementing programs due to insufficient funding."

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