# KEY SUCCESS FACTORS FOR MAJOR PROGRAMS THAT LEVERAGE IT

# The "7-*S for Success*" Framework

## May 2014

This document sets forth a framework of critical success factors for large scale government IT projects. ACT-IAC believes that the application of the principles set forth in this framework will reduce risk and increase the likelihood of positive outcomes.

*ACT-IAC: Advancing Government Through Collaboration, Education and Action*

**American Council for Technology-Industry Advisory Council**

The American Council for Technology (ACT) is a 501(c)3 non-profit educational organization established in 1979 to improve government through the efficient and innovative application of information technology.   The ACT-IAC mission is to "*facilitate the strategic use of technology to improve the mission of government*."  The organization's strategic vision is to "*be the most trusted public-private partnership for cultivating a cost-conscious culture of ongoing innovation to improve government*."

ACT was established by government employees, with the encouragement of OMB and GSA, to provide a forum where Federal, state and local government employees could communicate and collaborate.  In 1989 ACT created the Industry Advisory Council (IAC) to provide an objective, ethical and vendor-neutral forum where government executives could communicate and collaborate with their industry peers.  IAC has approximately 500 member companies of whom over 70% are small businesses.  An Executive Committee of senior government executives establishes the strategic direction for ACT-IAC and ensures the objectivity and integrity of the ACT-IAC forum.

ACT-IAC has been described as "*a model of how government and industry can work together*"

**Disclaimer**

The information presented in this document was developed through a collaborative process in which both government and industry executives participated.  The views and recommendations contained herein are not intended to represent the views of any specific individual or organization that engaged in this initiative.

**Copyright**

©American Council for Technology, 2014. This document may be quoted, reproduced and/or distributed provided that credit is given to the American Council for Technology-Industry Advisory Council.

**Further Information**

For further information, contact the American Council for Technology-Industry Advisory Council at (703) 208-4800 or www.actiac.org.

.

**Key success factors for Major Programs that Leverage IT--
The "7-*S for Success*" Framework**

Any major program, project, or transformation involving information technology (IT) brings great potential for positive change and benefits, but also risks that the program will not produce the outcomes envisioned. Such risks can be introduced due to political pressures, interagency coordination, integration with legacy systems, multiple contractors, new software development, requirements creep, or unexpected events.

ACT-IAC, an association of leaders in government and industry with significant experience in IT acquisition and management, has drawn upon many lessons learned and formulated an initial set of critical success factors for major IT programs.  These factors broaden the focus from IT oversight to overall program management that accounts for policy and political realities.  In this model, IT is a strategic centerpiece of any transformation toward the goal of better government.

Over the past several months, ACT-IAC has joined a number of stakeholder groups in a dialogue with OMB and Administration leaders regarding how best to improve the government's capacity to manage IT programs effectively.  ACT-IAC recommends the "7-*S for Success*" Framework as a basis for the path forward, addressing the key success factors described below.  Applying the Framework to a major IT program review should reduce risk and increase the likelihood of positive outcomes.

This Framework does not constitute a checklist for compliance purposes.  Rather, it represents a management approach for large transformations, in which each "S" represents a key area of focus but all of the "S's" enhance the potential for delivering successful results. These factors should form the basis for an honest assessment by, and ongoing conversation among, program leadership and stakeholders regarding the health of the program.  Such an assessment and conversation is reinforced by the fact that how these leaders and organizations manage change as programs evolve, and support teams and individuals address needed change in a positive way, is a key element of success across the entire Framework.

The Framework addresses two sides of the strategic imperative for program management:  the political/policy/oversight factors, which can impact an initiative from above and thus are grouped under "Managing Up and Out"; and the business/technical factors, which can impact an initiative from within and thus are grouped under "Managing Across and Down".   It is important to note that these factors do not always fall neatly in one category or the other – for example, the "Managing Up and Out" section discusses how teams will operate and communicate, which is also vital to "Managing Across and Down".

**Key Success Factors in Reviewing Major Programs that Leverage IT– The "7-S for Success" Framework**

*Managing Up and Out*

1. Stakeholder Commitment and Collaborative Governance
2 Skilled Program Manager and Team
3. Systematic Program Reviews

*Managing Across and Down*

4. Shared Technology and Business Architecture
5. Strategic, Modular, and Outcomes-Focused Acquisition Strategy
6. Software Development that is Agile
7. Security and Performance Testing Throughout

## *Managing Up and Out*

1. **Stakeholder Commitment and Collaborative Governance** – Most complex programs involve numerous stakeholders at political, policy, and management levels, and often multiple agencies, contractors, and other non-government constituencies. There should be clear lines of accountability and responsibility among these players, as well as a process that engages key stakeholders. Finally, there should be a shared commitment to the program's success across affected parties.

    Establishing a collaborative and accountable governance structure – chaired by a senior official from the lead mission agency who has access to the agency head, and including senior executives from other implementing agencies and key contractors – incorporates the interests of each stakeholder group. This approach also focuses on each entity's responsibility area and contribution to the larger program goals, and establishes a way to review progress collectively and with accountability for results. Key elements of a collaborative governance process include:

    - Ongoing interaction with and management of key stakeholder relationships, including contractors, users, relevant stakeholder groups, and oversight organizations such as Congress, GAO, OMB, and IGs.
    - Effective integration across key functions within the lead agency, including program, budget, contracts, HR, IT, and other relevant offices.
    - Understanding of and accounting for political, legal, and policy imperatives that must be addressed.
    - Clearly documented roles, responsibilities, and accountability structures.
    - Early and ongoing identification of risks and development of mitigation strategies.

- A communications process to ensure that the key players talk to each other about the right issues at the right time, and that business, technical, policy and other changes are well-aligned.
- Key program performance metrics incorporated into annual performance plans for stakeholders, to promote shared accountability so that each stakeholder shares equity with the success of the program.
- An approach that promotes ongoing, honest assessment and supports moving forward from failure to reach overall program success in business scope, technology advancements, and new and innovative delivery approaches.
- Sustained leadership commitment, as transformational or complex programs inevitably go through high and low points; key to success is a willingness to accept risks and learn from mistakes, and a continued focus on achieving long-term goals rather than becoming consumed by short-term but addressable problems.  Other elements of sustained commitment include:
    - Senior management of the involved agencies who work with oversight bodies to secure support for the program in advance, celebrate successes as they occur, and provide early warning about problems along with recommended mitigations.
    - The ability to "step back and refocus" when faced with a major issue, allowing time for the team to regroup and communicate revisions in tactics to key stakeholder groups.
    - Resilience in the face of small surprises that will inevitably occur – and the ability to quickly deal with them in order to make progress over the long term.
    - Leaders who carry through on priorities in an environment where political pressures can turn focus away from achieving strategic program goals, and who understand how new political imperatives can be addressed effectively through changes in program plans.

2. **Skilled Program Manager and Team** – There must be an accountable, qualified, and properly positioned senior leader of the program, who reports to a Senior Agency governance leader.  This Program Manager (PM) should ideally be highly proficient at technical, business (both government and commercial business processes), organizational, programmatic, and interpersonal levels.  The Program Manager could come from either the technology or mission organization, so long as the person possesses skills in both areas and operates under a strong governance process.  The PM should ensure that a sound Integrated Program Team (IPT) team includes the following elements:

- The PM should be empowered to bring on a strong team of leaders across disciplines who can maximize the likelihood of positive outcomes, and work together to course-correct for problems along the way -- it is likely that there will be a hierarchy of teams and competency areas reporting to the Program Manager, since a major program almost always consists of sub-projects that must be managed towards a common outcome.

- The PM team must also include resources, whether direct report or matrixed, from relevant stakeholder groups, such as IT, policy and regulatory, strategic planning, the user community, acquisition, legal, outreach (public and congressional affairs), finance, and HR; cross-agency teams should include representatives from each agency.
- The PM should ensure that all of the major program management disciplines -- such as Requirements Management, Financial Management, Communications, Risk Management, Earned Value, Change Management, Integration Management and Release/Testing Management -- are properly staffed, with ongoing training offered across program areas.
- The PM should ensure that IPT members understand clear responsibilities that are documented, so that everyone knows who is doing what; and help members to approach their role through supporting the team to reach objectives, rather than simply through addressing process and compliance issues.
- Performance metrics for key individuals should include consistent measures related to achieving system and program milestones; this is especially true where a program cuts across organizational lines, so that performance metrics reflect the multi-organizational nature of the activity, rather than affecting only the organization for which the employee works.

3. **Systematic Program Reviews** – In addition to assessing progress against programmatic goals, the Program Manager should ensure that all of the S factors are reviewed by Governance leadership on a regular basis, with success celebrated and actual or potential problems promptly and openly identified for correction. This will promote timely consideration of whether the program is 1) making progress against program goals, and 2) ensuring that all key "S for Success" factors are in place and working well to minimize risk; performance issues that are not corrected quickly then become accountability issues to be addressed ASAP. These reviews must be designed and implemented to ensure the following:

   - All aspects of the program, including necessary actions in IT, policy, acquisition, business process, and regulatory changes, are addressed. These areas should be assessed as part of status updates throughout the overall master cost/schedule/program goals, and should identify any needed risk mitigations along with responsible individuals and needed deadlines.
   - Each key stakeholder should brief what they have done since the last review to support the Program Manager and the execution of program objectives, and should also seek out what the Program Manager needs from them between the current and the next review.
   - Reviews should include senior representatives from key contractors where appropriate, to ensure unified agreements on status, risks, and necessary actions or changes.
   - Reviews should be designed so that the agency can provide periodic program updates to oversight organizations, including Congress, GAO, OMB, and IGs.

*Managing Across and Down*

4. **Shared Technology and Business Architecture** – Major IT programs involve complex interfaces with internal and external users, back-end applications, operational processes, policies, and supporting infrastructure.  A target business and technology architecture should guide activities across the team, including the following elements:

   - Set goals for how interfaces and new business processes should work in practice, while remaining flexible enough to encourage changes during development and execution; ideally, a strong Chief Architect would be assigned to this task, who reports to the Program Manager.
   - Emphasize innovative but proven technologies (e.g., cloud computing, mobile) that preferably have a low threshold for adoption, as well as a strategy for how newly introduced technologies and related business processes will be integrated with legacy systems and business processes.
   - Include a focus on security and privacy of information as an integrated element, not a separate activity.

5. **Strategic, Modular, and Outcomes-Focused Acquisition Strategy –** The Program Manager must work with the acquisition organization and other stakeholders in the IPT, and then work with the private sector early on, to define a set of strategic requirements, a program management model, and an acquisition strategy that supports the outcome-based goals associated with the program in a best-value approach.  Other elements of this strategy include:

   - An acquisition process that starts well before contract award (e.g., with market research, requirements identification, RFIs), and lays out the goals, timelines, source selection and evaluation approaches for key contracts along with a synchronized contract award schedule. The project life cycle milestones should also consider when contracts must be in place; for example, contracts for more complex elements or infrastructure may need to be awarded first.
   - Procurements that have consistent incentives, milestones, and review processes to encourage collaboration toward a mutual objective.  Commercial products or services should be acquired where feasible and appropriate, along with a strategy to ensure that they complement the target architecture during integration; commercially available IT and shared services should be preferred over building IT from scratch.
   - Available or potential contract vehicles that are objectively assessed; for existing vehicles, any relevant weaknesses or limitations should be addressed.
   - Clear roles for government and industry partners with specified interface points and information needs, as well as defined acquisition management processes to ensure coordinated, disciplined, and efficient and effective contract oversight.

- Alignment with a program management plan that provides clear roles and responsibilities, integrates leadership, and manages processes and interactions among key organizations for successful post-contract award management.
- A strategic funding strategy that is tied to programmatic and acquisition goals and strategies, with a modular approach so that value can be assessed on a regular basis to secure additional funding – especially for contract awards that require funding over multiple budget years, whereby funds for those project phases are built into the budget request for those years.

6. **Software Development that is Agile** – Over the past several years there has been increased interest in a shift away from large-scale and long-term systems development that may take years before the first functionality is available for testing. A more innovative approach is found in agile software development, under which applications are developed in an iterative fashion whenever possible, with small-scale roll-outs, frequent feedback from end users, and communication with program management and governance leaders on changes needed throughout. Other aspects include:

- Applications that take advantage of open source and reusable code whenever appropriate and cost-effective.
- Incorporation of "Human Design Frameworks" -- which account for how people actually perform their work -- as a component of the Agile model, to ensure that these elements of design are central to development
- Resource commitments from the end user and customers. Key end users and customers should be embedded in the program team, and be matrixed back to their organization so that daily decisions/tradeoffs on functionality can be made, and that the IT and Program office can get input from the customer and end user as part of those decisions.

7. **Security and Performance Testing throughout** – Modules should be tested and released in phases throughout design, development, and operations – both for individual components and collective (ultimately end-to-end) system performance. Key elements include:

- Security, privacy and testing objectives and strategies should be established before any development starts, so that these key IT components are embedded into the DNA of the program – this should reduce issues during the testing cycle, helping speed to market.
- User acceptance, functional, and load testing must be planned for and implemented at each phase of the program rollout.
- Testing should align with independent validation and verification (IV&V) efforts as appropriate.
- Security testing should occur in parallel with performance testing. Security requirements and testing needs should be included as part of the program processes from inception.