



# IT GOVERNANCE APPROACHES FOR AGILE SOFTWARE DEVELOPMENT INVESTMENTS

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## **Abstract**

Federal executives continue to struggle to successfully deliver on projects that improve performance, operational efficiency, and citizen engagement. The increased risk and cost of these projects has prompted a move to more modular agile project management approaches. This shift provides unique challenges in the area of IT governance and IT investment oversight.

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# Muse Technologies, Inc.

## IT Governance Approaches for Agile Software Development Investments

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### 1. Background

Federal executives continue to struggle to successfully deliver on projects that improve performance, operational efficiency, and citizen engagement. These projects are increasingly risky and costly. For this reason, the Office of Management and Budget (OMB) encourages Federal executives to reduce risk by breaking flagship multiyear projects into smaller chunks in order to deliver capability in increments. This has prompted the move to *Agile Project Management* – an incremental approach that is flexible and iterative. This approach features early and continuous delivery, collaborative teams, and measuring progress. Adaptive planning and evolutionary development are also used in Agile Project Management, instead of comprehensive upfront planning and the time-consuming development of requirements, which may change over time.

In February 2001, a group of software developers met to discuss improved methods and developed the *Agile Manifesto* that focused on four values: (1) individuals and interactions over processes and tools, (2) working software over comprehensive documentation, (3) customer collaboration over contract negotiation, and (4) responding to change over following a plan. They went on to identify twelve specific principles as vital if those four values were to guide their work:

1. Customer satisfaction by rapid delivery of useful software
2. Welcome changing requirements, even late in development
3. Working software is delivered frequently (within weeks rather than months)
4. Close, daily cooperation between business people and developers
5. Projects are built around motivated individuals, who should be trusted

6. Face-to-face conversation is the best form of communication (co-location)
7. Working software is the principal measure of progress
8. Sustainable development, able to maintain a constant pace
9. Continuous attention to technical excellence and good design
10. Simplicity—the art of maximizing the amount of work done—is essential
11. Self-organizing teams
12. Regular adaptation to changing circumstance

While the values of the manifesto describe methods to improve performance and relationships, there is a strong need for balance and other external considerations. In other words, these are not just “either/or” principles. Customer satisfaction has to be tempered with the consideration of other stakeholders, such as taxpayer and political or social stakeholders. The presence and participation of motivated and self-directed individuals is a key requirement for “agile” projects. Many agencies will find that they don’t necessarily have a workforce ready to perform in this manner. Teams also have to be diligent about tracking progress - incremental delivery may not be readily visible. Additionally, technical design may have to yield to the agency’s strategic objectives or constraints. And finally, if changes are not managed proactively, there may be a strong need for rework. This last issue is more of a leadership challenge than a technical challenge. Agencies need to cultivate developers and managers with high emotional intelligence and organizational skills in order to navigate these difficulties.



*Jim Highsmith, History: The Agile Manifesto*

The Agile movement is not anti-methodology, in fact many of us want to restore credibility to the word methodology. We want to restore a balance. We embrace modeling, but not in order to file some diagram in a dusty corporate repository. We embrace documentation, but not hundreds of pages of never-maintained and rarely-used tomes. We plan, but recognize the limits of planning in a turbulent environment.

In a 2010 survey of Federal Agency program management, the Project Management Institute (PMI) identified best practices and critical success factors across the three dimensions of people, process, and tools. The process elements averaged the highest impact; however, it was the more intangible process elements related to strategy, vision, and stakeholder engagement – those closely associated with Agile Methods -- that rated the highest. Traditional elements of time and risk management – those not usually associated with Agile Methods -- rated relatively low in terms of impact on success. However, these traditional elements are emphasized in Federal IT Investment Management guidance and the Office of Management and Budget IT reporting requirements. For example, OMB requires a monthly comparison of actual and planned cost and schedule, risk status, performance measures, and other earned value management metrics for all major projects.

The push to increase the use of Agile Methods coupled with the pressure to continue using traditional methods of IT investment oversight provides special challenges for Federal Chief Information Officers (CIOs). While many agencies are waiting for guidance to be developed, opportunities are being lost to influence agency early adopters of Agile Methods and to create momentum for widespread successes.

## 2. Recommendations

Based on our experience with Agile Methods and knowledge of CIO needs, we recommend five focused action areas to help meet these governance challenges:

- Increase executive awareness of Agile Methods
- Create a portfolio management approach for Agile Projects
- Create a model prototype of guidance for projects in this portfolio
- Nurture effective work relationships with project team leadership
- Execute a quarterly retrospective on portfolio governance activities
- Create a favorable change management culture that fosters communication and mitigates risks

## Awareness

We recommend providing a high-level experiential learning workshop for Federal decision-makers that increases the awareness of Agile Methods at the executive level. With this workshop, there is no need for an individual to be a software developer in order to have a strong and relevant understanding of Agile Methods. The executive may have a good understanding from reading books, articles, or taking classes, but this workshop provides an unequaled educational experience for the non-software developer.

Whenever feasible, we recommend the use of performance-based contracting approaches that employ a statement of objectives (SOO). The SOO defines the “what” versus the “how”. This gives the Agile team a clear understanding of what outcome is desired while affording them the flexibility of choosing method used for achieving that outcome. This awareness complements Agile Project execution and promotes the use of innovative approaches with powerful outcomes.

## Create an Agile Portfolio Management Office (PMO)

The non-traditional PMO will share many of the traits of an Agile Development Team. This new type of portfolio management does not passively rely on artifacts and milestones. It should be active, adaptive and dynamic, focused on:



### *FAR 2.101 Definition of Statement of Objectives (SOO)*

*Statement of Objectives (SOO) means a Government-prepared document incorporated into the solicitation that states the overall performance objectives. It is used in solicitations when the Government intends to provide the maximum flexibility to each offeror to propose an innovative approach.*

- Assuring a best value for fixed units of time and money
- Making work constantly visible
- Bringing the right people together early and often to make rapid decisions
- Ensuring close collaboration between key stakeholders from the business and IT
- Promoting innovative solutions

## Prototype Guidance for Agile Investments

We recommend guidance focused on elements that provide the most value for Agile Projects. This guidance should emphasize a culture of collaboration, tools and metrics which increase visibility of work done, executive support, and stakeholder engagement. Guidance should also encourage use of SOO contracting approaches. Such guidance should be flexible and adaptable to match the agile nature of the projects in a given portfolio. Stakeholders should be encouraged to attend to and nurture the morale of the development teams.

## People and Relationships

Stakeholder and customer relationships are crucial to Agile Methods and should be addressed with intention. Leaders of Agile Projects need to have a clear understanding of the customer’s or the citizen’s voice and convey the pain points and needs to leaders at a high executive level. We also recommend efforts and structures that seek to formalize stakeholder management.



## Portfolio Governance Retrospective

On a regular basis, the performance of the portfolio governance should be evaluated. The effectiveness of governance should be measured through reflection that engages all levels and participants in the development team: Did governance activities help? Or were they a burdensome nuisance? Did it improve performance? Did it make work more visible or opaque? Following the evaluation, course corrections can be made and the effectiveness of those changes and continued performance will be reviewed at the next cycle.

## Change Management Culture

Effective leadership through times of change can help organizations through turbulence and make them successful. Without it, organizations become stagnant, projects fail, and the workforce lacks the will, courage, and ability to take advantage of opportunities and get results.

# 3. The Muse Value

Muse has strong past performance in helping facilitate agency transformation using Agile Methods. We offer an *Agile Strategic Planning Workshop for Executives*, a customized experiential learning workshop that gives executives, managers, and decision-makers rich knowledge of Agile Methods. This workshop provides background into the purpose of Agile Methods, debunks myths, and engages participants in hands-on learning that will increase executive awareness of Agile Methods.

Muse brings capability to assist organizations in a broad range of IT governance issues *including portfolio management*. Our company, led by the former CIO of NASA, has proven experience leading one of the most innovative IT programs in government. Additionally, we have a strong cadre of consultants with experience and expertise in architecture, governance, and portfolio management.

Muse specializes in IT transformation, providing *supportive change management*, capacity building, coaching, mentoring, and leadership training. We support communication effort, stakeholder management, and we are able to facilitate strategic planning that will remain valuable in and through rapidly changing times.

If your organization needs practical and “real-world” experience governing Agile Projects, Muse brings immediate benefits by raising awareness and providing usable strategies. Furthermore, our approach is customized to suit the unique needs of each of our customers.

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**Muse Technologies, Inc.** is a woman-owned small business with a strong leadership team possessing the experience and wisdom to develop innovative ways to meet our clients' IT challenges. Led by the former CIO of NASA, CEO Linda Cureton brings a depth and breadth of experience to the Muse clientele. Muse is a unique company that helps bring life to your vision for a stronger organization. In these tough economic times, it's more important than ever to find ways to get significant results while finding opportunities to save money and reduce risk. We fulfill our clients' needs by increasing their leadership potential, providing expert technology planning, and re-envisioning business processes.

**Linda Cureton** has over thirty-four years of extensive experience in Federal Government service, with a strong background in Information Technology management and experience as a CIO at the federal cabinet level. Well-known as an innovator and thought-leader, Mrs. Cureton has a proven ability to develop and execute plans that meet strategic business needs. Mrs. Cureton's business acumen as a senior executive is valuable for providing understanding of the needs of agencies such as the Department of Education, Department of Housing, NASA, Department of Justice, Department of Energy, and the Bureau of Alcohol, Tobacco, and Firearms. Mrs. Cureton has received numerous awards and recognition and is the author of *"The Leadership Muse: Inspiration for the 21st Century Hero Leader"* (Synergy Press). Mrs. Cureton holds a Bachelor of Science degree in Mathematics from Howard University, a Master of Science Degree in Applied Mathematics and a Post-Masters Certificate in Applied Mathematics from Johns Hopkins University.



If you are interested in hearing **more about Muse** services to the government and private sector, or if you would like to discuss possible teaming arrangements, please call **Ms. Benita Bottom** at (240) 308-7100 x 705 or (301) 486-0321. You may email her at [benita.bottom@muse-technologies.com](mailto:benita.bottom@muse-technologies.com).