

Agile Software Development at the Social Security Administration

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Office of Audit Report Summary

Objective

To determine whether the Social Security Administration (SSA) implemented appropriate controls and practices to manage its Agile software development projects.

Background

The Agile software development methodology uses an iterative approach to deliver solutions incrementally through close collaboration and frequent reassessment. SSA uses Agile development to optimize processing, redesign workflows, reduce manual transactions, and improve program effectiveness and efficiency.

The Office of Management and Budget (OMB) requires that agency information technology (IT) investments “. . . implement an Agile development approach, as appropriate.” OMB also requires that agencies use appropriate measurements “. . . to evaluate the cost, schedule, and overall performance variances of IT projects.” In addition, the *Clinger-Cohen Act* requires that the process for IT acquisitions “. . . provide the means for senior management personnel of the executive agency to obtain timely information regarding the progress of an investment in an information system, including a system of milestones for measuring progress, on an independently verifiable basis, in terms of cost, capability of the system to meet specified requirements, timeliness, and quality.”

Results

SSA implemented some appropriate controls and practices to manage its Agile software development projects. However, we identified opportunities for the Agency to improve its controls, implement additional controls, and mature its use of the Agile methodology. SSA developed flexible Agile development guidance for some areas, but it did not sufficiently mandate, and its quality assurance processes did not enforce, the use of some key Agile best practices. We identified instances where SSA did not follow key Agile development best practices related to delivery of planned work; appropriate development of system requirements, capabilities and features; size and composition of Agile development teams; definition of team policies and other basic practices; lessons learned; human-centered design practices; testing; and peer reviews.

There were instances where SSA did not meet the Agile principle of early and continuous delivery of valuable software to customers. Also, SSA did not ensure data the Agile project management tool provided were reliable. Further, SSA needed to improve Agile training at the team and executive levels. Finally, we identified opportunities for SSA to improve its decisionmaking, gain efficiencies, and better position staff for success using the Agile development methodology.

Improvements in these areas could provide greater benefits from the Agile development methodology, including higher quality software developed faster and at a lower cost.

Recommendations

We made 12 recommendations to revise Agency guidance, policies, and procedures; leverage strategic-level portfolio planning capabilities; create standardized reports to be used for all Agile projects; and institute a program of executive-level Agile coaching.

SSA agreed with all but one of our recommendations. SSA did not agree to strengthen its controls to more effectively enforce implementation of the updated Agile guidance among projects and teams. The Agency stated it has a formal quality assurance process that includes the best practices and artifacts noted as findings in our report. While this process plays an important role, we believe SSA may also be able to use other controls to strengthen its implementation of Agile guidance.