FINDINGS

Strong Executive Leadership: How to Retain Federal Chief Information Officers[1]

Background: Obtaining and retaining qualified personnel to manage Federal information technology systems is a challenge for the Federal government. A number of senior government officials have recommended changing the current salary structure and providing agencies with the authority to provide greater flexibility to workers, especially information technology workers, in order to maintain highly skilled employees and to be able to lure workers from the private sector to serve in the public sector.

Finding 1: CIO positions in the federal government have been experiencing relatively high turnover.[2]

- Ten of the 24 major agencies/departments have had three or four CIOs since the enactment of the CCA in February 1996. One department, Education, has had five.

- The remaining 13 agencies and departments have had one or two CIOs since February 1996.

- Since 1996, several departments and agencies have named "acting" CIOs, some for extended periods of time, due to lengthy recruitment searches.

Finding 2: Roles, reporting relationships, and boundaries of authority among CIOs within large executive agencies and departments are not clearly established.

- Decentralized executive agencies/departments have several component-level organizations that have designated CIOs. The staff of the component-level organizations report to the component-level head. A majority of agencies

---

[1] Section 5125 of the CCA (40 U.S.C. 1425(b)).

[2] Turnover should be expected in CIO positions, and these rates of turnover are not uncommon in the private sector. The challenge it presents is one of maintaining sustained focus and momentum to ongoing IT priority projects as well as to strategic IT direction.

reported not having direct reporting relationships to the agency-wide CIO[3]. This reporting arrangement may reduce the agency-wide CIO's ability to institutionalize department-wide IT management practices and technical standards.

> For example, the Department of Health and Human Services (HHS) has 13 operating divisions that have designated CIOs. According to HHS, four CIOs report to the head of the operating division (top level), four CIOs report to a top deputy (second level), and five report to lower levels of management. None of the CIOs have a direct reporting relationship to the department-level CIO.

Achieving Benefits From Capital Planning and Investment Control[4]

Background: A strong and comprehensive IT capital planning process is necessary to assure that agency IT expenditures receive the executive-level oversight required for confidence that the agency head is executing his or her responsibility in IT investment management as specified in the CCA. In addition, the IT capital planning process provides the mechanism for selecting IT investments as part of the overall IT portfolio that support the agency mission.

Finding 3: IT capital planning and investment control processes have not been fully implemented governmentwide.

•   Seventeen of the 24 agencies and departments have not established a complete and comprehensive IT capital planning and investment control process (CPIC). The agencies' and departments' efforts range from needing improvements in their established processes to developing a process as specified by the CCA.

•   Seven agencies and departments—the Department of Defense, the Environmental Protection Agency, the General Services Administration, the National Aeronautics and Space Administration, the Nuclear Regulatory Commission, the National Science Foundation, and the Department of Veterans Affairs – reported that they had implemented a complete and comprehensive IT CPIC process, with only one – GSA – saying its process needed to be refined and enhanced.

> For example, Agriculture reported that while its has established processes for three phases of capital planning – select, control and evaluate – efforts are under way to improve inconsistent component-level capital planning. Additionally, Agriculture reported that its CIO office has engaged contract support to help review the major investments to determine where improvements need to be made.

---

[3]The Department of Commerce is planning to have component agency CIOs (NOAA, PTO, etc.) report to both their agency heads and to the department CIO.

[4]Section 5122 of the CCA (40 U.S.C. 1422).

The Department of Interior reported that the Y2K problem became that agency's top priority and, as a result, the CCA took a back seat. According to Interior, its CIO Office was not organized until March 2000. However, Interior reported that it has made significant progress in implementing its IT CPIC process.

SBA also reported Y2K as a problem which forced it to use all of its IT resources to sustain routine operations and maintenance. This effort, according to SBA, reduced its resources in other areas including the development of formal IT capital planning procedures.

Finding 4: CIO authority and control in IT investment and capital planning is limited.

- Not all agencies require their IT initiatives to come under agency-wide CIO review or control unless the initiative fits specific threshold requirements which may be based on financial or functional criteria. In addition, agency-wide CIOs often only have direct responsibility for systems that cut across department units. Moreover, those system projects that are under the CIO's control may not line up with those classified as "major" by OMB for those agencies that use this criteria.[5]

- Not all department initiatives are reviewed within a department-wide portfolio. Moreover, not all initiatives come under CIO technical review at some level of the review process, although for most agencies, "major" IT initiatives do. This may impact the effectiveness of the capital planning and investment process as well as the impact of IT on the agency's ability to achieve its mission successfully and efficiently.

- Several agencies reported they are initiating efforts to coordinate component and agency-wide practices or to ensure the implementation of sound capital planning and investment processes within their component levels.

- In many cases, major department CIOs do not have control over IT expenditures which do not meet the department-wide threshold requirements for capital planning.

- Some agencies reported inconsistencies in their capital planning and investing processes across their organizational components.

    For example, in the Department of Transportation, the two largest organizations -- the Federal Aviation Administration and the U.S. Coast Guard -- use their own agency capital

---

[5]Memo (M-97-02) sent on October 25, 1996, by then OMB Director Franklin D. Raines to heads of executive departments and agencies providing direction regarding investments in major information technology systems defines "major information system" as a system "that requites special management attention because of its importance to an agency mission; its high development operating, or maintenance costs; or its significant role in the administration of agency programs, finances, property, or other resources."

planning and investment control processes which DOT asserts account for about 90 percent of DOT's total IT expenditures.

Finding 5: The quality of data for the assessments of major IT investments and initiatives for decision making and for measuring progress is questionable.

• A majority of the agencies and departments reported that the quality of the data for making investment decisions and measuring progress needs improvement.

• Many of these agencies reported that they had begun using, or plan to use, the Information Technology Investment Portfolio System (ITIPS) to better manage their IT investments. Agencies reported that ITIPS helps them to collect and track investment data needed to effectively select and control IT investments.

> For example, Agriculture reported that it believes it has improved the quality of the data used for decision making, but more improvement is needed before there will be consistency across the whole agency. As for the quality of the data for measuring progress, Agriculture also reported that it is unsure of its accuracy, reliability, or currency, but will use a contractor to aid in this evaluation effort.

> In another example, Interior reported that a major obstacle to instilling confidence in cost data is that its Federal budgeting and accounting systems do not adequately support cost accounting information related to IT costs.

Managing IT for Overall Performance and Results[6]

Background: Federal CIOs are responsible for managing IT investments to demonstrate cost effectiveness and efficiencies. In addition, IT investment strategies and spending should be tightly aligned with expected improvements in mission performance and results. The inability to track IT development and implementation effectively can result in a failure to identify cost and schedule overruns and the failure of IT initiatives to meet performance expectations. Management plans and reporting are critical to providing continuity in planning from year to year and in measuring the contribution of IT to mission performance across the agency.

Finding 6: Although most agencies reported the linking of IT system

---

[6]Section 5123 of the CCA (40 U.S.C. 1423).

performance to mission performance through annual GPRA plans and reports, these links were often too broad to provide sufficiently robust measures of IT impact on overall strategic performance.

- Processes necessary for effective tracking of IT development and implementation are weak.

> Five agencies reported needing great improvement in the quality of data necessary for tracking IT development and implementation.

> Fourteen agencies reported the use of milestones in monitoring the progress of IT projects and four agencies reported not using milestones.

Finding 7: Most agencies reported that they have not developed IT management plans that include accomplishments, progress, and identification of areas requiring attention.[7]

- Sixteen agencies and departments neither developed nor submitted IT management reports that included accomplishments, progress, and identification of areas requiring attention.

- One fourth of the agencies reported significant deviations of projects from cost or schedule goals laid out in agency strategic information resource management plans.

> For example, Agriculture reported that, while its CIO had not developed agency-wide IT management reports for its agency head, the CIO plans to submit a separate IT report.

> In another example, the Department of Justice has produced an Annual Accountability Report for the last two years in which it describes the progress toward goals laid out in its Strategic Plan. However, Justice agrees that an annual assessment of progress will be useful and intends to modify its IT investment management program to conduct and document annual evaluations of agency progress.

Using IT to Improve Work Processes[8]

Background: The CCA requires re-engineering analyses of administrative and business processes either prior to or as part of major systems investment decision-making. Investments made in updating systems without reconsidering the underlying processes risk producing less than optimal returns on investment.

---

[7]Section 5127 of the CCA (40 U.S.C. 1427).

[8]Section 5123 of the CCA (40 U.S.C.1423).

Finding 8: Fewer than half of the agencies reported requiring process reengineering of mission-related processes before making significant IT investment in support of those missions.

- Twenty-one of the 24 agencies reported that work processes are being improved or reengineered.

- Eighteen of the agencies claimed that some or all of its top 10 IT investments included work process improvement or reengineering.

- A few agencies reported that they are in the process of analyzing their mission or are just starting to perform business process reengineering.

- Some departments and agencies have initiated major IT efforts to overhaul services and citizen access. Agencies reporting such efforts include Agriculture, the Department of Education, EPA, Federal Emergency Management Agency, NRC, and the Department of Treasury.

  > For example, Agriculture reported that business process reengineering remains a cornerstone of its implementation of the CCA and its IT capital planning process. Prior to design and deployment of major IT investments throughout Agriculture in compliance with the CCA and with Raines Rules[9], its CIO conducts business reviews as a necessary management tool.

- However, fewer than half of the agencies reported requiring process reengineering of mission-related processes before making significant IT investment in support of those missions.

  > Although 21 agencies reported that work processes were being improved or reengineered, only about half of these noted that this was a required activity and few specifically noted that these activities occurred prior to funding IT investments as required by the CCA.

- Many agencies provided weak support for the premise that they are engaging in work process improvement or reengineering.

- Examples of IT investments often noted that work process improvements resulted from IT investments rather than as a precursor to funding the investment. For example, Justice, the Department of Labor, GSA, and NRC provided IT investment examples that appeared to show reengineered processes as a result of the IT investment.

- Other IT investment examples cited by some agencies included automation efforts with no mention of work process redesign.

---

[9]Raines Rules refers to OMB Memo (M-97-02) sent on October 25, 1996, by then OMB Director Franklin D. Raines.

- Several agencies pointed to their compliance with Raines Rules as evidence that they have performed mission analysis and work process redesign. However, compliance with Raines Rules only requires that the agency answer whether work redesign has begun – not whether the work redesign has been completed.

> For example, Education reported that it has analyzed some of its missions and has begun to revise its mission-related and administrative processes. Interior reported that business process reengineering efforts are in various stages of development in several of its bureaus.

Building Large IT Systems Incrementally Through Modular Contracting[10]

Background: The CCA authorizes Federal agencies to adopt modular approaches to building and acquiring information systems. This is expected to produce smaller, more manageable projects that can be examined in shorter time frames for expected cost and benefit results. It also encourages the use of pilots and prototyping before full scale development and implementation.

Finding 9: Modular contracting is still not applied consistently in major IT investments government-wide.

- Eight agencies reported still being in the process of implementing modular contracting.

---

[10]Section 5202 of the CCA (see section 38 of the Office of Federal Procurement Policy Act (41 U.S.C. 434)).