The Information Technology Organization Needs to Implement a Competency Database to Efficiently Manage Its Workforce

September 21, 2012

Reference Number: 2012-20-107
THE INFORMATION TECHNOLOGY ORGANIZATION NEEDS TO IMPLEMENT A COMPETENCY DATABASE TO EFFICIENTLY MANAGE ITS WORKFORCE

Highlights

Final Report issued on September 21, 2012

Highlights of Reference Number: 2012-20-107 to the Internal Revenue Service Chief Technology Officer.

IMPACT ON TAXPAYERS

The IRS Information Technology (IT) organization partners with leadership to define and implement human capital policy and guidance that ensures employees are supported to deliver outstanding service. Without effective human capital management, which includes determining the critical skills and competencies that will be needed to deliver IT services, the IRS IT organization risks being unable to effectively and efficiently achieve its mission of delivering services and solutions that drive effective tax administration.

WHY TIGTA DID THE AUDIT

This audit is included in TIGTA’s Fiscal Year 2012 Annual Audit Plan and addresses the major management challenge of Human Capital. The overall objective of this review was to evaluate the IRS IT organization’s workforce planning efforts to ensure that it has the human capital needed to deliver IT services and solutions that drive effective tax administration.

WHAT TIGTA FOUND

Although the IRS IT organization has a process for identifying its resource needs and gaps for completing its priority work, the process relies on management’s knowledge and judgment about each individual’s skills and does not consider resource needs for other mission-related work. Additionally, there is no system within the IRS IT organization that provides information about the skills and competencies associated with the various occupations. Without a competency database, management cannot efficiently and effectively manage the skills of its workforce.

The IRS Human Capital Office developed, tested, and successfully implemented an automated tool that would help with assessing the skills and competencies and readily link that information with training. TIGTA believes that the IRS IT organization should implement this tool to help with its overall skills management. The IRS IT organization will benefit from using the automated assessment tool because it will reduce management’s burden, it is a cost-efficient means for identifying skills gaps, and it allows for quick and easy access to employee data for development and training purposes.

WHAT TIGTA RECOMMENDED

TIGTA recommended that the Chief Technology Officer 1) develop an inventory list of the key (or important) skills needed for each IT position and differentiate the skills by proficiency level, and 2) implement a repeatable process for assessing employees’ skills. In addition, the IRS IT organization should consider using the Assess 4 Success process and tools developed by the IRS Human Capital Office.

IRS management agreed with the recommendations and is in the process of developing an IT Workforce Tool that will gather technical competencies, skills, and areas of expertise, with proficiency-level ratings from the results of each employee self-assessment. Management plans to use this IT Workforce Tool for employee self-assessments and ongoing gap analysis to meet its strategic planning objectives. They considered the Assess 4 Success tool; however, it lacked some of the assessment information and analysis capabilities that the new system will offer. The IT Workforce Tool, along with the IRS’s IT Integrated Release Plan, will provide expanded skills information by critical program areas related to the future demand and detailed gap analysis assessments.
September 21, 2012

MEMORANDUM FOR CHIEF TECHNOLOGY OFFICER

FROM: Michael E. McKenney
Acting Deputy Inspector General for Audit

SUBJECT: Final Audit Report – The Information Technology Organization Needs to Implement a Competency Database to Efficiently Manage Its Workforce (Audit # 201220017)

This report presents the results of our review of the Internal Revenue Service Information Technology organization’s workforce planning efforts to ensure that it has the human capital needed to deliver information technology services and solutions that drive effective tax administration. This audit is included in the Treasury Inspector General for Tax Administration Fiscal Year 2012 Annual Audit Plan and addresses the major management challenge of Human Capital.

Management’s complete response to the draft report is included as Appendix V.

Copies of this report are also being sent to the Internal Revenue Service managers affected by the report recommendations. Please contact me at (202) 622-6510 if you have questions or Alan R. Duncan, Assistant Inspector General for Audit (Security and Information Technology Services), at (202) 622-5894.

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1 On July 1, 2012, the Modernization and Information Technology Services organization changed its name to the Information Technology organization.
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Abbreviations

FTE  Full-Time Equivalent
FY   Fiscal Year
HCAAF Human Capital Assessment and Accountability Framework
HCMB Human Capital Management Branch
IRS  Internal Revenue Service
IT   Information Technology
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Background

The Human Capital Assessment and Accountability Framework (HCAAF) identifies five human capital systems that together provide a consistent, comprehensive representation of human capital management for the Federal Government. The HCAAF links human capital management to the merit system principles and other civil service laws, rules, and regulations. The establishment of the HCAAF fulfills the Office of Personnel Management Chief Human Capital Officers Act of 2002\(^1\) to design systems and set standards, including appropriate metrics, for assessing the management of human capital by Federal agencies.\(^2\)

One of the components identified by the HCAAF is Talent Management. Talent Management focuses on agencies having quality people with the appropriate competencies in mission-critical activities. Talent Management addresses competency gaps, particularly in mission-critical occupations, by implementing and maintaining programs to attract, acquire, promote, and retain quality talent. This is accomplished through workforce planning.

Workforce planning is a systematic process for identifying the human resources required to meet an agency’s mission and goals, and developing strategies to meet those requirements. According to the Office of Personnel Management,\(^3\) an effective workforce plan includes identifying the human capital required to meet organizational goals, conducting analysis to identify competency gaps, developing strategies to address human capital needs and close competency gaps, and ensuring the organization is appropriately structured. An agency should approach workforce planning strategically and in an explicit, documented manner. The workforce plan should link directly to the agency’s strategic and annual performance plans and be used to make decisions about structuring and deploying the workforce. One key element of workforce planning requires a workload analysis to determine the size of the workforce needed to meet organizational goals and to identify gaps between current and future workforce needs before the new budget execution cycle.

The Internal Revenue Service (IRS) Information Technology (IT) organization\(^4\) is striving to achieve the objective to “make the IRS the best place to work in government,” but managing the drivers of change becomes a workforce planning challenge due to the following factors:

\(^1\) 5 U.S.C 1103 (c) and implemented under subpart b of 5 CFR part 250.

\(^2\) See Appendix IV for a glossary of terms.

\(^3\) The Office of Personnel Management Human Capital Assessment and Accountability Framework Resource Center – Workforce Planning (Strategic Alignment System), dated September 2005.

\(^4\) On July 1, 2012, the Modernization and Information Technology Services organization changed its name to the IT organization.
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- Ability to compete as an employer in the external marketplace, as well as improve upon hiring goals and processes.
- Continued improvement in tracking and forecasting workforce needs and changes.
- Continued improvement of employee engagement, and identifying and developing its future leaders of tomorrow.
- Ability to measure and respond to the results of its human resource plans and processes.

The IRS IT organization’s Human Capital Management Branch (HCMB) plans and manages human capital programs supporting the organization and consists of the following four sections: Performance, Labor Relations, and Reorganization; Transition Services; Hiring and Workforce Planning; and Workforce Reporting. The Hiring and Workforce Planning section assists customers in the formulation and execution of strategic recruitment and retention programs, and provides for the planning and execution of a workforce planning program that provides key data and trending relative to hiring, attrition, workforce migration, and other workforce demand changes. The Workforce Reporting section serves as the consultant for workforce planning by providing advice, assistance, and tools to help management identify and address critical workforce competency and skills needs. The Embedded Human Resources Branch, within the Hiring and Workforce Planning section, assists with the execution of the recruitment and workforce strategies developed to address critical competency and skills gaps identified through extensive workforce analyses.

The IRS IT organization’s Strategy and Planning function collaborates with IRS IT organization leadership to provide policy, direction, and administration of essential programs, including strategy and capital planning, strategic planning and performance measurement, financial management services, vendor and contract management, requirements and demand management, and risk management. Additionally, the Strategy and Planning function established a repeatable IT organization Resource Planning activity that will document the IT organization’s resource contention issues for IRS senior leadership and outline opportunities available to mitigate resource contention risk. The first activity identified risks for Fiscal Years (FY) 2011 through 2013.

As of May 2012, the IRS IT organization employed more than 7,200 people and almost 2,000 contractors. Figure 1 illustrates some of the more common positions within the organization categorized between management and front-line employees.
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Figure 1: Examples of Some Common Positions Within the IRS IT Organization (count by managers and employees)

<table>
<thead>
<tr>
<th>Position Description</th>
<th>Number of Management Employees</th>
<th>Number of Front-Line Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT Specialist</td>
<td>928</td>
<td>4,561</td>
</tr>
<tr>
<td>Computer Engineer</td>
<td>57</td>
<td>0</td>
</tr>
<tr>
<td>Project Manager</td>
<td>0</td>
<td>56</td>
</tr>
<tr>
<td>Program and Management Analyst</td>
<td>355</td>
<td>356</td>
</tr>
</tbody>
</table>


This review was performed at the IRS National Headquarters office in Washington D.C., and New Carrollton, Maryland, during the period November 2011 through July 2012. We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objective. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective. Detailed information on our audit objective, scope, and methodology is presented in Appendix I. Major contributors to the report are listed in Appendix II.
Results of Review

The Information Technology Organization Implemented a Process to Identify the Human Capital Resources Needed for High Priority Projects

The Internal Revenue Manual provides guidance and standards for establishing workforce planning. Similar to the Office of Personnel Management model, Figure 2 shows four phases of the IRS Strategic Workforce Planning model.

**Figure 2: IRS Strategic Workforce Planning Model for Human Resources Management**

<table>
<thead>
<tr>
<th>Phase I</th>
<th>Agency Strategic Direction</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Determine future functional requirements of the workforce through the agency's strategic planning and budgeting process.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Phase II</th>
<th>Workforce Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Analyze supply: determine current workforce profile.</td>
</tr>
<tr>
<td></td>
<td>Analyze demand: develop future workforce profile.</td>
</tr>
<tr>
<td></td>
<td>Analyze gaps: identify discrepancy between supply and demand analyses.</td>
</tr>
<tr>
<td></td>
<td>Develop strategy: recommend solutions to reduce shortages and surpluses in the number of staff and needed skills.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Phase III</th>
<th>Implement Workforce Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Communicate workforce plan.</td>
</tr>
<tr>
<td></td>
<td>Implement strategies to reduce gaps and surpluses.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Phase IV</th>
<th>Monitor, Evaluate, and Revise</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Assess what's working and what's not working.</td>
</tr>
<tr>
<td></td>
<td>Make adjustments to the plan.</td>
</tr>
<tr>
<td></td>
<td>Address new organizational issues that affect the workforce.</td>
</tr>
</tbody>
</table>


Phase II, or the Workforce Analysis phase, consists of the following activities:

1. Supply Analysis – An analysis of IRS demographics and identification of IRS employment trends. It provides both descriptive and forecasting databases which describe how turnover will affect the workforce in the absence of management action.
2. Demand Analysis – A forecast of the type of skills, quantity, and location of the workforce needed in the organization over the next three to five years. Examples include:
   a) scanning the external environment for trends, issues, and problems that may affect the IRS; b) examining internal business trends that may provide additional insight into workforce changes; and c) reviewing the IRS business environment and prior year use of resources.

3. Gap Analysis – The identification of future gaps and surpluses within the IRS with particular emphasis on gaps in critical skills and in the identification of “at risk” occupations. During this step, IRS management will address:
   - The types of positions that need to be filled.
   - Whether training or re-training can help.
   - Whether contractors can help.
   - Whether to hire new employees.

4. Strategy Development – The development of potential strategies that resolve issues surfaced during the analysis of demand and supply data (gaps, surpluses, critical skills issues, and “at risk” occupations).

To address the Supply Analysis activity, the IRS IT organization’s HCMB prepared the IRS IT organization’s Human Capital Hiring Plan. The Hiring Plan provides workforce data to help IRS IT organization management understand more about the composition of its workforce supply; to identify and track patterns of migration, attrition, and hiring; and to gather information about the external environment so the IRS IT organization can better understand the markets in which it competes for labor. For example, the IRS IT organization analyzed its workforce distribution and identified that 64 percent of the workforce is concentrated among five cities. Using this information, the HCMB uses various research tools to obtain demographic information on the educational background of individuals living in these five cities, identify average salaries, consider the local unemployment rate, and identify its top job competitors in the area. Having this kind of environmental information allows the IRS IT organization to understand gains, losses, and how to attract and retain talent.

In a prior Treasury Inspector General for Tax Administration report, we recommended that the Chief Information Officer support the Director, Management Services, to work with offices throughout the IRS IT organization to identify the human capital demand for existing and future operations. In response to this recommendation, management implemented a process in August 2010 to identify the risks for FYs 2011 through 2013. On December 28, 2010, IRS IT

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management closed the recommendation stating it conducted an extensive study to determine any human resource contention risks related to its staffing demand forecasts and developed mitigation strategies for areas of risk as appropriate. Management adopted this study (hereafter referred to as the Resource Contention Process) and repeated the process several times throughout FY 2011 (December 2010, February 2011, and June 2011).

According to IRS IT organization management, the Chief Technology Officer requested an enterprise-wide look at the IRS IT organization’s human capital to ensure it had the workforce skills and quality needed to deliver priority projects, especially for FY 2012. The Business Performance Review document further described the purpose of the Resource Contention Process as understanding resource contention risk for priority work through FY 2013 and developing and monitoring plans to mitigate the risks. IRS IT organization management stated that addressing the staffing demands through the Resource Contention Process provided each IRS IT organization an opportunity to review its program priorities across the IRS and address staffing concerns. The Resource Contention Process data collection instruments provided each Associate Chief Information Officer requested information, such as:

- The positions and/or skills needed, e.g., testers or programmers.
- The anticipated quarter of the Full-Time Equivalents (FTE) need.
- The name of the project needing the FTEs, including the fiscal year.
- The gap between the available and needed FTEs.
- The mitigation strategy or how the skill-set needs for a specific project will be filled. Available strategies include: 1) accepting the risk; 2) training; 3) hiring; 4) reducing project scope, time, or cost; or 5) using nonlabor strategies, i.e., hiring contractors.

IRS IT organization management completed its last Resource Contention Process data call to identify resource gaps in June 2011 and reported a reduction in the resource contention risk (of 281 FTEs) from 565 FTEs in the first quarter of FY 2011 to 284 FTEs by the third quarter of FY 2011. Hiring accounted for the largest proposed mitigation to assist with reducing the resource contention risk. The next highest proposed mitigation strategy used by IRS IT organization management was risk acceptance. IRS IT organization management acknowledges the importance of monitoring the mitigation strategy to ensure the total numbers mitigated by “risk acceptance” did not pose a greater enterprise-wide risk to completing other priority work. Further, IRS IT organization management explained it evaluated the success of identifying the right people to fill the skills gaps based on the completion of projects requiring the skillset. If the mitigation strategy was not successful, then the skills gap would remain.

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6 Accepting risk means the skill-set gap can be managed with minimal project impact.
Completing the Resource Contention Process helped IRS IT organization management mitigate its resource contention risk relating to its priority work and ensured delivery of FYs 2011 and 2012 projects. During our audit, IRS IT organization management advised us of plans to evolve and simplify the Resource Contention Process. The simplified process includes reviewing the processes and technologies that could reduce human capital resource needs.

**A Competency Database Will Help Management Effectively and Efficiently Manage Employees’ Skills**

Although the IRS IT organization has a process for identifying its resource needs and gaps for completing its priority work, the process primarily relies on management’s knowledge and judgment about each individual’s skills and does not consider resource needs for other mission-related work. While there are some automated personnel systems that provide IRS IT organization management with information about its employees, e.g., certifications obtained, educational holdings, etc., there currently is not a system within the IRS IT organization that provides information about skills and competencies associated with the various occupations. Without a competency database, IRS IT organization management cannot efficiently and effectively manage the skills of the workforce.

According to an article written by Forrester Research, Inc., IT departments tend to focus too much attention on technology and processes and overlook their most valuable asset — their people. When managed properly, IT people will continue to grow into the skills and roles that fit the current and future needs of the organization. If poorly managed, the IT recruiting staff will be among the busiest in the company, and its reputation will suffer.

Skills management helps to ensure retention of the people with the right skills. Forrester Research, Inc. defines skills management as, “The process of matching the current and future demand for workforce skills by forecasting the talents required and crafting suitable recruiting, training, mentoring, and staffing contingency efforts.”

One of the first steps suggested by Forrester Research, Inc. is completion of a skills catalog, i.e., a list of the key skills needed by the organization and the roles that require them. Also, because roles are filled by people with varying proficiency levels, it is important for the skills catalog to provide information regarding the characteristics that differentiate the proficiency levels for each skill. The skills catalog provides the basis for measuring the “supply” of the key skills within the organization.

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The IRS IT organization uses a tool called the Leadership Succession Review to assist with identifying its organizational “bench strength” and recruitment and training needs for leadership positions. The assessment tool, completed by both the individual and the individual’s manager, addresses four leadership competencies and 13 supporting behaviors. Once the assessment is completed, the individual has a one-on-one discussion with his or her manager to identify any leadership competency gaps and ideas for further development. The IT organization also uses the results from these assessments to identify candidates for IRS leadership training courses. The Leadership Succession Review tool helps the IRS IT organization with succession planning for its workforce leadership talent only. It does not help with identifying technical skills and competencies needed by the workforce to deliver its work.

We analyzed the As-Built Architecture, a data file which provides information about the computer programming languages associated with the various IRS applications, to further illustrate the importance of why the IRS IT organization should use a skills catalog and competency assessment for its technical skills. This file identified 395 IRS applications using 120 different computer programming languages. Figure 3 provides a sampling of applications that affect taxpayer accounts and the associated programming languages used to operate the application.
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**Figure 3: Applications That Affect Taxpayer Accounts and the Programming Languages Used to Operate Them**

<table>
<thead>
<tr>
<th>Application Name</th>
<th>Application Definition</th>
<th>Programming Languages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounts Management System</td>
<td>A system that allows users to update taxpayer accounts, view history and comments from other systems, and access a variety of case processing tools without leaving the Accounts Management System. The Wage and Investment Division owns this system.</td>
<td>1. JAVA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. JAVA Script</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. JAVA Server Pages</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. SQL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5. XML</td>
</tr>
<tr>
<td>Automated Collection System</td>
<td>A telephone contact system through which telephone assistors collect unpaid taxes and secure tax returns from delinquent taxpayers who have not complied with previous notices. The Small Business/Self-Employed Division owns this system.</td>
<td>1. DYLAKOR</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. IBM ALC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. IBM COBOL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. SQL</td>
</tr>
<tr>
<td>Criminal Investigation Management Information System</td>
<td>A database that tracks the status and progress of criminal investigations and the time expended by special agents. Criminal Investigation owns this system.</td>
<td>1. ASP.NET</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. HTML</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. JAVA Script</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. TRANSACT SQL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5. VB.NET</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6. XML</td>
</tr>
<tr>
<td>Automated Underreporter</td>
<td>A system that generates cases to the IRS campuses by matching information returns, i.e., Forms 1099 series, Forms W-2, <em>Wage and Tax Statement</em>, against data reported on individual tax returns. The Wage and Investment Division owns this system.</td>
<td>1. COBOL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Oracle Forms</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Oracle PL-SQL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. Oracle Reports</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5. Pro*C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6. SQL</td>
</tr>
<tr>
<td>Modernized E-File</td>
<td>A system that develops the modernized, web-based platform for filing approximately 330 IRS forms electronically. The Wage and Investment Division owns this system.</td>
<td>1. Business Objects</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. HTML</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. JAVA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. SQL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5. XML</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6. XSL</td>
</tr>
</tbody>
</table>

*Source: IRS As-Built Architecture website.*

Figure 3 only identifies a sampling of the programming languages that some IRS IT organization employees need to be proficient in. When considering the IRS IT organization consists of more than 7,200 employees and comprises seven different program offices assigned to support the IRS’s business and functional needs, having a competency database in place would help IRS IT
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organization management effectively manage the skills of the employee workforce. Having such a tool would also make it easier for IRS IT organization management to ensure the technical training it provides helps address a skills gap or increases a skills proficiency level. However, one IT executive expressed an opinion that managers are already familiar with the skills of their employees and, therefore, are not supportive of implementing such a tool.

During our review, the IRS IT organization’s HCMB provided us with its FY 2012 through FY 2014 human capital action items. One of the items noted in the plan included researching a skills inventory database for future use within the IRS IT organization; however, the action item was marked completed as of June 2011. When we inquired about documentation showing the results of its research, HCMB management could not locate any documentation. Instead, they offered a written explanation for the closure of the action item due to the pending results of an initiative undertaken by the IRS Human Capital Office.

We subsequently contacted the IRS Human Capital Office to learn about the status of its competency database initiative called the Assess 4 Success (this is an IRS-wide initiative for identifying and assessing core technical competencies using the Enterprise Learning Management System/Plateau Talent Management System). Representatives from the Human Capital Office advised us that they completed the pilot program with the Appeals organization in September 2010. The results of the pilot program were shared with members of the Human Capital Board (of which the IT organization is a member) in February 2011. Some of the reported successes include:

- Systemically identifying skills gap and creating a skills development plan.
- Providing a link between technical competencies and course offerings for consideration by the manager.
- Separate assessments by position and grade level.
- Immediate results provided to managers (versus a prior manual compilation process which took months to complete.)

The IRS Human Capital Office has been actively marketing implementation of this tool to the other IRS business units. During an April 2012 meeting with the IRS IT organization’s HCMB, we were advised the HCMB recently learned the Assess 4 Success pilot had been completed. However, documentation we received from the IRS Human Capital Office revealed that it had an ongoing relationship with the IRS IT organization’s Learning and Education Branch regarding the Assess 4 Success tool dating back to December 2010.

In June 2012, the IRS IT organization’s Learning and Education Branch announced to management and employees that a training assessment for FY 2013 would need to be completed. The announcement mentioned the ease of completing the assessment by following these simple steps: 1) identify your skills gap, 2) prioritize training needs, and 3) consider how to apply skills on the job. Because IRS IT organization management does not have a system for capturing the
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skills and proficiency levels associated with the various roles, responsibilities, and occupations, employees will need to self-identify their skills gaps and training which may or may not align with what is needed to accomplish program goals.

Because the IRS Human Capital Office developed, tested, and successfully implemented an automated tool that would help with assessing skills competencies and readily link that information with training, we believe IRS IT organization management should implement the Assess 4 Success tool to help with its overall skills management. The IRS IT organization will benefit from using the automated assessment tool because it will reduce the manager’s burden, it is a cost-efficient means for identifying gaps, and it allows for quick and easy access to employee data for development and training purposes.

Recommendations

The Chief Technology Officer should:

**Recommendation 1:** Develop an inventory list of the key (or important) skills needed for each IRS IT organization position and differentiate the skills by proficiency level.

*Management’s Response:* The IRS agreed with the recommendation and is currently in the process of developing an IT Workforce Tool that will gather technical competencies, skills, and areas of expertise, with proficiency-level ratings from the results of each employee self-assessment. The initial pilot is scheduled for October 2012.

**Recommendation 2:** Implement a repeatable process for assessing employees’ skills. IRS IT organization management should consider using the Assess 4 Success process and tools developed by the IRS Human Capital Office.

*Management’s Response:* The IRS agreed with the recommendation stating its IT Workforce Tool will require employee self-assessments and ongoing gap analysis to meet its strategic planning objectives. Although the IRS considered the Assess 4 Success tool, it lacked some assessment information and analysis the new system will offer. This new IT Workforce Tool, coupled with the IT Integrated Release Plan, will provide expanded skills information by critical program areas related to the future demand and detailed gap analysis assessments.
Our overall objective was to evaluate the IRS IT organization’s workforce planning efforts to ensure that it has the human capital needed to deliver IT services and solutions that drive effective tax administration. To accomplish our objective, we:

I. Assessed actions taken by the IRS IT organization to determine the competencies (capabilities) needed by the current and future workforce to deliver IT services and solutions for existing systems and future projects.
   
   A. Interviewed personnel from the HCMB and Strategy and Planning function, and reviewed documentation to determine the process used to identify the competencies (capabilities) and composition (demographics) of the current workforce.
   
   B. Interviewed personnel, reviewed documentation, and evaluated processes used by the IRS IT organization to identify and document the competencies needed to deliver future IT services and solutions.
   
   C. Evaluated how the IRS IT organization identified the demographics associated with its current workforce.

II. Assessed actions taken by the IRS IT organization to determine the size of the workforce needed to deliver the IT services and solutions used to meet its goals and to identify gaps between current and future workforce needs. This included interviewing Strategy and Planning function personnel to understand how they identified and monitored resource contention risks as it related to the Resource Contention Process.

III. Assessed actions taken by the IRS IT organization to analyze and develop a plan of action to address the identified competency gaps.

   A. Interviewed Strategy and Planning function and HCMB personnel, and reviewed supporting documentation to determine how select mitigation strategies were implemented.
   
   B. Reviewed the resource contention data provided by the Strategy and Planning function to identify the number of times the different risk mitigation strategies were used.

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1 See Appendix IV for a glossary of terms.
C. Identified how the HCMB and Strategy and Planning function monitored and measured their actions to address which skills gaps were successful.

**Internal controls methodology**

Internal controls relate to management’s plans, methods, and procedures used to meet their mission, goals, and objectives. Internal controls include the processes and procedures for planning, organizing, directing, and controlling program operations. They include the systems for measuring, reporting, and monitoring program performance. We determined the following internal controls were relevant to our audit objective: the Office of Personnel Management’s HCAAF, which includes the policies for workforce planning. We evaluated these controls by interviewing IRS IT organization management from the Strategy and Planning function and the HCMB, reviewing policies and procedures outlined in the Internal Revenue Manual, and reviewing relevant supporting documentation.
Appendix II

Major Contributors to This Report

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Appendix III

Report Distribution List

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Audit Liaison: Director, Risk Management Division  OS:CTO:SP:RM
### Glossary of Terms

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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<tr>
<td>As-Built Architecture</td>
<td>Provides the relationships between elements within each domain linking applications to the technology platforms that host the applications.</td>
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<tr>
<td>Assess 4 Success</td>
<td>A process using automated tools for assessing competencies associated with identified occupations, identifying gaps, and creating a plan to close the gaps. The assessment tool is completed by both the employee and the employee’s manager.</td>
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<tr>
<td>Attrition</td>
<td>The loss of employees due to retirement, separation, etc.</td>
</tr>
<tr>
<td>Bench Strength</td>
<td>The competence and number of employees ready to fill vacant leadership and other positions.</td>
</tr>
<tr>
<td>Campus</td>
<td>The data processing arm of the IRS. The campuses process paper and electronic submissions, correct errors, and forward data to the Computing Centers for analysis and posting to taxpayer accounts.</td>
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<tr>
<td>Competency</td>
<td>An observable, measurable set of skills, knowledge, abilities, behaviors, and other characteristics an individual needs to successfully perform work roles or occupational functions. Competencies are typically required at different levels of proficiency depending on the specific work role or occupational function. Competencies can help ensure individual and team performance aligns with the organization’s mission and strategic direction.</td>
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<tr>
<td>Full-Time Equivalent</td>
<td>A measure of labor hours in which one FTE is equal to eight hours multiplied by the number of compensable days in a particular fiscal year.</td>
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The Information Technology Organization Needs to Implement a Competency Database to Efficiently Manage Its Workforce

<table>
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<tr>
<th>Term</th>
<th>Description</th>
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<tr>
<td>Human Capital</td>
<td>Defined by the National Academy of Public Administration as the “identification of competencies and skills needed to realize an organization’s mission and operating goals.” According to the Government Accountability Office, acquiring and developing staffs whose size and skills meet agency needs is one of the most pervasive challenges now facing the Federal Government.</td>
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<tr>
<td>Migration</td>
<td>When employees move either from an IRS IT organization to another IRS business unit or move within the IT organization.</td>
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<tr>
<td>Resource Contention</td>
<td>Occurs when multiple projects have the same skill-set needs, but there are not enough resources available to fill the total skill-set needs.</td>
</tr>
<tr>
<td>Resource Contention Process</td>
<td>An extensive study to determine any resource contention risks related to the organization’s staffing demand forecasts.</td>
</tr>
<tr>
<td>Workforce Planning</td>
<td>A process whereby a strategic plan is developed which sets the organization’s objectives for competency development and workforce activities. These objectives are supported by workforce allocation with each organizational unit to satisfy both unit needs and strategic objectives. The workforce planning process fundamentally involves identifying the gap between the existing workforce supply and the future workforce competency needs and position requirements based on projected workload and strategic objectives. The plan may also enumerate or recommend closing gap strategies and/or options for the Senior Leadership Team.</td>
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Management’s Response to the Draft Report

MEMORANDUM FOR DEPUTY INSPECTOR GENERAL FOR AUDIT

FROM: Terence V. Milholland
Chief Technology Officer

SUBJECT: Draft Audit Report – The Information Technology Organization Needs to Implement a Competency Database to Efficiently Manage Its Workforce (Audit # 2012-25017) (e-mail: # 2012-04738)

SEP 1, 2012

Thank you for the opportunity to review your draft audit report and discuss earlier draft report observations with the audit team.

I appreciate your recognition that the Internal Revenue Service (IRS) Information Technology organization is striving to achieve the objective to “make the IRS the best place to work in government.” We are collaborating with our IT leadership to provide policy direction and administration of essential programs including financial management services, and human capital planning.

We are committed to continuously improving our processes. We value your continued support and the assistance and guidance your team provides. If you have any questions, please contact me at (202) 222-0800 or Andrea Greene-Kronen at (202) 283-3427.

Attachment
Attachment

Draft Audit Report - The Information Technology Organization Needs to Implement a Competency Database to Efficiently Manage Its Workforce (Audit # 2012-0617) (e-trak #2012-34736)

RECOMMENDATION #1: Develop an inventory list of the key (or important) skills needed for each IRS IT organization position and differentiate the skills by proficiency level.

CORRECTIVE ACTION #1: We agree with your recommendation to develop an inventory list of the key skills needed for each IT position and differentiate the skills by proficiency level. We are currently in the process of developing an IT Workforce Tool that will gather technical competencies, skills and areas of expertise, with proficiency level ratings from the results of each employee self-assessment. The initial pilot is scheduled for October 2012.

IMPLEMENTATION DATE: October 1, 2012

RESPONSIBLE OFFICIAL: Director Management Services

CORRECTIVE ACTION MONITORING PLAN: We enter accepted corrective actions into the Joint Audit Management Enterprise System and monitor them on a monthly basis until completion.

RECOMMENDATION #2: Implement a repeatable process for assessing employees' skills. IRS IT organization management should consider using the Assess 4 Success process and tools developed by the IRS Human Capital Office.

CORRECTIVE ACTION #2: We agree with your recommendation to use the skills information from Recommendation 1 to begin a repeatable process for assessing employees' skills. Our IT Workforce Tool will require employee self-assessments and on-going gap analysis to meet our strategic planning objectives. Although we considered Assess 4 Success, it lacked some assessment information and analysis the new system will offer. This new IT Workforce Tool, coupled with our IT Integrated Release Plan will provide expanded skills information by critical program areas related to the future demand and detailed gap analysis assessments.

IMPLEMENTATION DATE: October 1, 2012

RESPONSIBLE OFFICIAL: Director Management Services

CORRECTIVE ACTION MONITORING PLAN: We enter accepted corrective actions into the Joint Audit Management Enterprise System and monitor them on a monthly basis until completion.