

SPECIAL
REPORT

DEVELOPING AN EFFECTIVE INTERNAL AUDIT TECHNOLOGY STRATEGY

SEPTEMBER 2012



AUDIT EXECUTIVE
CENTER

DISCLAIMER

Copyright © 2012 by The Institute of Internal Auditors (IIA) located at 247 Maitland Ave., Altamonte Springs, Fla., 32701, U.S.A. All rights reserved. Published in the United States of America. Except for the purposes intended by this publication, readers of this document may not reproduce, redistribute, display, rent, lend, resell, commercially exploit, or adapt the statistical and other data contained herein without the permission of The IIA.

ABOUT THIS DOCUMENT

The information included in this Special Report is general in nature and is not intended to address any particular individual, internal audit function, or organization. The objective of this document is to share information and other internal audit practices, trends, and issues. However, no individual, internal audit function, or organization should act on the information provided in this document without appropriate consultation or examination.

ABOUT THE AUTHORS

MICHAEL GOWELL

TeamMate Vice President and General Manager

A leading expert in audit technology, Mike Gowell has 26 years of internal audit, audit methodology, and audit management software experience. Prior to joining TeamMate's Wolters Kluwer Audit, Risk & Compliance organization, Gowell spent 22 years at PricewaterhouseCoopers (PwC), where he was the founder and project director for TeamMate. Today, as the general manager for TeamMate, Gowell oversees the company's delivery of audit tools and technology solutions.

RICHARD ANDERSON

Clinical Professor, DePaul University

Prior to joining DePaul University, Dick Anderson served as managing partner for PwC's Internal Audit Services Practice and was the head of internal audit for a global bank. Most recently, Anderson co-authored *Embracing Enterprise Risk Management: Practical Approaches to Getting Started*, which was released by the Committee of Sponsoring Organizations of the Treadway Commission. In 2011, he co-authored *Imperatives for Change: The IIA's Global Internal Audit Survey in Action*, and received The IIA's Bradford Cadmus Memorial Award for outstanding contributions to advancing the global internal audit profession.

TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
THE TECHNOLOGY MATURITY MODEL.....	3
THE MATURITY DIAGNOSTIC TOOL.....	5
DIAGNOSTIC FOR CTPS.....	7
CTP NO. 1: TECHNOLOGY STRATEGY AND FOCUS.....	7
CTP NO. 2: RISK ASSESSMENT AND MONITORING.....	7
CTP NO. 3: AUDIT PLANNING & SCHEDULING	8
CTP NO. 4: KNOWLEDGE MANAGEMENT	8
CTP NO. 5: DATA ANALYSIS AND MINING.....	9
CTP NO. 6: AUDIT REPORTING AND ISSUES TRACKING	9
CTP NO. 7: AUDIT EXECUTION AND DOCUMENTATION	10
CTP NO. 8: TRAINING	10
CTP NO. 9: HUMAN RESOURCES.....	11
CTP NO. 10: QUALITY IMPROVEMENT	11
TECHNOLOGY PROCESS GAP ANALYSIS AND STRATEGY SUMMARY.....	13
THE GAP ANALYSIS.....	13
THE STRATEGY SUMMARY	14
A FINAL THOUGHT ON THE DIAGNOSTIC TOOLS.....	14
MOVING FORWARD.....	15

EXECUTIVE SUMMARY

Internal audit leaders place great importance on the need to make effective use of technology, but they don't believe they are doing a good job of pursuing this goal. That is the central finding of a survey of more than 500 chief audit executives (CAEs) conducted by The IIA's Audit Executive Center in March 2011.¹ In that survey, 48 percent of CAEs described their ability to leverage technology as *inadequate*, while only 14 percent rated the performance of their teams in this area to be *above average*. Thus, there is a significant gap between the importance that CAEs place on technology and their perceived ability to effectively use it.

The IIA Research Foundation (IARF) addresses the strategic implications of this gap in its report *Imperatives for Change: The IIA's Global Internal Audit Survey in Action*. The 2011 report, which captures key insights from The IIA's 2010 Global Internal Audit Survey, cited the need for audit practitioners to step up their use of audit technology and automated tools as one of the 10 key imperatives for CAEs moving forward. In addition, the report suggests the need for CAEs to develop a long-term technology strategy to address this imperative effectively (see "Technology Action Steps for CAEs" on this page).²

Keeping this in mind, TeamMate launched a global thought leadership program in the fall of 2011 that seeks to develop new ideas and insights on how to leverage the power of technology to improve internal audit performance. As part of this program, TeamMate and Richard J. Anderson of DePaul University, conducted a global survey³ of internal audit practitioners and a series of interviews with CAEs to develop new concepts and tools that could help internal audit functions build their own IT strategies. With the input from this

TECHNOLOGY ACTION STEPS FOR CAEs

According to *Imperatives for Change: The IIA's Global Internal Audit Survey in Action*, the following six steps can help chief audit executives develop an effective, long-term technology strategy for their audit function:

1. Conduct a critical assessment of the current use of technology by the internal audit department.
2. Conduct an inventory of your technology tools and create a grid linking the tools with the audit efforts they support.
3. Develop plans and strategies for internal auditors to leverage the potential of technology and keep pace with technological advancements.
4. Establish close ties with the organization's IT function to ensure you are pursuing complementary strategies and taking advantage of available technological resources and protocols; this is particularly useful in enterprisewide technology environments.
5. Develop a long-term technology strategy that addresses:
 - ✓ Core internal audit processes.
 - ✓ The need for automated support of data mining and analysis, continuous monitoring, and other technology-based activities.
 - ✓ Technology-related skill sets, reflecting the findings of a skills inventory that identifies gaps in required skill sets.
 - ✓ Budget requirements to achieve technology-related goals.
 - ✓ The anticipated benefits of technology investments and activities.
 - ✓ How to measure the effectiveness of technology investments, processes, and activities.
6. Develop a comprehensive training program to support both current and long-term technology use.

Source: *Imperatives for Change: The IIA's Global Internal Audit Survey in Action* (2011, The IIA Research Foundation, p. 40)

¹ "Technology Laggards Vs. Embracers: CAEs Discuss Technology Performance Gap" (2011, The IIA)

² *Imperatives for Change: The IIA's Global Internal Audit Survey in Action* (2011, The IARF)

³ TeamMate 2011 Internal Audit Technology Survey

survey and the insights gained from the interviews, the Technology Maturity Model[®] was created, which describes the progressive stages of development through which internal audit groups tend to ascend as they seek to enhance and expand their use of technology. A Technology Maturity Diagnostic and related set of tools also were developed to help CAEs identify and implement effective technology strategies.

While CAEs might find it tempting to pursue a software panacea for their technology challenges, studies conducted by TeamMate and The IIA point to the need to develop a sound technology strategy focused at achieving business objectives. Once this critical strategic foundation is in place, CAEs can then identify specific tools or technologies to implement their plan. This Special Report from the Audit Executive Center discusses how CAEs can leverage the Technology Maturity Model⁴ and related set of tools to develop robust technology strategies for their internal audit function.

⁴ The Technology Maturity Model can be downloaded from the Audit Executive Center's Web portal: <https://cae.theiia.org/library/Documents/Models%20and%20Samples/Technology%20Maturity%20Model.pdf>.

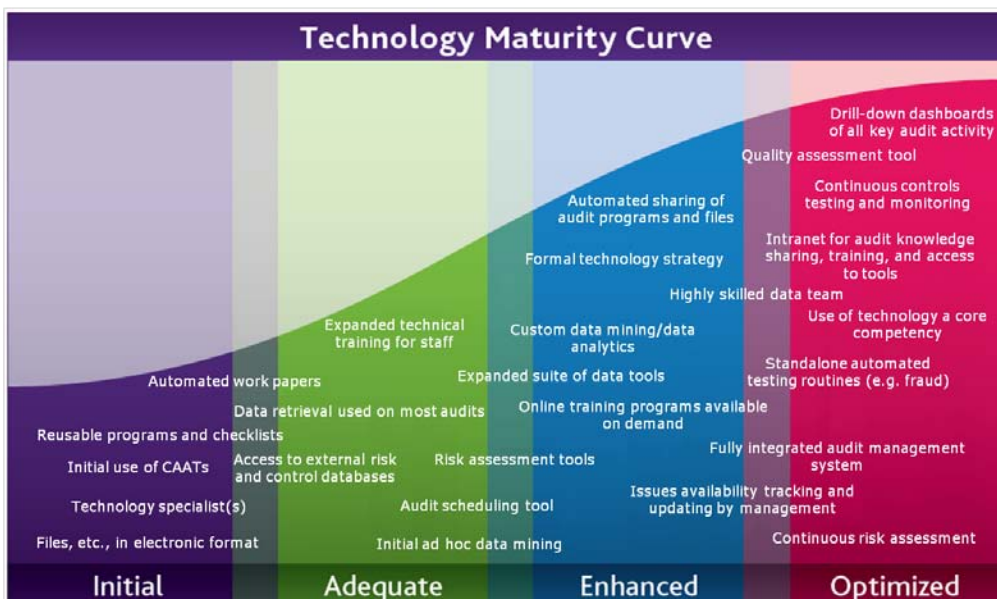
THE TECHNOLOGY MATURITY MODEL

TeamMate research and analysis has identified a four-stage sequence through which internal audit functions appear to move as they progress or mature in their technology deployment. The Technology Maturity Model depicted in Figure 1 in this page outlines a broad range of audit technology-related practices spread across four technology maturity levels: Initial, Adequate, Enhanced, and Optimized.

The model also demonstrates a number of key factors for CAEs to keep in mind as they seek to leverage their use of technology (refer to “Key Success Factors” in page 4). In assessing the technology maturity level, CAEs must be mindful that moving up the technology maturity curve involves technology activities occurring simultaneously as opposed to activities occurring in a linear progression. As an organization’s maturity levels increase, there is a corresponding expansion in its use of technology tools and the number of internal audit processes involved.

The maturity model also demonstrates the lack of clear and distinct lines between the various stages of development. While it is helpful to identify four distinct, technology maturity levels, the model blurs the lines between each maturity level to show that, in practice, there is overlap between each of the four stages. Finally, there are certain interdependencies associated with the model. For example, an organization needs to implement certain, basic data tools and possess a minimum set of skills before it can move to higher levels, such as data mining and analysis.

Figure 1: Technology Maturity Curve



Source: TeamMate Technology Maturity Model®

KEY SUCCESS FACTORS

The 2011 TeamMate Internal Audit Technology Survey identified five success factors that can help CAEs improve their use of technology:

1. CONVEY THE RIGHT TONE AT THE TOP.

- ✓ Effective CAE leadership is essential to position technology as a critical strategic issue.
- ✓ Audit leaders can provide clarity about the benefits being sought from technology.
- ✓ CAEs can help members of their internal audit team understand the anticipated benefits from technology.

2. PRIORITIZE TECHNOLOGY USE.

- ✓ Successful internal audit groups place a high priority on leveraging technology.
- ✓ The effective use of technology is viewed as a strategic imperative as opposed to a tactical issue.

3. SELECTIVELY ACQUIRE NEEDED TECHNOLOGY SKILLS.

- ✓ Use outside hires to gain access to people with strong technology skills.
- ✓ Tap third-party resources for needed skills.
- ✓ Use existing technology skills to speed implementation.

4. TRAIN, TRAIN, TRAIN, AND THEN TRAIN SOME MORE.

- ✓ Training does the most to gain more value from technology.
- ✓ Skills acquired through training need to be reinforced through actual use to be retained.

5. MEASURE WHAT REALLY MATTERS.

- ✓ A solid program of performance metrics can serve as the "missing link" needed to achieve significant growth in technology effectiveness.
A number of internal audit groups are using performance measures to assess the nature and extent of their technology use.

THE MATURITY DIAGNOSTIC TOOL

Based on TeamMate research and analysis, a Maturity Diagnostic Tool was developed to help CAEs identify and implement effective technology strategies. The structure of the diagnostic tool incorporates the four levels of technology maturity — Initial, Adequate, Enhanced, and Optimized — and looks at each level across 10 Core Technology Processes (CTPs). The tool’s structure also emphasizes that development of a sound technology strategy is anchored in core processes and basic management practices (refer to Figure 2 below).

Key Point: CAEs need to set their technology strategy before making any major technology decisions or purchases.

An important point for CAEs to keep in mind is that technology applications should be the enablers — not the drivers — of the internal audit technology strategy. Consequently, overall business and internal audit goals and objectives need to be considered carefully.

Figure 2: Structure of the Technology Maturity Diagnostic Tool

Core Technology Process (CTP)	Initial	Adequate	Enhanced	Optimized
1. Technology Strategy & Focus				
2. Risk Assessment & Monitoring				
3. Audit Planning & Scheduling				
4. Knowledge Management				
5. Data Analysis & Mining				
6. Audit Reporting & Issue Tracking				
7. Audit Execution & Documentation				
8. Training				
9. Human Resources				
10. Quality Improvement				

4 stages of maturity

10 dimensions to consider for analysis and planning

The Technology Maturity Diagnostic Tool is divided into three sections:

- **DIAGNOSTIC FOR CTPS.** This section has one page for each of the 10 CTPs.
- **TECHNOLOGY PROCESS GAP ANALYSIS.** This section provides a framework that helps CAEs identify gaps between the existing stages of maturity for each process and the desired state.
- **TECHNOLOGY STRATEGY SUMMARY.** This section is an overview of a plan addressing the 10 CTPs.

The rest of this Special Report will provide an overview of each of the three sections.

DIAGNOSTIC FOR CTPs

The Technology Maturity Diagnostic Tool has one page for each of the 10 CTPs and discusses attributes for each of the four levels of maturity. It also poses an overarching, key question for each CTP to help CAEs frame the process and identify related considerations. What follows is a brief summary for each of the 10 CTPs including the relevant “challenge” question.

CTP NO. 1: TECHNOLOGY STRATEGY AND FOCUS

Challenge Question: Does internal audit have a strategic focus on technology and a formal strategy to enhance its use?

TeamMate research clearly indicates that internal audit functions approaching technology as a strategic initiative are further up the maturity curve than organizations that do not. For a number of organizations interviewed as part of TeamMate’s *Audit Technology Insights 2012* report, released in July, enhancing the use of technology is a top strategic initiative. For these organizations, a strong strategic orientation sets the stage to effectively leverage technology to achieve a significant, positive impact on current internal audit processes as opposed to more limited, incremental change.

Key Point: Strong leadership and personal involvement on the part of the CAE is a must for an organization planning to approach technology in a strategic manner.

Finally, strong leadership and personal involvement on the part of the CAE is a must for an organization planning to approach technology in a strategic manner. CAE leadership and communications set the tone for the entire internal audit group and make it clear that a strategic commitment to technology is a shared responsibility of the entire staff. Staffwide buy-in is also a must for organizations hoping to streamline and improve core processes.

CTP NO. 2: RISK ASSESSMENT AND MONITORING

Challenge Question: Does internal audit use technology to improve its risk assessment and reporting processes?

Improving the timing and other aspects of risk assessment processes is cited as a key goal in The IIA’s *Imperatives for Change* report. Specifically, the report noted that due to the speed with which major risks can impact organizations in today’s global markets there is a compelling need to improve internal audit risk assessment processes. To this end, technology can play a key role as an enabler of enhanced risk assessment and monitoring in four ways:

1. By facilitating the movement to more periodic or continuous risk assessments.
2. By fostering the ongoing monitoring of key risk indicators or internal controls for Sarbanes-Oxley testing.
3. By creating a natural flow of monitoring capabilities from internal audit to business units.
4. By providing the means to share assessment results with other risk and control units.

Key Point: Technology can play a key role as an enabler of enhanced risk assessment and monitoring processes.

This CTP is also strongly linked with CTP No. 5, Data Analysis and Mining. The higher an organization moves along the risk assessment maturity continuum, the more likely it will incorporate data analysis and data mining in its risk assessment efforts.

CTP NO. 3: AUDIT PLANNING & SCHEDULING

Challenge Question: Does internal audit use technology to support its audit planning and scheduling processes?

Audit planning and scheduling are basic processes that can be enhanced through the use of technology, especially with respect to larger internal audit departments. Key technology-related goals include increasing efficiency and enhancing operational effectiveness. These goals can be pursued through better, more transparent personnel scheduling systems and through enhanced audit planning systems. Transparency can be a significant benefit when staff and managers are informed about upcoming schedules and related staffing needs. In addition, it may be possible to establish a direct link between staffing needs and personal skills inventories to achieve better matches between project needs and resources. Another possibility: Linking work paper and scheduling systems so that the staff assigned to an audit according to the scheduling system can be directly listed on the work paper file for that audit engagement.

Key Point: Audit planning and scheduling are basic processes that can be enhanced through the application of technology.

CTP NO. 4: KNOWLEDGE MANAGEMENT

Challenge Question: How does internal audit acquire, manage, and share knowledge?

Increasingly, internal auditors are recognizing the importance of knowledge management and the need to streamline the acquisition, retention, and sharing of their collective knowledge resources. The stepped-up pursuit of technology-enabled knowledge management processes is a growing trend that can take a number of directions. For many organizations, it means migrating from hard copy materials to either preparing or saving documents in a digital format. It also can mean enhancing the knowledge base beyond internal auditing to include information from multiple sources.

Yet, for other companies, applying technology to enhance knowledge management is a deferred priority to be addressed in a later stage of technology maturity. Thus, applying technology to the knowledge management process is often dependent on whether the internal audit function has a broad-based technology platform to address storage and sharing considerations, such as those associated with a Microsoft SharePoint system.

Key Point: The key to effective knowledge management is to gain an in-depth understanding of the types of information needed, and by whom, before making any significant technology commitments.

One final note: The broad scope of this process provides an excellent example of why it is important to articulate internal audit's strategy and objectives before purchasing and deploying a technology tool. The key to effective knowledge management is to gain an in-depth understanding of the types of information needed, and by whom, before making any significant technology commitments.

CTP NO. 5: DATA ANALYSIS AND MINING

Challenge Question: Does internal audit use data mining and analytics to enhance its audit and monitoring processes?

The fifth CTP, data mining and analysis, offers significant potential to enhance and reengineer internal audit processes. The capabilities associated with this CTP also span much of the Technology Maturity Curve and, thus, serve as important enablers for a number of other CTPs.

For many internal audit functions today, acquiring and deploying data mining and analytics is a high-priority initiative driven by the need to test high volumes of data and transactions, as well as the need to pursue a higher degree of continuous auditing and monitoring. Consequently, a robust set of data mining skills and tools is required to address both needs.

Key Point: The pursuit of data analysis and mining capabilities should lead to reengineered audit practices.

As many internal audit groups have found, moving up the maturity curve on this CTP depends more on existing skill sets than it does on the mere acquisition of data tools. While audit groups may initially focus on acquiring the skills needed to implement and operate data tools, the further they move up the technology maturity curve, the more they realize they need a broader set of skills. In particular, they need to develop a deep understanding of existing organizational data, including its structures and uses and the best ways to gain access.

Finally, the pursuit of data analysis and mining capabilities should lead to reengineered audit practices for an organization to realize the benefits of this CTP. If internal audit simply automates existing tests in the current audit plan, the benefits acquired will be limited. Therefore, to eliminate manual paper processes or to strengthen continuous audit and monitoring capabilities, for example, CAEs will have to rethink and reengineer traditional audit practices.

CTP NO. 6: AUDIT REPORTING AND ISSUES TRACKING

Challenge Question: Does internal audit leverage technology to report findings and track related issues?

Studies have shown that internal audit departments typically spend 15 percent to 20 percent of their time generating audit reports, a process auditors often view as repetitive. Technology offers the potential to streamline and better link the report writing and issues tracking processes, thus improving the efficiency associated with more manual routines.

Streamlining the writing and issues tracking processes can be pursued by creating a direct technology link between the findings and recommendations in audit work papers and the final report. With such a connection, CAEs can strengthen the consistency of issues tracking and decrease the amount of time required to produce reports.

Key Point: Technology offers the potential to streamline and better link the report writing and issues' tracking processes, thus improving the efficiency associated with more manual routines.

Likewise, similar benefits can be achieved through the automation of the issues' tracking and reporting processes. A listing of open and closed issues that is accessible to management will provide the added benefit of placing responsibility for updated

reporting with management, where it belongs. What's more, enhancing the audit reporting and issues' tracking processes can free up substantial hours to address other priorities.

CTP NO. 7: AUDIT EXECUTION AND DOCUMENTATION

Challenge Question: How does internal audit use technology to support audit execution and documentation processes?

The typical starting point for deploying internal audit technology is to automate the work paper process. In fact, The IIA's 2010 Global Internal Audit Survey⁵ found that basic electronic work paper packages are the most widely used audit technology tool and are ranked high on the priority list of technologies being sought by internal audit groups around the world. CAEs also should note that larger, more advanced internal audit functions often have fully integrated audit suites that link work paper documentation, scheduling, risk assessments, and audit reporting.⁶

Key Point: In addition to contributing to more efficient auditing, audit technology systems can help to enforce quality and internal audit standards.

The benefits of applying technology to strengthen audit execution are numerous. In addition to contributing to more efficient auditing, audit technology systems can help enforce quality and internal audit standards. To this point, such systems typically include a review process and will not allow an audit to be completed until all review notes have been addressed.

CTP NO. 8: TRAINING

Challenge Question: How does internal audit train its staff in the use of technology tools?

Feedback from the 2011 TeamMate Internal Audit Technology Survey⁷ clearly indicates that training on technology systems and tools plays a critical role in achieving technology objectives. In fact, providing systematic, comprehensive training for every staff member is a key success factor in moving up the technology maturity curve. It's also important to view training as a process, rather than an event, that needs to be consistent and ongoing. The increasing availability of online training programs has greatly helped CAEs ensure their staff have access to ongoing learning opportunities from the comfort of their desks.

Training also involves a number of major interdependencies. Consequently, CAEs and internal audit staff alike need to appreciate the critical need for training and its strategic importance to both team and individual success. For instance, ongoing training enables internal auditors to keep up with current technology changes and acquire the necessary skill sets to enhance the overall quality and execution of audit engagements. However, the tone at the top — as set by the CAE — must be clearly established and shared with all team members, and clear

Key Point: Providing systematic, comprehensive training for every staff member is a key success factor in moving up the technology maturity curve.

⁵ The IIA's Global Internal Audit Survey (2010)

⁶ *Imperatives for Change: The IIA's Global Internal Audit Survey in Action* (p. 40)

⁷ TeamMate's Internal Audit Technology Survey (p. 7)

training expectations and requirements must be communicated to all staff, to ensure the success of any training endeavor. Without such checks, training efforts will be quickly wasted.

CTP NO. 9: HUMAN RESOURCES

Challenge Question: Does internal audit have the skills and human resources it needs to use technology effectively?

An organization's skill sets and human resources have a strong, direct impact on its ability to move up the Technology Maturity Curve. In fact, TeamMate research indicates that two interrelated factors — acquiring specialized staff and training — do the most to facilitate movement up the maturity curve.

To determine whether they have the people and skills needed to achieve their technology objectives, CAEs must first anticipate their staffing needs, taking into account current and planned levels of technological capability, and then realistically assess their current technology-related resources. After completing the assessment process, CAEs will be able to determine how to best acquire needed skill sets, such as by hiring specialized staff through a third party. Specialized talent, once on board, can be used to build or install technology tools and to provide technology-related training to existing staff.

Key Point: Specialized talent, once on board, can be used to build or install technology tools and to provide technology-related training to existing staff.

Technology skills also should be viewed as a moving target. Given the pace of change, internal audit groups will find it difficult to keep current in the technology arena, and as they become more sophisticated in their use of technology, they will likely require more specialized skills. This is where training comes into place.

CTP NO. 10: QUALITY IMPROVEMENT

Challenge Question: Does internal audit conduct a continuous improvement process aligned to its technology strategy?

Global shortcomings in audit quality and conformance with The IIA's *International Standards for the Professional Practice of Internal Auditing* were a key finding addressed in The IIA report *Imperatives for Change*⁸ and remain key concerns in internal audit circles today. To address these issues, technology can be used as a key enabler that improves audit quality and conformance by:

- 1) Measuring the amount and types of technology used by an organization.
- 2) Using technology as part of an internal audit function's overall quality improvement program.

“What gets measured gets done,” is an old adage with timeless applicability. TeamMate research clearly indicates that internal audit groups that move up the technology maturity curve have some sort of measurement process to support their technology objectives. It also appears that these groups shifted the focus of their performance measures as they gained heightened technology maturity. In the initial stages of their technology progression, these high performers typically focused their measurement efforts on technology use, such as the number of programs running or the number of audits involving

⁸ *Imperatives for Change: The IIA's Global Internal Audit Survey in Action* (p. 5)

automation. As they moved up the maturity curve, however, their focus shifted to the quality of the data mining, continuous monitoring, or other type of technology tool being deployed.

Key Point: Internal audit groups that moved up the technology maturity curve have implemented some sort of measurement process to support their technology objectives.

In the area of audit quality, technology has become the primary tool to build consistency and compliance with IIA Standards. Lock-out features, for example, are used to prevent closing out audits before all required steps have been completed and open-review questions have been addressed. In addition, larger internal audit groups are deploying technology to improve their quality review processes and to track and trend audit-related issues.

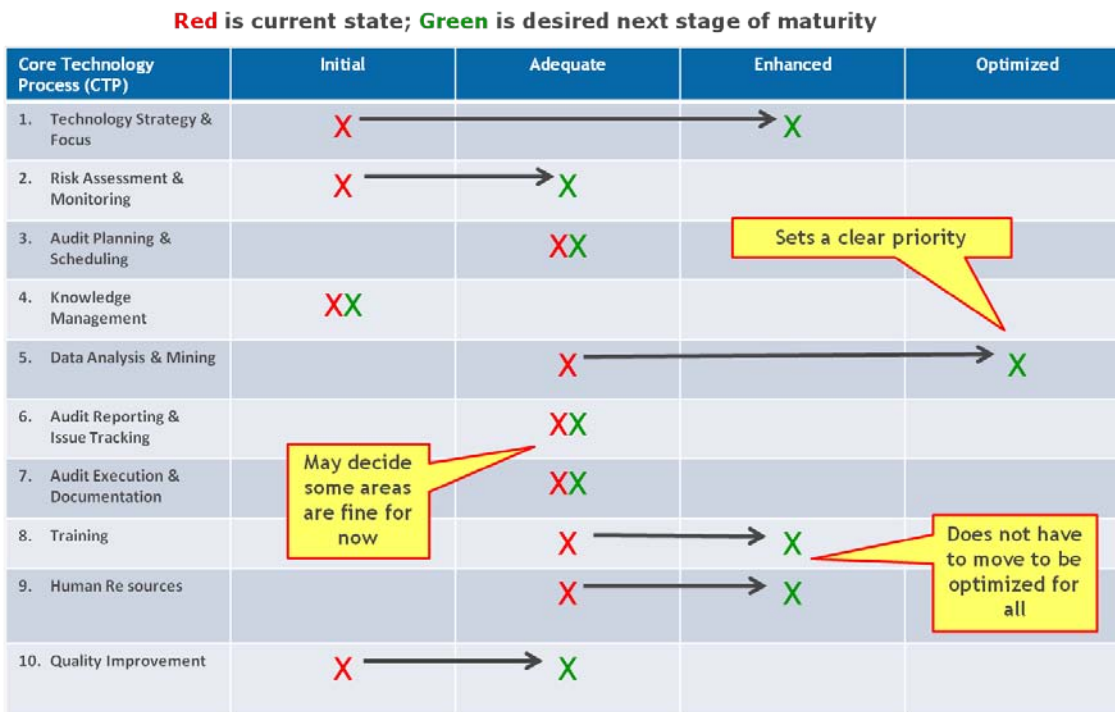
TECHNOLOGY PROCESS GAP ANALYSIS AND STRATEGY SUMMARY

The second and third sections of the maturity model consist of a Technology Process Gap Analysis (refer to Figure 3) and Technology Strategic Summary, both of which provide simple, clear tactics CAEs can leverage when developing internal audit’s technology strategy and when discussing the strategy with key stakeholders. Together, these iterative and evolutionary tools can help CAEs identify necessary next steps as opposed to a final technology solution.

THE GAP ANALYSIS

The second section of the maturity model provides a concise, focused means to assess and communicate the current technology maturity level and, thus, paint a more accurate picture of the multiple audit technology processes in use. With this tool, for example, CAEs can identify obstacles they believe could prevent them from reaching its desired levels of technology maturity. Figure 3 provides a sample of the gap analysis in action.

Figure 3: Example of a Technology Process Gap Analysis



THE STRATEGY SUMMARY

The third section of the maturity model provides audit leaders with a visually concise picture of existing technology maturity gaps and suggested strategies to address these gaps. In developing their technology strategies, CAEs should:

- ✓ Target where they would like their internal audit functions to be on the Technology Maturity Curve over the course of two to four years.
- ✓ Look for gaps to achieving desired maturity levels.
- ✓ Think about how changes in the current technology strategy could affect traditional internal audit processes and establish a documented approach to address these changes.

When considering the three tactics above, CAEs should keep in mind that organizational resistance to changing core internal audit processes could limit the effectiveness of their internal audit function. Consequently, any changes could hamper internal audit's ability to meet stakeholder expectations and future demands.

Key Point: Audit technology strategies are best viewed as evolutionary guides subject to continual refinement.

A FINAL THOUGHT ON THE DIAGNOSTIC TOOLS

Audit technology strategies are best viewed as evolutionary guides subject to continual refinement. Each of the audit technology diagnostic tools were developed to help CAEs reassess their technology needs on an ongoing basis and make the necessary changes to achieve their technology objectives.

MOVING FORWARD

Embracing the use of technology to enhance and extend the reach of internal audit efforts is an important, strategic undertaking. The Technology Maturity Model can help internal audit leaders develop technology strategies that meet the needs of their internal audit departments and their key stakeholders. Due to their flexibility, the tools associated with the maturity model also can help CAEs with their existing IT processes, identify where they would like their internal audit functions to be in terms of technological maturity, and plan effectively for the future.