Leveraging Continuous Auditing / Continuous Monitoring in internal audit

April 10, 2012
Agenda

1. Introductions to DA, CA & CM [PwC]
2. Inventory management continuous monitoring [The Gap]
3. Development of a CA/CM solution [PwC]
4. Panel discussion / Q&A [All]
Leveraging data & technology to benefit internal audit

Optimize Internal Audit processes by leveraging data and technology

Significantly More Value

1. Realigning audit coverage

Materially Less Cost

2. Improving process and leveraging technology

- Technology to execute audits more effectively and efficiently:
  - Automate testing:
    ◦ Issue tracking
    ◦ Reporting
  - Greater Coverage:
    ◦ Risk Area Identification
    ◦ Exception Drill-down
    ◦ Population validation
  - Agility:
    ◦ Address unforeseen issues
    ◦ Re-do after remediation
  - Continuous:
    ◦ Regular & irregular cycles
Fieldwork
Technology is being applied here (in audit management and data analysis), to speed up audit process.

...but the major limiting factors are in annual risk assessment and in reporting delays

Utilize information from previous audits for current audits (ad-hoc data analysis not leveraged project to project). However, informal sharing of information with group.

Internal audit process framework – Current

ANNUAL Risk Assessment → Audit Plan → Fieldwork → Reporting → Wrap-UP

Process to utilize results for next year’s Risk Assessment
A technology enabled approach to the internal audit framework allows for more timely identification of and response to risks.
Definitions

**Continuous Auditing** – Internal Audit’s process to regularly monitor, assess, and mitigate risk in several areas such as operations, finance, and fraud.

**Continuous Monitoring / Continuous Controls Monitoring** – Management’s process to monitor that policies, procedures, and business processes are operating effectively on an on-going basis. Audit independently evaluates adequacy of management activates.

“Continuous Auditing is any method used by auditors to perform audit-related activities on a more continuous or continual basis.” – Institute of Internal Auditors

***The Difference is the user population, purpose and maturity***
Maturity model

Level 1
• Occasional, ad-hoc data analysis on certain audits

Level 2
• Creation of data experts to develop routine data analysis techniques
• No process for incorporating into IA methodology
• IA focused

Level 3
• Core technical competencies resident within the department
• Results used for updating risk assessment throughout the audit process and for root cause discussions with process owners.

Level 4
• Technology enables full integration into internal audit workflow
• Regular collaboration with process owners

Level 5
• Business focused
• Link to process owners via reporting / dashboarding module

CM & CA

CA

Ad hoc

Routitive

Continuous
Implementation strategy and approach

- **Assess**
  - Organization
    - Program charter
  - Business
    - Implementation plan
  - Data
    - Source and solution definition
  - Technology
    - Application option identification

- **Design**
  - Organization
    - Project management
  - Business
    - Business requirement document
  - Data
    - Data architecture document
  - Technology
    - Application Architecture document

- **Construct**
  - Organization
    - Sprint management
  - Business
    - Test Plan / User validation
  - Data
    - Physical data Model
  - Technology
    - System development

- **Implement**
  - Organization
    - Training
  - Business
    - Business process integration
  - Data
    - Technical user guides
  - Technology
    - Prepare next business area

- **Operate & Review**
  - Organization
  - Business
  - Data
  - Technology
### Managing the process

![Image of process diagram]

#### ...and points to consider

<table>
<thead>
<tr>
<th>Category</th>
<th>Points to Consider</th>
</tr>
</thead>
</table>
| **Organization**       | • Is this embedded into every audit (and team) or separate?  
                          • Do we build centralized capability?  
                          • What level of project management is needed?                                                                                                    |
| **Human resources**    | • What training is required?  
                          • What new skills are required?  
                          • What skill sets do we have today?                                                                                                              |
| **Working practices**  | • How does this change our methodology?  
                          • How does this impact our strategy?                                                                                                               |
| **Technology**         | • What is already available to us and what do we need?  
                          • Should we build or buy new solutions?                                                                                                            |
| **Communication & reporting** | • What impact does this have on our relationship with the business unit owners?  
                                     • What is our role in reporting/trending remediation efforts of the business owners?                                                       |
| **Knowledge management** | • How will we plan to share the data within internal audit?  
                                   • How will we share information with the Controlling or Compliance functions?  
                                   • How will we share information with external auditors?                                           |
| **Metrics**            | • How will we assess progress?                                                                                                                        |
Organization structure

<table>
<thead>
<tr>
<th>Organization Chart</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Execute Sponsor(s)</strong></td>
</tr>
<tr>
<td>(Audit Committee, CFO, CAE, CIO)</td>
</tr>
<tr>
<td><strong>Internal Audit Sponsor</strong></td>
</tr>
<tr>
<td><strong>Core Team</strong></td>
</tr>
<tr>
<td><strong>Analyst</strong></td>
</tr>
<tr>
<td><strong>Internal Audit Stakeholder</strong></td>
</tr>
<tr>
<td><strong>Business Stakeholder</strong></td>
</tr>
<tr>
<td><strong>Other Key Members</strong></td>
</tr>
</tbody>
</table>
**Application architecture**

### Technology Considered

<table>
<thead>
<tr>
<th>Tool Description</th>
<th>Description / Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>SharePoint or Workflow Mgmt Tool</td>
<td>Screens presented to users based on modules implemented and user roles.</td>
</tr>
<tr>
<td>Analytical &amp; Reporting Services or Reporting Tool</td>
<td>Behind the scenes formatting of reports and information to be presented through the dashboard.</td>
</tr>
<tr>
<td>TBD based on vendor selection and requirements (e.g. ACL CCM, Oversight, MS SQL Server, etc.)</td>
<td>Analytical engine which is customized based on testing/auditing requirements.</td>
</tr>
</tbody>
</table>

### Audit Data Warehouse

<table>
<thead>
<tr>
<th>Industry Specific</th>
<th>All Industries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procure-to-pay</td>
<td>Order-to-cash</td>
</tr>
<tr>
<td>Financial Reporting</td>
<td>T &amp; E</td>
</tr>
<tr>
<td>Retail Store</td>
<td></td>
</tr>
<tr>
<td>P-Card</td>
<td>Capital &amp; F.A.</td>
</tr>
<tr>
<td>HR &amp; Payroll</td>
<td>Channel Compliance</td>
</tr>
<tr>
<td>Others</td>
<td></td>
</tr>
</tbody>
</table>

### Extractor / Mapping / Load

<table>
<thead>
<tr>
<th>Source System</th>
<th>Description / Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAP</td>
<td>Leverage existing client infrastructure and source system.</td>
</tr>
<tr>
<td>Oracle</td>
<td></td>
</tr>
<tr>
<td>JDE</td>
<td></td>
</tr>
<tr>
<td>PSFT</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
</tbody>
</table>
## Software tool considerations

- Business needs should be the driving decision-making
- Leverage tools already existing in your organization
- Team with business leaders; tools enable both business and IA needs

<table>
<thead>
<tr>
<th>CA / CM Solutions</th>
<th>Data Analysis Tools</th>
<th>Enterprise Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audit Exchange</td>
<td>ACL</td>
<td>Oracle GRC</td>
</tr>
<tr>
<td>Monitor</td>
<td>IDEA</td>
<td>OBIEE</td>
</tr>
<tr>
<td>Approva</td>
<td>SQL Server</td>
<td>SAP Process Controls</td>
</tr>
<tr>
<td>Oversight</td>
<td>MS Access</td>
<td>SAP BI</td>
</tr>
<tr>
<td>Green light Technologies</td>
<td>SAS</td>
<td></td>
</tr>
<tr>
<td>MS Product Suite</td>
<td></td>
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<table>
<thead>
<tr>
<th>Data Visualization Tools</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tableau</td>
</tr>
<tr>
<td>Qlikview</td>
</tr>
<tr>
<td>Spotfire</td>
</tr>
</tbody>
</table>
## Level of Effort (LOE)

### Benefits of CA / CM:
- 100% data coverage
- A flexible and agile tool which can be leveraged for new business areas
- Proven ROI

<table>
<thead>
<tr>
<th>Current Year</th>
<th>Year 1</th>
<th>Year 2 and onwards…</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before CA / CM:</td>
<td>Under CA / CM: Pilot business area e.g., T&amp;E</td>
<td>Under CA / CM: T&amp;E</td>
</tr>
<tr>
<td>All Business areas (under IA scope)</td>
<td><strong>LOE:</strong> 2 Audits</td>
<td><strong>LOE:</strong> .25 Audits *</td>
</tr>
<tr>
<td><strong>LOE:</strong> 1 Audit</td>
<td>All other business areas not under CA / CM:</td>
<td>Other business area <strong>LOE:</strong> 1.25 Audits ** *</td>
</tr>
<tr>
<td></td>
<td><strong>LOE:</strong> 1 Audit</td>
<td>All other business areas not under CA / CM:</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>LOE:</strong> 1 Audit</td>
</tr>
</tbody>
</table>

*leveraging the CA / CM solution
** add on new business areas to the existing CA / CM solution
Challenges to success

1. Limited budget and resources
2. Obtaining complete and accurate data
3. Working with IT to get automated frequent data feeds
4. Alignment and agreement with the business process owners on analytics, metrics, and business process
5. Availability of resources (onshore or offshore) with the right functional skills
6. Increased complexity working with cross functional IT teams
7. Ongoing maintenance and support needs
8. Aligning audit approach with Continuous Audit/Monitoring Strategy to transform the audit process
Key to success

1. Invest in the solution by allocating budget, developing an Annual Operating Plan (AOP), and demonstrating a ROI (How many audits will you replace?)

2. Set project expectation with program stakeholders (Fin Ops IA, IT and Business) early and often (What will their involvement and time investment be? What is the plan to have the business monitor?)

3. Include project stakeholders in all phases of the project

4. Invest appropriately in the requirements and design phases to understand data, and validate data

5. Establish clear program roles and responsibilities to ensure functional skill sets align with objectives

6. AOP should include total solution cost including ongoing maintenance (e.g. Software, Hardware, and Resource)

7. Design the new business process to manage the audit through the tool instead of using the tool to audit