C31 - Concepts and Current Practice in Continuous Monitoring and Auditing

David McKenzie and Tim Stapleton
Calls for continuous audit work stem from technical, organizational and cultural changes
Agenda

• Definitions and Conceptual Framework

• Role of Continuous Auditing in the Audit Environment
  ◦ Examples of Continuous Risk Assessments
  ◦ Examples of Continuous Controls Testing

• Implementation Strategy

• Case Study

• Benefits of Continuous Auditing/Concluding Remarks

A Definition from the Ivory Tower

• Continuous auditing is “a type of auditing that produces results simultaneously with, or a short period of time after, the occurrence of relevant events...implemented as
  ◦ (1) a fully automated process and
  ◦ (2) a process with instant access to relevant events and their outcomes.

• The only way to satisfy these requirements is to implement continuous auditing on an online system.”

--Alexander Kogan
Professor of accounting and information systems
Rutgers University
Continuous auditing is an integral part of today’s audit process

- Over 80% implementing continuous auditing compared to 35% in 2005
- 60% programs executed quarterly; 34% executed monthly; less than 10% executed daily
- Over 50% involve both manual and automated aspects; less than 3% are fully automated

Based on 2006 professional survey of 444 chief audit executives and internal audit managers performed by PricewaterhouseCoopers

Definitions from the Profession

- Continuous auditing is any method used by auditors to perform audit-related activities on a more continuous or continual basis.

-- IIA, Continuous Auditing: Implications for Assurance, Monitoring and Risk Assessment, 2006
A Definition from a Practitioner

• Audit procedures performed more frequently than are planned by audit cycles

• Audit procedures focused on changes to the risk management environment

• Continuous auditing complements other traditional audit procedures

• Leverage computer-assisted audit techniques, analytical procedures and data mining but are not defined by these audit strategies

Continuous auditing has two potential objectives

Continuous Risk Assessments

Continuous Controls Assessment
Characteristics of Continuous Risk Assessments

• Focus on changes to internal operations or external environment which impact the risks to the business

• Report changes in inherent risk

• Support existing conclusions about risk management and control effectiveness

• Prompt decisions about whether additional audit work is required

Risk Assessment Example Related to Financial Trades
Characteristics of Continuous Control Assessments

- Focus on control effectiveness
- Identify a suite of controls explicitly mitigating a specific risk
- Identify an acceptable threshold that reflects a tolerance level
- Provide information about control effectiveness directly or indirectly and help auditors design control tests
Example of errors by region

Example of Technology Change Controls

Unauthorized Changes

5.00%
4.00%
3.00%
2.00%
1.00%
0.00%

Jun-07
Jul-07
Aug-07
Sep-07
Oct-07
Nov-07
Dec-07

Jan-07
Feb-07
Mar-07
Apr-07
Jun-07
Jul-07
Aug-07
Sep-07
Continuous Control Assessment vs. Continuous Risk Assessment

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<th>Continuous Auditing</th>
<th>Continuous Risk Assessments</th>
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<td>Control-based Assurance controls known to be working</td>
<td>Risk Based Identification/ assessment of risk</td>
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<td>Real-time detailed transaction testing of financial &amp; operational data</td>
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<td>Control Monitoring Performance Monitoring Balanced Scorecards Total Quality Programs Enterprise Risk Management</td>
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Source: Global Technology Audit Guide: Continuous Auditing: Implications for Assurance, Monitoring and Risk Assessment

Continuous Auditing vs. Continuous Monitoring

- Continuous monitoring refers to activities performed by management
- Characteristics of continuous auditing are determined by management’s continuous monitoring procedures
Implementation Strategy:
The Business Requirements Phase

STEP 1
• Identify the risk profile and control environment

STEP 2
• Design metrics that measure the risk profile and control environment

STEP 3
• Design additional audit procedures using the reports

Implementation Strategy:
The Technical Design Phase and Implementation

STEP 4
• Identify the data sources needed to develop reports, if data is not available, revisit STEP 1 or 2

STEP 5
• Develop reporting procedures

STEP 6
• Establish a schedule for executing the continuous auditing procedures
Implementation Considerations

- Demonstrate value in a specific program quickly builds management confidence in the audit organization and business domain
- Secure reporting tools from unauthorized changes and tampering
- Ensure data is reliable and consider the effectiveness of data integrity controls
- Understand impact on business operations and systems

Future Techniques – Advanced Concepts

- Analysis of Transaction Patterns
- Real-time Alarms
Case Study

- Financial institution example of continuous monitoring (separate hand-out in session)
- Examines software installations and production problems
- Present data
- Looking for false positives or real issues
- Draw actionable conclusions

Questions?
Benefits of Continuous Auditing/Concluding Remarks

• Frequent risk assessments help auditors focus on changes to the risk management environment

• Costs to remediate control failures or control deficiencies increase with time

• Conclusions based on comprehensive assessments are built into the process

Data-Driven Auditing Leads to Wisdom

Data  Information  Knowledge  Wisdom