Measuring for Appropriateness

Continuous Audit and Reporting Symposium
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HPE Internal Audit
brad.ames@hpe.com
November 2016
Sufficient Appropriate Audit Evidence

Appropriateness is the measure of the quality of audit evidence, i.e., its relevance and reliability. To be appropriate, audit evidence must be both relevant and reliable in providing support for the conclusions on which the auditor's opinion is based.
Remember Application Controls?
Application Controls Optimizes Cost of Testing

Types of Controls

**Entity Level Controls**
- Strategies and Plans
- Policies and Procedures
- Risk Assessment Activities
- Training and Education
- Quality Assurance
- Internal Audit

**Application Controls**
- Completeness
- Accuracy
- Existence/Authorization
- Presentation/Disclosure

**IT General Controls**
- Program Development
- Programs Changes
- Access to Programs and Data
- Computer Operations
What are Application Controls?

• **Application controls** are those controls that pertain to the scope of individual processes or application systems.
• They include data edits, separation of business functions, balancing of processing totals, transaction logging, and error reporting.

• They can be Embedded and/or Configurable
  • **Embedded** – the application control is already part of or program/logic within the application software (e.g. 2 or 3-way match capabilities).
  • **Configurable** – the application control is performed depending on how the application is setup/configured or workflow is designed (e.g. accounts payable tolerance levels).
Not-So-Obvious Benefits of Application Controls

• Many Application Controls are configured in a common table (e.g., 43 SAP configurable controls in-scope for SOX are maintained in the same T030 table)

• Application Controls that are designed to validate and tolerate variances are identified to GL account numbers (i.e., 3-way matching, tolerances, purchase price variances)

• Changes to GL account numbers in the T030 table can be monitored for appropriate evidence:
  • Whether business justification is sufficient
  • Whether debit and credit are the same
  • Whether the GL account used for the transaction complies with the Accounting & Finance Manual description
  • Whether the impact of the change is material to the period
Automating appropriateness testing
Evidence quality is increased by relating control-based configuration AND substantive analytics

Monitor Change to T030
Compare GL Account to Accounting Standards
Email question-set to approver of change
Trend the transaction flow through the GL Account

Appropriateness
Layers in Context

Velocity
Compliance
Business Justification
Substantive Expectations
Automating appropriateness testing

Illustrate Velocity of change to T030

- Monitor Change to T030
- Compare GL Account to Accounting Standards
- Email question-set to approver of change
- Trend the transaction flow through the GL Account

Velocity

Compliance

Approval and Justification

Materiality
Table T030 Changes recorded in FY 2016
Volume and Velocity of Change:
Most Change occurs in one instance in March
Automating appropriateness testing

Illustrate Compliance with AFM

Monitor Change to T030

Compare GL Account to Accounting Standards

Email question-set to approver of change

Trend the transaction flow through the GL Account

Velocity

Compliance

Approval and Justification

Materiality
Compliance check – i) Debit and Credit account match
ii) Compliant with AFM

The value 'Matched' shows that the DR and Cr accounts are the same and unmatched value would show that they are not as before.

If the group account is available in AFM then we give the value of ‘Found’ else ‘Not Found’
Automating appropriateness testing

Illustrate Business Justification

- Monitor Change to T030
- Compare GL Account to Accounting Standards
- Email question-set to approver of change
- Trend the transaction flow through the GL Account

- Velocity
- Compliance
- Approval and Justification
- Materiality
Illustration of the email sent requesting for Business Justification

From: SAP SOX Table Changes
Sent: Monday, Aug 1, 2016 12:06 PM
To: R, Srividya <srividya.rajanna@hpe.com>; Rickett, Jade <jade.rickett@hpe.com>
Subject: Appropriateness Testing Monthly Reports

As required by the annual statutory audit by our auditors, EY, and for SOX, Internal Audit (IA) conducts appropriateness testing for SAP applications. For this testing IA reviews all of the additions and/or changes to key tables, programs and configurations, via an internal application called KPI.

In reviewing the table change activity for the month of July 2016, for T030, a change was noted and you were the transport creator.

Please provide the following information regarding the change:

1. High level description of the project/request that required the update(s)

2. The Request ID/Project Number and Project name

3. UAT sign off

4. The original documentation from the business that drove the request for the direct change or the business contact who can provide the information

Please note that obtaining this information is time-sensitive so the request will be escalated after 3 days.

If you have any questions, please send an email to the SOX SAP Table Monitoring mailbox and someone will get back in touch.

Thank you for your assistance.

SOX SAP Table Monitoring Team.
Illustration of the email received with Business Justification

FW: HPE Lighthouse (LH1) Table T043G - Appropriateness Testing June 2016 - Message (HTML)

Fri 11/4/2016 7:00 PM

SAP SOX Table Changes

FW: HPE Lighthouse (LH1) Table T043G - Appropriateness Testing June 2016

To: R. Srividya (Internal Audit)
You forwarded this message on 11/4/2016 7:02 PM.

FYI...

From: Nie, Xin (Apple, GD APJ-ERP)
Sent: Tuesday, November 01, 2016 7:51 PM
To: SAP SOX Table Changes <sapsoxtablechanges@hpe.com>
Subject: RE: HPE Lighthouse (LH1) Table T043G - Appropriateness Testing June 2016

Hi Rickett,

This is for India_INA7_SCM+ (PPM : 267353) FY16 June Release. For project details, you can see the design doc and also BRD and GBS sign off as attachment for your check. The PM is Gosula, Laxminarayana laxminarayana.gosula@hpe.com
GBS for this request is G, Suma (GFS) suma-ganesh.acharya@hpe.com

Best Regards,
Apple Nie

From: SAP SOX Table Changes
Automating appropriateness testing

Illustrate Materiality of the New GL Account data flow

- Monitor Change to T030
- Compare GL Account to Accounting Standards
- Email question-set to approver of change
- Trend the transaction flow through the GL Account

- Velocity
- Compliance
- Approval and Justification
- Materiality
Results from the Benchmark Report

- Substantive Analytical Procedures Related:
  - 3 new accounts were identified in T030 table – 35560000, 34211300, 34219999
  - Plotting the activity in those accounts for the FY16 is as given below:

The following observations were made for these 3 accounts:
1. The account no. 35560000 sees a spike in the month of July and emerging velocity.
2. The account no. 34211300 sees a bigger balance in dollars: Increased velocity = increased risk
3. The account no. 34219999 is an inactive account: as there are no transactions or balances = risk is limited

Focusing on appropriateness enables the auditor to de-scope testing.
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November 2016
HP Friends and Family site:

http://hp.force.com/external/FriendsandFamily
Objectives of Application Controls
Objectives of Application Controls

- Input data is accurate, complete, authorized, and correct
- Data is processed in an acceptable time period
- Data stored is accurate and complete
- Outputs are accurate and complete
- A record is maintained to track the process of data from input to storage and the eventual output
Control Types
Control Types

Note:
ITGC are pervasive IT controls around the environment supporting the application.
## Types of Application Controls

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Examples</th>
</tr>
</thead>
</table>
| **Input (Edit) Controls** | Application checks data inputs to reduce risk of inappropriate data being inputted. | • Required data fields  
• Specific data format on input (Alpha vs. Numeric) |
| **Output Controls**   | Control around output of data from the application. Check to ensure output data is consistent with the data entered. | • Financial reports are consistent with input data (e.g. GL, Sub-ledger). |
| **Validations**       | Application performs validation checks based on a test against some rule that is defined in the system. | • Tolerance limits (Sales Order customer credit limits)  
• Two or Three-way match |
| **Calculations**      | The application automatically performs calculations based on data provided.  | • Asset depreciation  
• Accounts receivable aging  
• Pricing calculations |
| **Authorizations / Approvals** | Application could perform checks on access rights to ensure segregation of incompatible duties. It could also check authorization levels to perform approval functions etc. | • Approval to post journal entries or for Purchase Order  
• Two approvals for check printing or wire transfers |
### Types of Application Controls?

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Interfaces</strong></td>
<td>Controls around data that is being exchanged from one application to another.</td>
<td>• Transfer of employee data between HR and Payroll systems.</td>
</tr>
<tr>
<td><strong>Integrity Check Controls</strong></td>
<td>Typically embedded in the application/database to ensure that data is not altered or corrupted during processing, transmission or storage.</td>
<td>• Checksums</td>
</tr>
<tr>
<td><strong>Processing Controls</strong></td>
<td>Provides automated means to help ensure processing is complete and accurate.</td>
<td>• Job processing log reviews</td>
</tr>
<tr>
<td><strong>Audit Trail of Data Transactions</strong></td>
<td>Provides audit trail of transaction to help management monitor and identify errors.</td>
<td>• Transaction log reviews</td>
</tr>
</tbody>
</table>
**Application Controls vs. ITGC**

<table>
<thead>
<tr>
<th>ITGC</th>
<th>IT Application Controls (ITAC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITGC apply to all the system components, processes, and data present in an organization.</td>
<td>Application controls relate to transactions and data pertaining to each computer based application system and they are specific to each individual application.</td>
</tr>
<tr>
<td><strong>Example Controls:</strong></td>
<td><strong>Example Control:</strong></td>
</tr>
<tr>
<td>Logical Access controls over infrastructure, applications, and data</td>
<td>Edit checks</td>
</tr>
<tr>
<td>Program Change Management</td>
<td>Validations</td>
</tr>
<tr>
<td>System development life cycle controls</td>
<td>Calculations</td>
</tr>
<tr>
<td>Computer Operations</td>
<td>Interfaces</td>
</tr>
<tr>
<td>Physical security controls over data centers</td>
<td>Authorizations</td>
</tr>
<tr>
<td>Backup and recovery controls</td>
<td>A control test of one sample can be performed if the Design has been assessed to be effective</td>
</tr>
</tbody>
</table>

Testing of control is usually on a sample basis.
Benefits of Application Control
Benefits of Application Control

**Reliability**

- Once an application control is established, and there is little change to the application, database, or supporting technology, the organization can rely on the application control until a change occurs.

- An application control will continue to operate more effectively if the general controls that have a direct impact on its programmatic nature are operating effectively as well. As a result, the auditor will be able to test the control once and not multiple times during the testing period.

**Benchmarking**

- If general controls that are used to monitor program changes, access to programs, and computer operations are effective and continue to be tested on a regular basis, the auditor can conclude that the application control is effective without having to repeat the previous year’s control test.

- Auditor should evaluate the appropriate use of benchmarking or an automated control by considering how frequently the application changes. (If application changes frequently, auditor should not rely on benchmarking)
Benefits of Application Control

*Time and Cost Saving*

- Application Controls take less time to test than Manual Controls
- Application controls are typically tested one time as long as the general controls are effective and there are no changes to the application
Each table relates to multiple application controls.
- When application controls change significantly (program change), IA performs walkthrough.
  - Rates of change increasing $\rightarrow$ increased SAP application controls testing
Linkage to Sensitive Access Reviews

- Month end close project:
  - Systems scope includes: LH1, BW (the consolidation functionality), Equate, Compass (PJ1, P01, PN1), Velocity
  - Sensitive Access for month end close activities (core GL functionality, open/close posting periods, foreign exchange rates)
  - Utilizing GRC for SAP monitoring
  - Also including sensitive IT access
Perspective on Table Monitoring

- System prevent control implemented in six supply chain systems (IA verifying it’s operating as intended) to prevent tag-along changes.
- Of the tag-along changes identified in FY13 in Velocity and Americas Fusion, both systems have implemented this control
- SOX IT implemented more rigor in Change Management testing, as previously mentioned
- SAP application controls looks at these same tables
- Considering whether risk is high enough to find a business owner to continue detailed monitoring.
Monitoring Procedures by table

- **T030:**
  - Whether debit and credit are the same
  - Whether the GL used for the transaction key matched the norms for the transaction key, as documented in the AFM description
  - Whether EY has provided perspective on earlier the usage of the GL
  - Whether the GL is appropriate or not based on the above criteria
- **T169G and T043G**
  - Whether the tolerance limit configured is well within the limits in the sap instance
  - Whether controllership approval exists (not for T043G)
- **T049A:** Whether the accounts that are configured in T049A are not Inventory, Revenue or any other inappropriate account.
- **TTKAB:** Whether the new entries were created using one of the existing 12 Balance Sheet series
- **C001:** Whether the Chart of Accounts, Sales Organizations and General Ledger accounts are consistent
Table T030
Current State

- Systems reviewed: Velocity, US1, LH1, FI1, Fusion EMEA, Fusion Americas

- Transaction keys in scope include GBB, BSX, WRX, PRD, UMB, KON, FRL, SKE and UMB.

- Frequency of review:
  - All changes reviewed monthly. SAP KPI Reports pulled monthly and analyzed; produces quarterly report to EY.

- Each T030 table entries is analyzed for the following:
  - Whether business justification is there
  - Whether debit and credit are the same
  - Whether the GL used for the transaction key satisfies the AFM description
  - Whether EY has approved earlier the usage of the GL
  - Whether the GL is appropriate or not based on the above criteria
T030 Linkage to Application Controls

– 43 (Email confirmation to Sabrina and Patricia) SAP Configurable controls in-scope for SOX are maintained in the T030 table:

*Microsoft Office Excel Worksheet*
Thank you