IT Service Delivery And Support

Week Ten – Auditing Application Control

IT Auditing and Cyber Security

Fall 2016

Instructor: Liang Yao

Application Controls

* Transactional Applications vs. Support Application
* Application Controls Objectives
* Application Control Types
* Application Control vs. Infrastructure Control (GCC)
* Why Relying on Application Controls
* Application Auditors Roles and Responsibilities
* Application Control Risk Assessment Approach
* Documentation Techniques

Application Controls

Transactional Applications vs. Support Application

* Transactional Applications (SAP R/3, Oracle Financials, etc.)
  * Accounting applications
  * Repository for financial, operational and regulatory data
  * Reporting applications (sales orders and invoices, etc.)
* Support Applications (emails, fax sw, document imagining, etc)

Application Controls

Application Controls Objectives

* Input data is accurate, complete, authorized, and correct.
* Data is processed as intended 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 to the eventual output

GTAG – Auditing Application Controls

Application Controls

Application Control Types

* **Input Controls** – These controls are used mainly to check the integrity of data entered into a business application, whether the data is entered directly by staff, remotely by a business partner, or through a Web-enabled application or interface. Data input is checked to ensure that is remains within specified parameters.

* **Processing Controls** – These controls provide an automated means to ensure processing is complete, accurate, and authorized.

* **Output Controls** – These controls address what is done with the data and should compare output results with the intended result by checking the output against the input.

GTAG – Auditing Application Controls

Application Controls

Application Control Types

* **Integrity Controls** – These controls monitor data being processed and in storage to ensure it remains consistent and correct.
* **Management Trail** – Processing history controls, often referred to as an audit trail, enables management to identify the transactions and events they record by tracking transactions from their source to their output and by tracing backward. These controls also monitor the effectiveness of other controls and identify errors as close as possible to their sources.

GTAG – Auditing Application Controls

Application Controls

Application Control vs. Infrastructure Control (GCC)

* General Computer Controls
  * Logical access controls over infrastructure, applications, and data. System development life cycle controls. Program change management controls.
  * Physical security controls over the data center.
  * System and data backup and recovery controls.
  * Computer operation controls.

Application Controls

Application Control vs. Infrastructure Control (GCC)

* Application Controls
  * Determining whether sales orders are processed within the parameters of customer credit limits.
  * Making sure goods and services are only procured with an approved purchase order.
  * Monitoring for segregation of duties based on defined job responsibilities.
  * Identifying that received goods are accrued
  * Ensuring fixed-asset depreciation is recorded accurately in the appropriate accounting period.
  * Determining whether there is a three-way match among the purchase order, receiver, and vendor invoice.

Application Controls

Why Relying on Application Controls

* **Reliability**
  * More reliable than manual controls (automated vs. human intervention)
  * Relationship with GCC (Change Management, SOD, etc.)
* **Benchmarking**
  * Application Controls won't change very often
  * Rely on general controls
  * Identify "Changes" of the Environment
  * Changing of Application Controls Without Changing Code (Parameter changes and configuration changes)
* **Time and Cost Saving**
  * Less Time to test than manual controls (frequency of the manual controls)
  * Can be Test Once Using Automated Tools

GTAG – Auditing Application Controls

Application Controls

Application Auditors Roles and Responsibilities

* Understand Business Process Associated with the Application audited (Building Industry Specialties)
* Consultant During the Application Development
* Independent Risk Assessment
* Education
  * How the risk profile will change once the new application is brought online.
  * Known inherent control weaknesses in the applications under development.
  * Prospective solutions to mitigate identified weaknesses.
  * The various services auditors can provide to management as part of the system's development efforts.
* Control Testing
* Application Review

GTAG – Auditing Application Controls

Application Controls

Application Control Risk Assessment Approach

* Define the Assets (application, database, supporting technology, etc.)
* Define the Risk Factor Associated with the Application Under Review:
  * Primary application control
  * Design effectiveness
  * Natural of the application (in-house developed vs. on-shelf, commercial applications)
  * Data Classification
  * Frequency of Changes related to the Application and Complexity of Changes
  * Financial Impact
  * Reliance on GCC controls
  * Audit History

Application Controls

Business Process Method vs. Single Application Method

- *Business Process Method*
  - *Top-down review approach*
  - *Review all applications support one Business Process*
  - *Typically apply to ERP review*
- *Single Application – controls within one application or module*
- *Logical Access Control needs to be reviewed no matter which method was used.*

GTAG – Auditing Application Controls

Application Controls

Documentation Techniques

- *Flowchart*
- *Process Narratives*
  - *Procurement*
    - *Requisition*
    - *PO Processing*
  - *Receiving*
    - *Receiving Goods*
    - *Accounting Review and Reconciliation*
    - *Buyer Review*
  - *Accounts Payable*
    - *A/P receives invoice from the Suppliers*
    - *Payment Requests*
    - *Month-end Reconciliation*

GTAG – Auditing Application Controls

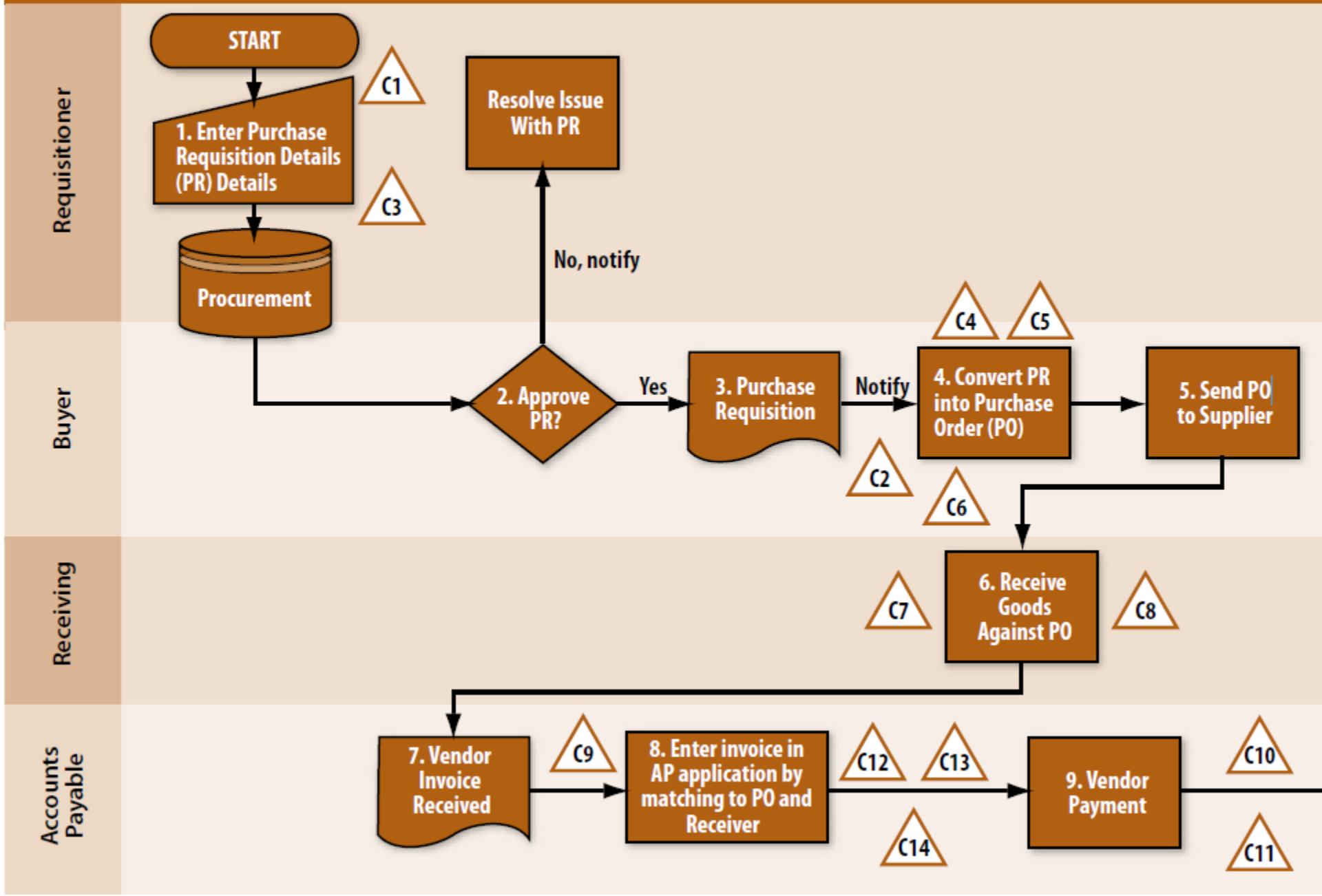
Application Controls

Documentation Techniques

* *Testing*
  * Inspection of system configurations.
  * Inspection of user acceptance testing, if conducted in the current year.
  * Inspection or re-performance of reconciliations with supporting details.
  * Re-performance of the control activity using system data.
  * Inspection of user access listings.
  * Re-performance of the control activity in a test environment (using the same programmed procedures as production) with robust testing scripts.
* *CAAT – ACL, SAS, SQL, Excel, Crystal Report, Access, etc.*

GTAG – Auditing Application Controls

Procure to Pay Process



Triangles represent each control in the process. The number of each control ties to the activity represented on the Risk a

Sample Audit Program

* Sample Application Audit Program – Chapter 13 Auditing Application (page 312 of IT Auditing Text Book)