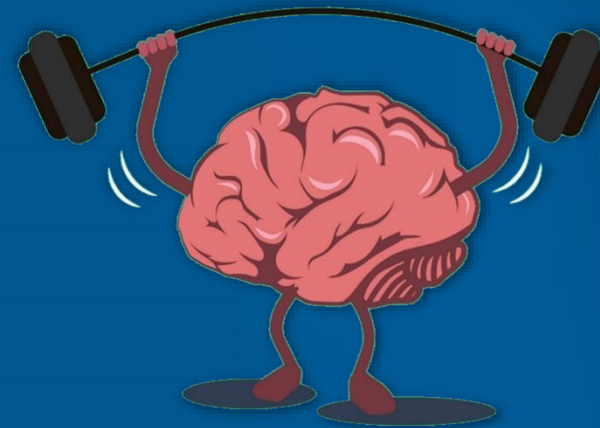




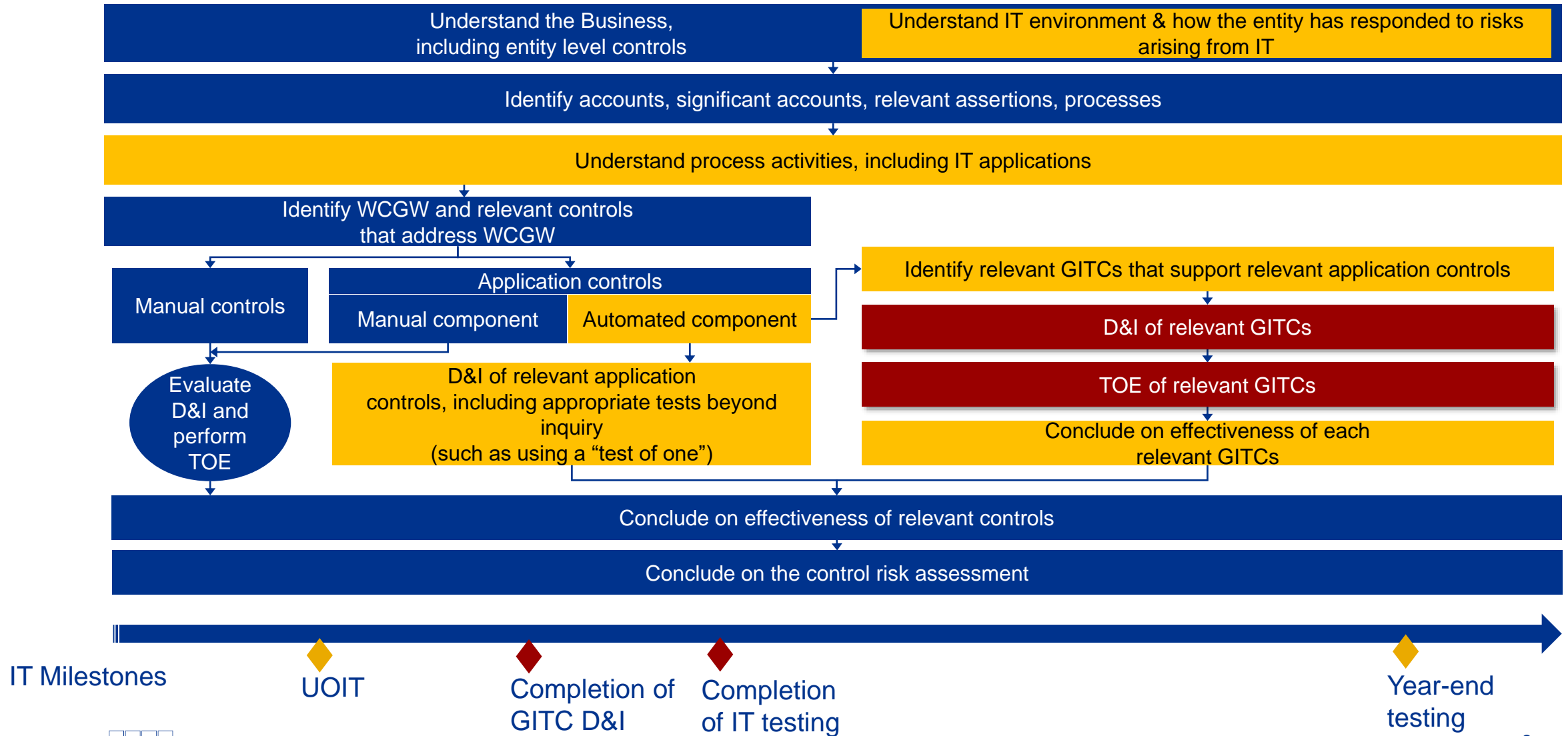
# Train The Brain Program Development



October 2021



# Where are we in the audit cycle?



# Risks Arising from IT



## Access to Programs and Data

- Access to programs and data is unauthorized or inappropriate



## Program Changes

- Changes to existing systems / IT applications are unauthorized, untested, unapproved or improperly implemented or documented



## Program Acquisition and development

- New IT systems that are developed or acquired are unauthorized, untested, unapproved or improperly implemented or documented



## Computer Operations

- IT systems processing is unauthorized or inappropriately scheduled, and deviations from scheduled processing are unidentified and unresolved

Program acquisition and development controls are controls established by management to determine that **acquisition and development of systems/IT applications are authorized, tested, approved, properly, implemented, and documented..**

- System acquisition and development policy
- Methodology for Development/Acquisition
- Design, Development, Testing, Approval and Implementation
- Data Migration

# PD - What to look for?

## System acquisition and Development process

- Is there System acquisition and development policy?
- Does the policy cover all type of applications e.g., internally developed, Vendor developed, OTS (Off the Shelf) , Customizable ERPs / Programs, Cloud applications
- Are there any major system enhancements, new system developments or system acquisitions during the audit period relevant to systems in scope?

## Design, Development, Testing, Approval and Implementation

- Is the design approved by relevant stakeholders
- Is the development initiated only after system design was approved
- Were the test cases documented and adequate testing was conducted
- Was UAT conducted and the key failures/ changes were addressed prior to go live
- Was the decision to go live taken implementation/ go live plan was approved

## Data Migration

- Was the data migration approach approved by relevant stakeholders
- Was the data migrated post required cleansing / sanitization and mapping (between old / new systems )
- Necessary cut overs were taken and cut over strategy defined to avoid data losses
- Post migration the source and target data was reconciled by relevant stake holders

# Key points to remember

Perform effective one sample walkthrough to understand process and related control implementation

Document TOD with detailed process explanation and evidence markups

Samples for TOE to be based on frequency or number of occurrences of a control

Sampling to be performed as per KAM/ KAEG guidance

Population to be tested as an IPE (Perform test of report logic + retain report download evidences)

Understand the rationale of approach taken and involve internal SMEs/ senior team members as required

Identify and test additional controls for ERP systems where relevant

TOD – Test of Design

TOE – Test of Operating Effectiveness

IPE – Information provided by Entity

KAM – KPMG Audit Methodology

KAEG – KPMG Audit and Execution Guide

ERP – Enterprise Resource Planning



# Software Development Life Cycle (SDLC)

Planning	Requirements definition	Testing and signoffs	Go-live
<ul style="list-style-type: none"><li>• Preparation of business case for application development or enhancement including benefits expected to be realized</li><li>• Preparation of project plan, schedule and project structure</li><li>• Steering committee approval for the project</li></ul>	<ul style="list-style-type: none"><li>• Documentation and approval of detailed business requirements including new/modified functionalities, reports, interfaces, etc.</li><li>• Documentation and approval of detailed technical design documents providing a system blueprint</li></ul>	<ul style="list-style-type: none"><li>• Documentation and approval of detailed test cases based on requirements including requirements traceability</li><li>• Documentation of test results including system testing, functional testing, regression testing, etc.</li><li>• Documentation of User Acceptance Testing (UAT) with formal signoff from business</li><li>• Documentation of known deficiencies prior to go-live and signoff from business</li></ul>	<ul style="list-style-type: none"><li>• Pre-production deployment approval from technology senior management</li><li>• Logging of change request and related approvals</li><li>• Deployment of updated code / new code in live environment</li><li>• Post-implementation review</li></ul>

# Data Migration Lifecycle

## Planning

- Preparation of data migration business case and need
- Documentation and approval for data migration strategy including process followed and responsibilities for data migration (vendor, in-house), identification of data that needs to be transferred (balances, transaction data, master data, etc.), owners of those data points, mechanism for data transfer (manual, script-based, tool-based) and data recons to be conducted prior to providing signoff on data migrated

## Data mapping and preparation

- Completion of a field to field mapping between source and target system to ensure accurate data transfer
- Preparation of source data by cleansing or correcting source data is required
- Source data download and confirmation from business with respect to completeness and accuracy of data to be transferred

## Data migration

- Transfer of source data to target system using scripts or tools or through manual procedures
- Extraction of relevant data from target system as planned during the planning stage and validation of completeness and accuracy of such data by business and technology

# PD- System Development & Acquisition policy

There exists an approved policy for development/ acquisition of new applications

## **Data Required – (PBC)**

1) System Development and Acquisition policy applicable for in-scope applications in the organization

## **Control attributes**

- Approval and review of policy on periodic basis.
- Inclusion of roles & responsibilities and relevant processes defined as per the controls



## **Common Observation -**

1. The policy doesn't cover approach for acquired applications



## **Mitigation –**

1. Assess the approach taken for implementation as documented in project plan or relevant agreements/ documents



# PD 01- Methodology for Development / Acquisition

There exists an approved methodology for development/ acquisition of new applications

## **Data Required – (PBC)**

- 1) Methodology for development/ acquisition for in-scope applications in the organization

## **Risk**

1. Project roles and responsibilities are not clear
2. Project approach wasn't clear while acquisition/ development

## **Control attributes**

- Approval and review of methodology
- Inclusion of roles & responsibilities and relevant processes defined as per the policy



## **Common Observation -**

1. The approach document doesn't exist for acquired applications

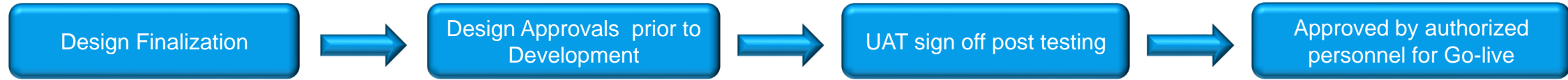


## **Mitigation –**

1. Assess the approach taken for implementation as documented in project plan or relevant agreements/ documents

# PD 02 - Design, Development, Testing, Approval & Implementation

There is a structured approach to systems and applications acquisition. Further, each new development/acquisition to be approved by relevant stake holders



## Data Required – (PBC)

- 1) Project Plan & charter
- 2) Approved Business requirements document
- 3) Approved system design documents
- 4) Final UAT sheets/ documents with signoffs
- 5) Cutover strategy
- 6) Go-live approvals

## Risk

1. Project roles and responsibilities are not clear
2. Key documents aren't approved by relevant stakeholders
3. System hasn't been tested adequately
4. Issues identified during testing aren't addressed prior to go-live
5. Data or significant business time is lost during migration

## Control attributes

- Project roles and responsibilities are documented
- Key project documents are approved by relevant stakeholders
- User Acceptance Testing (UAT) performed by relevant stakeholders and failures have been addressed prior to go-live
- Cutover/ Go-live strategy minimized risk of data loss and business impact



## Common Observations -

1. Project documents not approved
2. UAT failures not addressed prior to go-live
3. Inadequate Cutover strategy



## Mitigation procedures –

1. Evaluate the impact of deficiency on the in scope ITACs

# PD 03 - Data Migration

Data conversion relevant to internal control over financial reporting is accurate and complete

Cutover Strategy



Data Migration

## Data Required – (PBC)

1. Detailed Data Migration plan
2. Data Reconciliation Sheets

## Risk

1. Data is not converted / mapped correctly
2. Data isn't migrated completely and accurately

## Control Attributes–

- Data conversion and mapping was done prior to migration
- Post migration key data items were reconciled by data owners(open item, masters, line items)



## Common Observations -

1. Data reconciliation was not performed or documented post go-live



## Mitigation procedures–

1. Perform Data reconciliation independently or validate Data reconciliation performed by client for key data items

# PD 03 - Data Migration

Data conversion relevant to internal control over financial reporting is accurate and complete

Cutover Strategy



Data Migration

## Data Required – (PBC)

1. Detailed Data Migration plan
2. Data Reconciliation Sheets

The plan helps in determining which data recons to look for as part of this control.

## Risk

1. Data is not converted / mapped correctly
2. Data isn't migrated completely and accurately

## Control Attributes–

- Data conversion and migration
- Post migration key data

Data reconciliation sheets will include detailed tests for reconciliation between source and target system including all data points as identified in the data migration plan. Relevant data owners should provide this signoff.

masters, line items)

## Common Obs

1. Data reconcili

In absence of this data, data recon may have to be conducted to provide comfort on data migration as part of audit.

## Mitigation p

1. Perform Data reconciliation independently or validate Data reconciliation performed by client for key data items





Q & A



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