COBIT® 5 Supplementary Guide for the COBIT 5 Process Assessment Model (PAM)

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Contents

1.0 Purpose of the guide

This guide supplements the COBIT 5 Framework guide with important definitions and concepts taken from the COBIT Process Assessment Model (PAM) and ISO 15504 that are required by candidates to be tested at foundation level, areas 1 and 2; knowledge and understanding respectively. It adds more detail and clarity to the framework guide, chapter 8, which cross references the COBIT Process Assessment Model (PAM).

*****NOTE: Training organisations will not need the COBIT 5 PAM which is not yet available. This can be added to the two assessor guides that come with it for a more detailed Assessor training and certificate course. The COBIT 4.1 PAM is available and is almost the same apart from the PRM (Process Reference Model) which is based on COBIT 4.1. All generic goals, practices and work products however needed for Level 2 to Level 5 assessments are the same.**

*****NOTE: we have also added the Syllabus for Learning Area PC below as this supplementary guide follows closely to the order and flow of the syllabus.**

2.0 COBIT 5 Foundation Assessment Programme Syllabus

Syllabus Area Code: **PC**		**Syllabus Area:** **Process Capability Model (The Process Assessment Model {PAM}**		Chapter 8
To know facts, terms and concepts relating to the Process Capability Model. Specifically to recall:				
01	01	The six Capability Levels based on ISO 15504: • Level 0 – Incomplete Process • Level 1 – Performed process • Level 2 – Managed process • Level 3 - Established Process • Level 4 - Predictable Process • Level 5 – Optimised Process	✓	COBIT 5 Chapter 8 Figure 19 page 42
01	02	The nine Attributes based on ISO 15504: • PA 1.1 Process performance • PA 2.1 Performance management • PA 2.2 Work product management • PA 3.1 Process definition • PA 3.2 Process deployment • PA 4.1 Process measurement • PA 4.2 Process control • PA 5.1 Process innovation • PA 5.2 Process optimisation	✓	Chapter 8 Figure 19 page 42

01	03	The Rating Scale based on ISO 15504: • N Not achieved 0 to 15% achievement - There is little or no evidence of achievement of the defined attribute in the assessed process. • P Partially achieved 15% to 50% achievement - There is evidence of a sound systematic approach to an achievement of the defined attribute in the assessment approach • L Largely achieved 50% to 85% achievement - There is evidence of a sound, systematic approach to the significant achievement of the defined attribute in the assessment • F Fully achieved 85% to 100% achievement - There is evidence of a complete and systematic approach to and full achievement of the defined attribute in the assessed approach.	✓	Chapter 8 page 45
01	04	The definition of the following ISO 15504 terms: 1. A Process Purpose 2. A Process Outcome 3. A Base Practice 4. A Work Product	✓	COBIT 5 PAM supplementary guide 3.6.1
To understand the Process Capability Model and the basic ISO 15504 concepts. **Specifically to identify:**				
02	01	The Reasons for carrying out a Process Capability Assessment. • ISO 15504 identifies the purpose as an activity that can be performed either as a process assessment or as a process improvement initiative • To continuously improve the enterprise's effectiveness • To identify the strengths and weaknesses of selected processes based on business need • To provide a logical, understandable, repeatable, reliable and robust methodology for assessing the capability of IT-related processes.	✓	COBIT 5 PAM supplementary guide 3.1
02	02	The Scope of the COBIT assessment programme, specifically the purpose of the 3 guides: 1. The Process Assessment Model (PAM) using COBIT 4.1 and COBIT 5 2. The Assessor Guide – using COBIT 5 and COBIT 4.1 3. The Self-Assessment Guide – using COBIT 4.1 and COBIT 5	✓	COBIT 5 PAM supplementary guide 3.2

02	03	The differences between a Maturity and a Capability Assessment: ○ ISO/IEC 15504-2 describes a Process Assessment as one that examines the processes used by an organization to determine whether they are effective in achieving their goals. The assessment characterizes the current practice within an organizational unit in terms of the capability of the selected processes. The results may be used to drive process improvement activities or process capability determination. ○ ISO15505-7 defines organizational maturity as an expression of the extent to which an organization consistently implements processes within a defined scope that contributes to the achievement of its business goals (current or projected). An Organizational Maturity Model is based upon one or more specified Process Assessment Model(s), and addresses the domains and contexts for use of the Process Reference Model(s) from which the Process Assessment Model(s) are derived.	✓	COBIT 5 PAM supplementary guide 3.3
02	04	The purpose of a Process Reference Model as defined by ISO 15504	✓	COBIT 5 PAM supplementary guide 3.6 page 10
02	05	The Differences between the two dimensions outlined in the ISO 15504 approach: • The capability Dimension as outlined by the 6 capability levels and • A process dimension which deals specifically with the 37 specific COBIT processes outlined in the Process Reference Model (PRM).	✓	COBIT 5 PAM supplementary guide 3.7
02	06	The differences between the Generic and Specific attributes outlined in the COBIT PAM. 1. Base Practices & Generic Base Practices 2. Work Products & Generic Work Products	✓	COBIT 5 PAM supplementary guide 3.6.1.
02	07	The benefits of the COBIT Capability Assessment approach.	✓	COBIT 5 Chapter 8 page 44 3.4 Supplementary Guide
02	08	How the rating scales are used in an assessment • To achieve a pass for a certain level, a process must be rated L – Largely or F – Fully at that level, and be rated F-Fully on the lower levels. • To be able to move onto another capability level all Process Attributes must be F – fully for that process (if not achieved, the organisation needs to improve that particular process attribute to have a F rating before moving on)	✓	COBIT 5 PAM Supplementary guide 3.8

3.0 Process Assessment Explained

3.1 What is a Process Assessment?

- ISO/IEC 15504-4 identifies process assessment as an activity that can be performed either as part of a process improvement initiative or as part of a capability determination approach.
- The purpose of process improvement is to continually improve the enterprise's effectiveness and efficiency.
- The purpose of process capability determination is to identify the strengths, weaknesses and risk of selected processes with respect to a particular specified requirement through the processes used and their alignment with the business need.
- It provides an understandable, logical, repeatable, reliable and robust methodology for assessing the capability of IT processes.

3.2 What is the COBIT Assessment Programme?

- ISACA's new COBIT Assessment Process brings COBIT together with ISO15504 – a reference model for assessing process capability (consisting of capability levels which in turn consist of the process attributes and further consist of generic practices).
- ISACA publications to support the COBIT Assessment Programme include the Process Assessment Model (PAM); a guide for Certified Assessors (and we will talk more about the concept of "certified assessors" a little later); and a "self-assessment" guide for enterprises that would like a less formal assessment using the same basic approach.
- The PAM – the key reference source for an assessment basically re-states much of the COBIT 4.1 content into an ISO15504 compliant process assessment model for use in assessing IT process capability.

The COBIT Assessment Programme includes:

- COBIT Process Assessment Model (PAM): Using COBIT 4.1 & 5
- COBIT Assessor Guide: Using COBIT 4.1 & 5
- COBIT Self-Assessment Guide: Using COBIT 4.1 & 5

The COBIT PAM adapts the existing COBIT 4.1 and COBIT 5 content into **an ISO 15504 compliant process assessment model.**

3.3 The Differences between a Maturity and a Capability Assessment

Historically most frameworks from COBIT, ITIL® and PRINCE2® have adopted the SEI (Software Engineering Institute) CMMI approach which combines a Capability and a Maturity Assessment into a single assessment.

ISO 15504 states that they are two separate assessments:

ISO/IEC 15504-2 describes a ***Process Assessment as one that examines the processes used by an organization to determine whether they are effective in achieving their goals***. The assessment characterizes the current practice within an organizational unit in terms of the capability of the selected processes. The results may be used to drive process improvement activities or process capability determination.

ISO15505-7 defines ***organizational maturity as an expression of the extent to which an organization consistently implements processes within a defined scope that contributes to the achievement of its business goals (current or projected)***. An Organizational Maturity Model is based upon one or more specified Process Assessment Model(s), and addresses the domains and contexts for use of the Process Reference Model(s) from which the Process Assessment Model(s) are derived.

The key difference to note from the above definitions:

- A Maturity Assessment is done at an ***Enterprise or organizational level a***nd uses a different measurement scale than a capability assessment and different criteria and attributes.
- A Capability Assessment is done at **a process Level** and is done for purposes of process Improvement. You cannot 'role up' an assessment of many different processes mathematically to an enterprise level. It works for SEI's CMMI because they are assessing a single process, 'software engineering development or application development'. Most frameworks like COBIT contain 34 and 37 processes respectively for COBIT 4.1 and COBIT 5.

ISACA decided to adopt ISO/IEC 15504-2 Process Capability Assessment only at this stage because: a) the benefits outlined in chapter 8 of the framework guide and restated below, and b) complexities in attempting to develop at this time an organisation Maturity Assessment using the ISO 15504-7 approach, and c) ISACA is not yet clear on the benefits of undertaking a Maturity Assessment.

Advantages of the New COBIT Assessment Programme are:

- A robust assessment process based on ISO 15504
- An alignment of COBIT's maturity model scale with the international standard
- A new capability-based assessment model which includes:
- Specific process requirements derived from COBIT 4.1 & COBIT 5
- Ability to achieve process attributes based on ISO 15504
- Evidence requirements
- Assessor qualifications and experiential requirements
- Results in a more robust, objective and repeatable assessment

3.4 Differences between a COBIT 4.1 CMM Assessment and the new COBIT ISO 15504 Approach

Figure 1

COBIT 4.1 Process Maturity Level	ISO/IEC 15504 Process	
	Capability Level	**Attribute**
5 Optimised	5 Optimizing	PA 5.1 Process innovation PA 5.2 Process optimization
4 Managed and measurable	4 Predictable	PA 4.1 Process measurement PA 4.2 Process control
3 Defined	3 Established	PA 3.1 Process definition PA 3.2 Process deployment
2 Repeatable but intuitive	2 Managed	PA 2.1Performance management PA 2.2 Work product management
1 Initial/*ad hoc*	1 Performed	PA 1.1 Process performance
0 Non-existent	0 Incomplete	

The COBIT PAM uses a measurement framework that is **similar** in terminology to the existing maturity models in COBIT 4.1

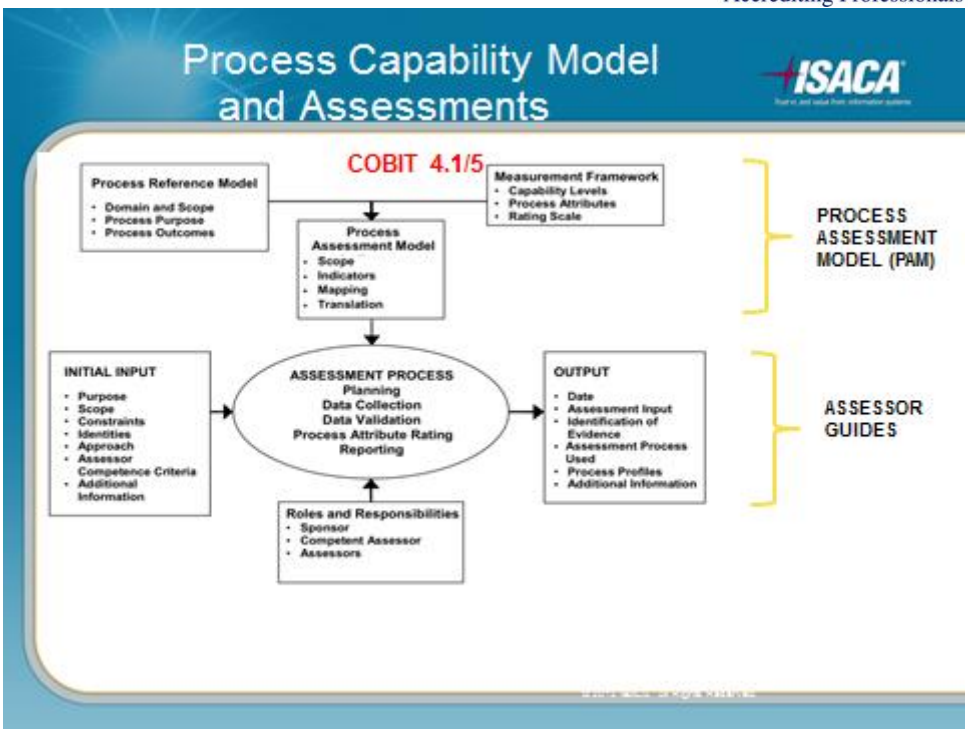
While the words are similar the scales are **NOT the same**:

- The COBIT PAM uses the capability scale from ISO/IEC 15504, whereas the existing COBIT maturity models uses a scale derived from SEI\CMMI approach
- A PAM level 3 is **NOT the same as** a CMM level 3
- **Assessments done under the PAM are likely to result in 'lower' scores**
- PAM assessments are based on more fully defined and defensible attributes.

*****NOTE:** 'There is no ***direct relationship*** between the existing COBIT 4.1 CMM and the new approach based on ISO 15504'.

3.5 Overview of the COBIT Capability Model & Assessments

Figure 2



Candidates are required to know and understand only the PAM the process model concepts. The assessor programme is introduced but will form part of a more detailed assessor training course and certificate.

The PAM comprises 3 important sections:

- The Process Reference Model
- The Process Assessment Model
- The Measurement Framework

3.6 The Process Reference Model (PRM)

Process Reference Models ***provide the mechanism whereby defined Process Assessment Models are related to the measurement framework defined by ISO/IEC 15504***. A Process Reference Model is defined external to this part of ISO/IEC 15504 and **provides the basis for one or more Process Assessment Models**. ***Process Assessment Model(s) are based on the process descriptions provided in Process Reference Models.***

There are two versions the COBIT 4.1 and COBIT 5. Both versions are presented in the training as the measurement framework and the process assessment model is the same.

Figure 3 (Figure 31, Page 74, COBIT Framework Guide)

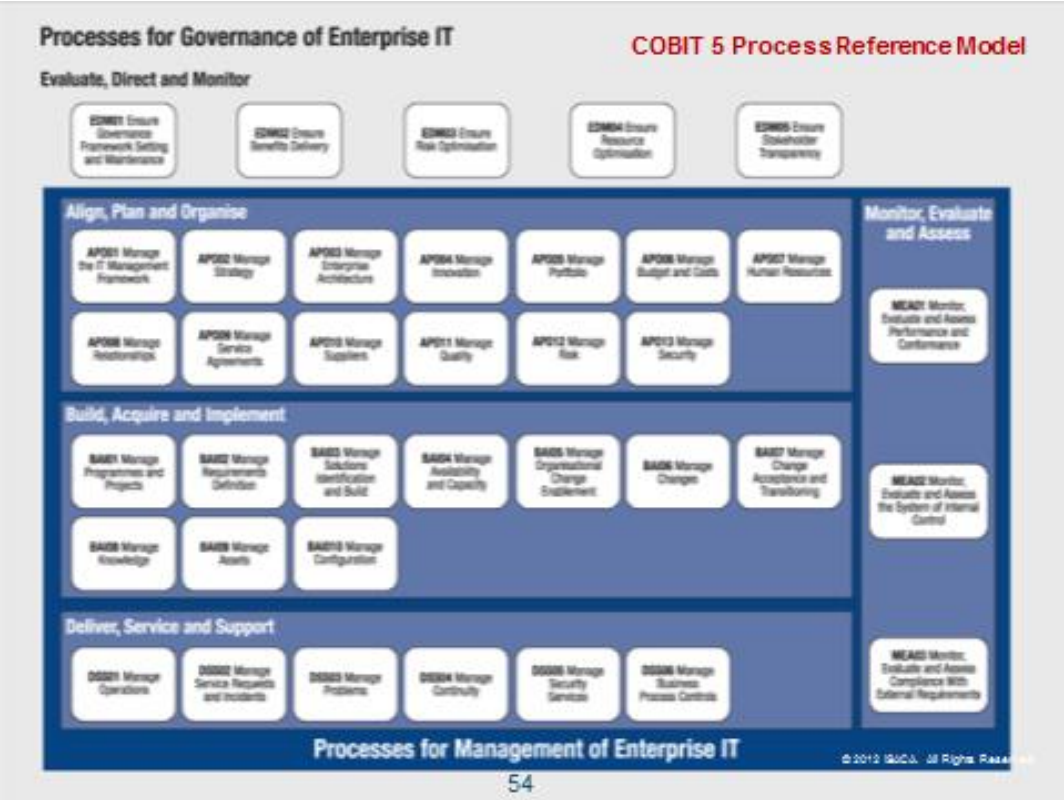
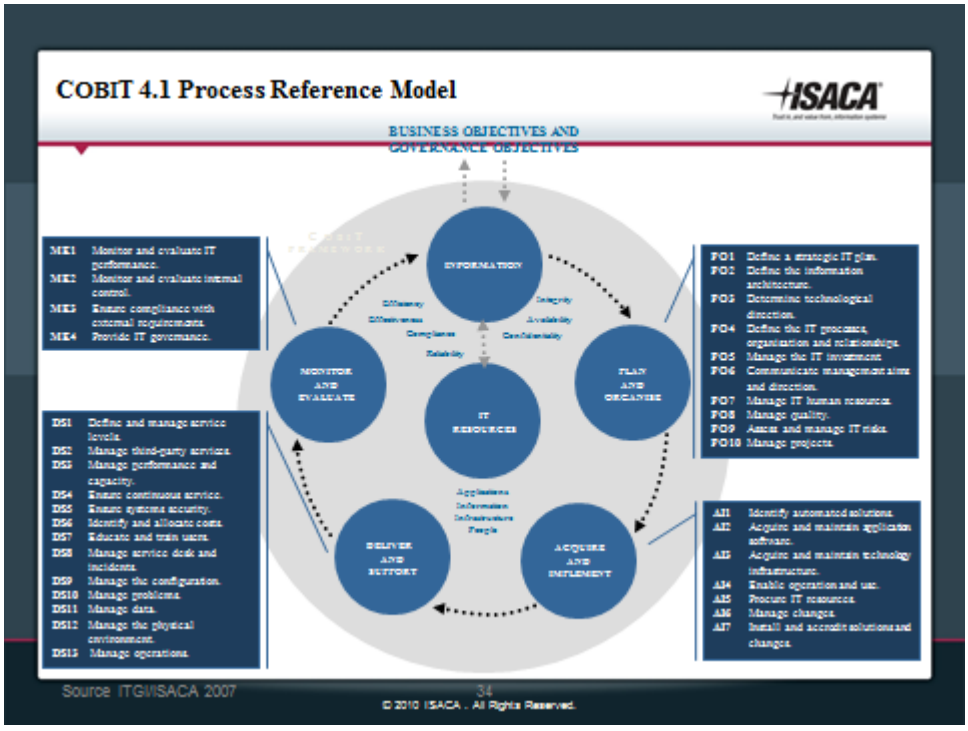


Figure 4 – COBIT 4.1 PRM



3.6.1 Important definitions

ISO 15504 defines the following key terms:

- **Process purpose** – The high-level measurable objectives of performing the process and the likely outcomes of effective implementation of the process.
- **Process outcomes** - An observable result of a process (Note: An outcome is an artefact, a significant change of state or the meeting of specified constraints.)
- **Base practices** – The activities that, when consistently performed, contribute to achieving the specific **process purpose.**
- **Work product -** An artefact associated with the execution of a process – defined in terms of process 'inputs' and process 'outputs'.
- **Generic practice -** These are activities of a generic type and provide guidance on the implementation of the attribute's characteristics. They support the achievement of the process attribute from levels 2 to 5 only. Many of them concern management practices, i.e. practices that are established to support the process performance.
- **Generic Work Products –** These are indicators are sets of characteristics that would be expected to be evident in work products of generic types as a result of achievement of an attribute. The generic work products form the basis for the classification of the work products defined as process performance indicators; they represent basic types of work products that may be inputs to or outputs from all types of process. In the process dimension they are used from Levels 2 to 5 only.

3.6.2 Application of ISO definitions to the COBIT 5 PRM

Figure 3 of the COBIT 5 'Business Framework for the Governance and Management of Enterprise IT' outlines the structure of the 37 processes. This model was developed using the ISO 15504 approach and concepts so the key terms defined by ISO 15504 are already in the PRM except for:

- Process Outcomes – These are the process goals defined in the COBIT 5 PRM.
- Base Practice – This is the management practice defined in the COBIT 5 PRM.

3.6.3 Application of ISO definitions to the COBIT 4.1 PRM

Figure 4 outlines the Process reference Model for COBIT 4.1. Because COBIT 4.1 was not developed to meet the ISO 15504 approach, so in order to meet the ISO 15504 definitions the following aspects of COBIT 4.1 were adapted to meet the definitions and criteria:

- Process Purpose - The COBIT 4.1 Process 'Business Requirements' statements
- Process Outcome – Control Objectives
- Base Practice – RACI Activities
- Work Products – Process Inputs and Outputs.

3.7 The Process Assessment Model

ISO 15504 defines two levels:

- **A Capability Dimension** which focuses on the process capability dimension (levels 1 to 5) based on process attribute indicators (PAI) that are solely deals with Generic attributes
- **A Process dimension** that contains additional indicators for process for process performance assessment based on very specific performance indicators.
- **** Note that the PRM or process reference model is used only for this dimension** at LEVEL 1. Levels 2 to 5 focuses only on the Capability dimension based on generic attributes. The ISO model shown at **Figure 5** below demonstrates this concept.

Figure 5 – Adapted from ISO 15504-02

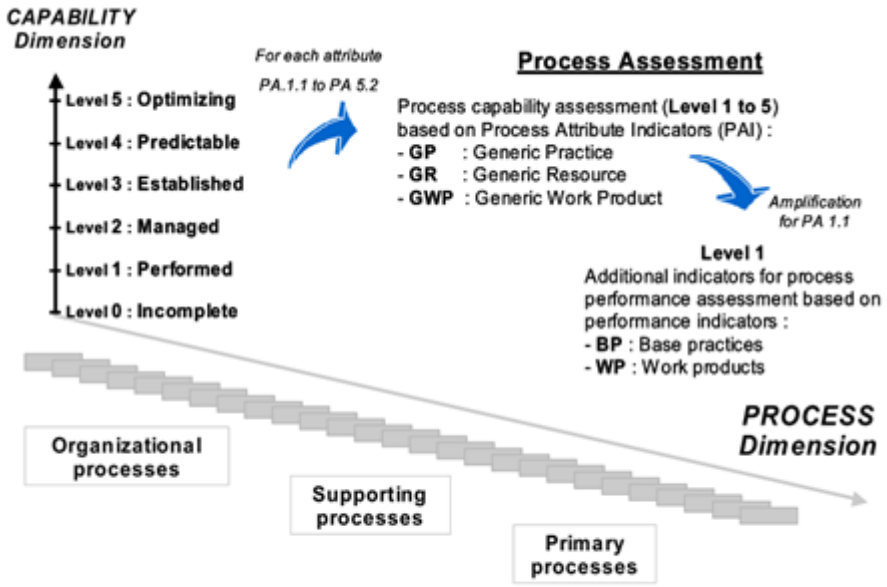
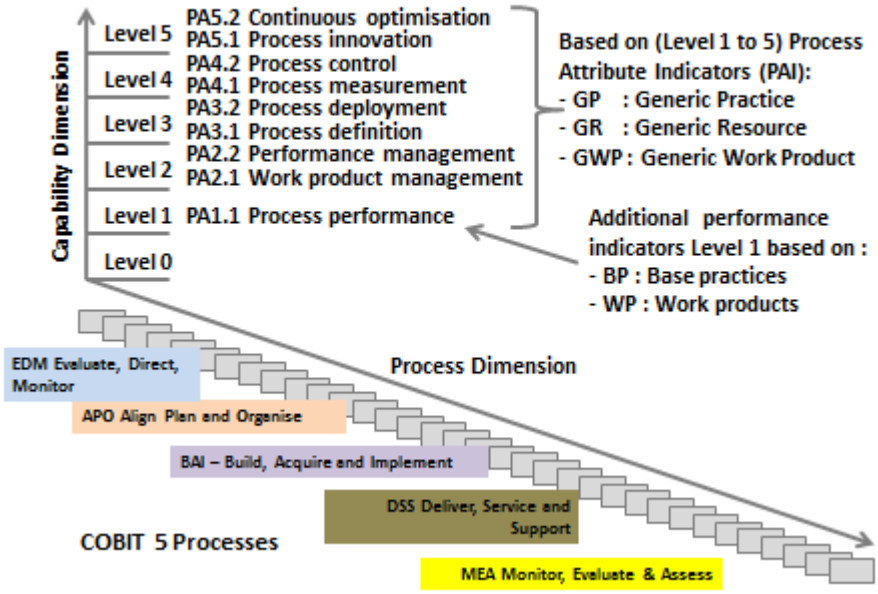


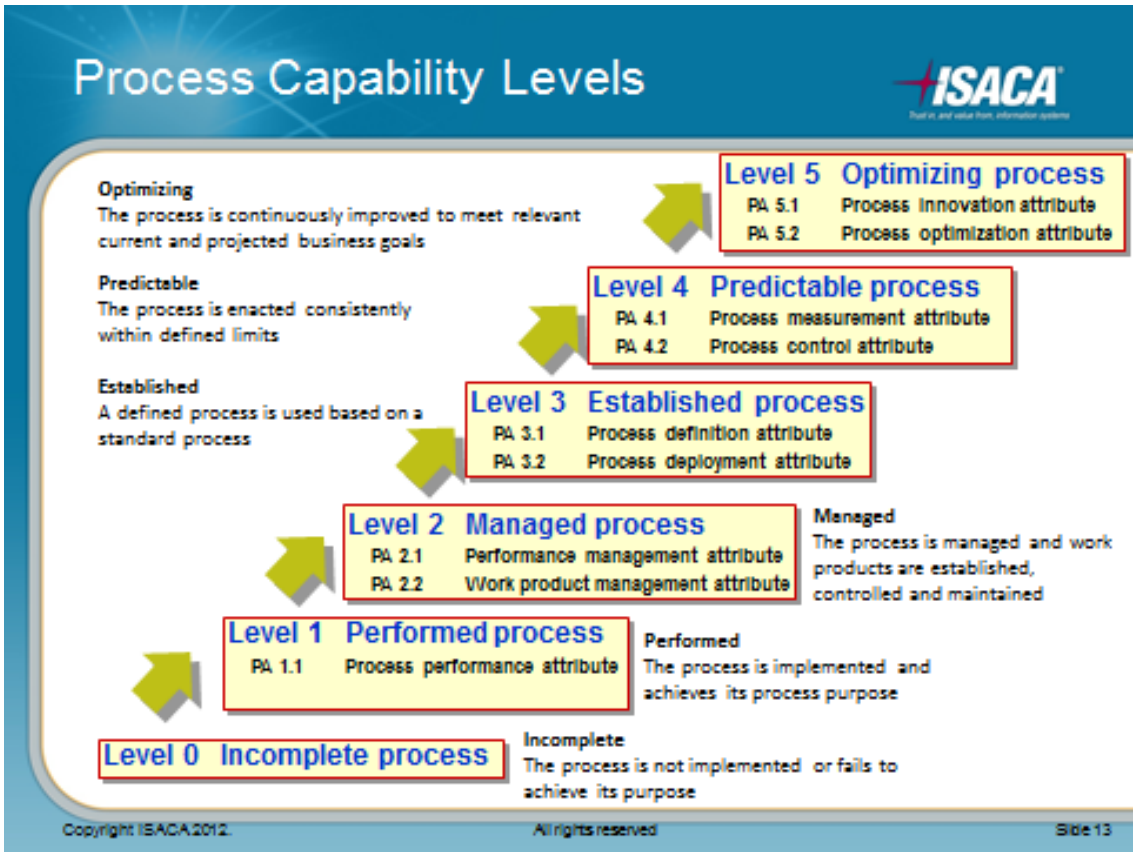
Figure 3 — Assessment indicators

Adapting this for COBIT 5 we arrive at Figure 6:



3.7.1 Capability Levels and Attributes explained

Figure 7 - COBIT PAM - 6 Capability Levels & 9 Attributes



COBIT assessment process measures the extent to which a given process achieves specific attributes relative to that process— 'process attributes'

COBIT assessment process **defines 9 process attributes** (based on ISO/IEC 15504-2):

- PA 1.1 Process performance
- PA 2.1 Performance management
- PA 2.2 Work product management
- PA 3.1 Process definition
- PA 3.2 Process deployment
- PA 4.1 Process measurement
- PA 4.2 Process control
- PA 5.1 Process innovation
- PA 5.2 Continuous optimisation

3.8 The Measurement Framework

COBIT assessment process measures the extent to which a given process achieves the process attributes:

N **Not achieved 0 to 15% achievement** - There is little or no evidence of achievement of the defined attribute in the assessed process.

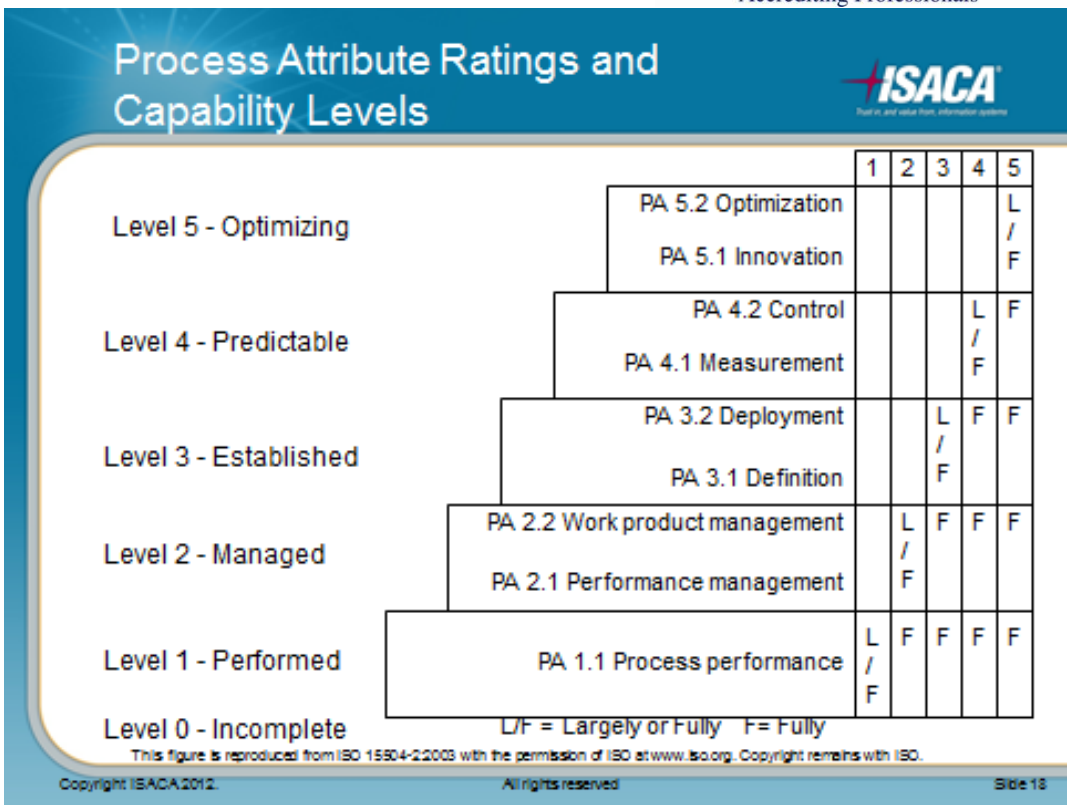
P **Partially achieved 15% to 50% achievement** - There is evidence of a sound systematic approach to an achievement of the defined attribute in the assessment approach.

L **Largely achieved 50% to 85% achievement** - There is evidence of a sound, systematic approach to the significant achievement of the defined attribute in the assessment.

F **Fully achieved 85% to 100% achievement** - There is evidence of a complete and systematic approach to and full achievement of the defined attribute in the assessed approach.

** **Note** to 'pass' a process capability level, a process must achieve either an L – Largely or F – Fully.

** **Note** also that to be able to move to another level of assessment any deficiencies that scored L – Largely must be improved to an F – Fully before an enterprise can move on. This is demonstrated in the following F**igure 8 below:**



For example – achieving level 1 capability requires Attribute PA 1.1 to be fully or largely achieved.

- Achieving level 2 requires both PA2.1 and PA2.2 to be fully or largely achieved and PA1.1 to be fully achieved.
- Achieving level 3 requires both PA 3.1 and PA3.2 to be fully or largely achieved and PA1.1, 2.1 and 2.2 to be fully achieved.
- And so on for capability levels 4 and 5.

APPENDIX A - PAM Glossary ISO 15504-1 {References taken from ISO}

3.17 base practice
an activity that, when consistently performed, contributes to achieving a specific process purpose

3.4 assessment indicator
sources of objective evidence used to support the assessors' judgement in rating process attributes EXAMPLE Work products, practice, or resource

3.16 attribute indicator
an assessment indicator that supports the judgement of the extent of achievement of a specific process attribute

3.18 capability dimension
the set of elements in a Process Assessment Model explicitly related to the Measurement Framework for Process Capability NOTE The attributes are organized into capability levels, comprising an ordinal scale of process capability

3.19 capability indicator
an assessment indicator that supports the judgement of the process capability of a specific process NOTE An attribute indicator is a specific instance of a capability indicator.

3.10 assessment purpose
a statement, provided as part of the assessment input, which defines the reasons for performing the assessment

3.12 assessment scope
a definition of the boundaries of the assessment, provided as part of the assessment input, encompassing the organizational limits of the assessment, the processes to be included, and the context within which the processes operate (see *process context)*

3.5 assessment input
information required before a process assessment can commence

3.3 assessment constraints
restrictions placed on the use of the assessment outputs and on the assessment team's freedom of choice regarding the conduct of the assessment

3.9 assessment process
a determination of the extent to which the organization's standard processes contribute to the achievement of its business goals and to help the organization focus on the need for continuous process improvement

3.11 assessment record
an orderly, documented collection of information which is pertinent to the assessment and adds to the understanding and verification of the process profiles generated by the assessment

3.28 process
set of interrelated or interacting activities which transforms inputs into outputs

3.29 process assessment
a disciplined evaluation of an organizational unit's processes against a Process Assessment Model

3.30 Process Assessment Model
a model suitable for the purpose of assessing process capability, based on one or more Process Reference Models

3.48
Process Reference Model
a model comprising definitions of processes in a life cycle described in terms of process purpose and outcomes, together with an architecture describing the relationships between the processes

3.13 assessment sponsor
the individual or entity, internal or external to the organizational unit being assessed, who requires the assessment to be performed, and provides financial or other resources to carry it out

3.14 assessment team
one or more individuals who jointly perform a process assessment

3.15 assessor
an individual who participates in the rating of process attributes
NOTE An assessor is either a competent assessor or a provisional assessor

3.20 competent assessor
an assessor who has demonstrated the competencies to conduct an assessment and to monitor and verify the conformance of a process assessment

3.8 assessment participant
an individual who has responsibilities within the scope of the assessment e.g. include but are not limited to the assessment sponsor, assessors, and organizational unit members.