Foundational IT Governance

A Foundational Framework for Governing Enterprise IT

Adapted from the "ISACA COBIT 5 Framework"

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ITG Presentation Suite

This presentation is integral to a series of concepts presented in a suite of documents as listed below. In order to thoroughly understand the aggregation of the concepts presented it is recommended that one review them in order as listed:

- Fundamental IT Governance Framework – Reference
- Fundamental IT Governance – Applied (NASA & ARC)
- **Foundational IT Governance Framework – Reference**
- Comprehensive IT Governance Framework

Agenda

- **IT Governance Defined**
- Foundational Enterprise IT Governance
  - What is COBIT / COBIT 5?
  - COBIT 5 Objectives
  - COBIT 5 Framework
  - COBIT 5 Benefits
- COBIT 5 Principles
  - Principle 1 – Meeting Stakeholder Needs
  - Principle 2 – Covering the Enterprise End-To-End
  - Principle 3 – Applying a Single Integrated Framework
  - Principle 4 – Enabling a Holistic Approach
  - Principle 5 – Separating Governance & Management
- COBIT Process Capability Model
- Implementation Guidance
- Summary & Recommendations
- Questions?
- References

IT Governance Defined

Governance

- Ensures that enterprise objectives are achieved by **evaluating** stakeholder needs, conditions, and options
- Sets **direction** through prioritization and decision making
- **Monitors** performance, compliance, and progress against the agreed upon direction and objectives

Management

- **Plans, builds, runs, & monitors** activities in alignment with the direction set by the governance body to achieve the enterprise objectives

IT Governance Defined

Integration of Governance & Management

- Distinction between Governance & Management often misunderstood
- **Effective integration of these two elements is critical** for successful IT Governance in any enterprise or organization
- IT Governance is **NOT** responsible for **"rendering"** IT infrastructure
- IT Governance **IS** responsible for **"oversight of the management processes"** that render IT infrastructure

ITG Primary Objectives

Effective IT Governance achieves five primary objectives:

- **Strategic Alignment –**

  Ensure IT is aligned with the business – focus on aligning technology with the business and collaborative solutions

- **Value Delivery –**

  Ensure IT delivers value to the business – concentrating on optimizing expenses and proving the value of IT

- **Risk Management –**

  Ensure IT manages risk – addressing the safeguard of IT assets, disaster recovery, and continuity of operations

- **Resource Management –**

  Ensure IT manages resources – realizing the optimal investment in, and proper management of, critical IT resources

- **Performance Management –**

  Ensure IT manages performance – tracking & monitoring strategy implementation, project success, resource usage, process performance, and service delivery

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Foundational Enterprise IT Governance

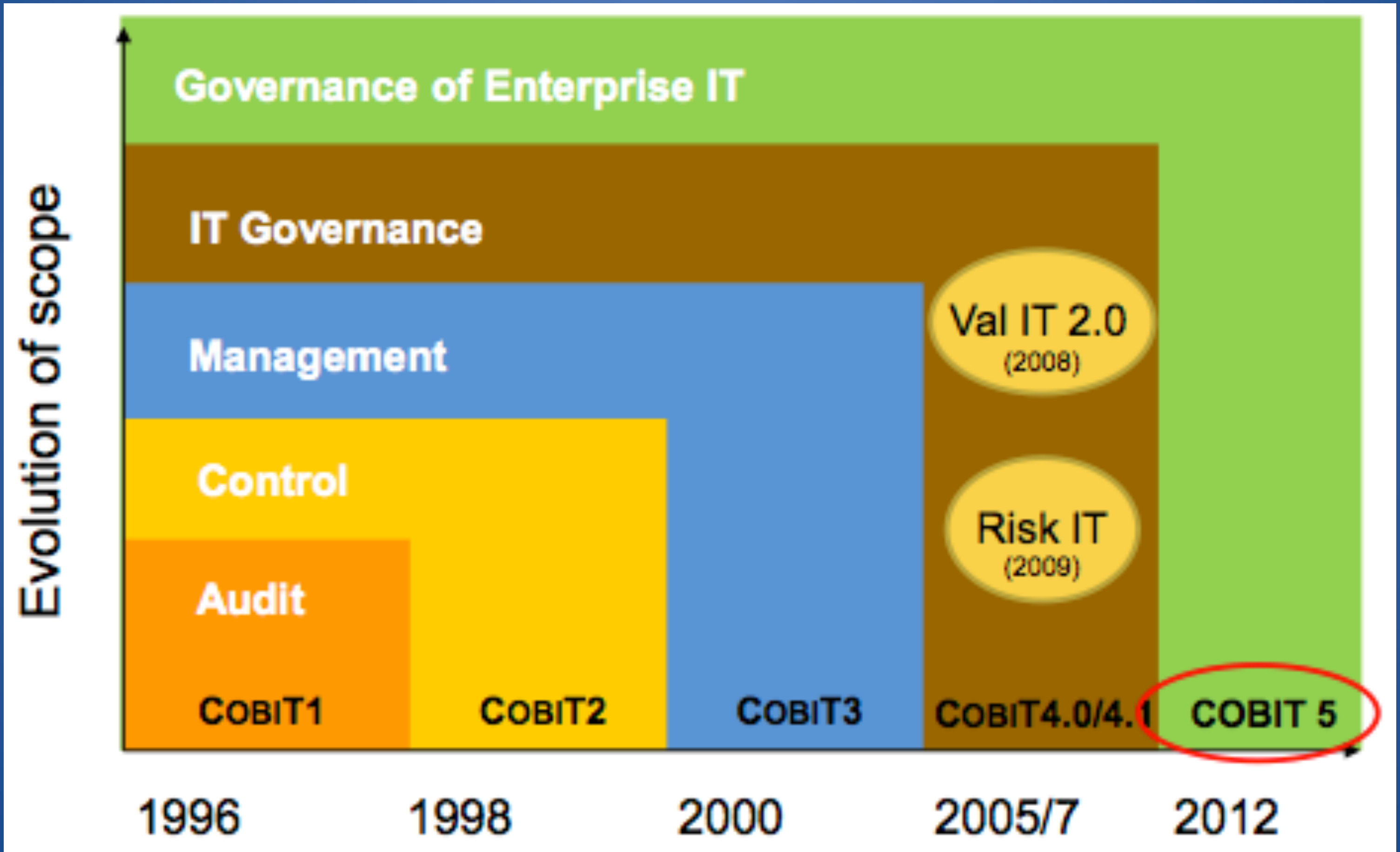
This presentation is based upon ISACA's Foundational Enterprise IT Governance Framework known as COBIT 5

COBIT® 5

AN ISACA® FRAMEWORK

What is COBIT?

- Control Objectives for Information and Related Technology
  - Now simply referred to as “COBIT”



COBIT Evolution

What is COBIT 5?

- COBIT 5 is a Foundational enterprise IT Governance framework, providing a basis to effectively integrate other complimentary frameworks, standards, and practices.
- As a single overarching framework it serves as a consistent and integrated source of guidance in a non-technical, technology-agnostic, common language.
- COBIT 5 addresses the governance and management of information and related technology from an enterprise-wide, end-to-end perspective, including the activities and responsibilities of both the IT function and non-IT business functions.
- The end-to-end aspect is further supported by COBIT 5 coverage of all critical business elements, e.g. processes, organizational structures, principles & policies, culture, skills, service capabilities.

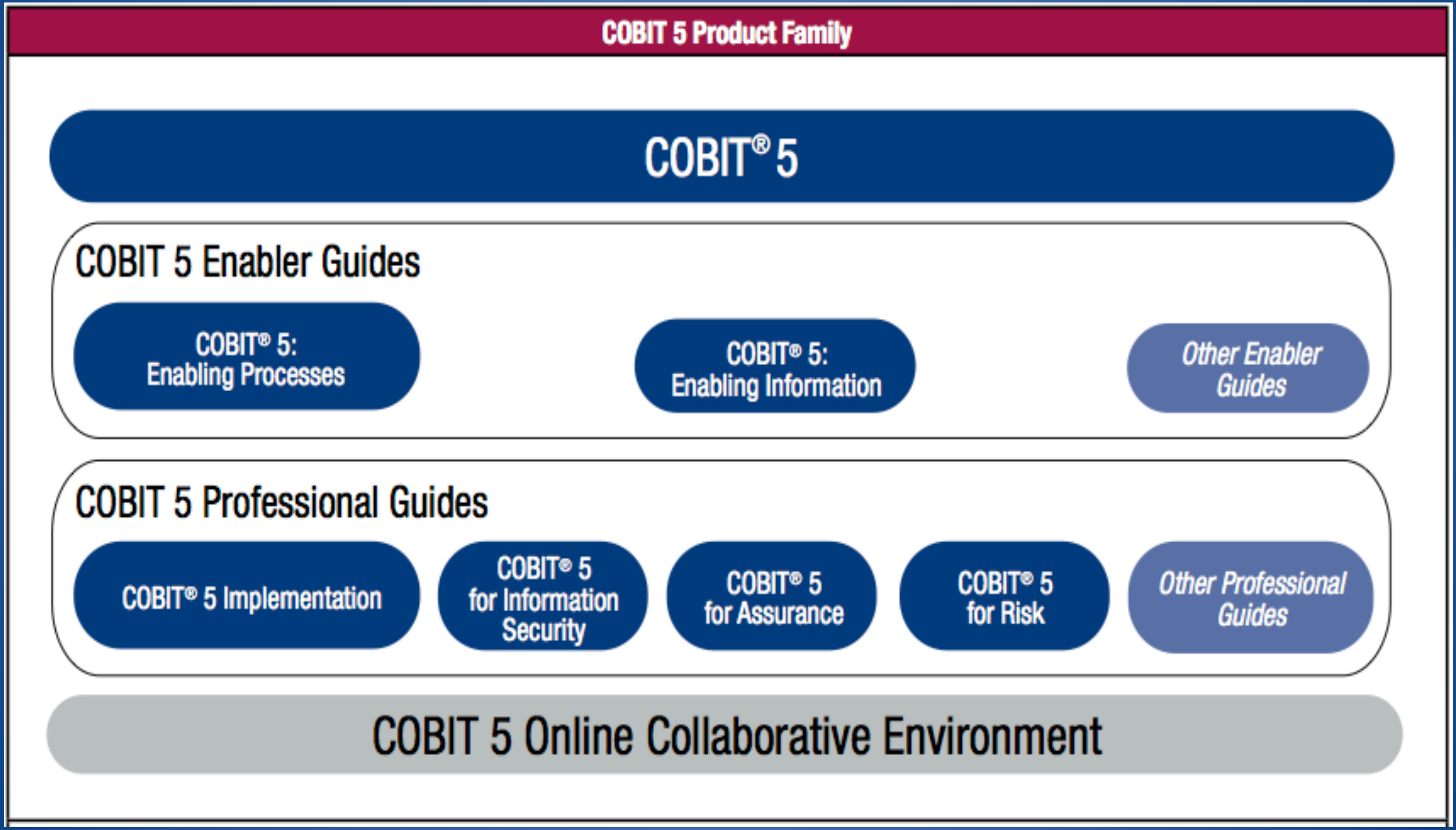
COBIT 5 Objectives

- Provide a renewed and authoritative full-spectrum framework for the governance and management of enterprise IT.
- Building on the current widely recognized and accepted COBIT framework, link together and reinforce all other major ISACA frameworks and guidance.
- Connect to and align with other major frameworks and standards (ISO 38500, ITIL, EA, NIST etc).
- Incorporate familiar components such as a Domain/Process model, Governance/Management Best Practices, RACI charts, and process input/output linkages.

The COBIT 5 Framework

- **Major Update from version 4.1**
- **First Exposure Draft release -** June 28, 2011
  - "The Framework" – Draft
  - "Process Reference Guide" – Draft
- **Documents released on April 10, 2012**
  - COBIT 5 Framework
  - COBIT 5 Enabling Processes
  - COBIT 5 Implementation
- **Documents under development**
  - COBIT 5 Enabling Information & other enabler guides
  - COBIT 5 for Information Security
  - COBIT 5 for Assurance
  - COBIT 5 for Risk
  - Other professional guides

The COBIT 5 Framework



COBIT 5 Product Family

COBIT® 5

COBIT 5 Enabler Guides

COBIT® 5: Enabling Processes

COBIT® 5: Enabling Information

Other Enabler Guides

COBIT 5 Professional Guides

COBIT® 5 Implementation

COBIT® 5 for Information Security

COBIT® 5 for Assurance

COBIT® 5 for Risk

Other Professional Guides

COBIT 5 Online Collaborative Environment

The COBIT 5 Framework

- **A governance & management framework**
- Starts with **stakeholder drivers and needs** relative to IT
- Intended for all enterprises including **non-profit and public sector**
- **Integrates, Links, and Reinforces other major frameworks and guidance:**
  - IT Infrastructure Library (ITIL)
  - ISO Standards
  - The Open Group Architecture Framework (TOGAF)
  - Project Management Body Of Knowledge (PMBOK)
  - Val IT (value framework - ITGI)
  - Risk IT (risk framework - ITGI)
  - Business Model for Information Security (BMIS - ITGI)
  - IT Assurance Framework (ITAF - ITGI)
  - IT Governance Board Briefing (ITGI)
  - Taking Governance Forward (ITGI)

The COBIT 5 Framework

- **Framework components**
  - Principles
  - Architecture
  - Goals Cascade
  - Enablers
  - COBIT Process Assessment Model (PAM)
  - Implementation Guidance
- **Includes familiar ITG Framework elements**
  - Domain / Process Model
  - Governance / Management Best Practices
  - Granular Practice Activities
  - Process Inputs / Outputs
  - RACI charts

COBIT 5 Benefits

Incorporating an operational model, and a common language for all parts of the business involved in IT activities, is one of the most important and critical steps toward good governance. It provides a framework for:

- Integrating Best Practices
- Communicating with Stakeholders
- Measuring & Monitoring IT Performance

COBIT 5 Benefits

Enterprise-wide Benefits

- **Benefits realization** through Enterprise IT Governance
- **Business-user satisfaction** with IT engagement and services
- **IT seen as a key enabler**
- **Compliance** with relevant laws, regulations, and policies

COBIT 5 Benefits

Key Business Benefits

- **End-to-end** enterprise governance and management of IT
- **Transparency** in decision making

Key IT Benefits

- **Agility** of IT to respond to business needs
- **Alignment** of IT tasks/activities with business needs
- **Optimization** of:
  - IT assets & resources
  - IT-related business risk
  - Cost performance of IT

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IT Governance Principles

Principles and policies are the vehicle by which governance decisions are institutionalized within the enterprise and therefore are an interaction between governance decisions (direction setting) and management (execution of decisions)

COBIT 5 Principles

PRINCIPLE 1 – MEETING STAKEHOLDER NEEDS

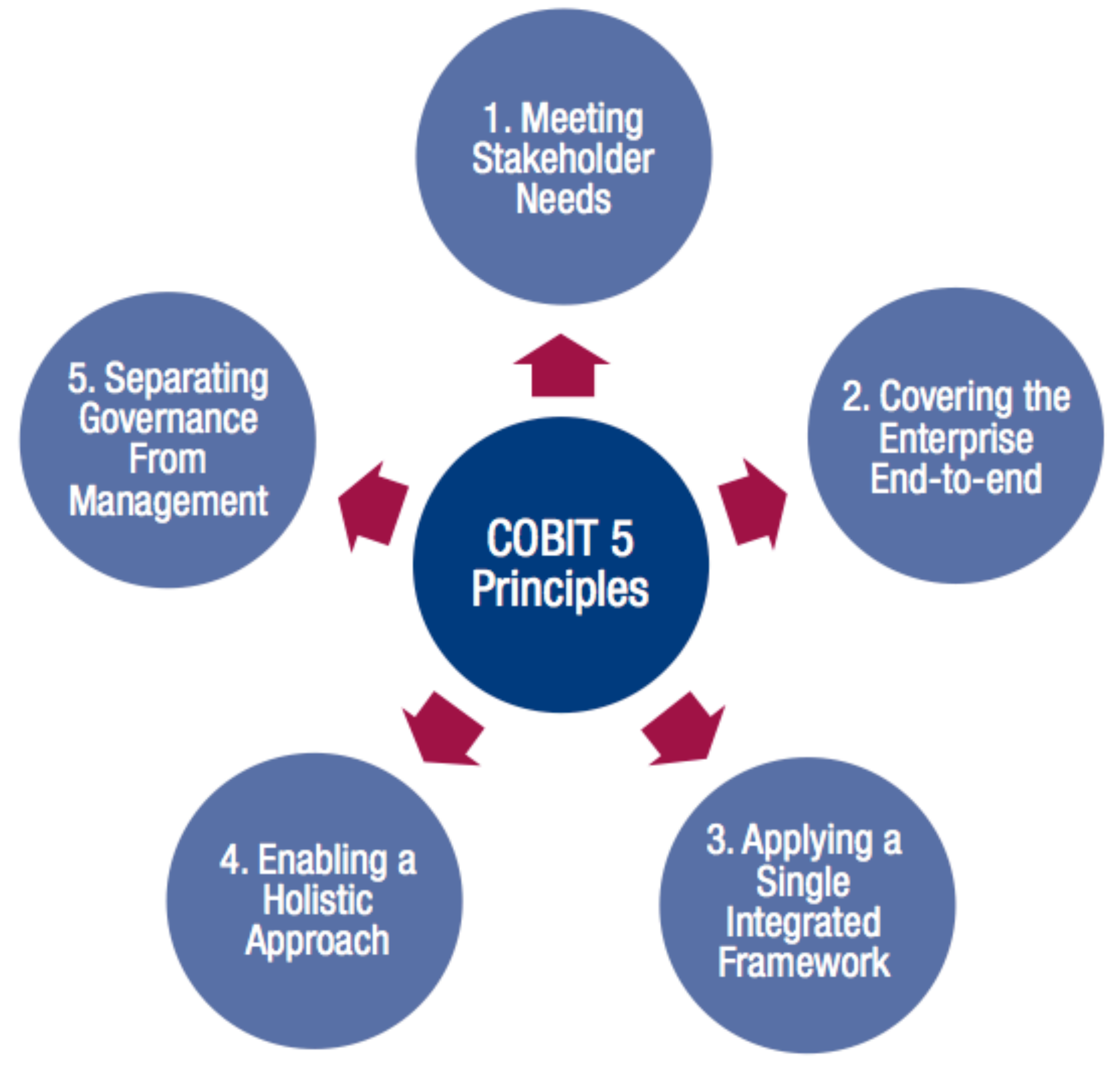
PRINCIPLE 2 – COVERING THE ENTERPRISE END-TO-END

PRINCIPLE 3 – APPLYING A SINGLE INTEGRATED FRAMEWORK

PRINCIPLE 4 – ENABLING A HOLISTIC APPROACH

PRINCIPLE 5 – SEPERATING GOVERNANCE & MANAGEMENT

COBIT 5 Principles


COBIT 5 Principles
1. Meeting Stakeholder Needs
2. Covering the Enterprise End-to-end
3. Applying a Single Integrated Framework
4. Enabling a Holistic Approach
5. Separating Governance From Management

PRINCIPLE 1

MEETING STAKEHOLDER NEEDS

- **Stakeholder Needs are influenced by:**

  A number of drivers:

  - Strategy Changes
  - Changing Business (Mission) & Regulatory Environment
  - Technology Evolutions

- **Stakeholder Needs materialize in:**

  Expectations, concerns, or requirements that support one or more of three governance objectives which together comprise "Value":

  - Benefits Realization
  - Risk Optimization
  - Resource Optimization

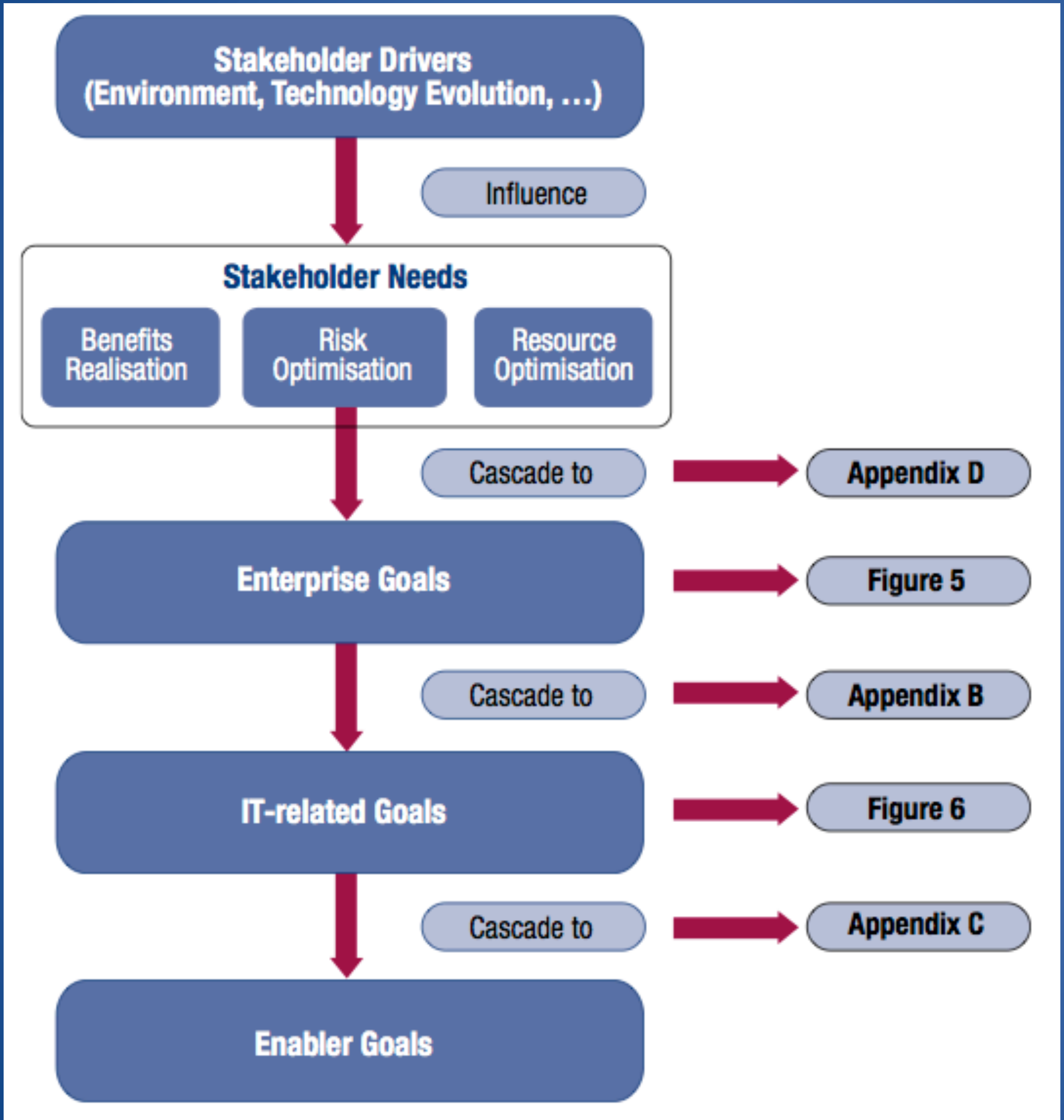
PRINCIPLE 1

MEETING STAKEHOLDER NEEDS

Goals Cascade:

- Provides the link between stakeholder needs and practical goals by translating these into increasing levels of detail and specificity:
  - **Drivers**
    - **Stakeholder Needs**
      - **Enterprise Goals**
        - **IT related Goals**
          - **Enabler Goals** (e.g. process goals)
- Allows setting specific goals at every level of the enterprise in support of the overall goals and stakeholder requirements

Goals Cascade



→ Slide 32

→ Slide 30

→ Slide 47

→ Slide 34

→ Slides 48 – 49

PRINCIPLE 2

COVERING ENTERPRISE END-TO-END

- End-to-End coverage is achieved by identifying all stakeholder needs and determining how they link to governance & management decisions & activities
- Addresses governance and management of information technology from an enterprise-wide, end-to-end perspective
- This relates to the enterprise objectives of benefits realization, risk optimization, and resource optimization – i.e. "Value"

Stakeholder Needs

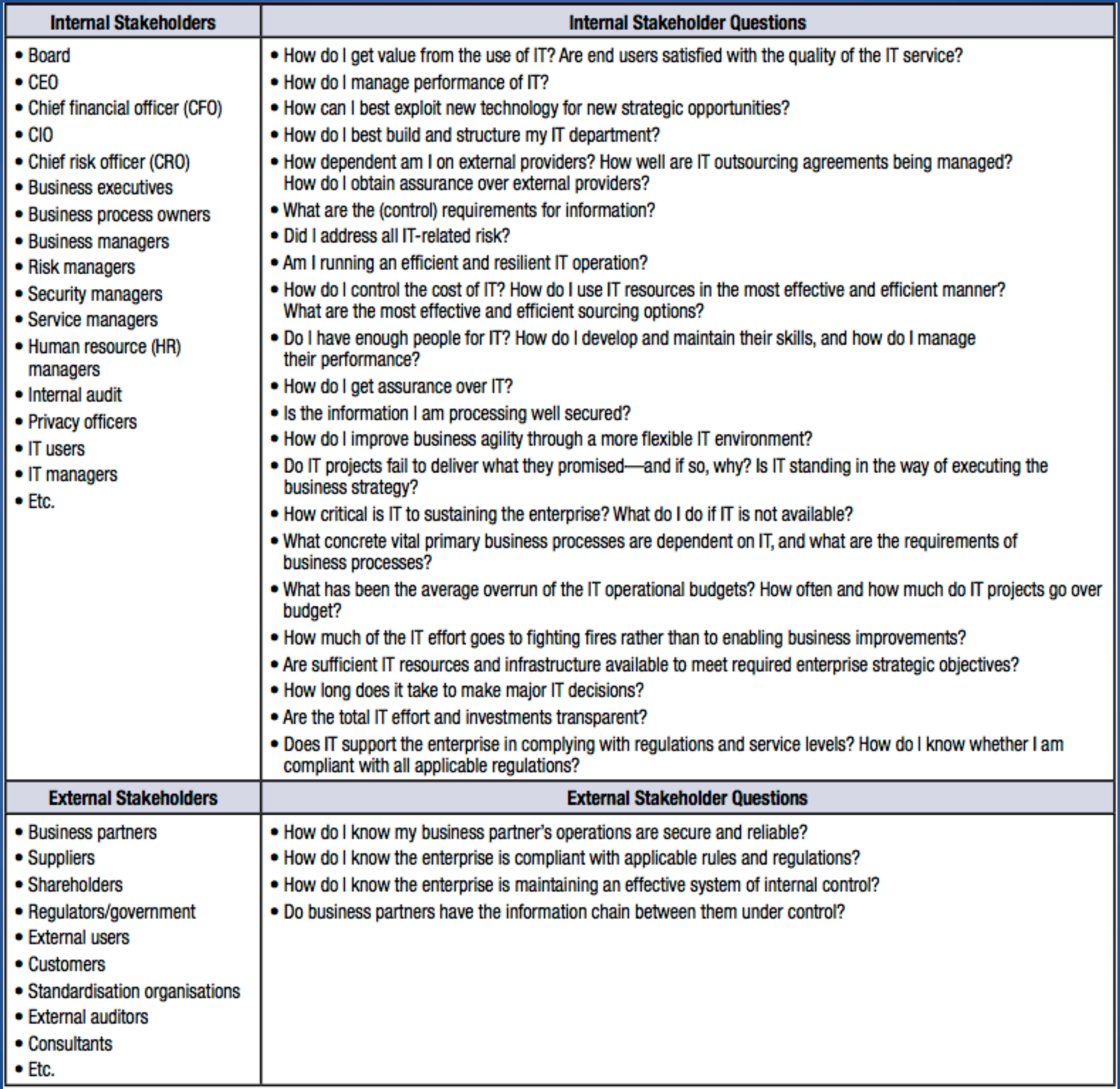
Maintain Our Focus

As service providers to our stakeholders we must remember that Enterprise goals are a proxy for Stakeholder Needs

How does IT Governance serve our customers?

From a stakeholders point of view it is valuable to understand how their needs relate to Enterprise & IT-related goals

Stakeholder Needs



Internal Stakeholders	Internal Stakeholder Questions
• Board • CEO • Chief financial officer (CFO) • CIO • Chief risk officer (CRO) • Business executives • Business process owners • Business managers • Risk managers • Security managers • Service managers • Human resource (HR) managers • Internal audit • Privacy officers • IT users • IT managers • Etc.	• How do I get value from the use of IT? Are end users satisfied with the quality of the IT service? • How do I manage performance of IT? • How can I best exploit new technology for new strategic opportunities? • How do I best build and structure my IT department? • How dependent am I on external providers? How well are IT outsourcing agreements being managed? How do I obtain assurance over external providers? • What are the (control) requirements for information? • Did I address all IT-related risk? • Am I running an efficient and resilient IT operation? • How do I control the cost of IT? How do I use IT resources in the most effective and efficient manner? What are the most effective and efficient sourcing options? • Do I have enough people for IT? How do I develop and maintain their skills, and how do I manage their performance? • How do I get assurance over IT? • Is the information I am processing well secured? • How do I improve business agility through a more flexible IT environment? • Do IT projects fail to deliver what they promised—and if so, why? Is IT standing in the way of executing the business strategy? • How critical is IT to sustaining the enterprise? What do I do if IT is not available? • What concrete vital primary business processes are dependent on IT, and what are the requirements of business processes? • What has been the average overrun of the IT operational budgets? How often and how much do IT projects go over budget? • How much of the IT effort goes to fighting fires rather than to enabling business improvements? • Are sufficient IT resources and infrastructure available to meet required enterprise strategic objectives? • How long does it take to make major IT decisions? • Are the total IT effort and investments transparent? • Does IT support the enterprise in complying with regulations and service levels? How do I know whether I am compliant with all applicable regulations?
External Stakeholders	**External Stakeholder Questions**
• Business partners • Suppliers • Shareholders • Regulators/government • External users • Customers • Standardisation organisations • External auditors • Consultants • Etc.	• How do I know my business partner's operations are secure and reliable? • How do I know the enterprise is compliant with applicable rules and regulations? • How do I know the enterprise is maintaining an effective system of internal control? • Do business partners have the information chain between them under control?

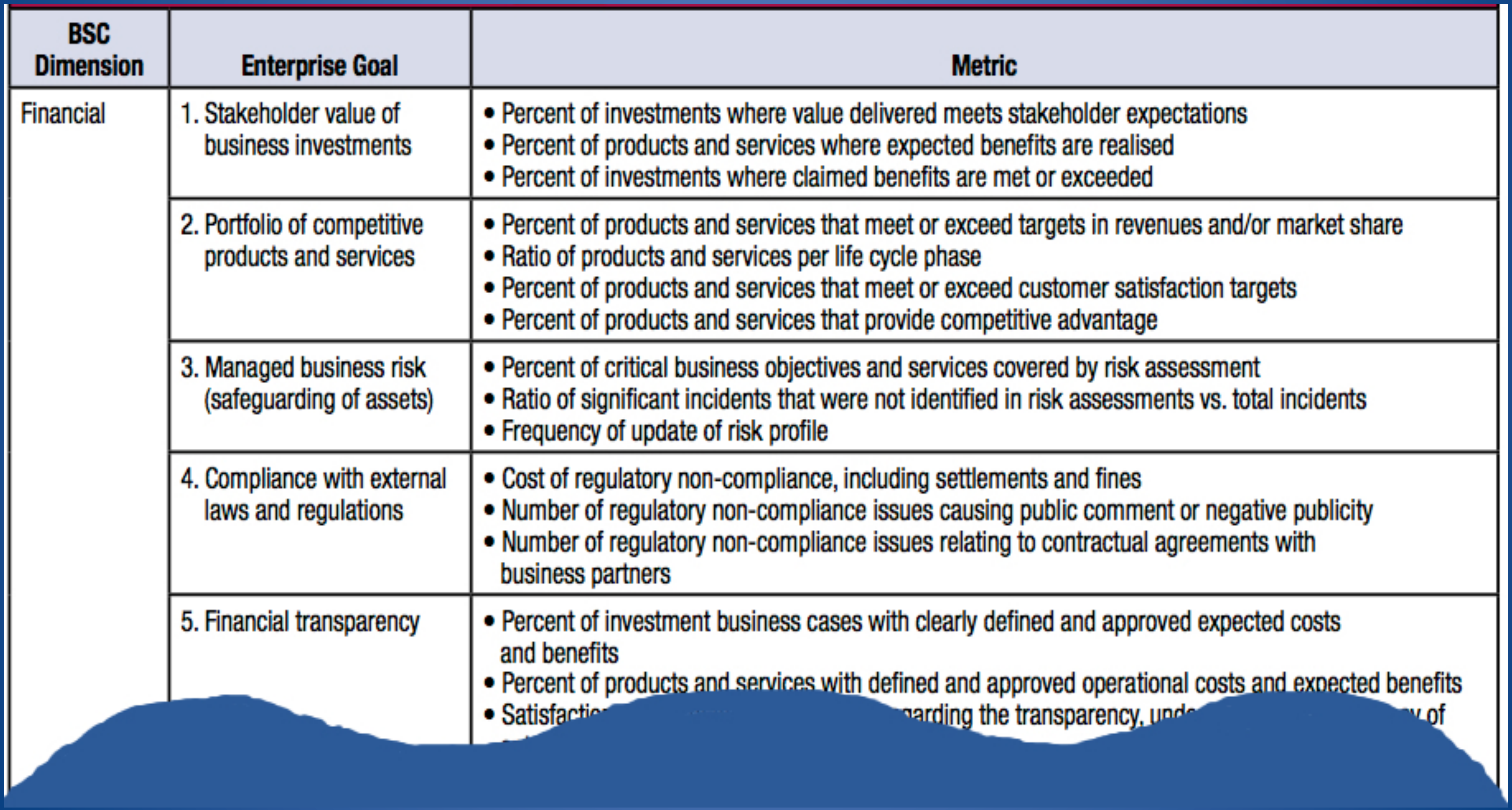
Enterprise Goals & Metrics

- Enterprise Goals (17)
  - Enterprise Goals Sample Metrics (54)

Enterprise Goals

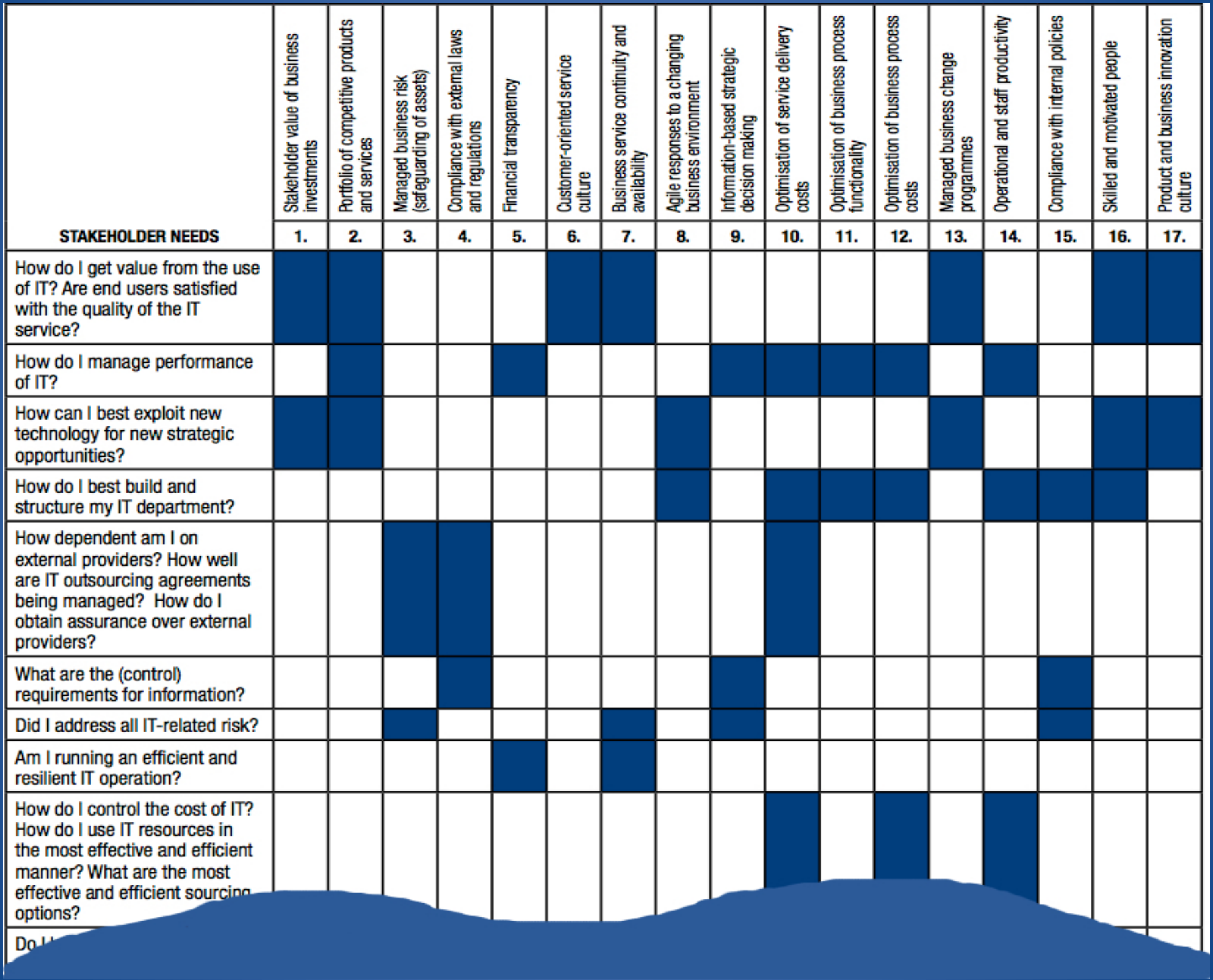
1. Stakeholder value of business investments
2. Portfolio of competitive products and services
3. Managed business risks (safeguarding of assets)
4. Compliance with external laws and regulations
5. Financial transparency
6. Customer-oriented service culture
7. Business service continuity and availability
8. Agile responses to a changing business environment
9. Information-based strategic decision making
10. Optimization of service delivery costs
11. Optimization of business process functionality
12. Optimization of business process costs
13. Managed business change programs
14. Operational and staff productivity
15. Compliance with internal policies
16. Skilled and motivated people
17. Product and business innovation culture

Enterprise Goals Sample Metrics



BSC Dimension	Enterprise Goal	Metric
Financial	1. Stakeholder value of business investments	• Percent of investments where value delivered meets stakeholder expectations • Percent of products and services where expected benefits are realised • Percent of investments where claimed benefits are met or exceeded
	2. Portfolio of competitive products and services	• Percent of products and services that meet or exceed targets in revenues and/or market share • Ratio of products and services per life cycle phase • Percent of products and services that meet or exceed customer satisfaction targets • Percent of products and services that provide competitive advantage
	3. Managed business risk (safeguarding of assets)	• Percent of critical business objectives and services covered by risk assessment • Ratio of significant incidents that were not identified in risk assessments vs. total incidents • Frequency of update of risk profile
	4. Compliance with external laws and regulations	• Cost of regulatory non-compliance, including settlements and fines • Number of regulatory non-compliance issues causing public comment or negative publicity • Number of regulatory non-compliance issues relating to contractual agreements with business partners
	5. Financial transparency	• Percent of investment business cases with clearly defined and approved expected costs and benefits • Percent of products and services with defined and approved operational costs and expected benefits • Satisfactio [illegible] garding the transparency, und [illegible] y of

Stakeholder Needs to Enterprise Goals



	Stakeholder value of business investments	Portfolio of competitive products and services	Managed business risk (safeguarding of assets)	Compliance with external laws and regulations	Financial transparency	Customer-oriented service culture	Business service continuity and availability	Agile responses to a changing business environment	Information-based strategic decision making	Optimisation of service delivery costs	Optimisation of business process functionality	Optimisation of business process costs	Managed business change programmes	Operational and staff productivity	Compliance with internal policies	Skilled and motivated people	Product and business innovation culture
STAKEHOLDER NEEDS	**1.**	**2.**	**3.**	**4.**	**5.**	**6.**	**7.**	**8.**	**9.**	**10.**	**11.**	**12.**	**13.**	**14.**	**15.**	**16.**	**17.**
How do I get value from the use of IT? Are end users satisfied with the quality of the IT service?	■	■				■	■						■			■	■
How do I manage performance of IT?		■			■				■	■	■	■		■			
How can I best exploit new technology for new strategic opportunities?	■	■						■					■			■	■
How do I best build and structure my IT department?								■		■	■	■		■	■	■	
How dependent am I on external providers? How well are IT outsourcing agreements being managed? How do I obtain assurance over external providers?			■	■						■							
What are the (control) requirements for information?				■					■						■		
Did I address all IT-related risk?			■				■		■						■		
Am I running an efficient and resilient IT operation?					■		■										
How do I control the cost of IT? How do I use IT resources in the most effective and efficient manner? What are the most effective and efficient sourcing options?										■		■		■			
Do I																	

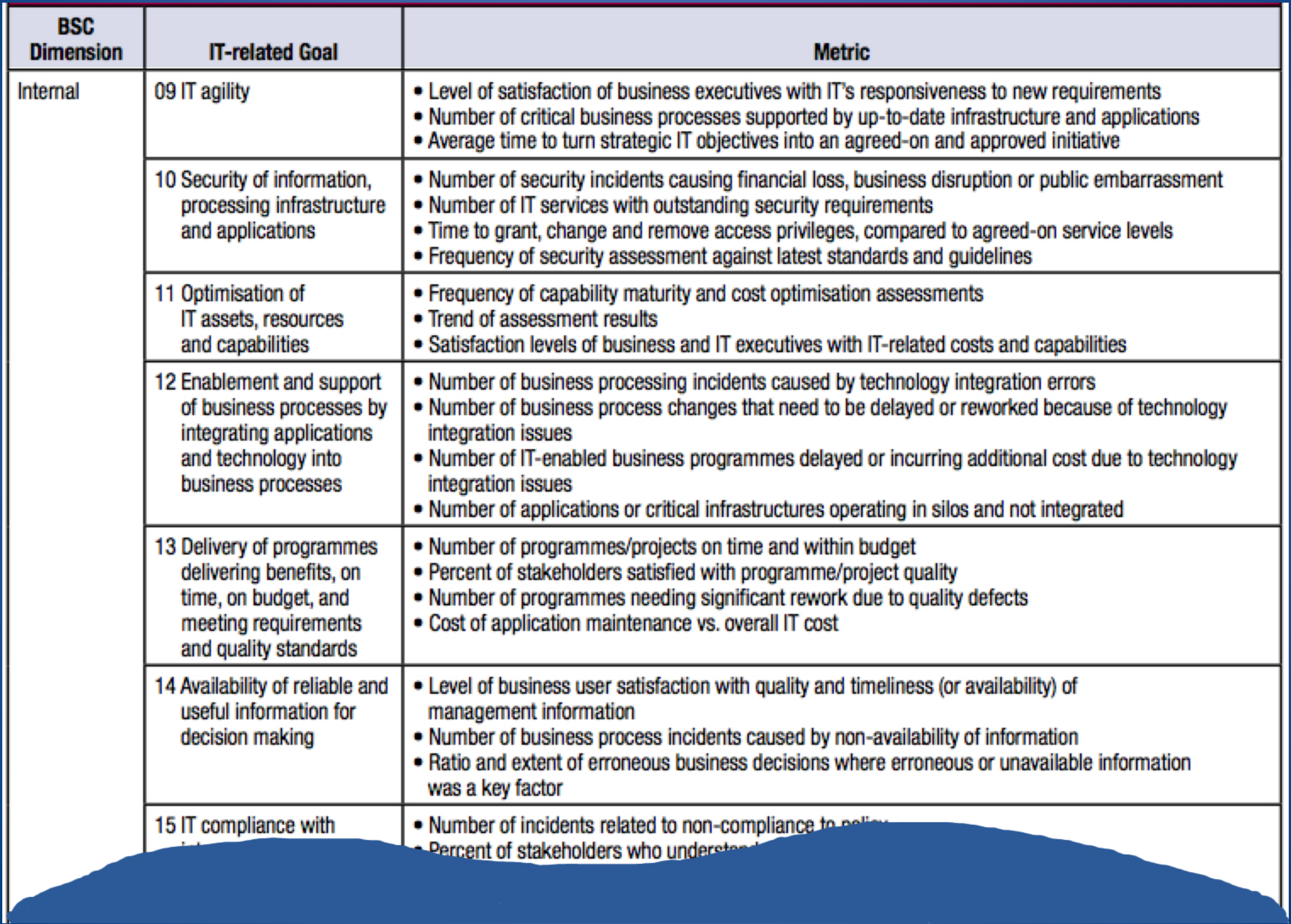
IT Related Goals & Metrics

- IT Related Goals (17)
  - IT Related Goals Sample Metrics (59)

IT Related Goals

1. Alignment of IT and business strategy
2. IT compliance and support for business compliance with external laws and regulations
3. Commitment of executive management for making IT-related decisions
4. Managed IT-related business risks
5. Realized benefits from IT-enabled investments and services portfolio
6. Transparency of IT costs, benefits, and risk
7. Delivery of IT services in line with business requirements
8. Adequate use of applications, information, and technology solutions
9. IT agility
10. Security of information, processing infrastructure, and applications
11. Optimization of IT assets, resources, and capabilities
12. Enablement and support of business processes by integrating applications and technology into business processes
13. Delivery of programs delivering benefits, on time, on budget, and meeting requirements and quality standards
14. Availability of reliable and useful information for decision making
15. IT compliance with internal policies
16. Competent and motivated business and IT personnel
17. Knowledge, expertise, and initiatives for business innovation

IT Related Goals Sample Metrics



BSC Dimension	IT-related Goal	Metric
Internal	09 IT agility	• Level of satisfaction of business executives with IT's responsiveness to new requirements • Number of critical business processes supported by up-to-date infrastructure and applications • Average time to turn strategic IT objectives into an agreed-on and approved initiative
	10 Security of information, processing infrastructure and applications	• Number of security incidents causing financial loss, business disruption or public embarrassment • Number of IT services with outstanding security requirements • Time to grant, change and remove access privileges, compared to agreed-on service levels • Frequency of security assessment against latest standards and guidelines
	11 Optimisation of IT assets, resources and capabilities	• Frequency of capability maturity and cost optimisation assessments • Trend of assessment results • Satisfaction levels of business and IT executives with IT-related costs and capabilities
	12 Enablement and support of business processes by integrating applications and technology into business processes	• Number of business processing incidents caused by technology integration errors • Number of business process changes that need to be delayed or reworked because of technology integration issues • Number of IT-enabled business programmes delayed or incurring additional cost due to technology integration issues • Number of applications or critical infrastructures operating in silos and not integrated
	13 Delivery of programmes delivering benefits, on time, on budget, and meeting requirements and quality standards	• Number of programmes/projects on time and within budget • Percent of stakeholders satisfied with programme/project quality • Number of programmes needing significant rework due to quality defects • Cost of application maintenance vs. overall IT cost
	14 Availability of reliable and useful information for decision making	• Level of business user satisfaction with quality and timeliness (or availability) of management information • Number of business process incidents caused by non-availability of information • Ratio and extent of erroneous business decisions where erroneous or unavailable information was a key factor
	15 IT compliance with in	• Number of incidents related to non-compliance to policy • Percent of stakeholders who underst

COBIT 5 Process Taxonomy

Domains (5)

- **Processes** (37)
  - 129 Process **Goals**
  - 265 Related **Metrics**
- **Practices** (210)
  - RACI Chart (Detailed Role Based Assignments)
- **Activities** (1,115)

COBIT 5 Process Taxonomy Examples

Domains	Processes	Process Goals	Related Metrics	Practices	Activities
5	37	129	265	210	1,115
• Evaluate, Direct and Monitor • Align, Plan and Organize • Build, Acquire and Implement • Deliver, Service and Support • Monitor, Evaluate and Assess	Example: • Ensure Governance Framework Setting and Maintenance • Manage Enterprise Architecture • Manage Budget and Costs	Example: • The IT strategy is cost-effective, appropriate, realistic, achievable, enterprise-focused and balanced • IT is a value driver for the enterprise • Program business cases are evaluated and prioritized before funds are allocated	Example: • Percent of projects in the IT project portfolio that can be directly traced back to the IT strategy • a) Percent total changes that are emergency fixes b) Number of emergency changes not authorized after the change • Number of business processes with undefined service agreements	Example: • Evaluate the governance system • Evaluate, prioritize, and authorize change requests • Review, maintain, and improve the continuity plan	Example: • Track compliance with policies and procedures • Review the portfolio on a regular basis to identify and exploit synergies, eliminate duplication between programs, and identify and mitigate risk • Define the required and currently available skills and competencies of internal and external resources to achieve enterprise, IT, and process goals

COBIT 5 Processes

Domain - Evaluate, Direct, & Monitor

1. EDM01: Ensure Governance Framework Setting and Maintenance
2. EDM02: Ensure Benefits Delivery
3. EDM03: Ensure Risk Optimization
4. EDM04: Ensure Resource Optimization
5. EDM05: Ensure Stakeholder Transparency

COBIT 5 Processes

Domain - Align, Plan, & Organize

6. APO01: Manage the IT Management Framework
7. APO02: Manage Strategy
8. APO03: Manage Enterprise Architecture
9. APO04: Manage Innovation
10. APO05: Manage Portfolio
11. APO06: Manage Budget and Costs
12. APO07: Manage Human Resources
13. APO08: Manage Relationships
14. APO09: Manage Service Agreements
15. APO10: Manage Suppliers
16. APO11: Manage Quality
17. APO12: Manage Risk
18. APO13: Manage Security

COBIT 5 Processes

Domain - Build, Acquire, & Implement

19. BAI01: Manage Programs and Projects
20. BAI02: Manage Requirements Definition
21. BAI03: Manage Solutions Identification and Build
22. BAI04: Manage Availability and Capacity
23. BAI05: Enable Organizational Change Enablement
24. BAI06: Manage Changes
25. BAI07: Manage Change Acceptance and Transitioning
26. BAI08: Manage Knowledge
27. BAI09: Manage Assets
28. BAI10: Manage Configuration

COBIT 5 Processes

Domain - Deliver, Service, & Support

29. DSS01: Manage Operations
30. DSS02: Manage Service Requests and Incidents
31. DSS03: Manage Problems
32. DSS04: Manage Continuity
33. DSS05: Manage Security Services
34. DSS06: Manage Business Process Controls

COBIT 5 Processes

Domain - Monitor, Evaluate, & Assess

35. MEA01: Monitor, Evaluate and Assess Performance and Conformance
36. MEA02: Monitor, Evaluate and Assess the System of Internal Control
37. MEA03: Monitor, Evaluate and Assess Compliance with External Requirements

Process Model

Identifier & Name

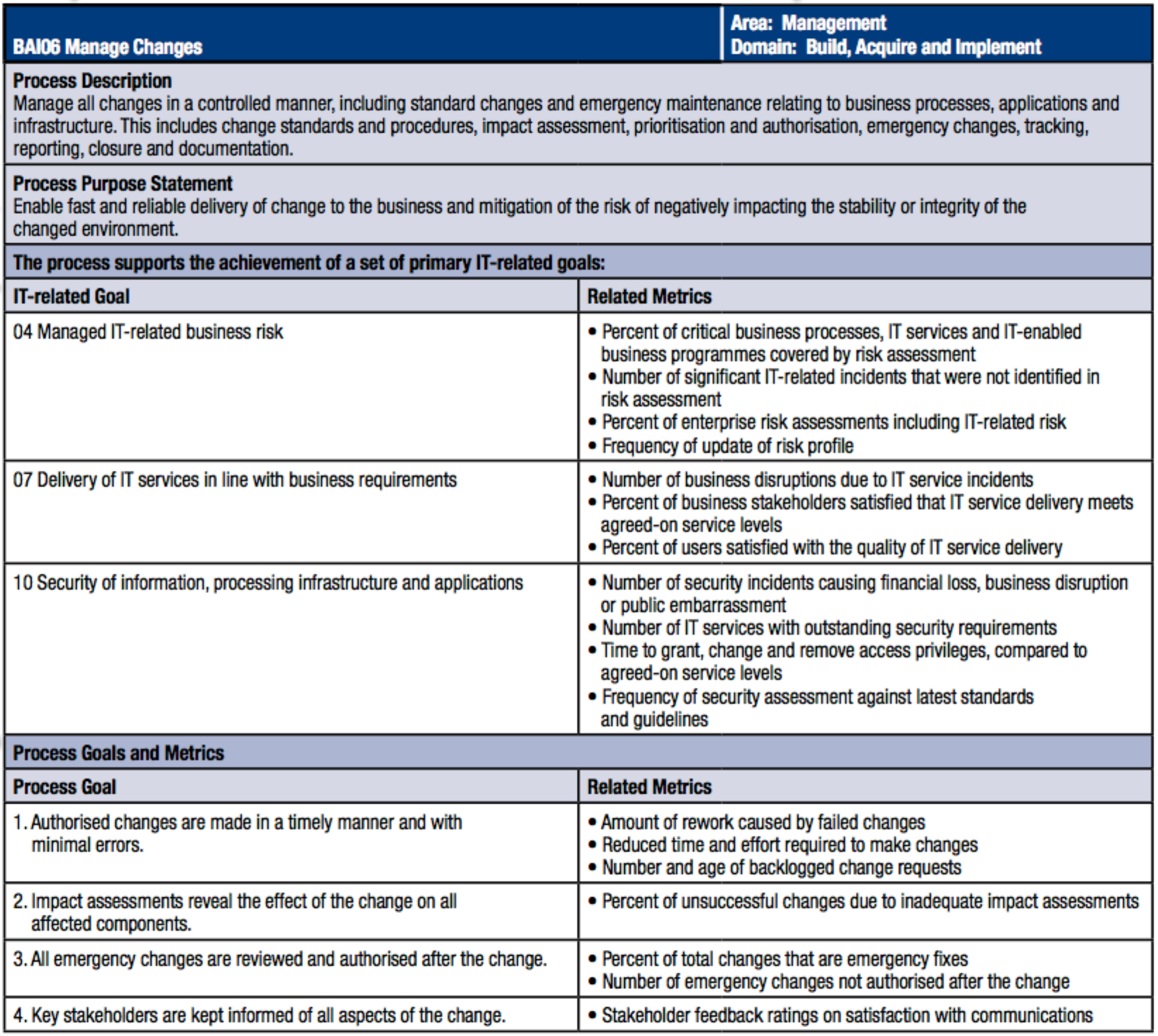
Area & Domain

Description

Purpose

IT-Related Goals & Sample Metrics Supported by the Process

Goals & Sample Metrics of the Process Itself



BAI06 Manage Changes	Area: Management Domain: Build, Acquire and Implement

Process Description
Manage all changes in a controlled manner, including standard changes and emergency maintenance relating to business processes, applications and infrastructure. This includes change standards and procedures, impact assessment, prioritisation and authorisation, emergency changes, tracking, reporting, closure and documentation.

Process Purpose Statement
Enable fast and reliable delivery of change to the business and mitigation of the risk of negatively impacting the stability or integrity of the changed environment.

The process supports the achievement of a set of primary IT-related goals:

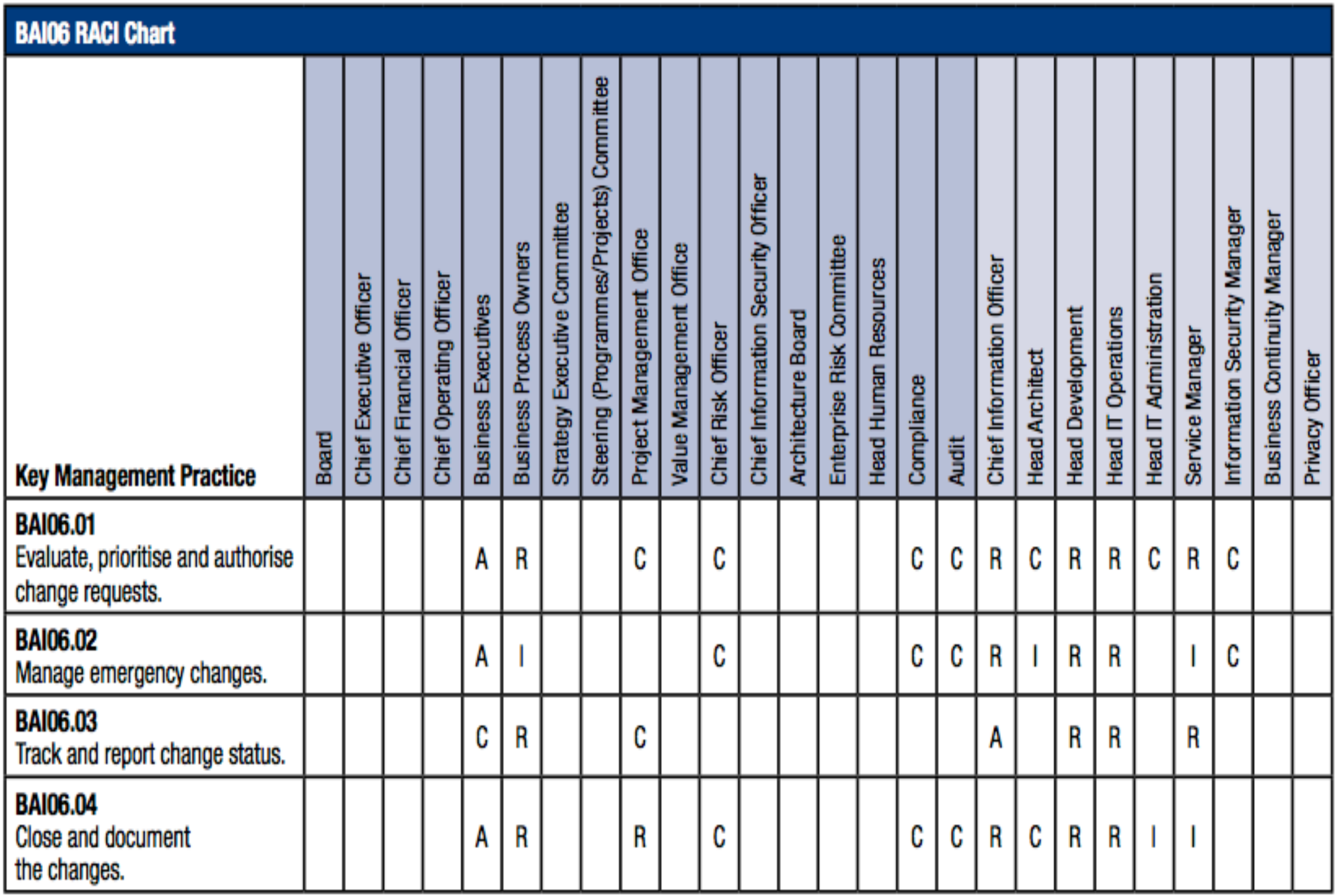
IT-related Goal	Related Metrics
04 Managed IT-related business risk	• Percent of critical business processes, IT services and IT-enabled business programmes covered by risk assessment • Number of significant IT-related incidents that were not identified in risk assessment • Percent of enterprise risk assessments including IT-related risk • Frequency of update of risk profile
07 Delivery of IT services in line with business requirements	• Number of business disruptions due to IT service incidents • Percent of business stakeholders satisfied that IT service delivery meets agreed-on service levels • Percent of users satisfied with the quality of IT service delivery
10 Security of information, processing infrastructure and applications	• Number of security incidents causing financial loss, business disruption or public embarrassment • Number of IT services with outstanding security requirements • Time to grant, change and remove access privileges, compared to agreed-on service levels • Frequency of security assessment against latest standards and guidelines

Process Goals and Metrics

Process Goal	Related Metrics
1. Authorised changes are made in a timely manner and with minimal errors.	• Amount of rework caused by failed changes • Reduced time and effort required to make changes • Number and age of backlogged change requests
2. Impact assessments reveal the effect of the change on all affected components.	• Percent of unsuccessful changes due to inadequate impact assessments
3. All emergency changes are reviewed and authorised after the change.	• Percent of total changes that are emergency fixes • Number of emergency changes not authorised after the change
4. Key stakeholders are kept informed of all aspects of the change.	• Stakeholder feedback ratings on satisfaction with communications

Process Model - RACI

RACI Assignments



BAI06 RACI Chart

Key Management Practice	Board	Chief Executive Officer	Chief Financial Officer	Chief Operating Officer	Business Executives	Business Process Owners	Strategy Executive Committee	Steering (Programmes/Projects) Committee	Project Management Office	Value Management Office	Chief Risk Officer	Chief Information Security Officer	Architecture Board	Enterprise Risk Committee	Head Human Resources	Compliance	Audit	Chief Information Officer	Head Architect	Head Development	Head IT Operations	Head IT Administration	Service Manager	Information Security Manager	Business Continuity Manager	Privacy Officer
BAI06.01 Evaluate, prioritise and authorise change requests.					A	R			C		C					C	C	R	C	R	R	C	R	C		
BAI06.02 Manage emergency changes.					A	I					C					C	C	R	I	R	R		I	C		
BAI06.03 Track and report change status.					C	R			C									A		R	R		R			
BAI06.04 Close and document the changes.					A	R			R		C					C	C	R	C	R	R	I	I			

Practices Supporting the Process

Process Model – Practices & Activities

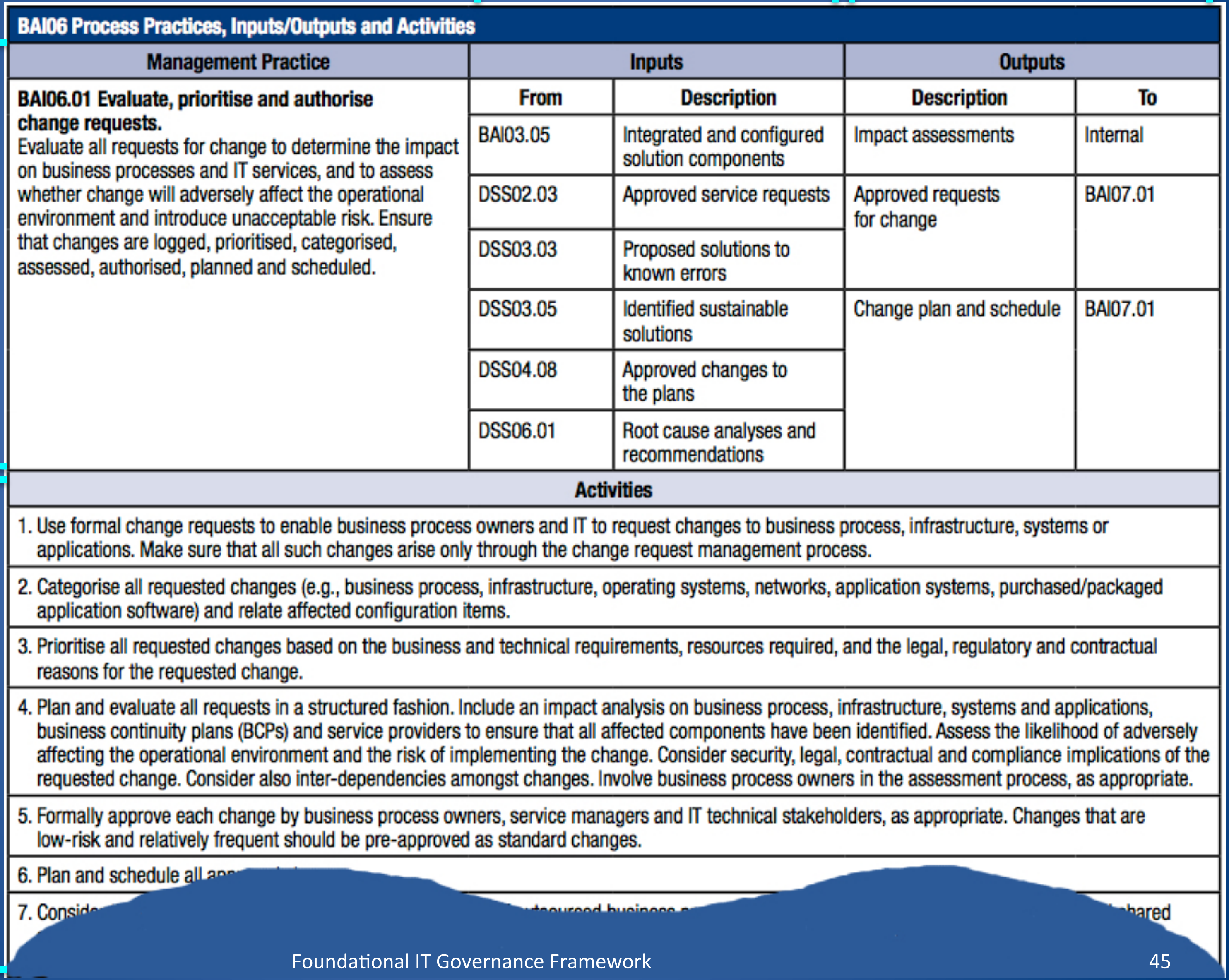
Inputs

Outputs

Identifier & Title

Practice Description

Practice Activities



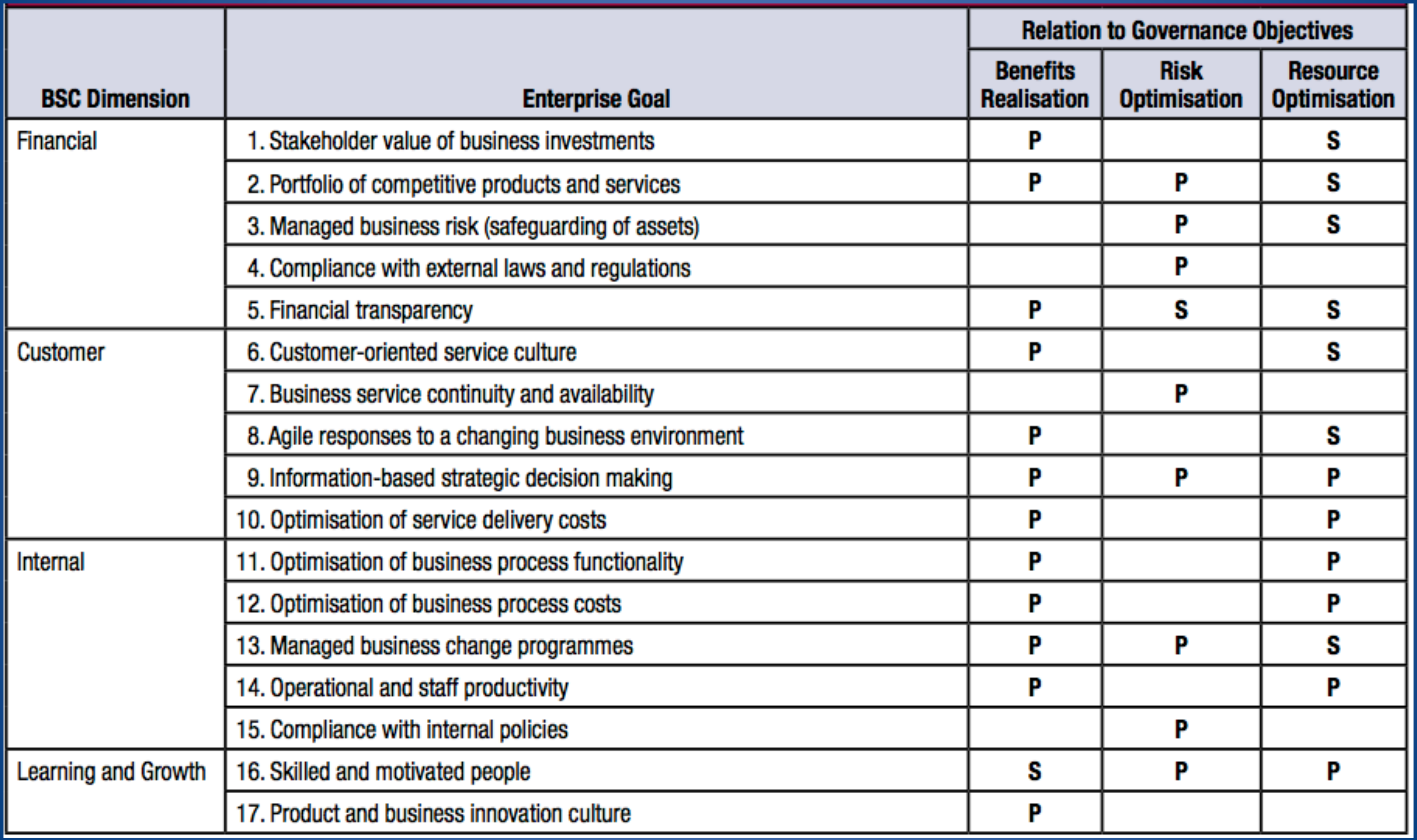
BAI06 Process Practices, Inputs/Outputs and Activities

Management Practice	Inputs		Outputs	
	From	Description	Description	To
BAI06.01 Evaluate, prioritise and authorise change requests. Evaluate all requests for change to determine the impact on business processes and IT services, and to assess whether change will adversely affect the operational environment and introduce unacceptable risk. Ensure that changes are logged, prioritised, categorised, assessed, authorised, planned and scheduled.	BAI03.05	Integrated and configured solution components	Impact assessments	Internal
	DSS02.03	Approved service requests	Approved requests for change	BAI07.01
	DSS03.03	Proposed solutions to known errors		
	DSS03.05	Identified sustainable solutions	Change plan and schedule	BAI07.01
	DSS04.08	Approved changes to the plans		
	DSS06.01	Root cause analyses and recommendations		

Activities

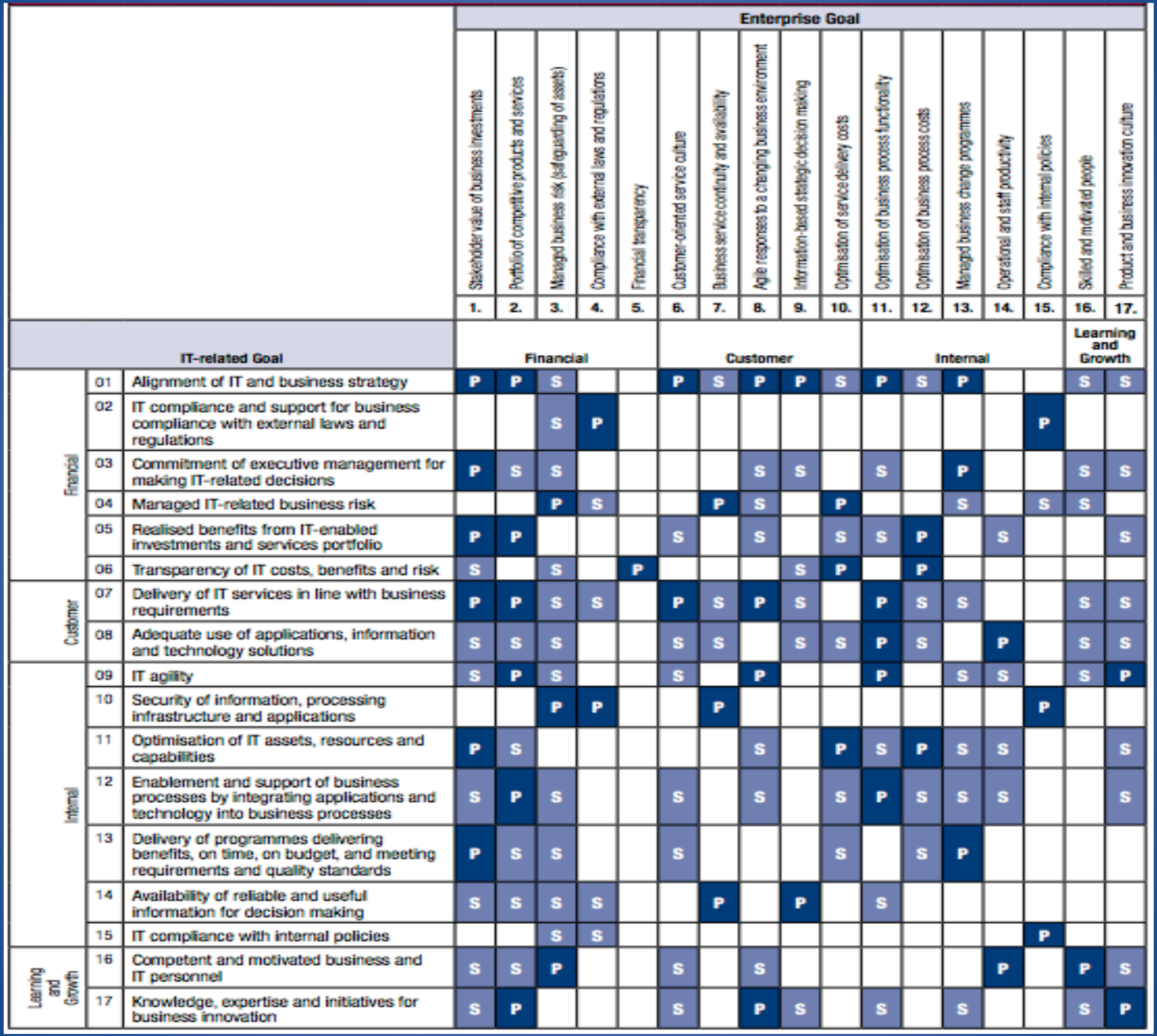
1. Use formal change requests to enable business process owners and IT to request changes to business process, infrastructure, systems or applications. Make sure that all such changes arise only through the change request management process.
2. Categorise all requested changes (e.g., business process, infrastructure, operating systems, networks, application systems, purchased/packaged application software) and relate affected configuration items.
3. Prioritise all requested changes based on the business and technical requirements, resources required, and the legal, regulatory and contractual reasons for the requested change.
4. Plan and evaluate all requests in a structured fashion. Include an impact analysis on business process, infrastructure, systems and applications, business continuity plans (BCPs) and service providers to ensure that all affected components have been identified. Assess the likelihood of adversely affecting the operational environment and the risk of implementing the change. Consider security, legal, contractual and compliance implications of the requested change. Consider also inter-dependencies amongst changes. Involve business process owners in the assessment process, as appropriate.
5. Formally approve each change by business process owners, service managers and IT technical stakeholders, as appropriate. Changes that are low-risk and relatively frequent should be pre-approved as standard changes.
6. Plan and schedule all app
7. Conside utsourced business p shared

Enterprise Goals Relation to Governance Objectives



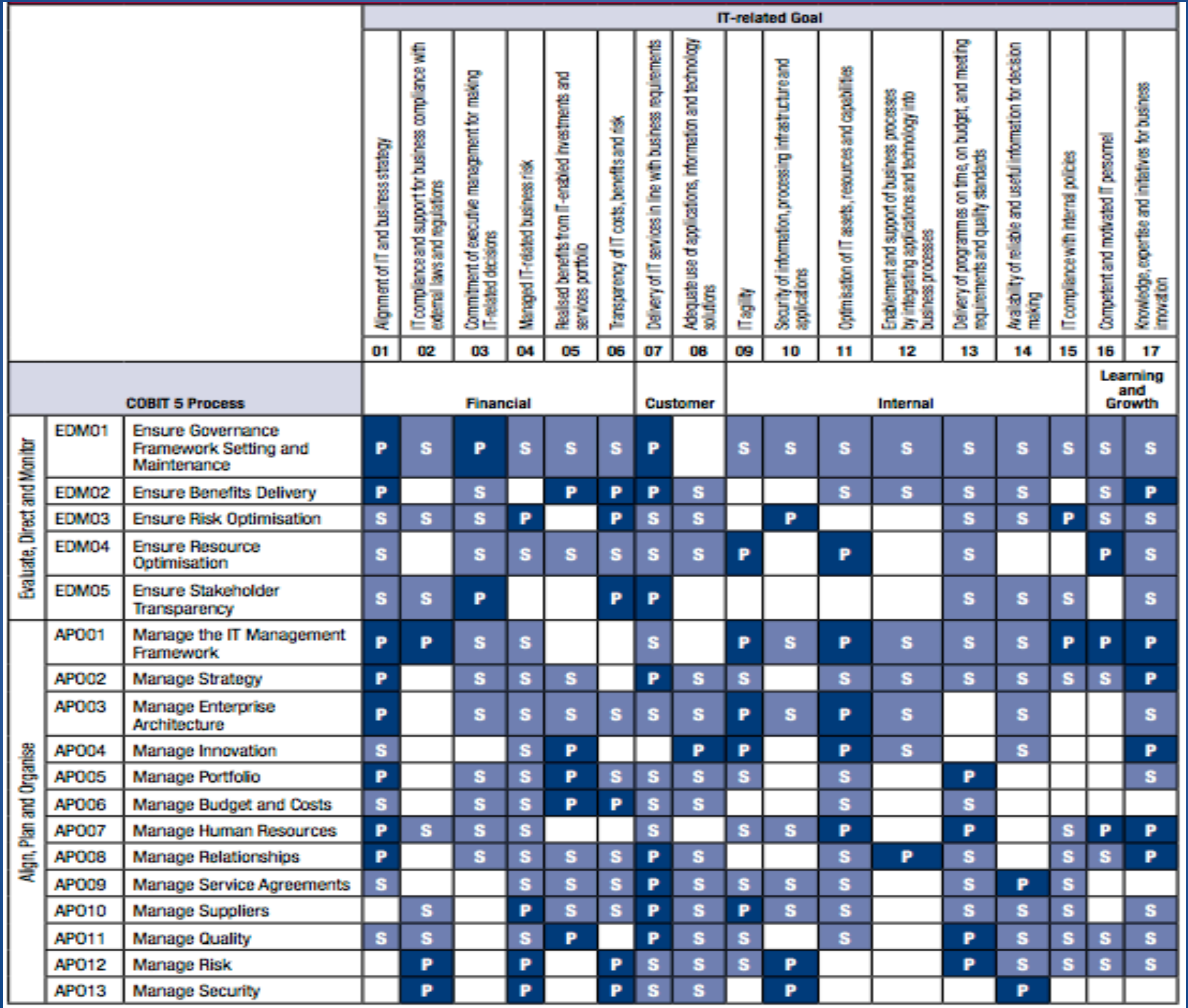
BSC Dimension	Enterprise Goal	Relation to Governance Objectives		
		Benefits Realisation	Risk Optimisation	Resource Optimisation
Financial	1. Stakeholder value of business investments	P		S
	2. Portfolio of competitive products and services	P	P	S
	3. Managed business risk (safeguarding of assets)		P	S
	4. Compliance with external laws and regulations		P	
	5. Financial transparency	P	S	S
Customer	6. Customer-oriented service culture	P		S
	7. Business service continuity and availability		P	
	8. Agile responses to a changing business environment	P		S
	9. Information-based strategic decision making	P	P	P
	10. Optimisation of service delivery costs	P		P
Internal	11. Optimisation of business process functionality	P		P
	12. Optimisation of business process costs	P		P
	13. Managed business change programmes	P	P	S
	14. Operational and staff productivity	P		P
	15. Compliance with internal policies		P	
Learning and Growth	16. Skilled and motivated people	S	P	P
	17. Product and business innovation culture	P		

Enterprise Goals to IT Related Goals



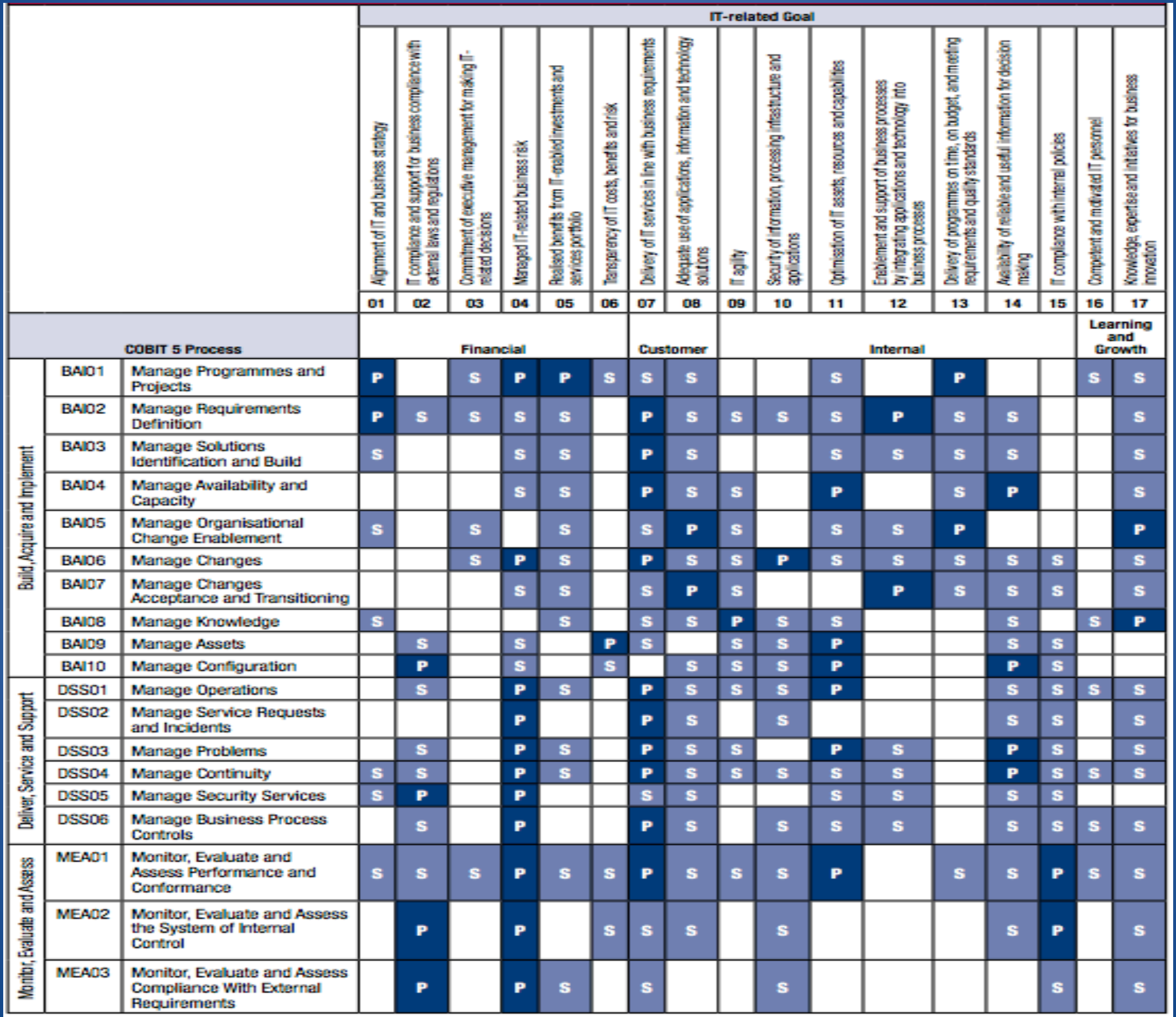
			Enterprise Goal																
			Stakeholder value of business investments	Portfolio of competitive products and services	Managed business risk (safeguarding of assets)	Compliance with external laws and regulations	Financial transparency	Customer-oriented service culture	Business service continuity and availability	Agile responses to a changing business environment	Information-based strategic decision making	Optimisation of service delivery costs	Optimisation of business process functionality	Optimisation of business process costs	Managed business change programmes	Operational and staff productivity	Compliance with internal policies	Skilled and motivated people	Product and business innovation culture
			1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.
		IT-related Goal	Financial					Customer					Internal					Learning and Growth	
Financial	01	Alignment of IT and business strategy	P	P	S			P	S	P	P	S	P	S	P			S	S
	02	IT compliance and support for business compliance with external laws and regulations			S	P											P		
	03	Commitment of executive management for making IT-related decisions	P	S	S					S	S		S		P			S	S
	04	Managed IT-related business risk			P	S			P	S		P			S		S	S	
	05	Realised benefits from IT-enabled investments and services portfolio	P	P				S		S		S	S	P		S			S
	06	Transparency of IT costs, benefits and risk	S		S		P				S	P		P					
Customer	07	Delivery of IT services in line with business requirements	P	P	S	S		P	S	P	S		P	S	S			S	S
	08	Adequate use of applications, information and technology solutions	S	S	S			S	S		S	S	P	S		P		S	S
Internal	09	IT agility	S	P	S			S		P			P		S	S		S	P
	10	Security of information, processing infrastructure and applications			P	P			P								P		
	11	Optimisation of IT assets, resources and capabilities	P	S						S		P	S	P	S	S			S
	12	Enablement and support of business processes by integrating applications and technology into business processes	S	P	S			S		S		S	P	S	S	S			S
	13	Delivery of programmes delivering benefits, on time, on budget, and meeting requirements and quality standards	P	S	S			S				S		S	P				
	14	Availability of reliable and useful information for decision making	S	S	S	S			P		P		S						
	15	IT compliance with internal policies			S	S											P		
Learning and Growth	16	Competent and motivated business and IT personnel	S	S	P			S		S						P		P	S
	17	Knowledge, expertise and initiatives for business innovation	S	P				S		P	S		S		S			S	P

IT Related Goals to COBIT 5 Processes



			IT-related Goal																
			Alignment of IT and business strategy	IT compliance and support for business compliance with external laws and regulations	Commitment of executive management for making IT-related decisions	Managed IT-related business risk	Realised benefits from IT-enabled investments and services portfolio	Transparency of IT costs, benefits and risk	Delivery of IT services in line with business requirements	Adequate use of applications, information and technology solutions	IT agility	Security of information, processing infrastructure and applications	Optimisation of IT assets, resources and capabilities	Enablement and support of business processes by integrating applications and technology into business processes	Delivery of programmes on time, on budget, and meeting requirements and quality standards	Availability of reliable and useful information for decision making	IT compliance with internal policies	Competent and motivated IT personnel	Knowledge, expertise and initiatives for business innovation
			01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17
COBIT 5 Process			Financial						Customer		Internal							Learning and Growth	
Evaluate, Direct and Monitor	EDM01	Ensure Governance Framework Setting and Maintenance	P	S	P	S	S	S	P		S	S	S	S	S	S	S	S	S
	EDM02	Ensure Benefits Delivery	P		S		P	P	P	S			S	S	S	S		S	P
	EDM03	Ensure Risk Optimisation	S	S	S	P		P	S	S		P			S	S	P	S	S
	EDM04	Ensure Resource Optimisation	S		S	S	S	S	S	S	P		P		S			P	S
	EDM05	Ensure Stakeholder Transparency	S	S	P			P	P						S	S	S		S
Align, Plan and Organise	APO01	Manage the IT Management Framework	P	P	S	S			S		P	S	P	S	S	S	P	P	P
	APO02	Manage Strategy	P		S	S	S		P	S	S		S	S	S	S	S	S	P
	APO03	Manage Enterprise Architecture	P		S	S	S	S	S	S	P	S	P	S		S			S
	APO04	Manage Innovation	S			S	P			P	P		P	S		S			P
	APO05	Manage Portfolio	P		S	S	P	S	S	S	S		S		P				S
	APO06	Manage Budget and Costs	S		S	S	P	P	S	S			S		S				
	APO07	Manage Human Resources	P	S	S	S			S		S	S	P		P		S	P	P
	APO08	Manage Relationships	P		S	S	S	S	P	S			S	P	S		S	S	P
	APO09	Manage Service Agreements	S			S	S	S	P	S	S	S	S		S	P	S		
	APO10	Manage Suppliers		S		P	S	S	P	S	P	S	S		S	S	S		S
	APO11	Manage Quality	S	S		S	P		P	S	S		S		P	S	S	S	S
	APO12	Manage Risk		P		P		P	S	S	S	P			P	S	S	S	S
	APO13	Manage Security		P		P		P	S	S		P				P			

IT Related Goals to COBIT 5 Processes



			IT-related Goal																
			Alignment of IT and business strategy	IT compliance and support for business compliance with external laws and regulations	Commitment of executive management for making IT-related decisions	Managed IT-related business risk	Realised benefits from IT-enabled investments and services portfolio	Transparency of IT costs, benefits and risk	Delivery of IT services in line with business requirements	Adequate use of applications, information and technology solutions	IT agility	Security of information, processing infrastructure and applications	Optimisation of IT assets, resources and capabilities	Enablement and support of business processes by integrating applications and technology into business processes	Delivery of programmes on time, on budget, and meeting requirements and quality standards	Availability of reliable and useful information for decision making	IT compliance with internal policies	Competent and motivated IT personnel	Knowledge, expertise and initiatives for business innovation
			01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17
COBIT 5 Process			Financial						Customer		Internal							Learning and Growth	
Build, Acquire and Implement	BAI01	Manage Programmes and Projects	P		S	P	P	S	S	S			S		P			S	S
	BAI02	Manage Requirements Definition	P	S	S	S	S		P	S	S	S	S	P	S	S			S
	BAI03	Manage Solutions Identification and Build	S			S	S		P	S			S	S	S	S			S
	BAI04	Manage Availability and Capacity				S	S		P	S	S		P		S	P			S
	BAI05	Manage Organisational Change Enablement	S		S		S		S	P	S		S	S	P				P
	BAI06	Manage Changes			S	P	S		P	S	S	P	S	S	S	S	S		S
	BAI07	Manage Changes Acceptance and Transitioning				S	S		S	P	S			P	S	S	S		S
	BAI08	Manage Knowledge	S				S		S	S	P	S	S			S		S	P
	BAI09	Manage Assets		S		S		P	S		S	S	P			S	S		
	BAI10	Manage Configuration		P		S		S		S	S	S	P			P	S		
Deliver, Service and Support	DSS01	Manage Operations		S		P	S		P	S	S	S	P			S	S	S	S
	DSS02	Manage Service Requests and Incidents				P			P	S		S				S	S		S
	DSS03	Manage Problems		S		P	S		P	S	S		P	S		P	S		S
	DSS04	Manage Continuity	S	S		P	S		P	S	S	S	S	S		P	S	S	S
	DSS05	Manage Security Services	S	P		P			S	S			S	S		S	S		
	DSS06	Manage Business Process Controls		S		P			P	S		S	S	S		S	S	S	S
Monitor, Evaluate and Assess	MEA01	Monitor, Evaluate and Assess Performance and Conformance	S	S	S	P	S	S	P	S	S	S	P		S	S	P	S	S
	MEA02	Monitor, Evaluate and Assess the System of Internal Control		P		P		S	S	S		S				S	P		S
	MEA03	Monitor, Evaluate and Assess Compliance With External Requirements		P		P	S		S			S					S		S

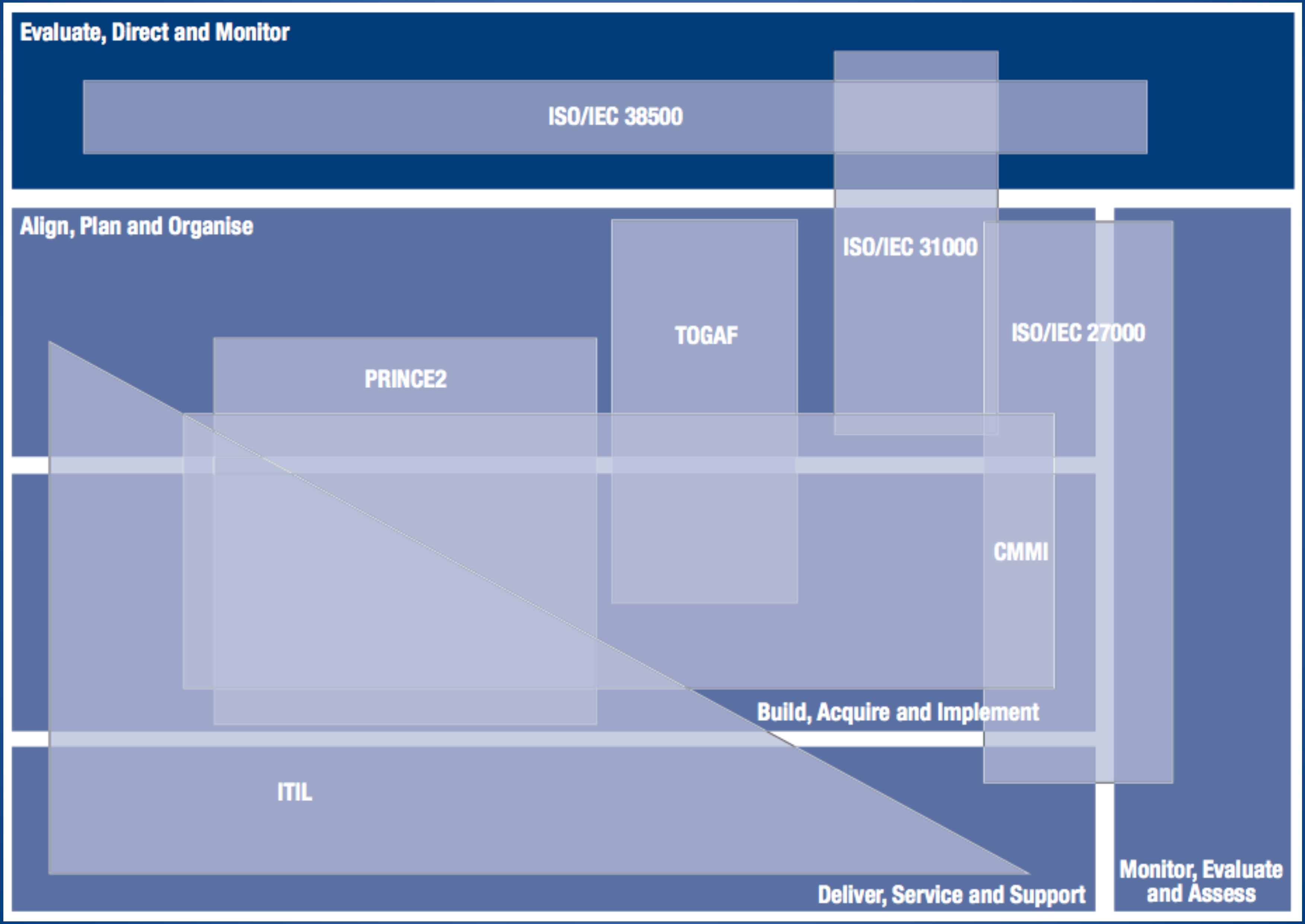
PRINCIPLE 3

APPLYING A SINGLE INTEGRATED FRAMEWORK

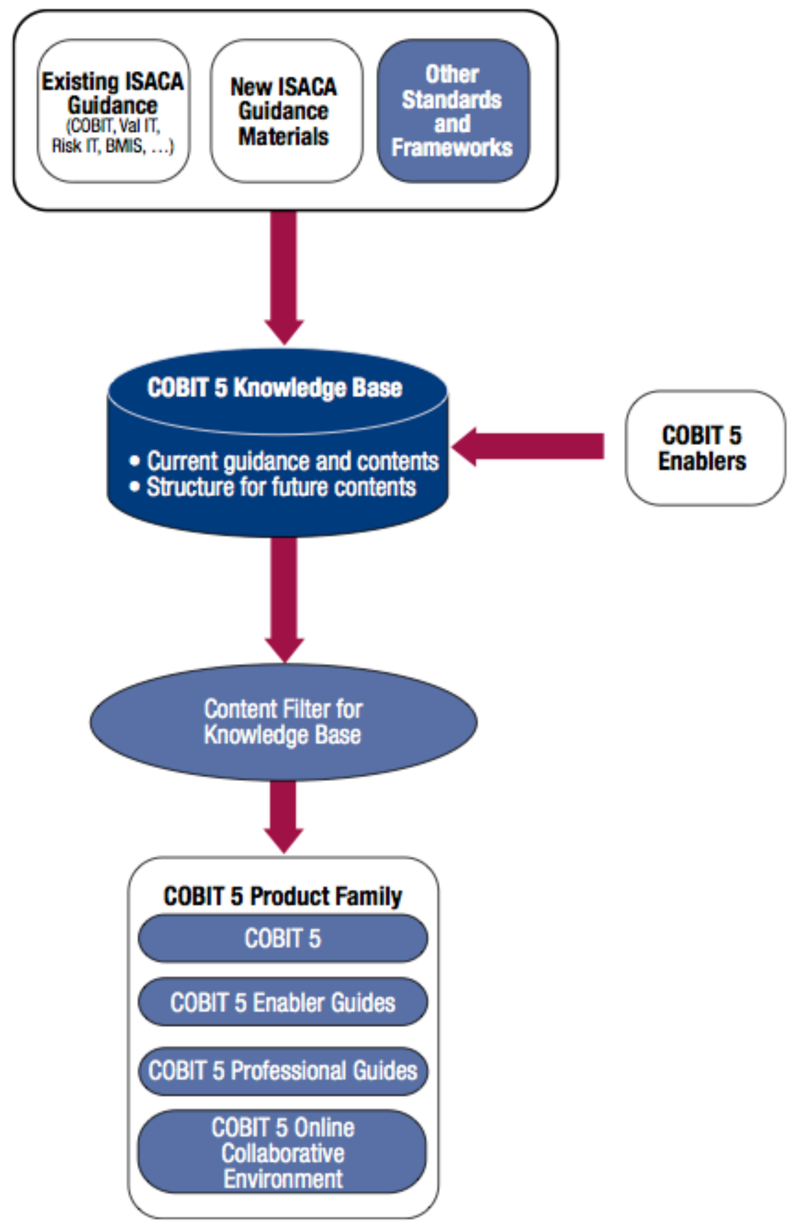
COBIT 5 is an Integrated Framework:

- Integrates existing ISACA guidance on governance and management of enterprise IT
- Aligns with current relevant standards & frameworks
- Simple architecture for structuring a consistent body of guidance materials

Frameworks Alignment


Evaluate, Direct and Monitor
ISO/IEC 38500
Align, Plan and Organise
TOGAF
ISO/IEC 31000
ISO/IEC 27000
PRINCE2
CMMI
Build, Acquire and Implement
ITIL
Deliver, Service and Support
Monitor, Evaluate and Assess

COBIT 5 Architecture


Existing ISACA Guidance
(COBIT, Val IT, Risk IT, BMIS, …)
New ISACA Guidance Materials
Other Standards and Frameworks
COBIT 5 Knowledge Base
• Current guidance and contents
• Structure for future contents
COBIT 5 Enablers
Content Filter for Knowledge Base
COBIT 5 Product Family
COBIT 5
COBIT 5 Enabler Guides
COBIT 5 Professional Guides
COBIT 5 Online Collaborative Environment

Enablers:

- Principles, Policies, & Frameworks
- Processes
- Organizational Structures
- Cultures, Ethics, Behaviors
- Information
- Services Infrastructure Applications
- People, Skills, & Competencies

PRINCIPLE 4
ENABLING A HOLISTIC APPROACH

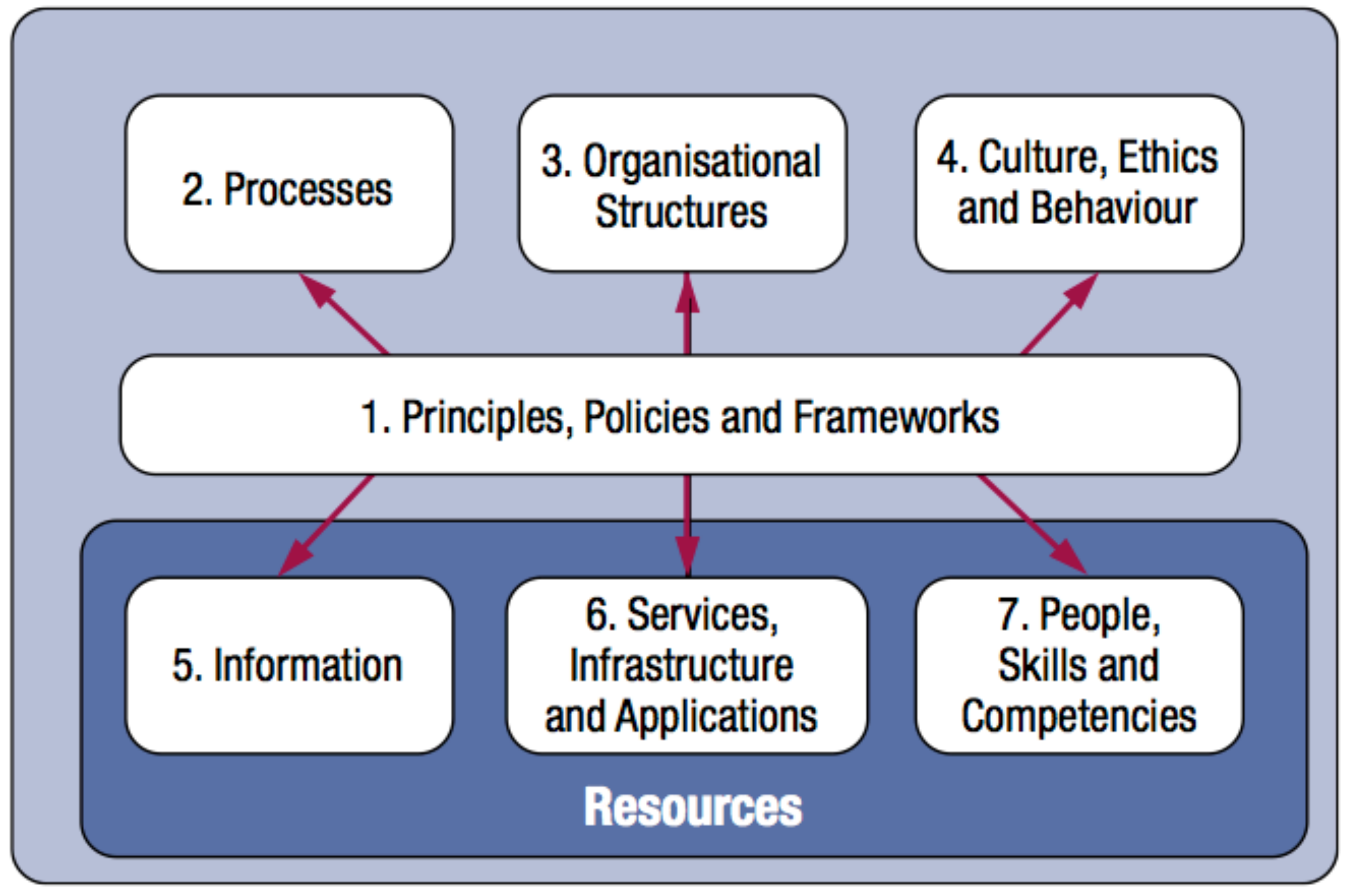
- **Purpose** of enablers is to implement an effective & efficient governance and management system for enterprise IT

- **Defined as** anything that facilitates achievement of enterprise governance objectives, including resources such as information and people

- **IT-related goals define what enablers should achieve**

- **Seven categories:**
  - Principles, Policies, & Frameworks
  - Processes
  - Organizational Structures
  - Culture, Ethics, & Behavior
  - Information
  - Services Infrastructure Applications
  - People, Skills, & Competences

COBIT 5 Enablers



2. Processes

3. Organisational Structures

4. Culture, Ethics and Behaviour

1. Principles, Policies and Frameworks

5. Information

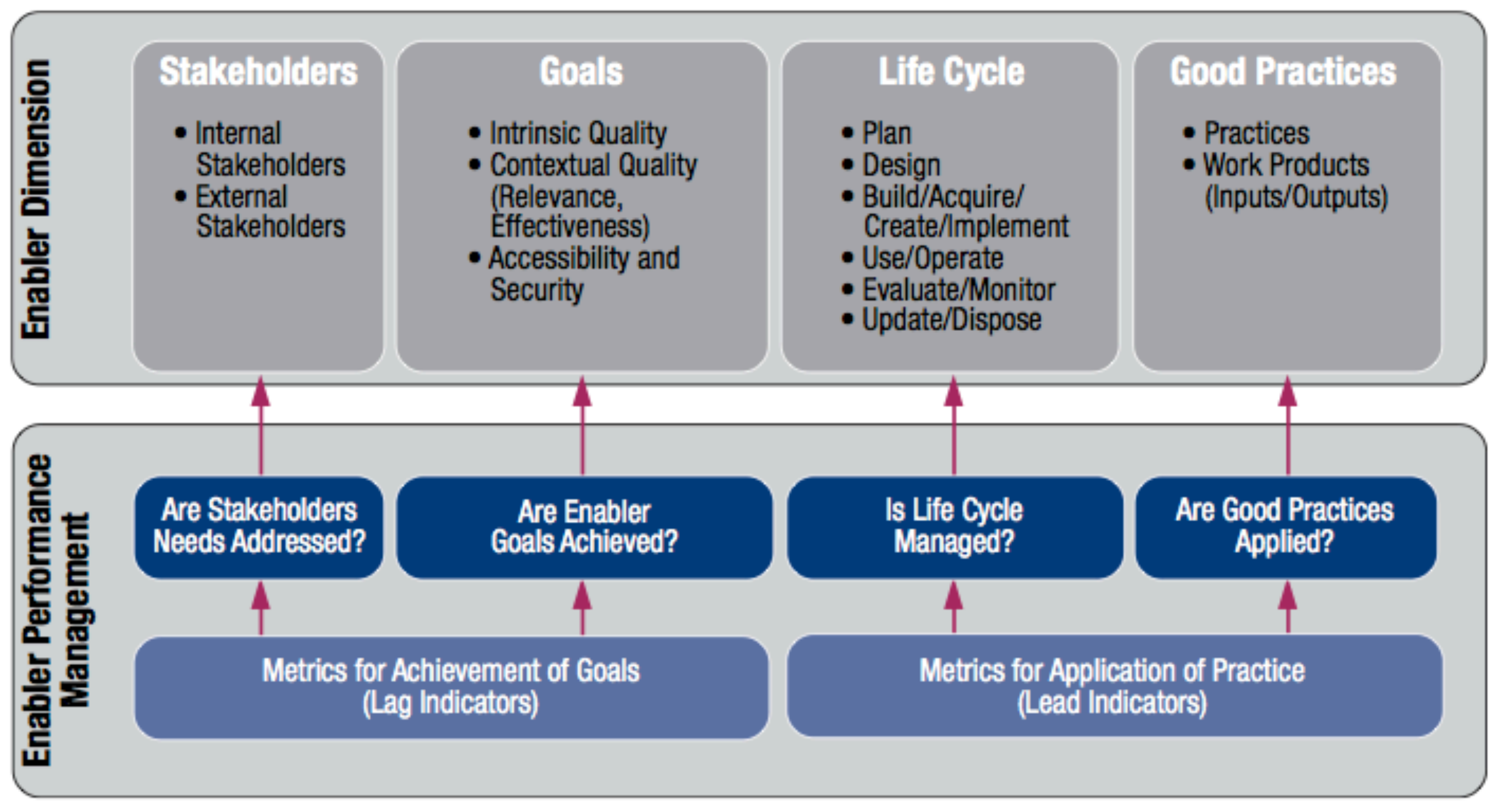
6. Services, Infrastructure and Applications

7. People, Skills and Competencies

Resources

Generic Enabler Model

- A governance system is a complex interaction amongst all enablers
- Having a simple, structured, and uniform way to analyze each enabler can facilitate adoption and successful integration
- Enablers all have certain elements in common therefore a generic model standardizes conceptualization


Enabler Dimension
Stakeholders
• Internal Stakeholders
• External Stakeholders
Goals
• Intrinsic Quality
• Contextual Quality (Relevance, Effectiveness)
• Accessibility and Security
Life Cycle
• Plan
• Design
• Build/Acquire/ Create/Implement
• Use/Operate
• Evaluate/Monitor
• Update/Dispose
Good Practices
• Practices
• Work Products (Inputs/Outputs)
Enabler Performance Management
Are Stakeholders Needs Addressed?
Are Enabler Goals Achieved?
Is Life Cycle Managed?
Are Good Practices Applied?
Metrics for Achievement of Goals (Lag Indicators)
Metrics for Application of Practice (Lead Indicators)

Enabler Dimensions

- **Stakeholders —**
  - Can be internal or external to the organization, and have their own interests and needs, which can be conflicting
  - Stakeholders needs translate to enterprise goals, then IT-related goals, and ultimately to enabler goals

- **Goals —**
  - Enablers provide value by achieving multiple goals
  - **Properties** of goals associated with performance metrics are:
    - **Outcomes** expected of the enabler (associated with Lag indicators)
    - **Operation** of the enabler itself (associated with Lead indicators)
  - **Qualities** associated with goals are categorized as follows:
    - **Intrinsic quality** — The extent to which enablers work accurately, objectively, and provide accurate, objective and reputable results
    - **Contextual quality** — The extent to which enablers and their outcomes are fit for purpose given the context in which they operate
    - **Access and Security** — The extent to which enablers and their outcomes are accessible and secured

Enabler Dimensions

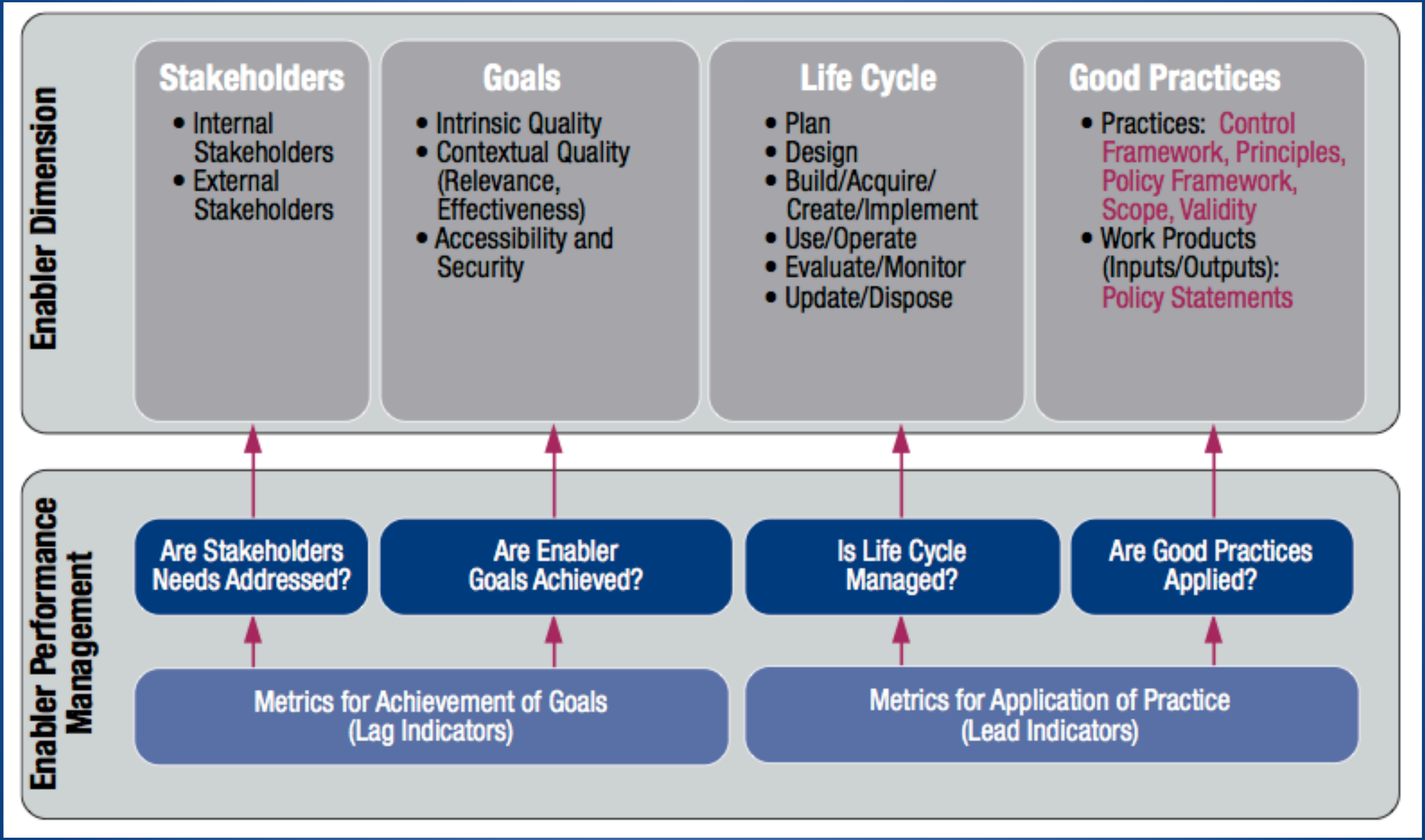
- **Life Cycle —**

  Phases consist of:
  - Plan
  - Design
  - Build/acquire & implement
  - Use/operate
  - Evaluate/monitor
  - Update/dispose
- **Good Practice —**
  - Guidance as to how best implement the enabler
  - Good Practice can be:
    - Internal – provided within COBIT 5
    - External – provided outside COBIT 5
  - Work Products (inputs/outputs)

Enabler Performance Management

- To manage performance of enablers, metrics associated with the following enabler dimensions must be developed, implemented, and monitored:
  - Stakeholders: Are stakeholder needs addressed?
  - Goals: Are enabler goals achieved?
  - Life Cycle: Is the enabler life cycle managed?
  - Good Practices: Are good practices applied?
- **Metrics** associated with enablers measure either:
  - Achievement of goals (lag indicators)
    - Stakeholder requirements met
    - Enabler goals achieved
  - Application of Good Practice (lead indicators)
    - Life cycle managed
    - Good practices applied

Principles, Policies, & Frameworks



Enabler Dimension

Stakeholders

- Internal Stakeholders
- External Stakeholders

Goals

- Intrinsic Quality
- Contextual Quality (Relevance, Effectiveness)
- Accessibility and Security

Life Cycle

- Plan
- Design
- Build/Acquire/ Create/Implement
- Use/Operate
- Evaluate/Monitor
- Update/Dispose

Good Practices

- Practices: Control Framework, Principles, Policy Framework, Scope, Validity
- Work Products (Inputs/Outputs): Policy Statements

Enabler Performance Management

Are Stakeholders Needs Addressed?

Are Enabler Goals Achieved?

Is Life Cycle Managed?

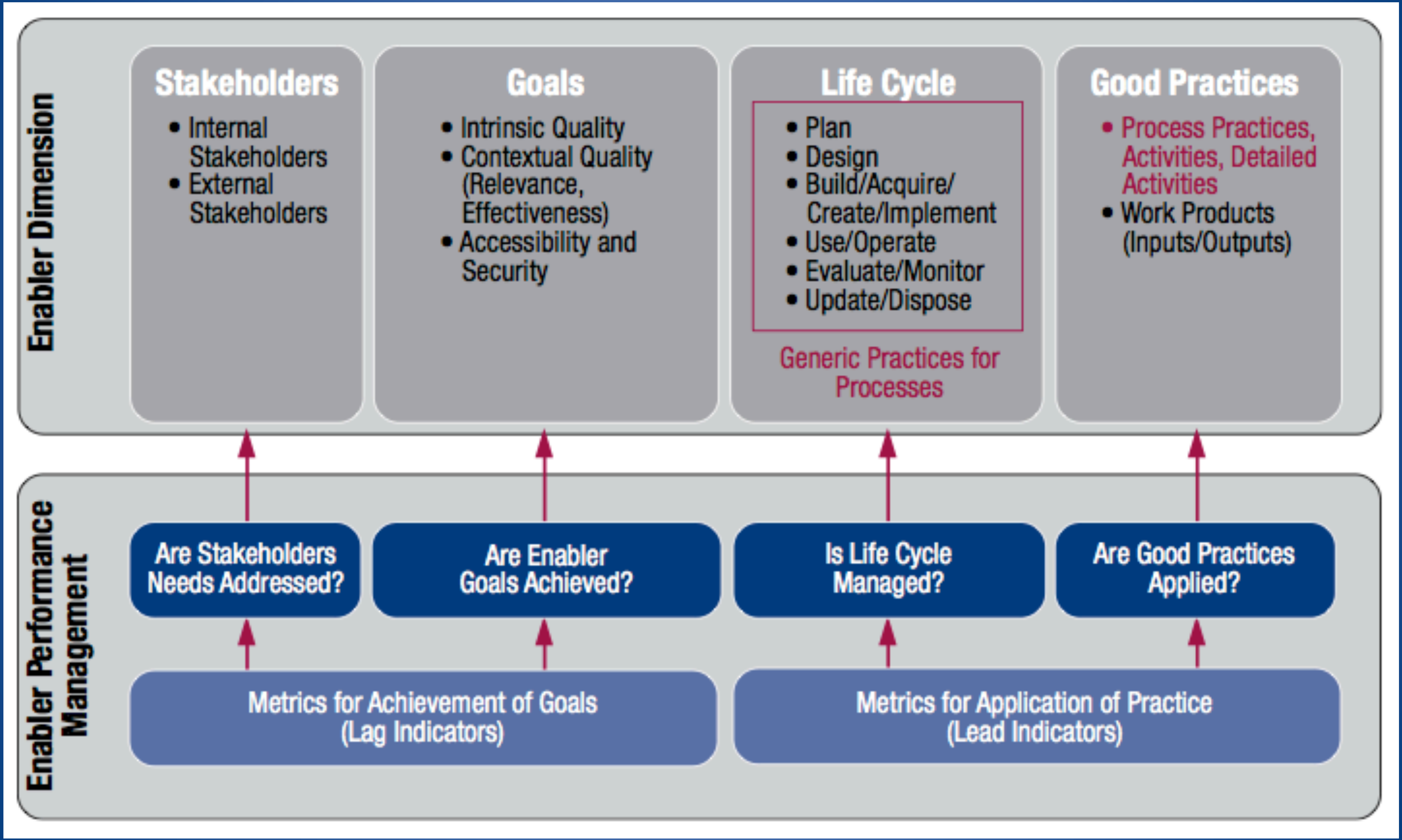
Are Good Practices Applied?

Metrics for Achievement of Goals (Lag Indicators)

Metrics for Application of Practice (Lead Indicators)

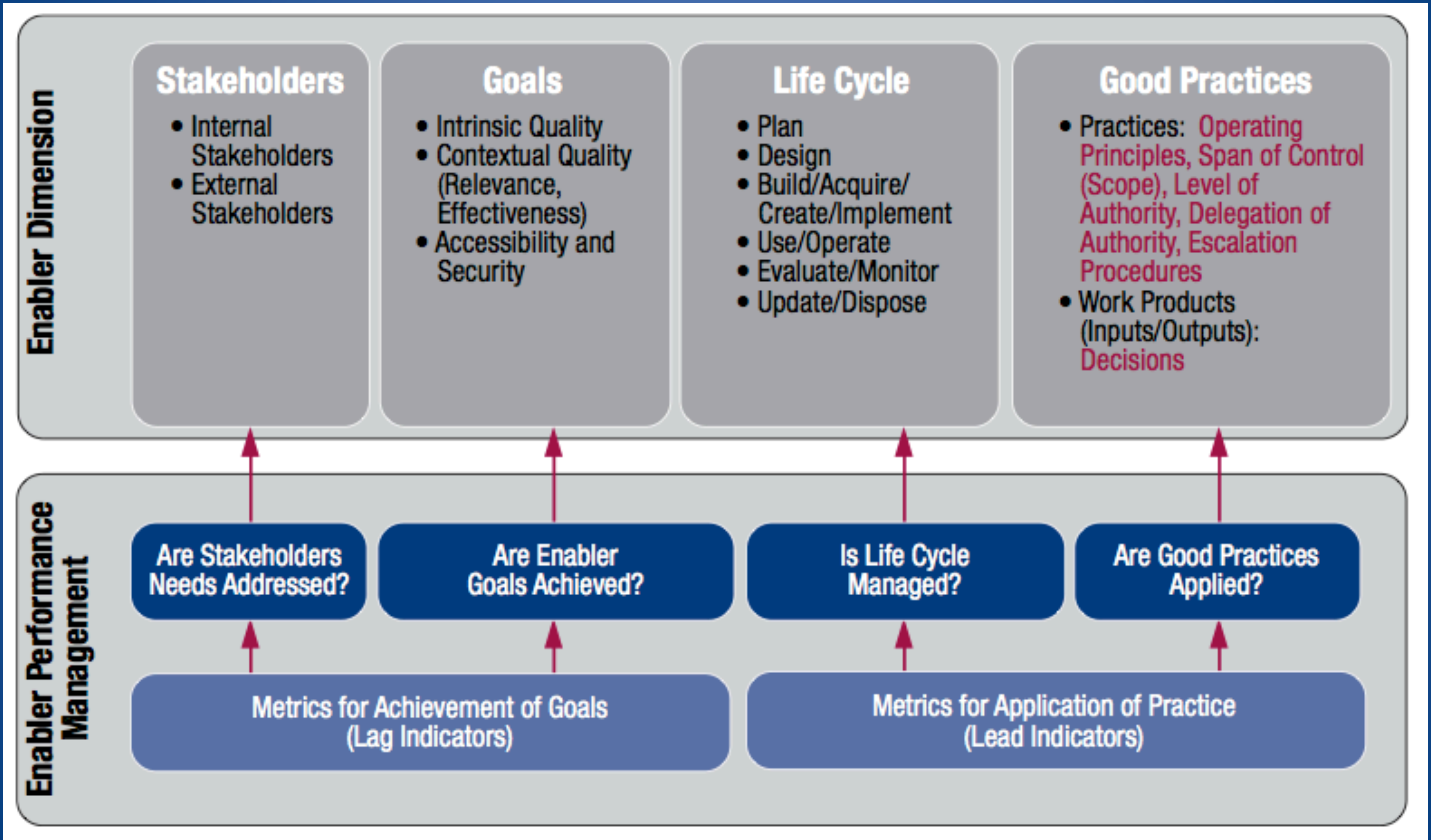
Additional information available in "Appendix G" of the COBIT 5 Framework

Process


Enabler Dimension
Stakeholders
• Internal Stakeholders
• External Stakeholders
Goals
• Intrinsic Quality
• Contextual Quality (Relevance, Effectiveness)
• Accessibility and Security
Life Cycle
• Plan
• Design
• Build/Acquire/ Create/Implement
• Use/Operate
• Evaluate/Monitor
• Update/Dispose
Generic Practices for Processes
Good Practices
• Process Practices, Activities, Detailed Activities
• Work Products (Inputs/Outputs)
Enabler Performance Management
Are Stakeholders Needs Addressed?
Are Enabler Goals Achieved?
Is Life Cycle Managed?
Are Good Practices Applied?
Metrics for Achievement of Goals (Lag Indicators)
Metrics for Application of Practice (Lead Indicators)

Additional information available in "Appendix G" of the COBIT 5 Framework

Organizational Structures



Enabler Dimension

Stakeholders

- Internal Stakeholders
- External Stakeholders

Goals

- Intrinsic Quality
- Contextual Quality (Relevance, Effectiveness)
- Accessibility and Security

Life Cycle

- Plan
- Design
- Build/Acquire/ Create/Implement
- Use/Operate
- Evaluate/Monitor
- Update/Dispose

Good Practices

- Practices: Operating Principles, Span of Control (Scope), Level of Authority, Delegation of Authority, Escalation Procedures
- Work Products (Inputs/Outputs): Decisions

Enabler Performance Management

Are Stakeholders Needs Addressed?

Are Enabler Goals Achieved?

Is Life Cycle Managed?

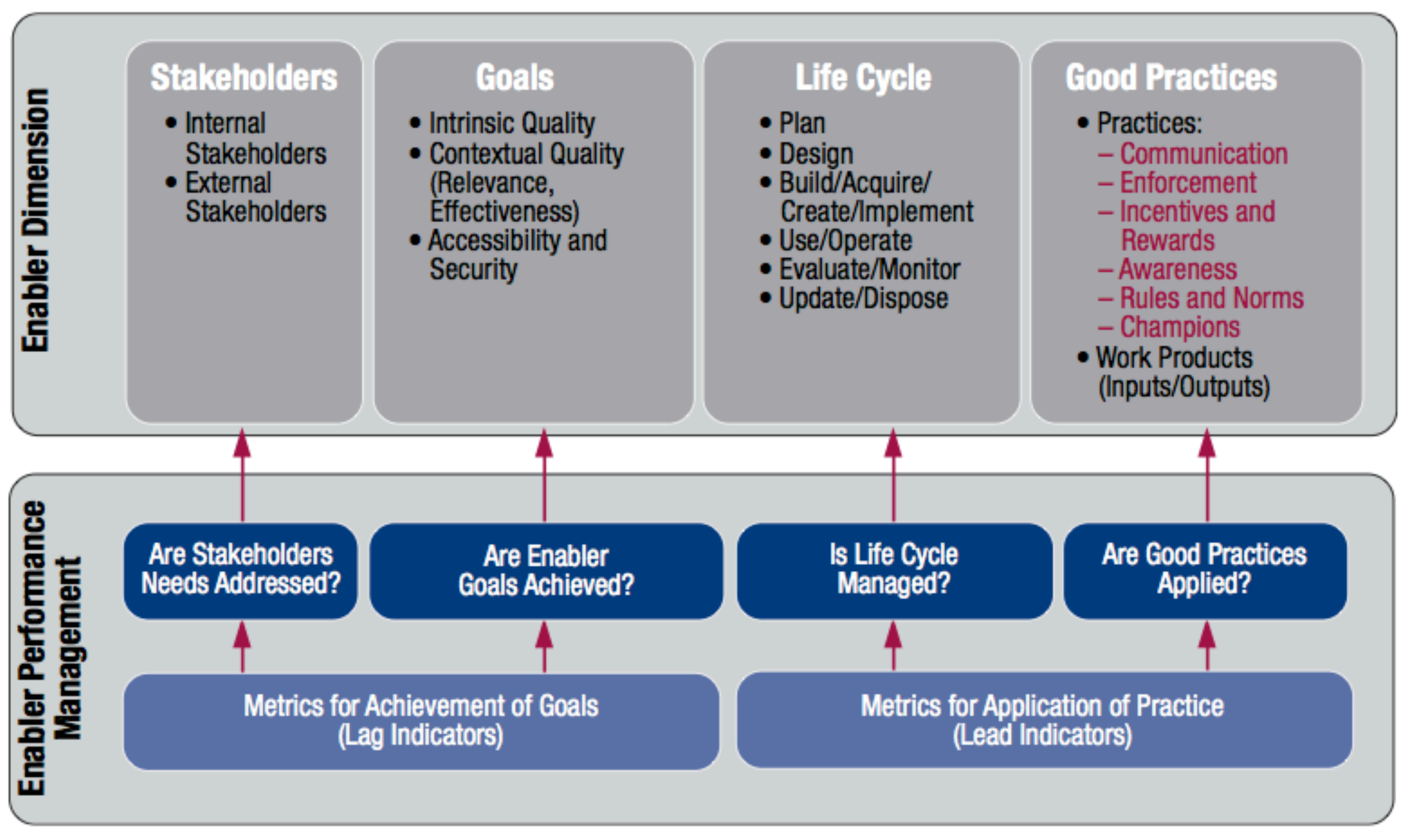
Are Good Practices Applied?

Metrics for Achievement of Goals (Lag Indicators)

Metrics for Application of Practice (Lead Indicators)

Additional information available in "Appendix G" of the COBIT 5 Framework

Culture & Behavior



Enabler Dimension

Stakeholders

- Internal Stakeholders
- External Stakeholders

Goals

- Intrinsic Quality
- Contextual Quality (Relevance, Effectiveness)
- Accessibility and Security

Life Cycle

- Plan
- Design
- Build/Acquire/ Create/Implement
- Use/Operate
- Evaluate/Monitor
- Update/Dispose

Good Practices

- Practices:
  - Communication
  - Enforcement
  - Incentives and Rewards
  - Awareness
  - Rules and Norms
  - Champions
- Work Products (Inputs/Outputs)

Enabler Performance Management

Are Stakeholders Needs Addressed?

Are Enabler Goals Achieved?

Is Life Cycle Managed?

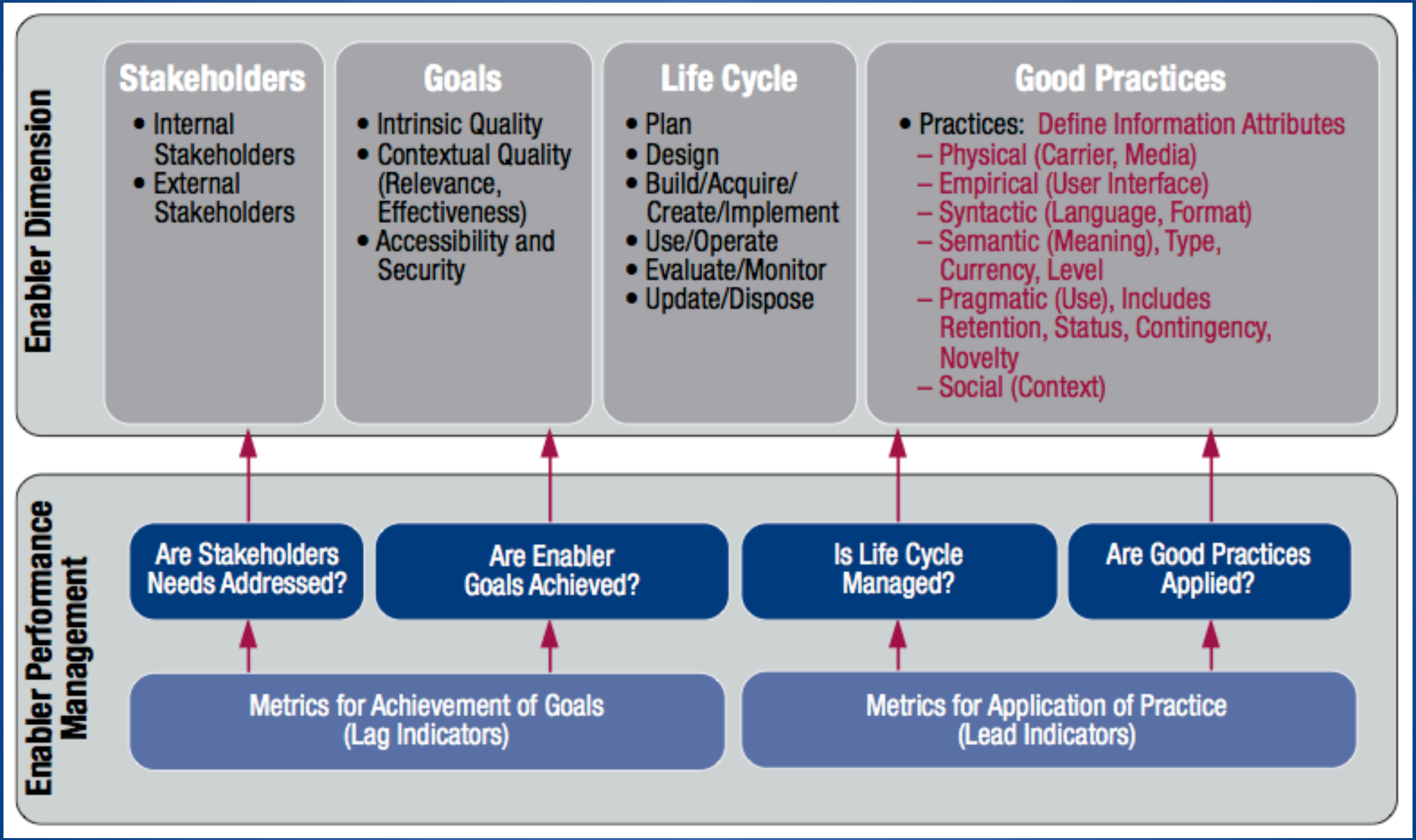
Are Good Practices Applied?

Metrics for Achievement of Goals (Lag Indicators)

Metrics for Application of Practice (Lead Indicators)

Additional information available in "Appendix G" of the COBIT 5 Framework

Information



Enabler Dimension

Stakeholders

- Internal Stakeholders
- External Stakeholders

Goals

- Intrinsic Quality
- Contextual Quality (Relevance, Effectiveness)
- Accessibility and Security

Life Cycle

- Plan
- Design
- Build/Acquire/ Create/Implement
- Use/Operate
- Evaluate/Monitor
- Update/Dispose

Good Practices

- Practices: Define Information Attributes
  - Physical (Carrier, Media)
  - Empirical (User Interface)
  - Syntactic (Language, Format)
  - Semantic (Meaning), Type, Currency, Level
  - Pragmatic (Use), Includes Retention, Status, Contingency, Novelty
  - Social (Context)

Enabler Performance Management

Are Stakeholders Needs Addressed?

Are Enabler Goals Achieved?

Is Life Cycle Managed?

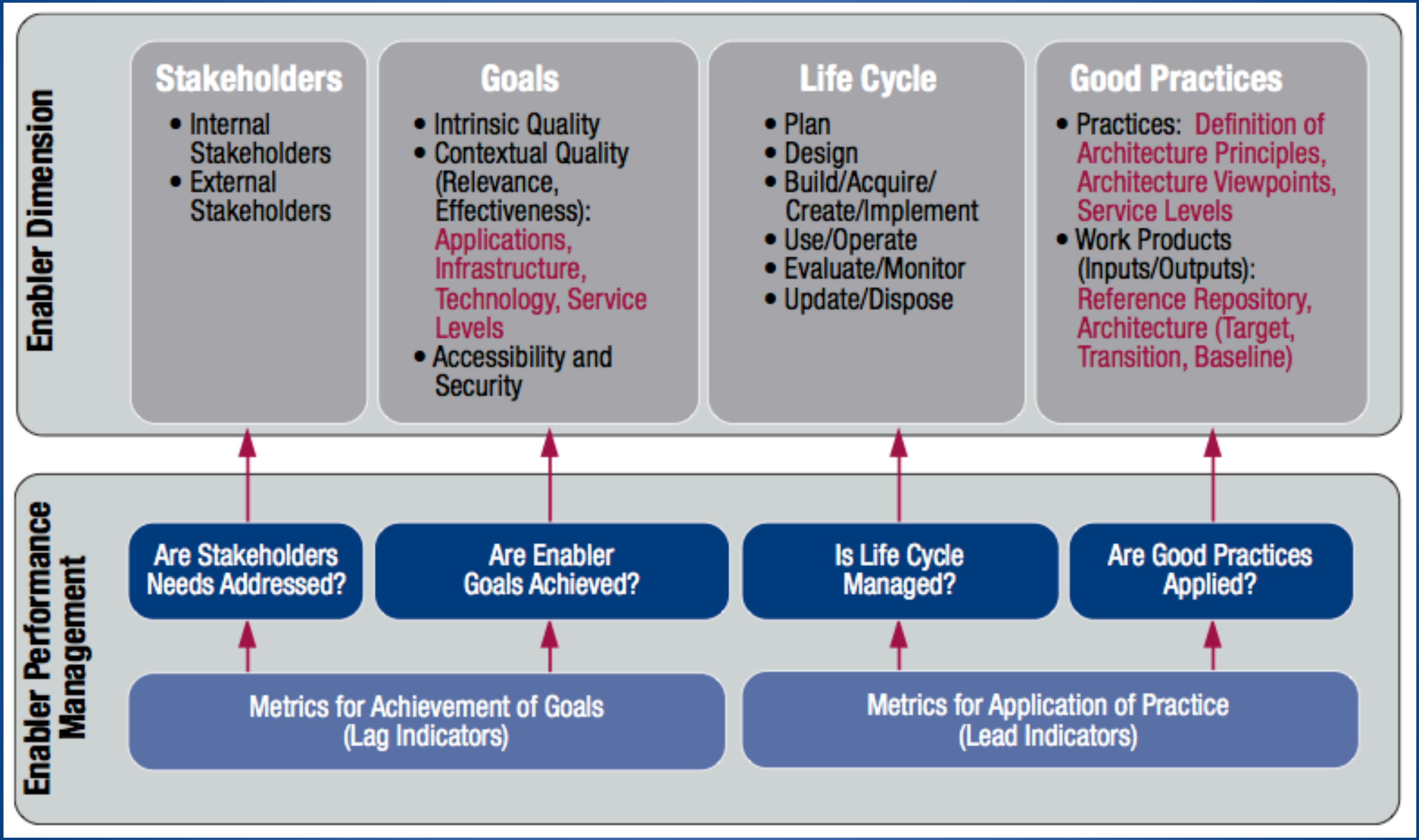
Are Good Practices Applied?

Metrics for Achievement of Goals (Lag Indicators)

Metrics for Application of Practice (Lead Indicators)

Additional information available in “Appendix G” of the COBIT 5 Framework

Services, Infrastructure, & Capabilities



Enabler Dimension

Stakeholders

- Internal Stakeholders
- External Stakeholders

Goals

- Intrinsic Quality
- Contextual Quality (Relevance, Effectiveness): Applications, Infrastructure, Technology, Service Levels
- Accessibility and Security

Life Cycle

- Plan
- Design
- Build/Acquire/ Create/Implement
- Use/Operate
- Evaluate/Monitor
- Update/Dispose

Good Practices

- Practices: Definition of Architecture Principles, Architecture Viewpoints, Service Levels
- Work Products (Inputs/Outputs): Reference Repository, Architecture (Target, Transition, Baseline)

Enabler Performance Management

Are Stakeholders Needs Addressed?

Are Enabler Goals Achieved?

Is Life Cycle Managed?

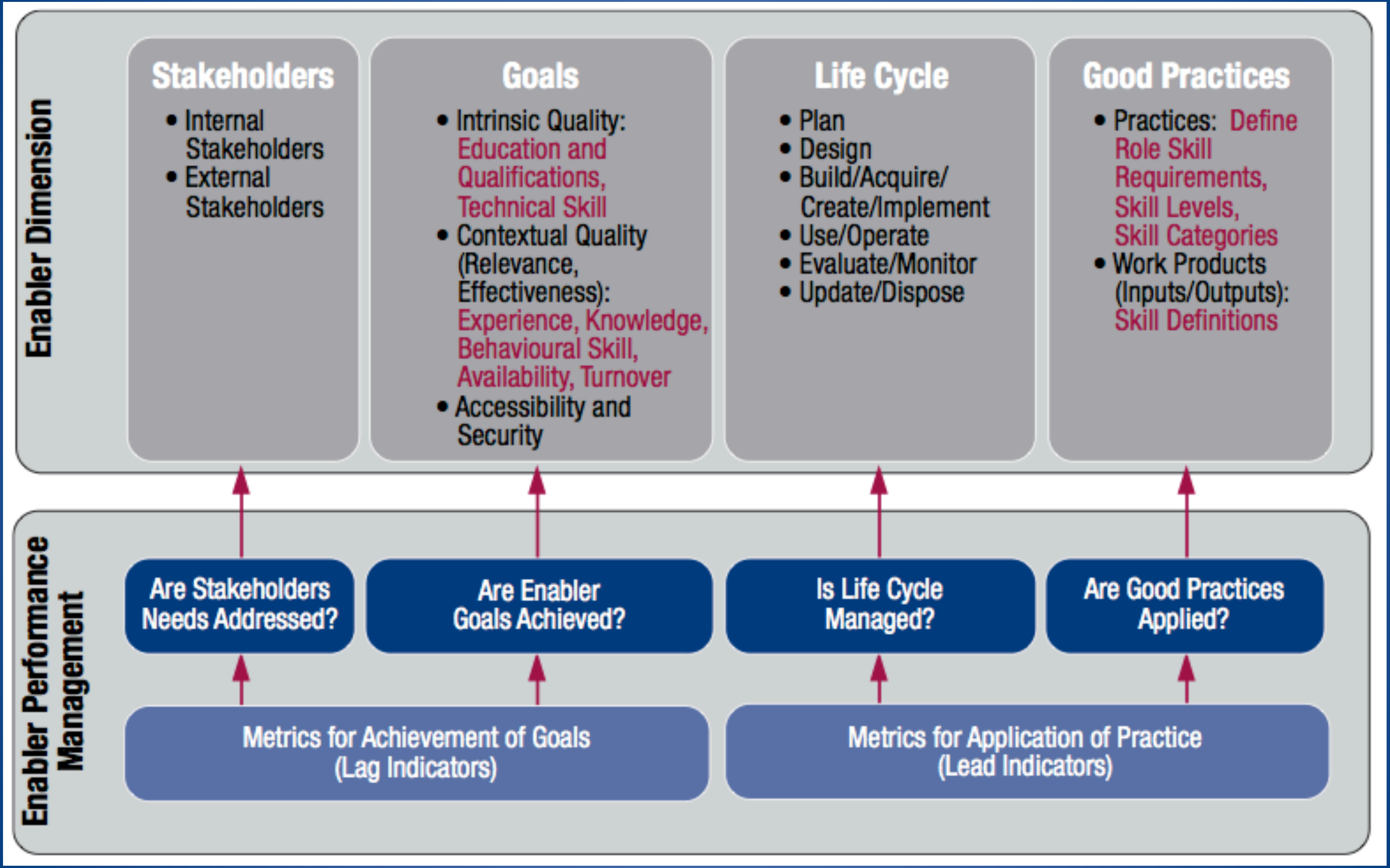
Are Good Practices Applied?

Metrics for Achievement of Goals (Lag Indicators)

Metrics for Application of Practice (Lead Indicators)

Additional information available in “Appendix G” of the COBIT 5 Framework

People, Skills, & Competencies



Enabler Dimension

Stakeholders

- Internal Stakeholders
- External Stakeholders

Goals

- Intrinsic Quality: Education and Qualifications, Technical Skill
- Contextual Quality (Relevance, Effectiveness): Experience, Knowledge, Behavioural Skill, Availability, Turnover
- Accessibility and Security

Life Cycle

- Plan
- Design
- Build/Acquire/ Create/Implement
- Use/Operate
- Evaluate/Monitor
- Update/Dispose

Good Practices

- Practices: Define Role Skill Requirements, Skill Levels, Skill Categories
- Work Products (Inputs/Outputs): Skill Definitions

Enabler Performance Management

Are Stakeholders Needs Addressed?

Are Enabler Goals Achieved?

Is Life Cycle Managed?

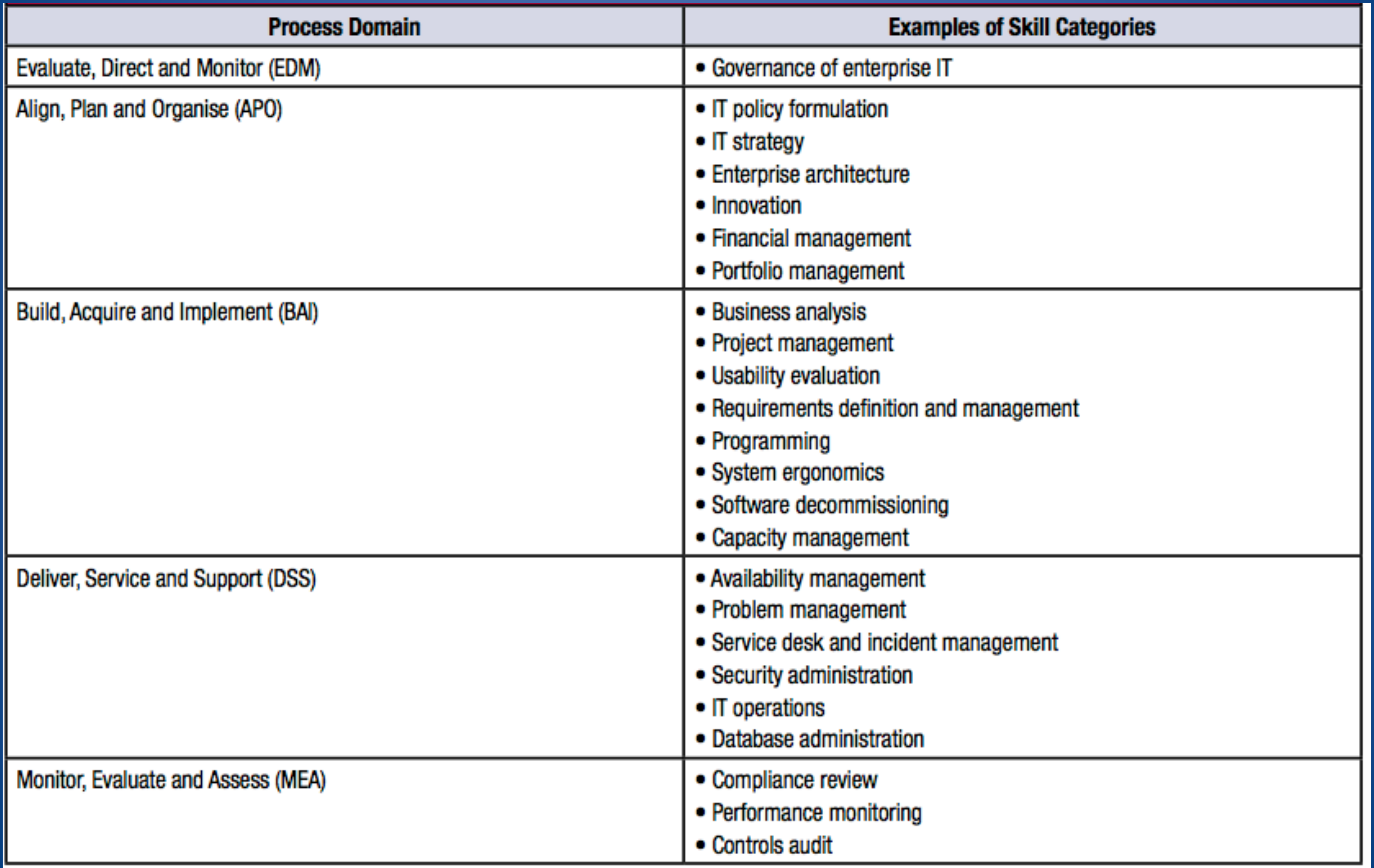
Are Good Practices Applied?

Metrics for Achievement of Goals (Lag Indicators)

Metrics for Application of Practice (Lead Indicators)

Additional information available in "Appendix G" of the COBIT 5 Framework

Skill Categories



Process Domain	Examples of Skill Categories
Evaluate, Direct and Monitor (EDM)	• Governance of enterprise IT
Align, Plan and Organise (APO)	• IT policy formulation • IT strategy • Enterprise architecture • Innovation • Financial management • Portfolio management
Build, Acquire and Implement (BAI)	• Business analysis • Project management • Usability evaluation • Requirements definition and management • Programming • System ergonomics • Software decommissioning • Capacity management
Deliver, Service and Support (DSS)	• Availability management • Problem management • Service desk and incident management • Security administration • IT operations • Database administration
Monitor, Evaluate and Assess (MEA)	• Compliance review • Performance monitoring • Controls audit

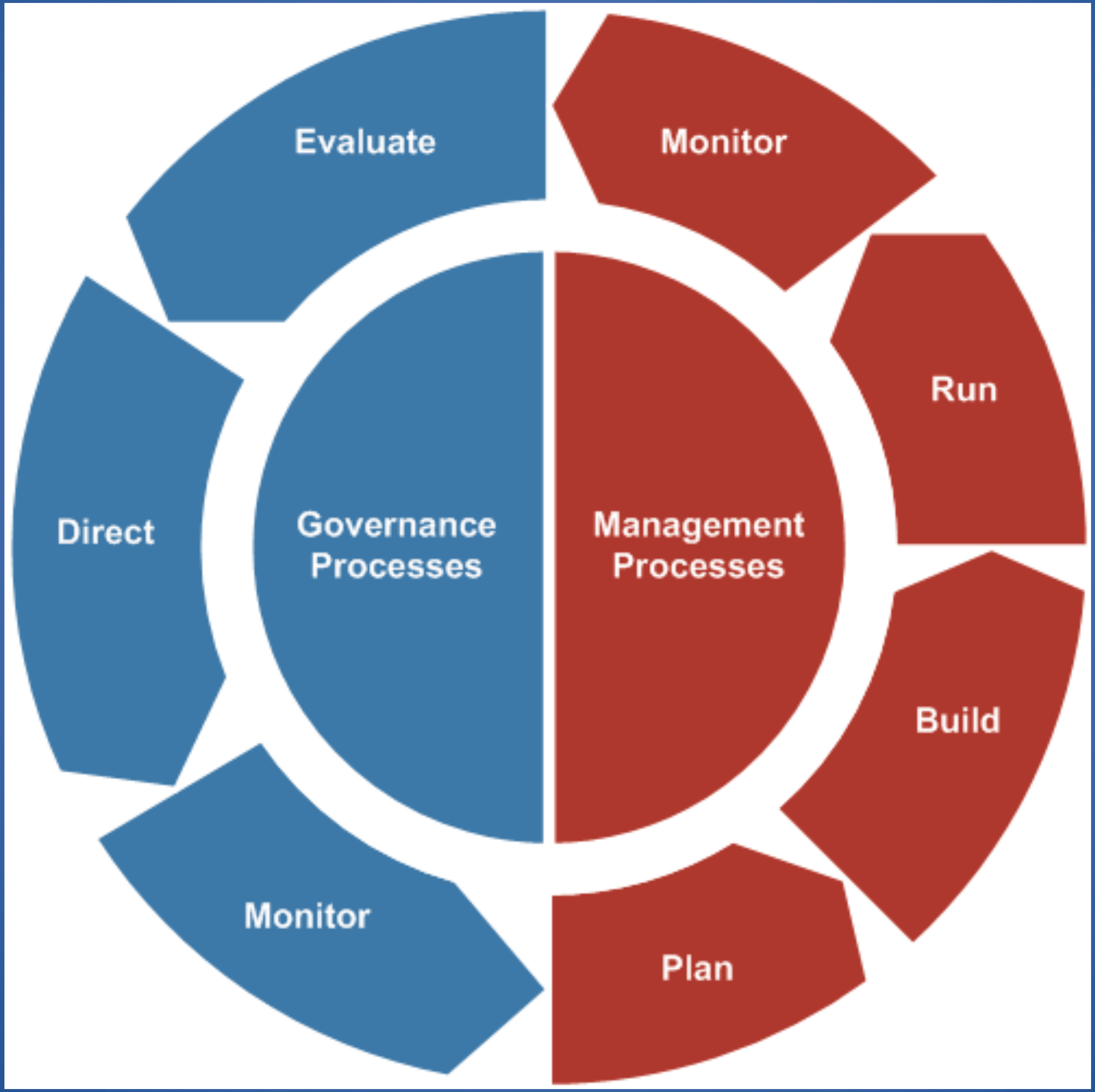
PRINCIPLE 5

SEPERATING GOVERNANCE & MANAGEMENT

COBIT 5 framework makes a clear distinction between Governance and Management

- Different types of activities
- Require different organizational structures
- Serve different purposes

Governance & Management Processes



PRINCIPLE 5

SEPERATING GOVERNANCE & MANAGEMENT

Governance

- Ensures that enterprise objectives are achieved by **evaluating** stakeholder needs, conditions, and options
- Sets **direction** through prioritization and decision making
- **Monitors** performance, compliance, and progress against the agreed upon direction and objectives

Management

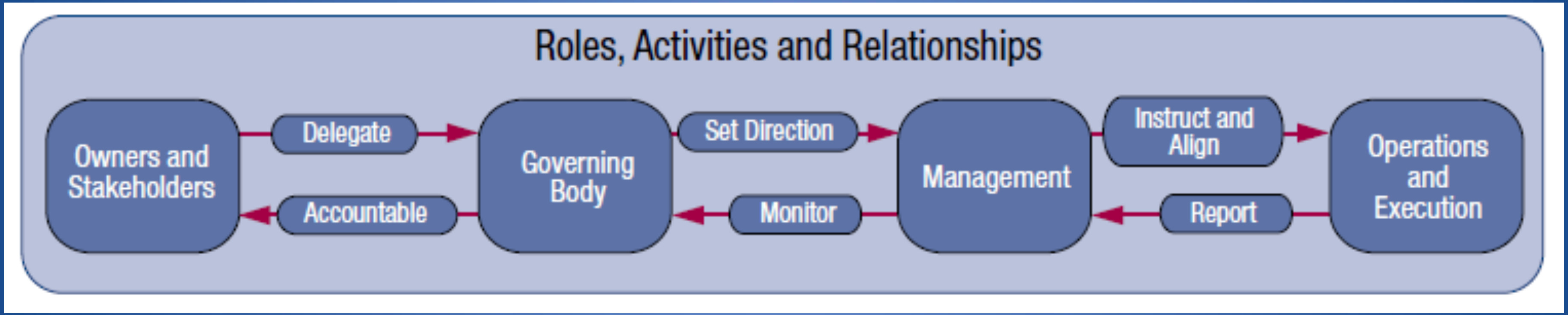
- **Plans, builds, runs, & monitors** activities in alignment with the direction set by the governance body to achieve the enterprise objectives

IT Governance

Integration of Governance & Management

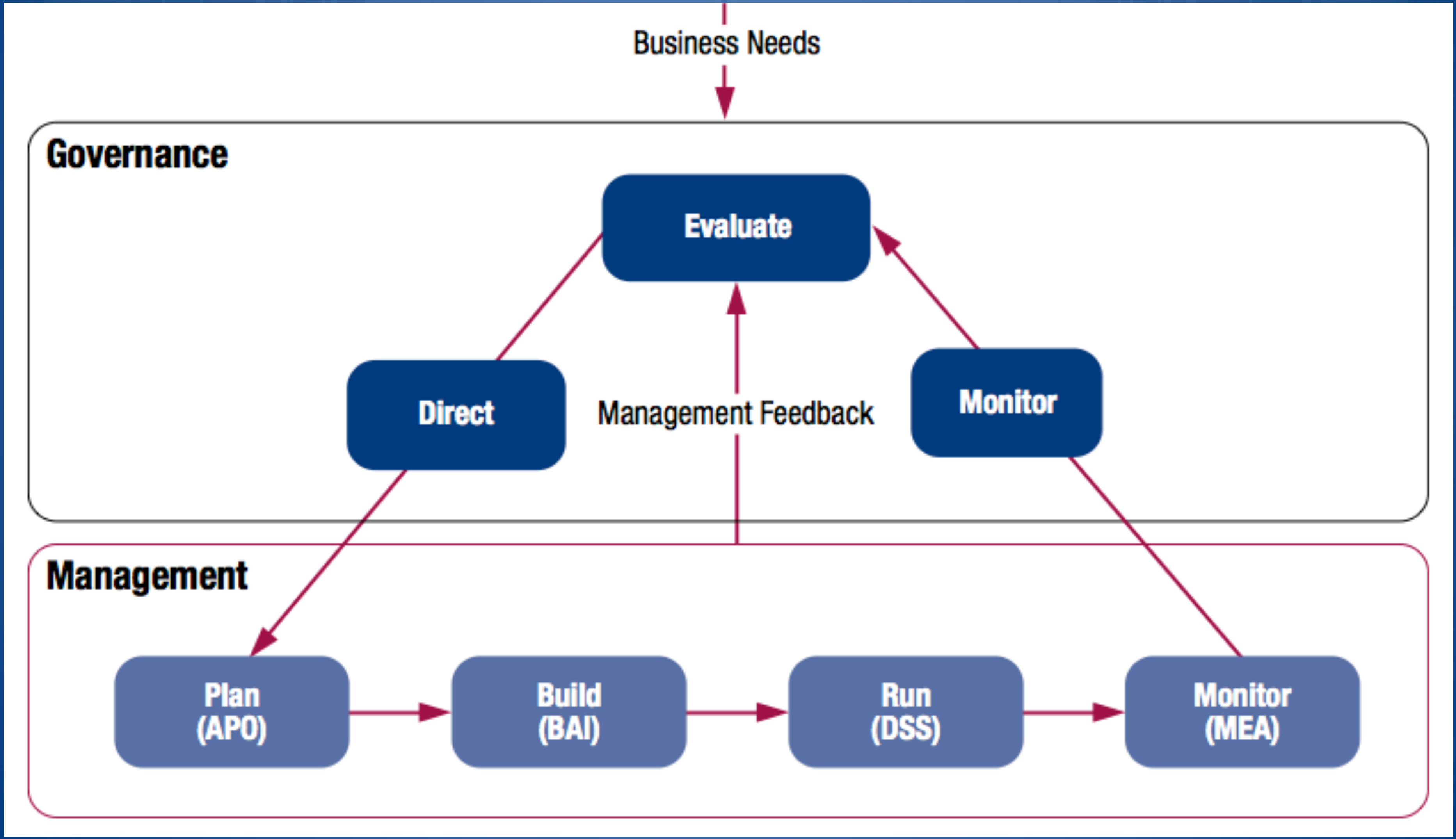
- Distinction between Governance & Management often misunderstood
- **Effective integration of these two elements is critical** for successful governance of any IT enterprise or organization
- IT Governance is **NOT** responsible for **"rendering"** IT infrastructure
- IT Governance **IS** responsible for **"oversight of management processes"** that render IT infrastructure

Roles, Activities, & Relationships



PRINCIPLE 5

SEPERATING GOVERNANCE & MANAGEMENT



PRINCIPLE 5

SEPERATING GOVERNANCE & MANAGEMENT

Process Reference Model

Divides governance and management processes into two primary domains:

- **Governance** (1 Domain, 5 Processes)

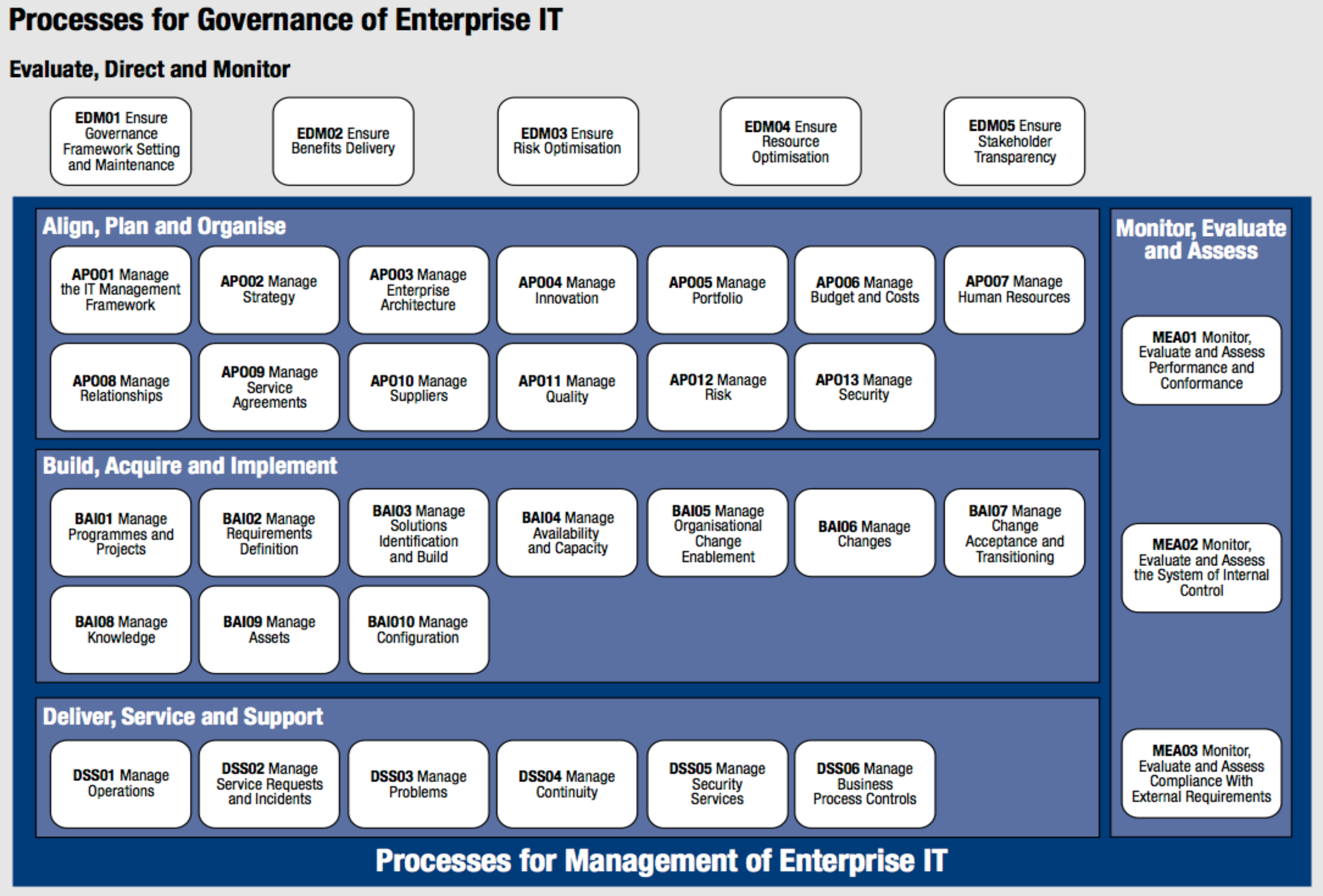
  Within each process, evaluate, direct, and monitor practices are defined.

- **Management** (4 Domains, 32 Processes)

  In line with responsibility areas of plan, build, run, and monitor, provide an end-to-end coverage of IT Management.

The processes cover the full spectrum of business and IT activities related to governance and management of enterprise IT thus making the process model truly enterprise-wide

Process Reference Model



Processes for Governance of Enterprise IT

Evaluate, Direct and Monitor

EDM01 Ensure Governance Framework Setting and Maintenance

EDM02 Ensure Benefits Delivery

EDM03 Ensure Risk Optimisation

EDM04 Ensure Resource Optimisation

EDM05 Ensure Stakeholder Transparency

Align, Plan and Organise

APO01 Manage the IT Management Framework

APO02 Manage Strategy

APO03 Manage Enterprise Architecture

APO04 Manage Innovation

APO05 Manage Portfolio

APO06 Manage Budget and Costs

APO07 Manage Human Resources

APO08 Manage Relationships

APO09 Manage Service Agreements

APO10 Manage Suppliers

APO11 Manage Quality

APO12 Manage Risk

APO13 Manage Security

Build, Acquire and Implement

BAI01 Manage Programmes and Projects

BAI02 Manage Requirements Definition

BAI03 Manage Solutions Identification and Build

BAI04 Manage Availability and Capacity

BAI05 Manage Organisational Change Enablement

BAI06 Manage Changes

BAI07 Manage Change Acceptance and Transitioning

BAI08 Manage Knowledge

BAI09 Manage Assets

BAI010 Manage Configuration

Deliver, Service and Support

DSS01 Manage Operations

DSS02 Manage Service Requests and Incidents

DSS03 Manage Problems

DSS04 Manage Continuity

DSS05 Manage Security Services

DSS06 Manage Business Process Controls

Monitor, Evaluate and Assess

MEA01 Monitor, Evaluate and Assess Performance and Conformance

MEA02 Monitor, Evaluate and Assess the System of Internal Control

MEA03 Monitor, Evaluate and Assess Compliance With External Requirements

Processes for Management of Enterprise IT

Agenda

- IT Governance Defined
- Foundational Enterprise IT Governance
  - What is COBIT / COBIT 5?
  - COBIT 5 Objectives
  - COBIT 5 Framework
  - COBIT 5 Benefits
- COBIT 5 Principles
  - Principle 1 – Meeting Stakeholder Needs
  - Principle 2 – Covering the Enterprise End-To-End
  - Principle 3 – Applying a Single Integrated Framework
  - Principle 4 – Enabling a Holistic Approach
  - Principle 5 – Separating Governance & Management
- **COBIT Process Capability Model**
- Implementation Guidance
- Summary & Recommendations
- Questions?
- References

Process Capability Model

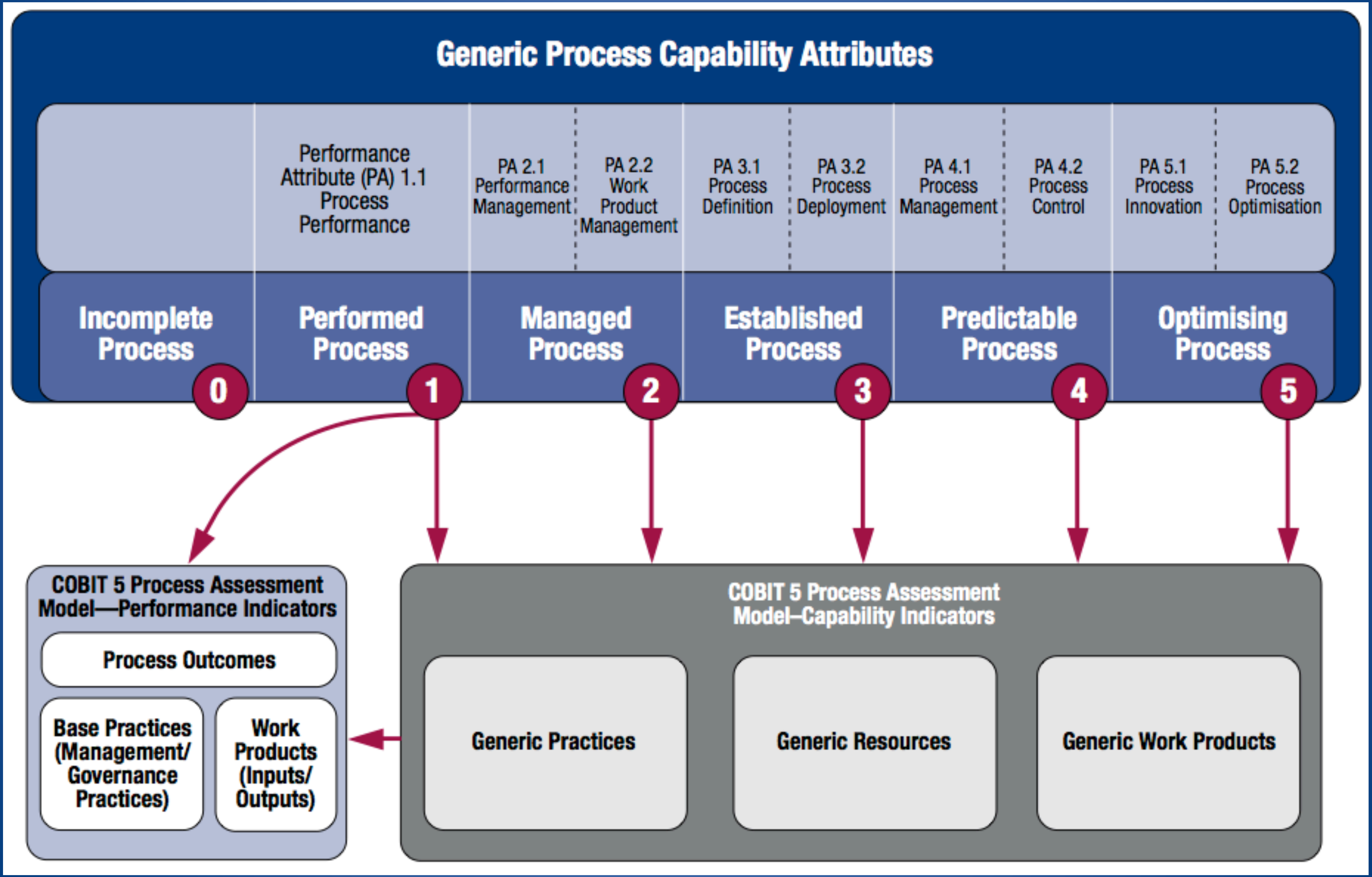
- **Based upon ISO/IEC 15504 Software Engineering — Process Assessment standard while incorporating more granular elements. It provides:**
  - A means to measure the performance of any Governance or Management process
  - Identification of areas for improvement
- The model is documented in ISACA publication *COBIT® Process Assessment Model (PAM): Using COBIT® 4.1*

Process Capability Model

Six Process Capability Levels:

- **0. Incomplete—** Process not implemented or fails to achieve its purpose. Little or no evidence of any systematic achievement of the process purpose exist.
- **1. Performed (one attribute) —** The implemented process achieves its process purpose. This requires the process performance attribute to be largely achieved which means the process is being successfully performed.
- **2. Managed (two attributes) —** Process is now implemented in a managed fashion (planned, monitored, and adjusted) and its work products are appropriately established, controlled, and maintained.
- **3. Established (two attributes) —** Process is now implemented using a defined process that is capable of achieving its intended outcomes.
- **4. Predictable (two attributes) —** Process now operates within defined limits to achieve its intended outcomes.
- **5. Optimizing (two attributes) —** Process is continuously improved to meet relevant current and projected business goals.

Process Capability Model



Generic Process Capability Attributes

Performance Attribute (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 Management

PA 4.2 Process Control

PA 5.1 Process Innovation

PA 5.2 Process Optimisation

Incomplete Process 0

Performed Process 1

Managed Process 2

Established Process 3

Predictable Process 4

Optimising Process 5

COBIT 5 Process Assessment Model—Performance Indicators

Process Outcomes

Base Practices (Management/ Governance Practices)

Work Products (Inputs/ Outputs)

COBIT 5 Process Assessment Model–Capability Indicators

Generic Practices

Generic Resources

Generic Work Products

Process Capability Model Comparison

Commonly Recognized Maturity Levels	COBIT 5 ISO/IEC 15504-based Capability Levels	Meaning of the COBIT 5 ISO/IEC 15504-based Capability Levels
5. Optimized	5. Optimized	Continuously improved to meet relevant current and projected enterprise goals
4. Managed	4. Predictable	Operates within defined limits to achieve its process outcomes
3. Defined	3. Established	Implemented using a defined process that is capable of achieving its process outcomes
N/A	2. Managed	Implemented in a managed fashion (planned, monitored and adjusted) and its work products are appropriately established, controlled and maintained
2. Under Development 1. Initial Capability	1. Performed	Process achieves its process purpose
0. Non-existent	0. Incomplete	Not implemented or little or no evidence of any systematic achievement of the process purpose

Process Capability Model Comparison

Observations:

- The ISO model collapses traditional capability Levels 1 & 2 (Initial Capability & Under Development) under 15504 Level 1 (Performed)
- This produces some loss of granularity through the initial integration and development phases
- The result is a loss of detail relative to tracking, reporting, and management of the IT Governance development and implementation process

Process Capability Assessment

The ISO 15504-based assessment approach facilitates the following objectives:

- Provide a **measurement** scale and associated guidance to assess the nine capability attributes for each process
- Enables management to **benchmark** process capability so they can measure and monitor current capabilities
- Enable ‘as-is’ and ‘to-be’ process capability status and **gap analysis** to support management investment decisions with regard to process improvement
- Provide information required for process capability **trend analysis**

Process Capability Assessment

The ISO/IEC 15504 process capability assessment approach defines information required for assessment in the ‘Process Reference Model’ as follows:

– **Process description** with purpose statements

– **Base practices**, which are the equivalent of process governance or management practices in COBIT 5 terms

– **Work products**, which are the equivalent of inputs and outputs in COBIT 5 terms

Process Capability Assessment Scale

- **N (Not achieved) —** There is little or no evidence of achievement of the defined attribute in the assessed process. (0 to 15 percent achievement)
- **P (Partially achieved) —** There is some evidence of an approach to, and some achievement of, the defined attribute in the assessed process. Some aspects of achievement of the attribute may be unpredictable. (15 to 50 percent achievement)
- **L (Largely achieved) —** There is evidence of a systematic approach to, and significant achievement of, the defined attribute in the assessed process. Some weakness related to this attribute may exist in the assessed process. (50 to 85 percent achievement)
- **F (Fully achieved) —** There is evidence of a complete and systematic approach to, and full achievement of, the defined attribute in the assessed process. No significant weaknesses related to this attribute exist in the assessed process. (85 to 100 percent achievement)

Process Capability Attribute

- **Based on ISO/IEC 15504 Process Assessment Model**
- The model makes a distinction between:
  - **Basic Capability Level (1)**

    Indicates that a process is generally achieving its stated goals and that good practices are, to a large extent, applied. These attributes are unique for each process.

  - **Advanced Capability Levels (2 through 5)**

    Indicates increasing levels of sophistication, providing greater efficiency, formalization, control, optimization, etc. For each level multiple attributes must be achieved. These attributes are generic for all processes.

Process Capability Assessment Procedure

Capability Level 1 Assessment:

1. **Assess the process outcomes** as they are documented in the detailed process descriptions and assign an ISO/IEC 15504 rating to each objective
2. **Assess the base practices** (governance or management) using the same rating scale
3. **Assess the work products** to determine the extent to which a specific attribute has been achieved

Capability Levels 2-5 Assessment:

ISO/IEC 15504 provides generic practices & descriptions for each of the remaining capability levels

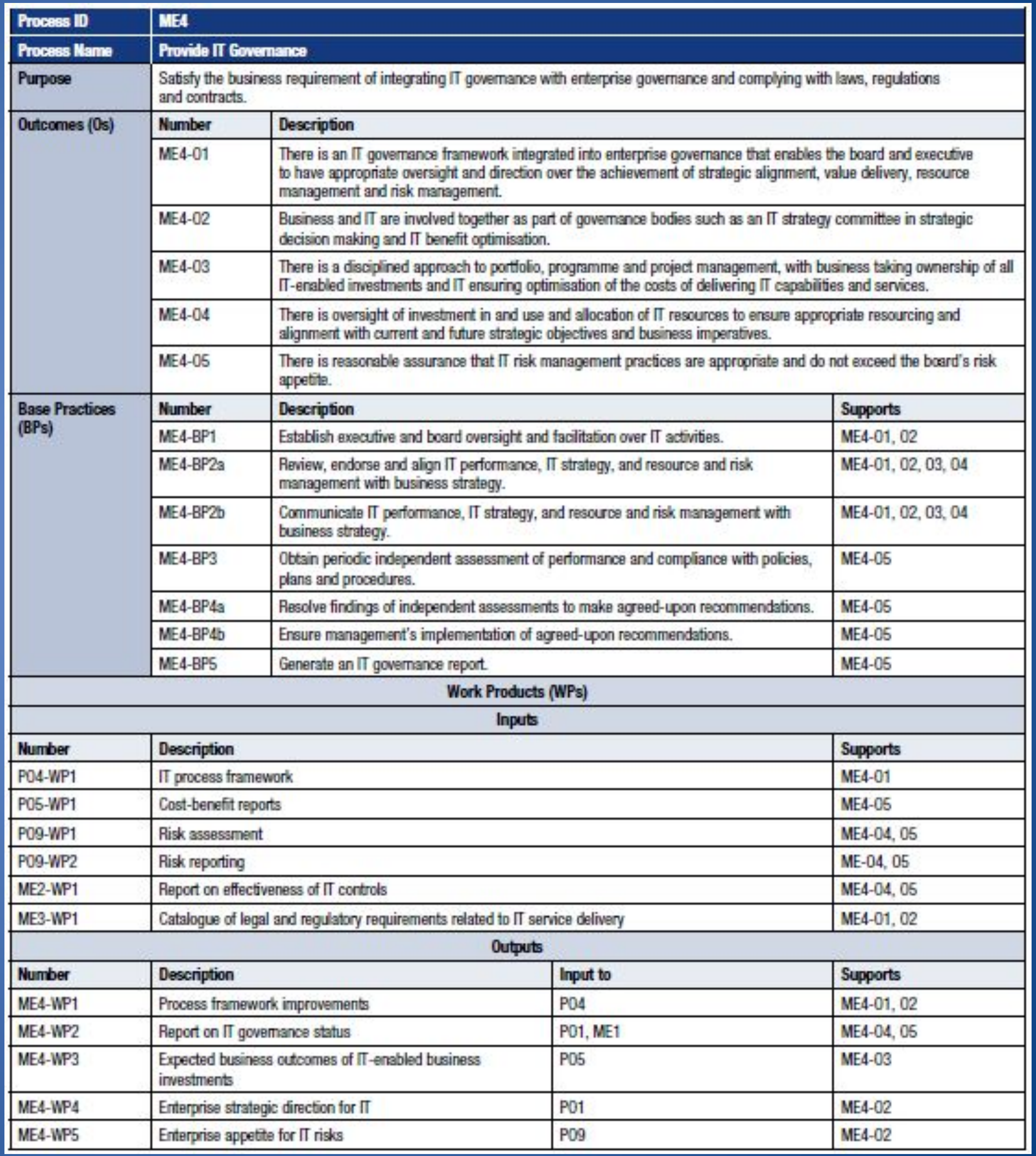
COBIT 4.1 PAM Example

Purpose

Process Outcomes

Base Practices

Work Products
– Inputs
– Outputs



Process ID	ME4
Process Name	Provide IT Governance
Purpose	Satisfy the business requirement of integrating IT governance with enterprise governance and complying with laws, regulations and contracts.

Outcomes (Os)	Number	Description
	ME4-01	There is an IT governance framework integrated into enterprise governance that enables the board and executive to have appropriate oversight and direction over the achievement of strategic alignment, value delivery, resource management and risk management.
	ME4-02	Business and IT are involved together as part of governance bodies such as an IT strategy committee in strategic decision making and IT benefit optimisation.
	ME4-03	There is a disciplined approach to portfolio, programme and project management, with business taking ownership of all IT-enabled investments and IT ensuring optimisation of the costs of delivering IT capabilities and services.
	ME4-04	There is oversight of investment in and use and allocation of IT resources to ensure appropriate resourcing and alignment with current and future strategic objectives and business imperatives.
	ME4-05	There is reasonable assurance that IT risk management practices are appropriate and do not exceed the board's risk appetite.

Base Practices (BPs)	Number	Description	Supports
	ME4-BP1	Establish executive and board oversight and facilitation over IT activities.	ME4-01, 02
	ME4-BP2a	Review, endorse and align IT performance, IT strategy, and resource and risk management with business strategy.	ME4-01, 02, 03, 04
	ME4-BP2b	Communicate IT performance, IT strategy, and resource and risk management with business strategy.	ME4-01, 02, 03, 04
	ME4-BP3	Obtain periodic independent assessment of performance and compliance with policies, plans and procedures.	ME4-05
	ME4-BP4a	Resolve findings of independent assessments to make agreed-upon recommendations.	ME4-05
	ME4-BP4b	Ensure management's implementation of agreed-upon recommendations.	ME4-05
	ME4-BP5	Generate an IT governance report.	ME4-05

Work Products (WPs)

Inputs

Number	Description	Supports
PO4-WP1	IT process framework	ME4-01
PO5-WP1	Cost-benefit reports	ME4-05
PO9-WP1	Risk assessment	ME4-04, 05
PO9-WP2	Risk reporting	ME-04, 05
ME2-WP1	Report on effectiveness of IT controls	ME4-04, 05
ME3-WP1	Catalogue of legal and regulatory requirements related to IT service delivery	ME4-01, 02

Outputs

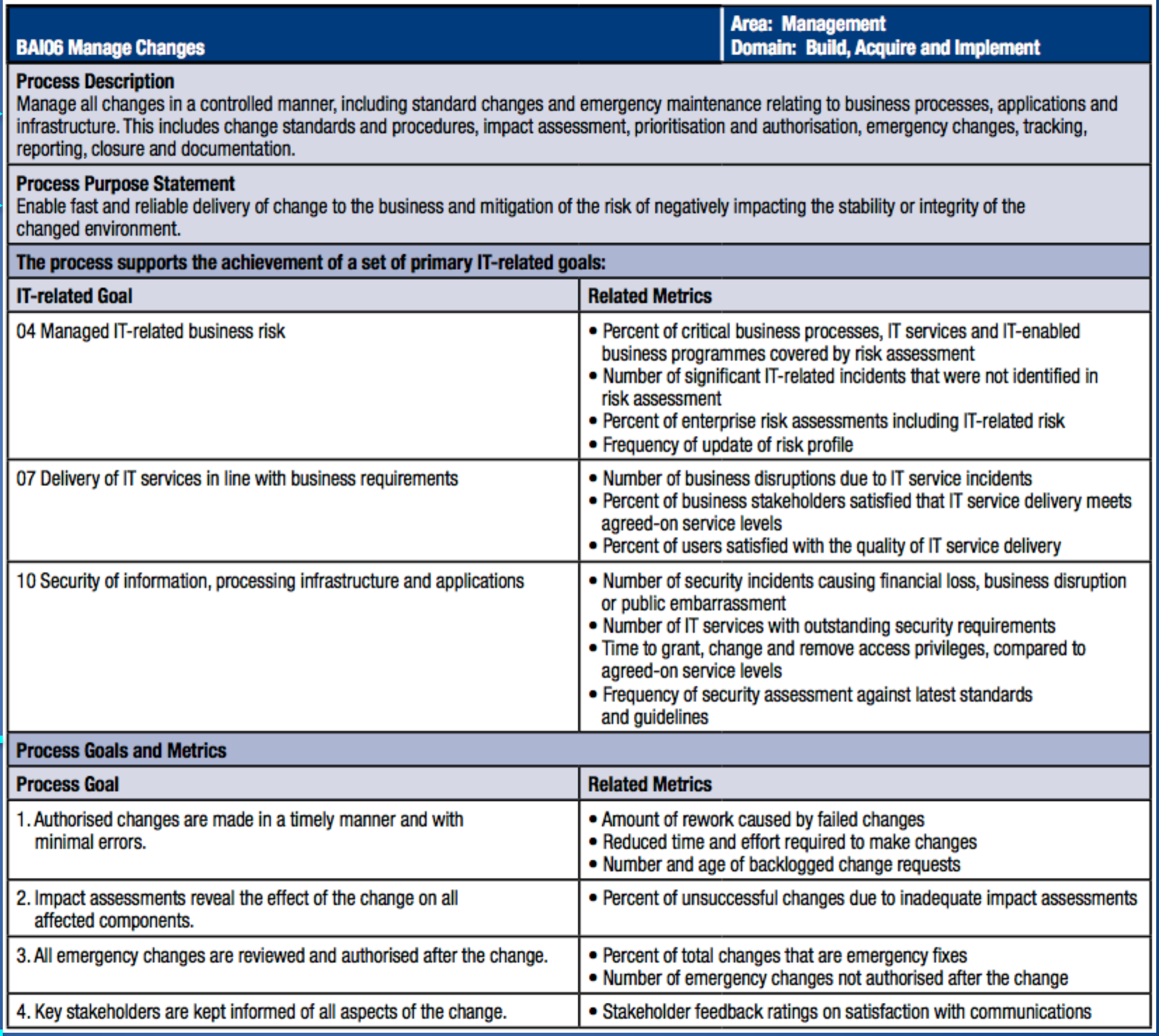
Number	Description	Input to	Supports
ME4-WP1	Process framework improvements	PO4	ME4-01, 02
ME4-WP2	Report on IT governance status	PO1, ME1	ME4-04, 05
ME4-WP3	Expected business outcomes of IT-enabled business investments	PO5	ME4-03
ME4-WP4	Enterprise strategic direction for IT	PO1	ME4-02
ME4-WP5	Enterprise appetite for IT risks	PO9	ME4-02

COBIT 5 PAM Example

Description

Purpose

Goals & Sample Metrics of the Process Itself



BAI06 Manage Changes	Area: Management Domain: Build, Acquire and Implement
Process Description Manage all changes in a controlled manner, including standard changes and emergency maintenance relating to business processes, applications and infrastructure. This includes change standards and procedures, impact assessment, prioritisation and authorisation, emergency changes, tracking, reporting, closure and documentation.	
Process Purpose Statement Enable fast and reliable delivery of change to the business and mitigation of the risk of negatively impacting the stability or integrity of the changed environment.	
The process supports the achievement of a set of primary IT-related goals:	
IT-related Goal	**Related Metrics**
04 Managed IT-related business risk	• Percent of critical business processes, IT services and IT-enabled business programmes covered by risk assessment • Number of significant IT-related incidents that were not identified in risk assessment • Percent of enterprise risk assessments including IT-related risk • Frequency of update of risk profile
07 Delivery of IT services in line with business requirements	• Number of business disruptions due to IT service incidents • Percent of business stakeholders satisfied that IT service delivery meets agreed-on service levels • Percent of users satisfied with the quality of IT service delivery
10 Security of information, processing infrastructure and applications	• Number of security incidents causing financial loss, business disruption or public embarrassment • Number of IT services with outstanding security requirements • Time to grant, change and remove access privileges, compared to agreed-on service levels • Frequency of security assessment against latest standards and guidelines
Process Goals and Metrics	
Process Goal	**Related Metrics**
1. Authorised changes are made in a timely manner and with minimal errors.	• Amount of rework caused by failed changes • Reduced time and effort required to make changes • Number and age of backlogged change requests
2. Impact assessments reveal the effect of the change on all affected components.	• Percent of unsuccessful changes due to inadequate impact assessments
3. All emergency changes are reviewed and authorised after the change.	• Percent of total changes that are emergency fixes • Number of emergency changes not authorised after the change
4. Key stakeholders are kept informed of all aspects of the change.	• Stakeholder feedback ratings on satisfaction with communications

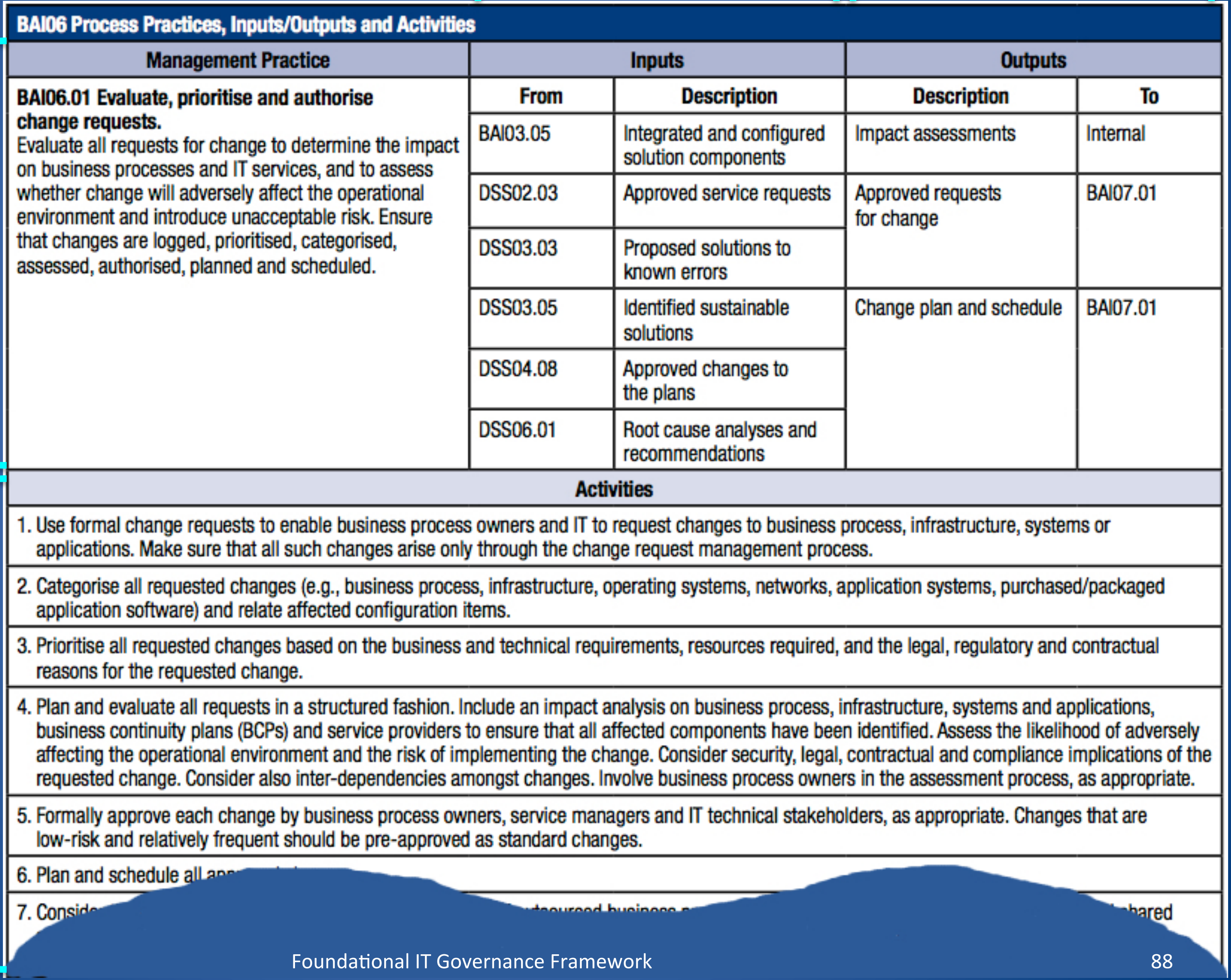
COBIT 5 PAM Example

Inputs

Outputs

Practice Description

Practice Activities



BAI06 Process Practices, Inputs/Outputs and Activities

Management Practice	Inputs		Outputs	
	From	Description	Description	To
BAI06.01 Evaluate, prioritise and authorise change requests. Evaluate all requests for change to determine the impact on business processes and IT services, and to assess whether change will adversely affect the operational environment and introduce unacceptable risk. Ensure that changes are logged, prioritised, categorised, assessed, authorised, planned and scheduled.	BAI03.05	Integrated and configured solution components	Impact assessments	Internal
	DSS02.03	Approved service requests	Approved requests for change	BAI07.01
	DSS03.03	Proposed solutions to known errors		
	DSS03.05	Identified sustainable solutions	Change plan and schedule	BAI07.01
	DSS04.08	Approved changes to the plans		
	DSS06.01	Root cause analyses and recommendations		

Activities

1. Use formal change requests to enable business process owners and IT to request changes to business process, infrastructure, systems or applications. Make sure that all such changes arise only through the change request management process.

2. Categorise all requested changes (e.g., business process, infrastructure, operating systems, networks, application systems, purchased/packaged application software) and relate affected configuration items.

3. Prioritise all requested changes based on the business and technical requirements, resources required, and the legal, regulatory and contractual reasons for the requested change.

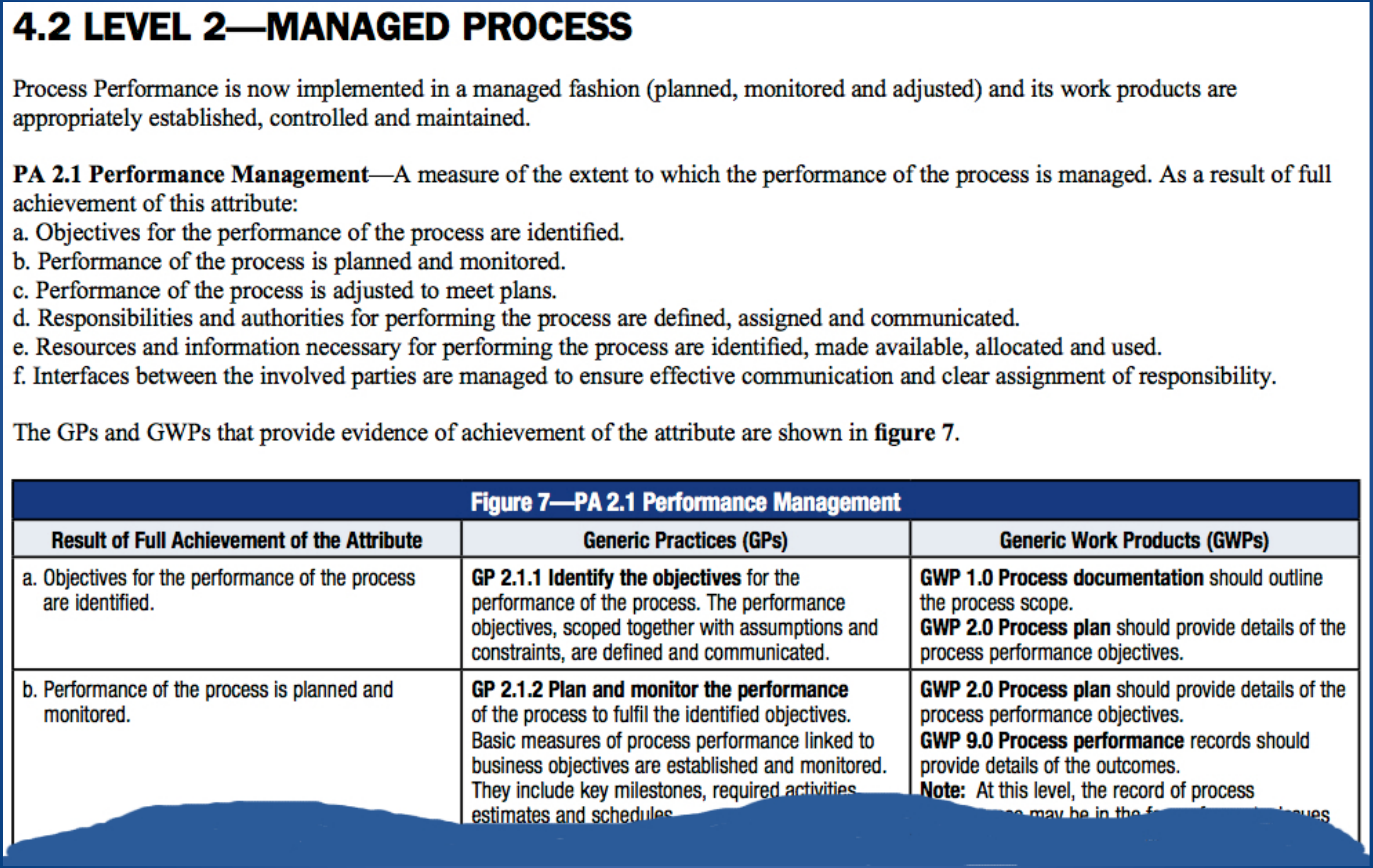
4. Plan and evaluate all requests in a structured fashion. Include an impact analysis on business process, infrastructure, systems and applications, business continuity plans (BCPs) and service providers to ensure that all affected components have been identified. Assess the likelihood of adversely affecting the operational environment and the risk of implementing the change. Consider security, legal, contractual and compliance implications of the requested change. Consider also inter-dependencies amongst changes. Involve business process owners in the assessment process, as appropriate.

5. Formally approve each change by business process owners, service managers and IT technical stakeholders, as appropriate. Changes that are low-risk and relatively frequent should be pre-approved as standard changes.

6. Plan and schedule all ap

7. Consid utsourced business p hared

Process Capability Indicators



4.2 LEVEL 2—MANAGED PROCESS

Process Performance is now implemented in a managed fashion (planned, monitored and adjusted) and its work products are appropriately established, controlled and maintained.

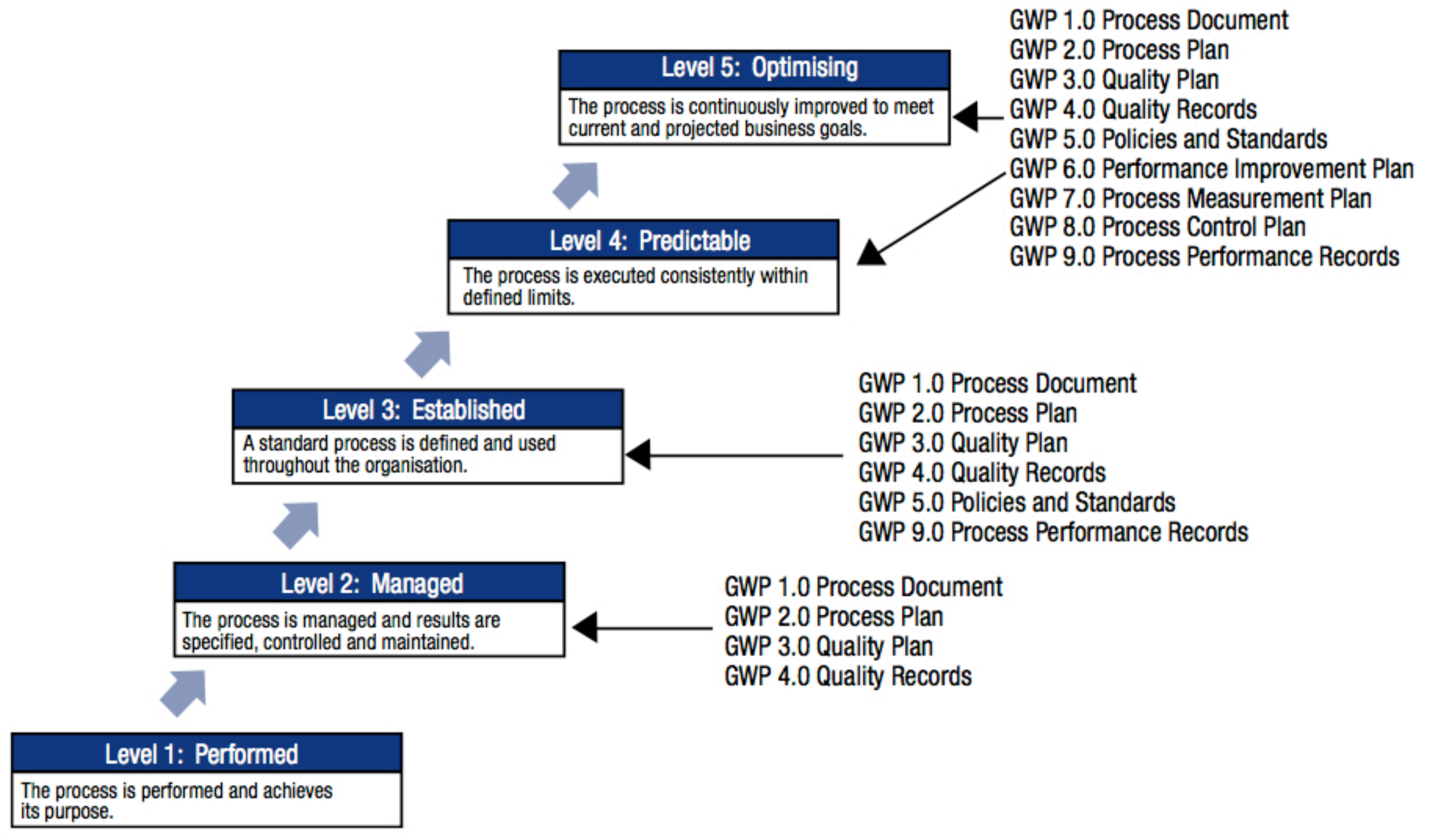
PA 2.1 Performance Management—A measure of the extent to which the performance of the process is managed. As a result of full achievement of this attribute:
a. Objectives for the performance of the process are identified.
b. Performance of the process is planned and monitored.
c. Performance of the process is adjusted to meet plans.
d. Responsibilities and authorities for performing the process are defined, assigned and communicated.
e. Resources and information necessary for performing the process are identified, made available, allocated and used.
f. Interfaces between the involved parties are managed to ensure effective communication and clear assignment of responsibility.

The GPs and GWPs that provide evidence of achievement of the attribute are shown in **figure 7**.

Figure 7—PA 2.1 Performance Management

Result of Full Achievement of the Attribute	Generic Practices (GPs)	Generic Work Products (GWPs)
a. Objectives for the performance of the process are identified.	**GP 2.1.1 Identify the objectives** for the performance of the process. The performance objectives, scoped together with assumptions and constraints, are defined and communicated.	**GWP 1.0 Process documentation** should outline the process scope. **GWP 2.0 Process plan** should provide details of the process performance objectives.
b. Performance of the process is planned and monitored.	**GP 2.1.2 Plan and monitor the performance** of the process to fulfil the identified objectives. Basic measures of process performance linked to business objectives are established and monitored. They include key milestones, required activities estimates and schedules	**GWP 2.0 Process plan** should provide details of the process performance objectives. **GWP 9.0 Process performance** records should provide details of the outcomes. **Note:** At this level, the record of process [illegible] may be in the f[illegible] issues

Generic Work Product Taxonomy



Level 5: Optimising

The process is continuously improved to meet current and projected business goals.

GWP 1.0 Process Document
GWP 2.0 Process Plan
GWP 3.0 Quality Plan
GWP 4.0 Quality Records
GWP 5.0 Policies and Standards
GWP 6.0 Performance Improvement Plan
GWP 7.0 Process Measurement Plan
GWP 8.0 Process Control Plan
GWP 9.0 Process Performance Records

Level 4: Predictable

The process is executed consistently within defined limits.

Level 3: Established

A standard process is defined and used throughout the organisation.

GWP 1.0 Process Document
GWP 2.0 Process Plan
GWP 3.0 Quality Plan
GWP 4.0 Quality Records
GWP 5.0 Policies and Standards
GWP 9.0 Process Performance Records

Level 2: Managed

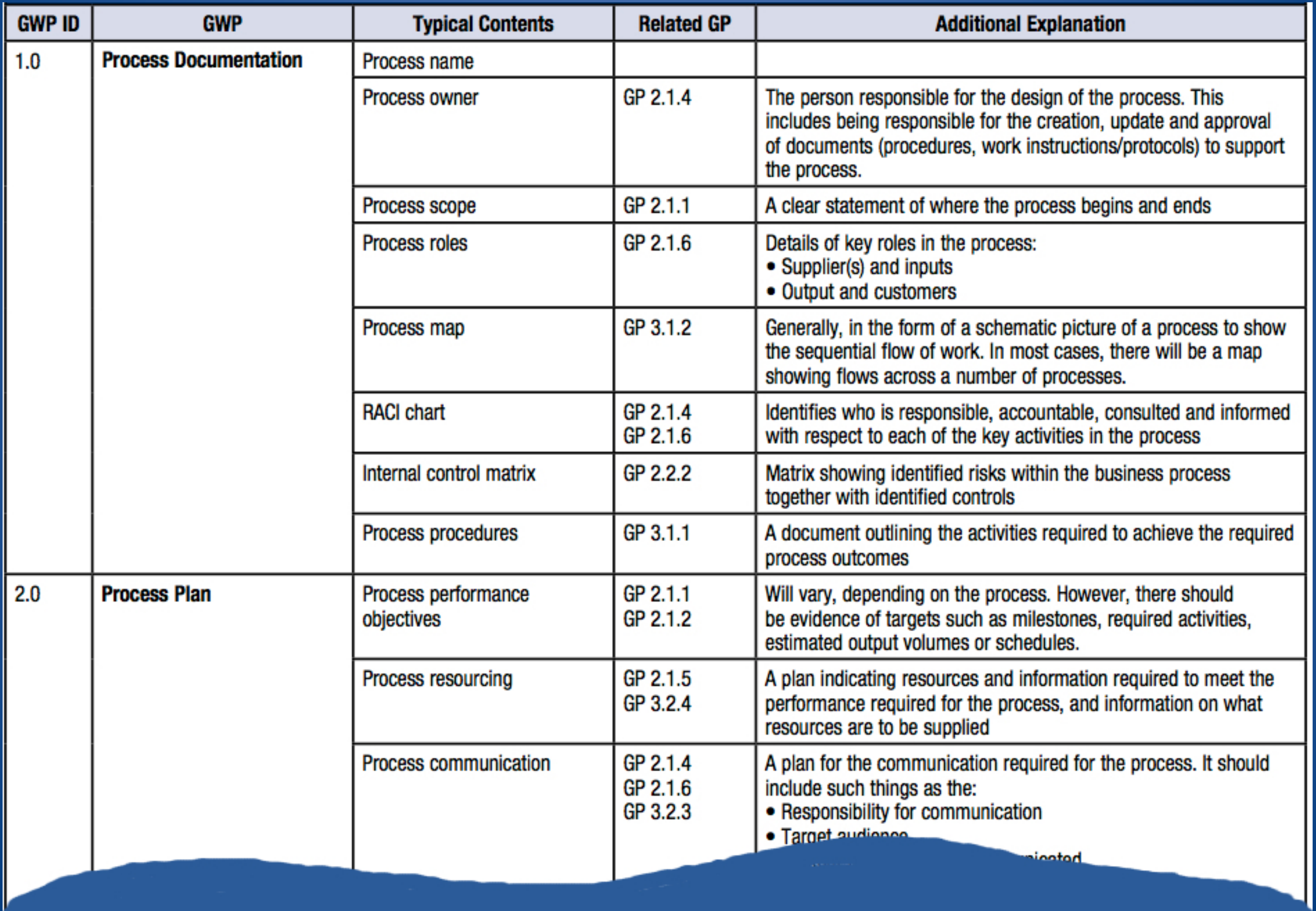
The process is managed and results are specified, controlled and maintained.

GWP 1.0 Process Document
GWP 2.0 Process Plan
GWP 3.0 Quality Plan
GWP 4.0 Quality Records

Level 1: Performed

The process is performed and achieves its purpose.

Generic Work Product



GWP ID	GWP	Typical Contents	Related GP	Additional Explanation
1.0	**Process Documentation**	Process name		
		Process owner	GP 2.1.4	The person responsible for the design of the process. This includes being responsible for the creation, update and approval of documents (procedures, work instructions/protocols) to support the process.
		Process scope	GP 2.1.1	A clear statement of where the process begins and ends
		Process roles	GP 2.1.6	Details of key roles in the process: • Supplier(s) and inputs • Output and customers
		Process map	GP 3.1.2	Generally, in the form of a schematic picture of a process to show the sequential flow of work. In most cases, there will be a map showing flows across a number of processes.
		RACI chart	GP 2.1.4 GP 2.1.6	Identifies who is responsible, accountable, consulted and informed with respect to each of the key activities in the process
		Internal control matrix	GP 2.2.2	Matrix showing identified risks within the business process together with identified controls
		Process procedures	GP 3.1.1	A document outlining the activities required to achieve the required process outcomes
2.0	**Process Plan**	Process performance objectives	GP 2.1.1 GP 2.1.2	Will vary, depending on the process. However, there should be evidence of targets such as milestones, required activities, estimated output volumes or schedules.
		Process resourcing	GP 2.1.5 GP 3.2.4	A plan indicating resources and information required to meet the performance required for the process, and information on what resources are to be supplied
		Process communication	GP 2.1.4 GP 2.1.6 GP 3.2.3	A plan for the communication required for the process. It should include such things as the: • Responsibility for communication • Target audience nicated

Agenda

- IT Governance Defined
- Foundational Enterprise IT Governance
  - What is COBIT / COBIT 5?
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  - COBIT 5 Framework
  - COBIT 5 Benefits
- COBIT 5 Principles
  - Principle 1 – Meeting Stakeholder Needs
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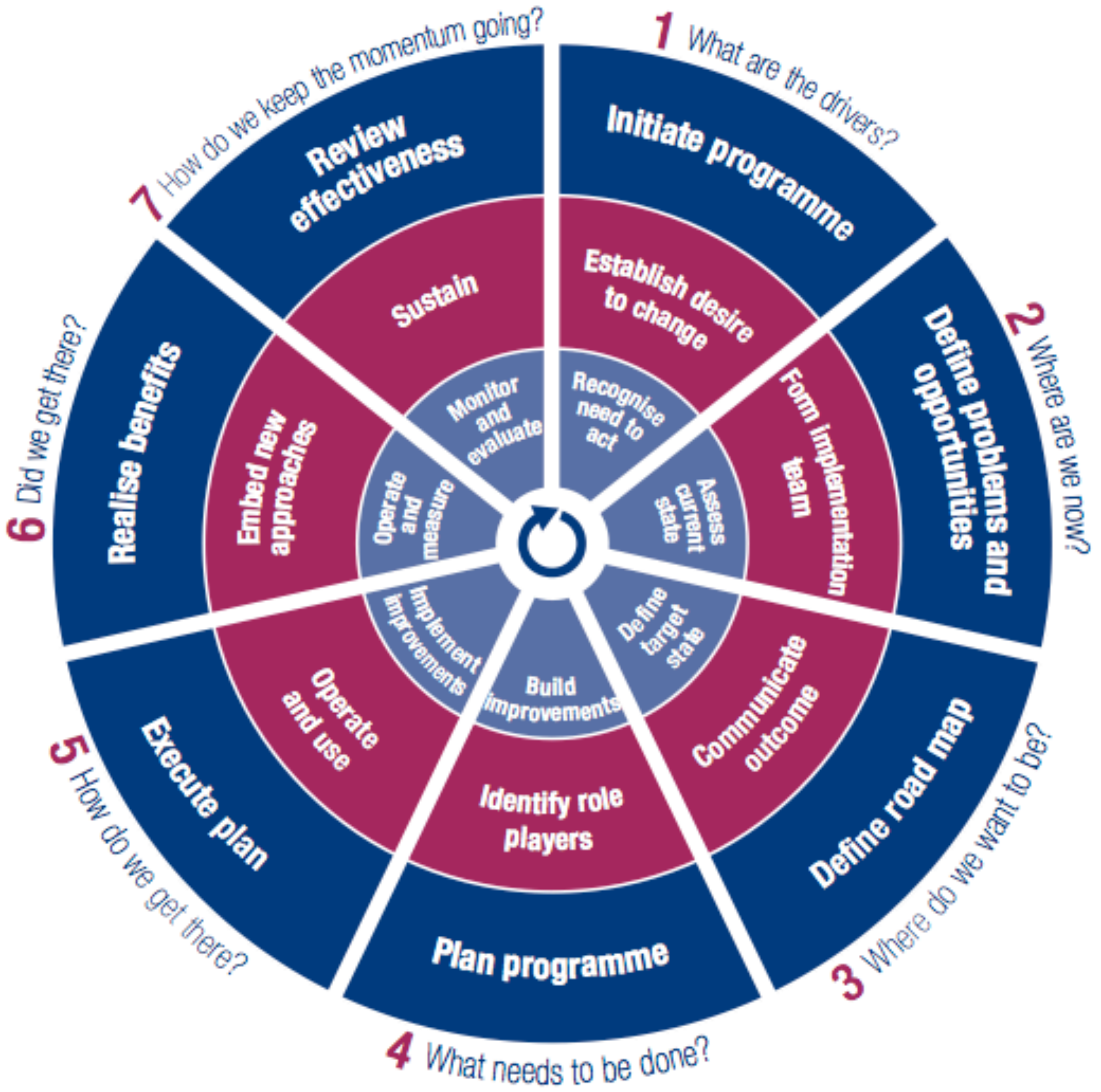
  - Principle 5 – Separating Governance & Management
- COBIT Process Capability Model
- **Implementation Guidance**
- Summary & Recommendations
- Questions?
- References

Implementation Life Cycle



- ● **Programme management** (outer ring)
- ● **Change enablement** (middle ring)
- ● **Continual improvement life cycle** (inner ring)

Implementation Guidance

COBIT 5 Implementation Guide

- Based on a continual improvement life cycle
- Not intended as a prescriptive approach or complete solution
- Designed as a guide to:
  - Assist in the creation of successful outcomes
  - Leverage best practices
  - Avoid commonly encountered pitfalls
- Supported by an implementation tool kit containing a variety of resources:
  - Self-assessment, measurement, and diagnostic tools
  - Presentations aimed at various audiences
  - Related articles & further explanations

Implementation Guidance

Key factors for successful implementation:

- **Top management providing:**
  - Direction and mandate for the initiative
  - Visible ongoing commitment & support
- Stakeholder commitment & support
- All parties supporting governance and management processes need to understand the business & IT objectives
- Key roles and responsibilities should be defined and assigned
- Ensuring effective communication and enablement of the necessary changes
- **Tailoring ITG framework** as well as other supporting best practices and standards to fit the unique context of the organization
- **Focusing on quick wins and prioritizing** the most beneficial improvements

Implementation Life Cycle Approach

- Provides a way for enterprises to address the complexity and challenges typically encountered during implementation of a Comprehensive IT Governance framework
- **Three inter-related life cycle components:**
  - **Program Management**

    Governance of the Process Management program
  - **Change Enablement**

    Addressing the behavioral and cultural aspects
  - **Continual Improvement Life Cycle**

    Not a one-off project

Seven Phases of the Implementation Life Cycle

Phase 1 – Initiate Program

- Recognize and agree on need for an implementation or improvement initiative
- Identify current pain points & triggers
- Create a desire to change at executive management levels

Phase 2 – Define Problems & Opportunities

- Leverage framework mappings of enterprise goals, to IT-related goals, to associated IT processes & activities, reconciling organizational ITG equivalents with framework defaults
- Perform high-level analysis to understand and scope the framework towards selecting high-priority areas for assessment
- Define scope of the assessment
- Assess current process capabilities and identify issues or deficiencies
- Define target process capabilities

Seven Phases of the Implementation Life Cycle

Phase 3 – Define Roadmap

- Perform a detailed analysis to identify gaps and potential solutions
- Select & prioritize improvement targets

Phase 4 – Plan Program

- Plan practical solutions by defining projects supported by justifiable business cases
- Develop a change plan for implementation
- Structure large-scale initiatives as multiple iterations of the life cycle

Phase 5 – Execute Plan

- Implement detailed improvement projects, leveraging enterprise program, project, & process management capabilities, standards & practices
- Monitor, measure and report on project progress
- Implement performance management by using the framework's goals and metrics to define measures and monitoring mechanisms
- Ensure business alignment is achieved and maintained
- Ensure engagement & commitment of top management & stakeholders throughout implementation

Seven Phases of the Implementation Life Cycle

Phase 6 – Realize Benefits

- Ensure sustainable operation of new or improved enablers
- Monitor achievement of expected benefits

Phase 7 – Review Effectiveness

- Review overall initiative success
- Identify further requirements for ITG implementation
- Reinforce need for continual improvement

Agenda

- IT Governance Defined
- Foundational Enterprise IT Governance
  - What is COBIT / COBIT 5?
  - COBIT 5 Objectives
  - COBIT 5 Framework
  - COBIT 5 Benefits
- COBIT 5 Principles
  - Principle 1 – Meeting Stakeholder Needs
  - Principle 2 – Covering the Enterprise End-To-End
  - Principle 3 – Applying a Single Integrated Framework
  - Principle 4 – Enabling a Holistic Approach
  - Principle 5 – Separating Governance & Management
- COBIT Process Capability Model
- Implementation Guidance
- **Summary & Recommendations**
- **Questions?**
- **References**

Summary

- **IT Governance Defined**
  - Distinction between Governance & Management often misunderstood
  - Effective integration of these two elements is critical for successful IT Governance in any enterprise or organization
- **Foundational Enterprise IT Governance**

  Understanding of ITG Core Concepts is required to fully grasp the constructs presented herein

Summary

- **COBIT 5 Principles**
  Principles and policies are the vehicle by which governance decisions are institutionalized within the enterprise and therefore are an interaction between governance decisions (direction setting) and management (execution of decisions).

- **COBIT Process Capability Model**
  The COBIT 5 framework presents IT Governance in a process-centric context and therefore provides granular definition of the capability assessment model as applied to the Process enabler.

Summary

- **Implementation Guidance**
  - Optimal value can only be realized from COBIT if it is effectively adopted and adapted to suit each enterprise's unique environment.
  - Each implementation approach needs to address specific challenges including managing changes to culture and behavior.

Summary

- This has presented an overview of a “Foundational” IT Governance framework
- Based upon ISACA’s Foundational Enterprise IT Governance Framework known as COBIT 5
- This establishes the foundation of comprehensive IT Governance

Recommendations

- Develop a Comprehensive IT Governance framework based upon international best practice frameworks & concepts.
- To include the Fundamental & Foundational frameworks outlined in this and previous presentations.

Questions?

References

- **COBIT 5**
  - http://www.isaca.org/
- **COBIT 5: Enabling Processes**
  - http://www.isaca.org/
- **COBIT 5 Implementation**
  - http://www.isaca.org/
- **COBIT 5 Update PowerPoint Presentation**
  - http://www.isaca.org/Knowledge-Center/cobit/Pages/COBIT-5-Initiative-Status-Update.aspx
- **COBIT Process Assessment Model (PAM) (COBIT 4.1 version)**
  - http://www.isaca.org/Knowledge-Center/Research/ResearchDeliverables/Pages/COBIT-Assessment-Program.aspx
- **Implementing and Continually Improving IT Governance** (ISACA member only)
  - http://www.isaca.org/Knowledge-Center/Research/ResearchDeliverables/Pages/Implementing-and-Continually-Improving-IT-Governance1.aspx
- **ISO/IEC TS 15504:2011_ Information technology - Process assessment**
  - http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=51684
- **COBIT 5: Enabling Information (in planning)**
- **COBIT 5 For Information Security (under development, available July 2012)**
- **COBIT 5 For Risk (in planning)**
- **COBIT 5 For Assurance (in planning)**
- **COBIT 5 Online (in planning)**
- **COBIT Translations (in development)**