

### "Introduction to IT Governance with CobiT 4.1 and CobiT Quickstart"

### **ISACA**

### **Joint Session**

### San Francisco Chapter and Silicon Valley Chapter April 23, 2008

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CSSBB (American Society of Quality Certified Six Sigma Black Belt)

ITIL V2.0 Foundation Certified

Managed Change TM Master (LaMarsh and Associates)

### Agenda



Time	Topic
8:00-8:30	Registration
8:30 – 10:00	Introductions, Overview, Navigation, Exploration of Differences
10:00-10:15	Break
10:15 – 12:00	IT Governance & Management Control Flows –
12:00 – 1:00	Lunch
1:00 – 1:45	Group Exercises – Using CobiT Quickstart to Identify IT Governance & Management Control Flow
1:45 – 2:30	Translating Audit Findings into Persuasive Management Communications – Reversing the Control Flows
2:30 – 2:45	Break
3:00 – 4:00	Systematic Approach to Implementing & Improving IT Governance & Management Control Flows
4:00 – 4:30	Review with Burning Questions
4:30 - 5:00	Course Evaluations, Certificates

### Introductions



- Your name
- ISACA involvement
- Governance, Management and/or Audit responsibilities
  - (Auditor, IT manager, consultant/professional services)
- Why are you here? What would you like to get out of the class?
- Burning question?

**COBIT 4.1** 







Please Label your materials!

### **Guided Tour**



- COBIT 4.1 Contents (Cover)
- IT Governance Institute TM
- Table of Contents (p 4)
- How to Use your book Framework navigation (p 26 & 27)
  - Tabs Framework
  - Relationship to Job Aid
- Executive Overview (p 5)
  - COBIT ® Control Objectives for Information and related Technology
     (P 5, Executive Overview, about half-way down)
  - Management need for Control Objectives: (bottom of page):
    - Business Objectives are achieved
    - Undesired events are prevented or detected and corrected
  - Analogy to Brakes on the car: Go fast, safely
  - IT Governance Focus areas (Figure 2, p 6 next slide):
    - Strategic alignment: IT is aligned with the business
    - Value Delivery IT enables the business and maximizes benefits
    - Resource Management: IT resources are used responsibly
    - Risk Management: IT risks are managed appropriately
    - Performance Measurement: objective feedback

### Questions and Answers



- What does the acronym CobiT stand for?
  - Control Objectives for Information and related Technology
- What are the objectives for IT Governance?
  - IT is aligned with the business
  - IT enables buesiness and mximizes benefits
  - IT resources are used responsibly
  - IT risks are managed appropriately
- What are the IT Governance Focus areas?
  - Strategic alignment, Value delivery, Resource Management, Risk management and Performance Measurement
- What are the CobiT Domains?
  - Plan & Organize
  - Acquire & Implement
  - Deliver & Support
  - Monitor and Evaluation
- How many processes are in each Domain?
  - Plan & Organize = 10
  - Acquire & Implement = 7
  - Deliver & Support = 13
  - Monitor & Evaluate = 4
- What are the IT resources controlled?
  - Applications
  - Information
  - Infrastructure
  - People

### Questions and Answers



- Which Domains contain processes that control the majority of the IT resources?
  - Acquire & Implement
  - Deliver & Support
- What are the CobiT Information criteria?
  - Effectiveness,
  - Efficiency,
  - Confidentiality,
  - Integrity,
  - Availability,
  - Compliance &
  - Reliability
- Which processes might the organization focus on improving if Availability is of concern?
  - PO9: Assess & Manage IT Risks
  - AI7: Manage Change
  - DS4: Ensure Continuous Service
  - DS12: Manage the physical environment
- Which processes might the organization focus on for achieving Sarbanes/Oxley (COSO) compliance?
  - See Table: Mapping IT Processes to IT Governance Focus Areas, COSO, CobiT IT Resources and CobiT Information Criteria: Appendix II.

### **Questions & Answers**

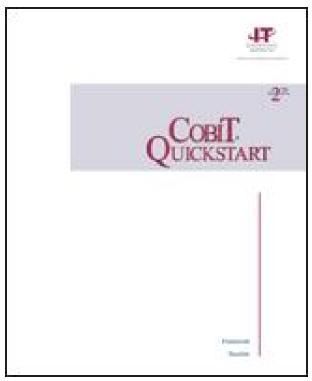


- Which of the COBIT Processes addresses:
  - Strategic Planning and Portfolio Management: PO1
  - Risk Management: PO9
  - Financial Management: PO5 & DS6
  - Policy and Process Definition and Implementation: PO6
  - Regulatory Compliance: ME3
  - Project Management: PO10
  - System Test: AI7
  - Managing Change to the Production Environment: AI6
  - Contract and Vendor Management: AI5 & DS2
  - Help Desk: DS8
  - Business Continuity: DS4
  - Disaster Recovery: DS4
  - Configuration Management: DS9 (for production environment)
  - Asset Management: Unclear usually combination of DS9 & DS6
  - Security: DS5
  - Performance Measurement: DS3
  - Internal Audit: ME2IT Governance: ME4
  - Training: DS7
  - Roles & Responsibilities: All Processes
  - Access management: DS12 for Physical Access, DS11 for Data/Information Access, DS 5 for User Access and Identity Management









Please Label your materials!

### CobiT® and CobiT® Quickstart



### **Business Objectives**

Governance **Objectives** 

- PO1 Define a Strategic IT Plan
- PO2 Define the information architecture
- PO3 Determine the technological direction
- PO4 Define IT Processes, Org. & Relationships
- PO5 Manage the IT investment
- PO6 Communicate Mgmt aims and direction
- PO7 Manage IT Human Resources
- PO8 Manage Quality
- PO9 Assess and Manage IT Risks
- PO10 Manage Projects

- ME1 Monitor and Evaluate IT Performance
- ME2 Monitor and Evaluate Internal Control
- ME3 Ensure Regulatory Compliance
- ME4 Provide IT Governance

#### Information Criteria

- effectiveness
- efficiency confidentiality
- integrity
- availability
- compliance
- reliability



**PLAN AND ORGANISE** 



### **MONITOR AND EVALUATE**



### **RESOURCES**

- **Applications**
- Information
- Infrastructure
- People



- **DS1** Define and Manage Service levels
- **DS2 Manage Third party Services**
- **DS3 Manage Performance and Capacity**
- **DS4 Ensure Continuous Service**
- DS5 Ensure Systems Security
- **DS6 Identify and Allocate Costs**
- **DS7 Educate and Train Users**
- DS8 Manage Service Desk and Incidents
- **DS9** Manage the Configuration
- **DS10 Manage Problems**
- **DS11 Manage Data**
- **DS12 Manage the Physical Environment**
- **DS13 Manage Operations**

- **AI1 Identify Automated Solutions** AI2 Acquire and Maintain Application Software
- AI3 Acquire and Maintain Technology infrastructure
- AI4 Enable Operation and Use
- **AI5 Procure IT Resources**
- Al5 Manage Changes
- AI6 Install and Accredit Solutions and Changes

**DELIVER AND** SUPPORT



### COBIT Quickstart Questions



- 1. Which processes are in CobiT 4.1, and not *CobiT Quickstart*?
  - 1. (DS6: Identify and Allocate Costs
  - 2. (DS7: Educate and Train Users
- 2. Processes are further subdivided into <u>detailed control objectives</u>. There are 210 in CobiT and 59 in *CobiT Quickstart*.
- 3. There are overarching Generic Process Controls that should be considered together with the process control objectives to have a complete view of control requirements are: (See page 14 in CobiT 4.1)
- PC1:\_\_Process Goals and Objectives\_\_\_\_\_
- PC2:\_\_Process Ownership
- PC3: Process Repeatability
- PC4:\_Roles & Responsibilities
- PC5:\_Policy, Plans and Procedures
- PC6:\_\_Process Performance Improvement
- List 5-7 observations about the differences between COBIT 4.1 and COBIT Quickstart based on DS5: Ensure Systems Security.
  - 1. See next page

### Differences between CobiT 4.1 & Cobit Quickstart



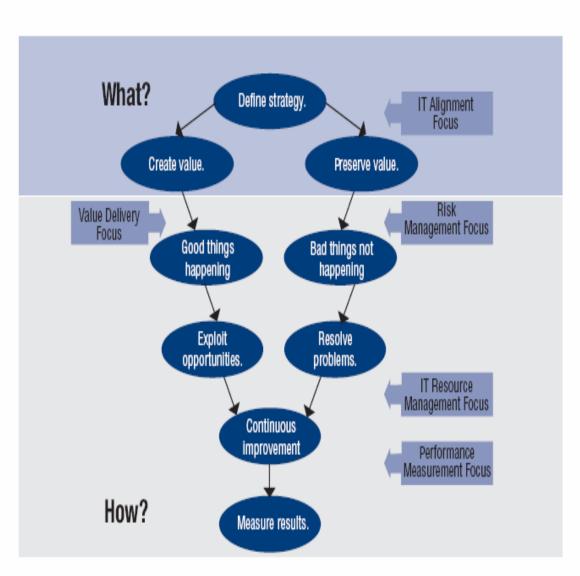
- Quickstart does not list all Control Objectives
- Quickstart is "missing" the maturity model
- 4.1 Doesn't call out Application Controls as critical supporting reference.
- 4.1 had more metrics
- 4.1 talks about inputs and outputs
- Quickstart shows less detail in the RACI chart (includin what RACI means)
- Quickstart combines Implementation with the Model and 4.1 does not. (Can we download Implementing IT Governance from the site?)
- Quickstart uses the term "Good Practices" rather than "Control Objectives" listed in the manual.
- Quickstart isn't targeted toward auditors targeted management
- Quickstart seems to be based on the size/complexity criteria. May be organizations that meet the size/complexity criteria that still need to go to "full CobiT" and beyond.
- Quickstart self-assessment takes a different approach than Implementation Guidelines for "full" CobiT.

### **Management Control Flows**



### Control Flows for Enterprise IT Governance and Management:

### Connecting IT Alignment Focus on Creating and Preserving Value to Measured Results



Flow is Top Down
2 Paths: Value-Delivery and Risk Management

Ref. IT Governance Implementation Guide, 2nd edition, Page 14

# COBIT Quickstart DS5: Ensure Systems Security (p45)



Processes and Good Practices				<b>Key Metrics</b>	
DS5 Ensure systems security.					
COBIT Quickstart Process		COBIT Quickstart Management Practices	CO Ref	Control Objective Metric	IT Process Metrics
Define IT security principles and procedures, and monitor, detect, report and resolve security vulnerabilities and incidents.	42	Implement procedures to control access based on the individual's need to view, add, change or delete data. Especially consider access rights by service providers, suppliers and customers, and change passwords of standard users.	DS5.3 DS5.4	- Elapsed time to grant, change and remove access rights	- Number of incidents due to unauthorised access - Number of security violations
	43	Make sure one person is responsible for managing all user accounts and security tokens (passwords, cards, devices, etc.) and that appropriate emergency procedures are defined. Periodically review/confirm his/her actions and authority.	DS5.4 DS13.4	- Number of violations during emergency situations.	
	44	Log important security violations (system and network, access, virus, misuse, illegal software). Ensure they are reported immediately and acted upon in a timely manner.	DS5.5 DS5.6	- Time since last update of violations log.	
	45	Ensure that all users (internal, external and temporary) and their activity on I T Systems are uniquely identifyable.	DS5.3 AC6	- Number of generic accounts	
	46	Implement virus protection, update security patches, enforce use of legal software. Put preventive, detective and corrective measure to protect from malware. Install and configure firewalls to control network access and information flow.	DS5.9 DS5.10	- Time since last security patch - Number of preventive and detective measures per month	

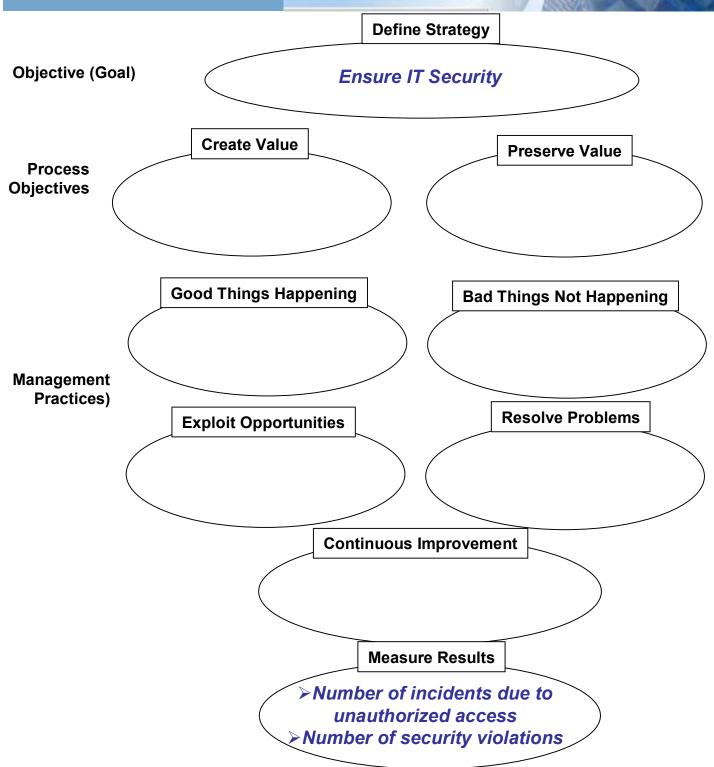
### Diagram the Control Flows



- Top => Strategic Objective
- Bottom => Performance Measurement
- IT Objective is Process Objective
- Management Practices
  - Deliver Value
  - Manage Risk
  - Manage Resources
  - Improve Performance & Process

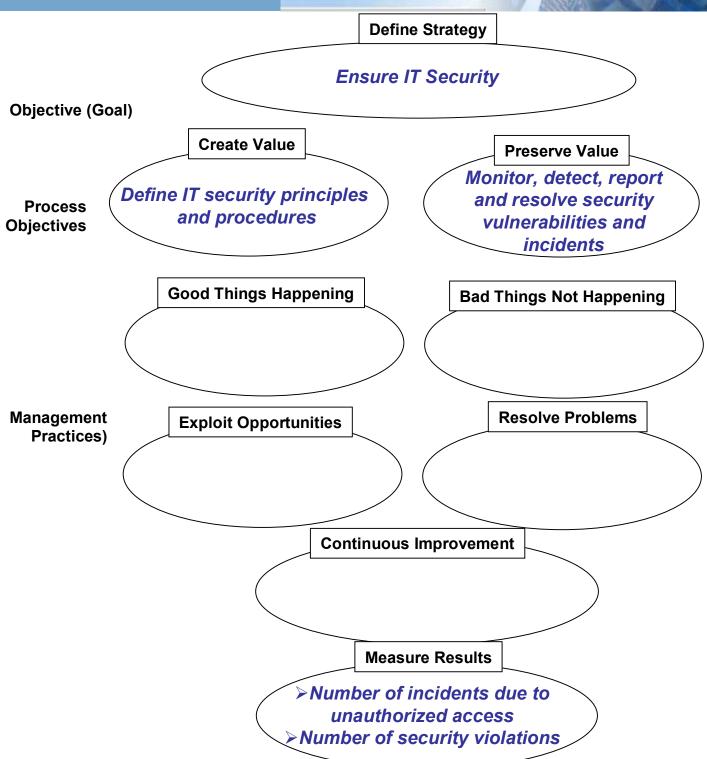
COBIT Quickstart's
DS5: Ensure Systems
Security
(Page 45 in *Quickstart*)





COBIT Quickstart's
DS5: Ensure Systems
Security
(Page 45 in book)





COBIT Quickstart's
DS5: Ensure Systems
Security
(Page 45 in book)



**Define Strategy** 

**Ensure IT Security** 

**Objective (Goal)** 

Process

Objectives

**Create Value** 

Define IT security principles
and procedures
Repeatable, low cost onboarding
Reduce time to implementation
to adopt process improvements

**Good Things Happening** 

A Person is Managing user accounts and security tokens

Management Exploit Opportunities

All users and their activity are uniquely identifiable

**Preserve Value** 

Monitor, detect, report and resolve security vulnerabilities and incidents

**Bad Things Not Happening** 

Report and immediately act on important security violations

**Resolve Problems** 

Implement virus protection, update security patches, enforce use of legal software, install firewalls

**Continuous Improvement** 

Log important security violations, identify preventive actions

**Measure Results** 

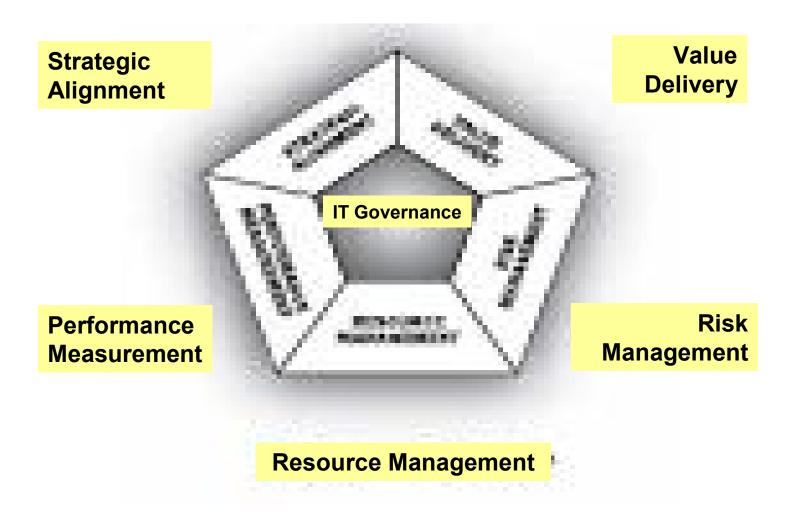
Number of incidents due to unauthorized accessNumber of security violations Now let's do this with CobiT 4.1







### **IT Governance Focus Areas:**

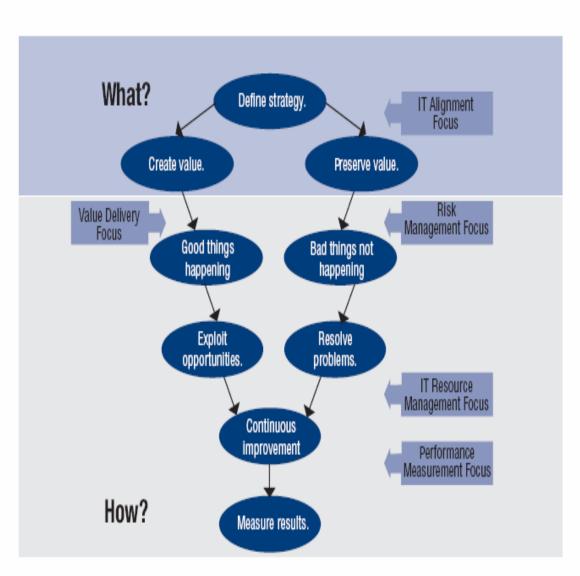


# Control Flows Connecting IT Governance Focus Areas



### Control Flows for Enterprise IT Governance and Management:

### Connecting IT Alignment Focus on Creating and Preserving Value to Measured Results



Flow is Top Down
2 Paths: Value-Delivery and Risk Management

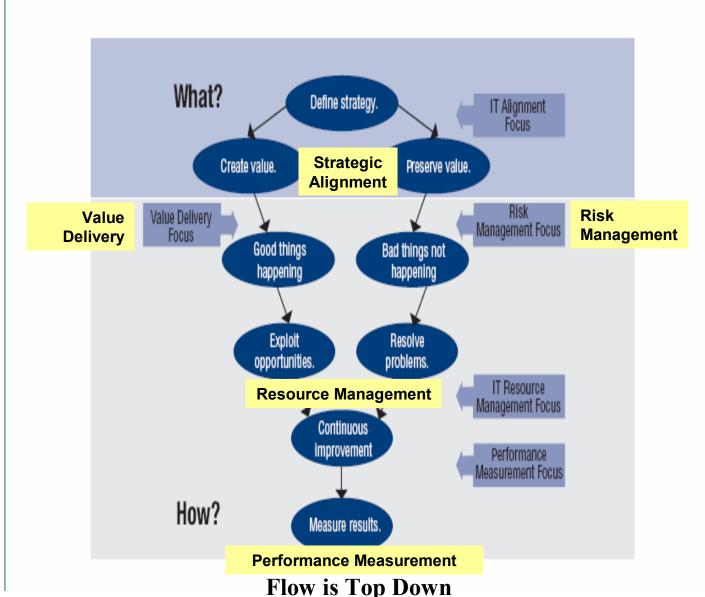
Ref. IT Governance Implementation Guide, 2nd edition, Page 14

Control Flows
Connecting IT
Governance Focus
Areas



### Control Flows for Enterprise IT Governance and Management:

### Connecting IT Alignment Focus on Creating and Preserving Value to Measured Results

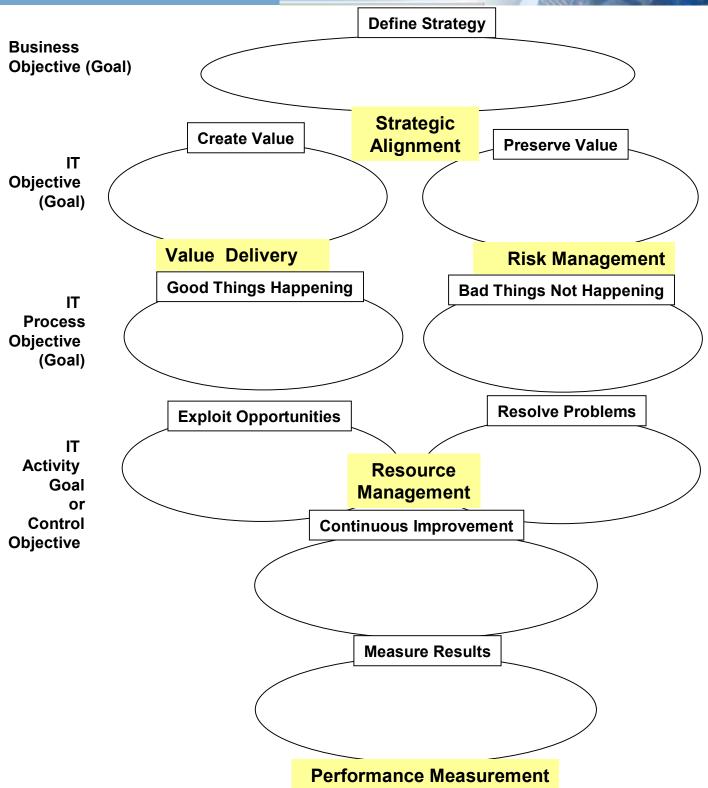


2 Paths: Value-Delivery and Risk Management

Ref. IT Governance Implementation Guide, 2nd edition, Page 14

# Aligning Business Strategy with Performance Measurement





### Relationship Amongst Process, Goals and Measures\*



#### **Business** IT **Process** Goal Goal Goal Maintain Ensure IT Detect and resolve enterprise services can reputation and unautho-rised Improve and re-align leadership access to attacks information, applications & infrastructure is measured by Number of Number of incidents actual causing public incidents embarrassment because of unauthorised access

Define goals

# Measure achievement

Activity

Goal

Understanding

security

requirements,

vulnerabilities and threats

Frequency of review of the

type of

security events to be

monitored

### Indicate performance

<sup>\*</sup> This is figure 19 in COBIT 4.1. The Example is based on DS5 Ensure Systems Security

### Leveraging the **Relationship Amongst** Process, Goals and Measures\*



Strategic **Alignment**  Value **Delivery** 

Risk Management

### Define goals

#### **Business** Goal

Maintain enterprise reputation and leadership

#### is measured by

Improve and re-align

Number of incidents causing public embarrassment

#### IT Goal

Ensure IT services can attacks

#### **Process** Goal

Detect and resolve unautho-rised access to information, applications & infrastructure

### **Resource Management**

Number of actual incidents because of unauthorised access

Frequency of review of the type of security events to be monitored

Activity Goal

Understanding

security

requirements,

vulnerabilities and threats

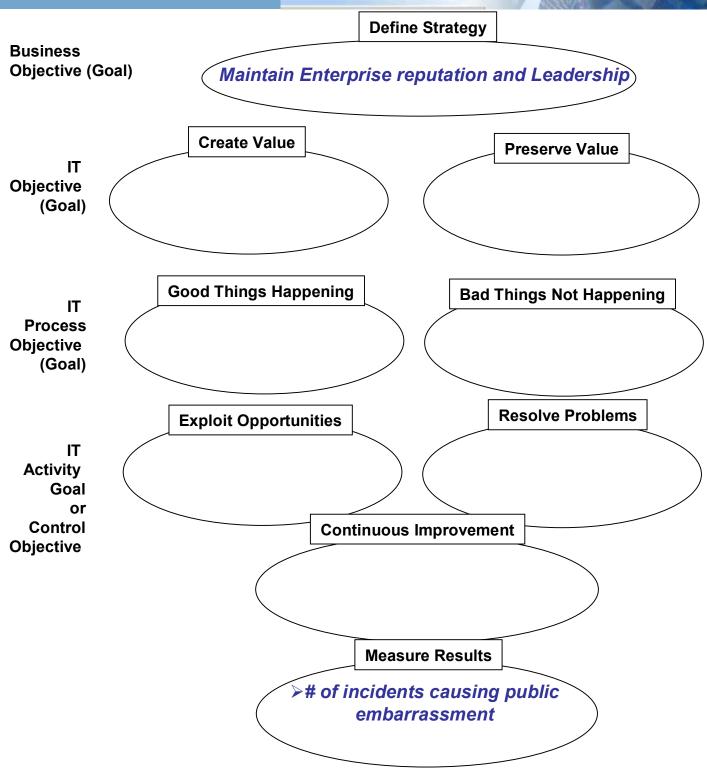
### Indicate performance

**Performance Measurement** 

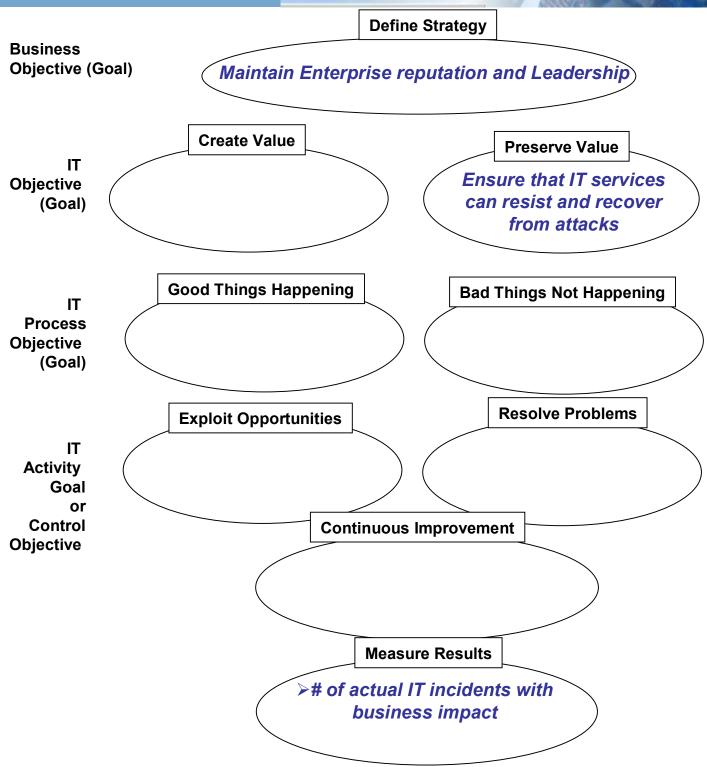
# Measure achievement

<sup>\*</sup> This is figure 19 in COBIT 4.1. The Example is based on DS5 Ensure Systems Security

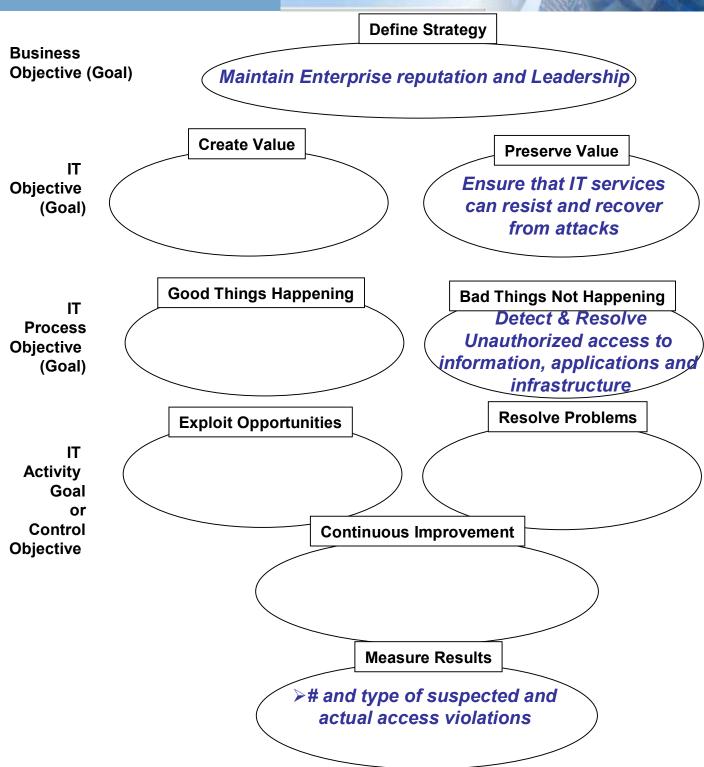




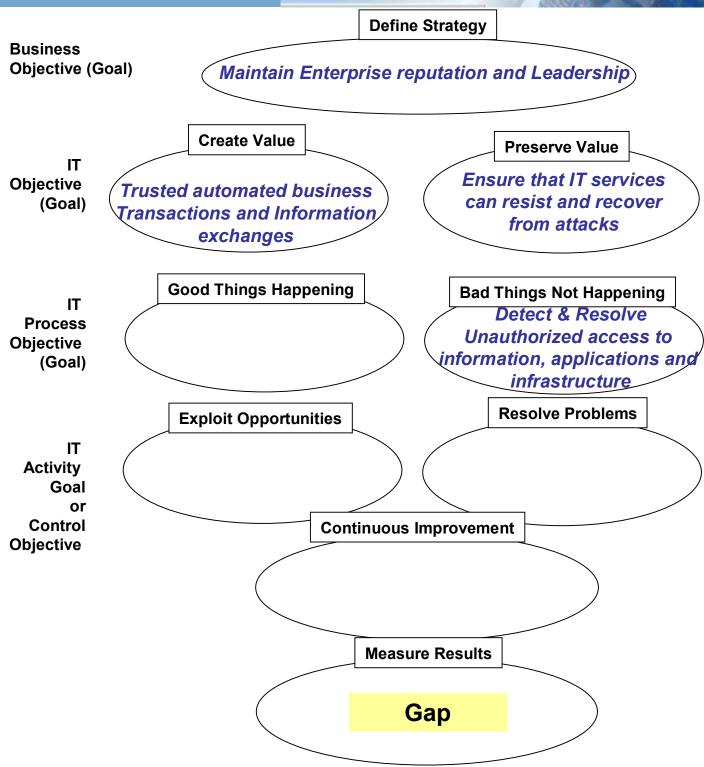




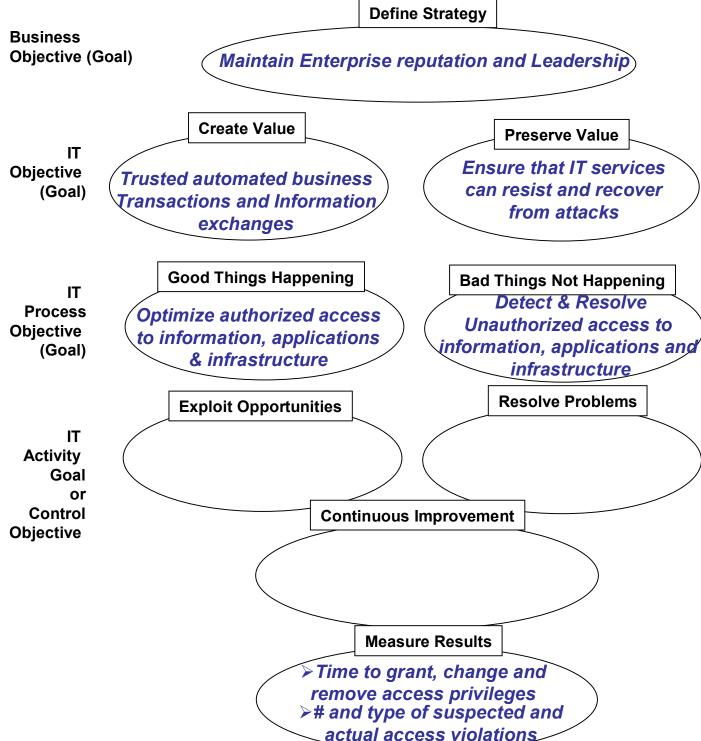














**Define Strategy** 

Business
Objective (Goal)

Maintain Enterprise reputation and Leadership

IT Objective (Goal) Create Value

Trusted automated business Transactions and Information exchanges **Preserve Value** 

Ensure that IT services can resist and recover from attacks

IT Process Objective (Goal)

IT

Goal

or

Activity

Control

Objective

**Good Things Happening** 

Optimize authorized access to information, applications & infrastructure

**Bad Things Not Happening** 

Detect & Resolve
Unauthorized access to information, applications and infrastructure

**Exploit Opportunities** 

Effective, Efficient & Standardized User Identity and Authorization Management

**Resolve Problems** 

Emergency Response to Malware (viruses, worms, Spyware, spam) attacks

Continuous Improvement

**Measure Results** 

IVIE

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**Define Strategy** 

**Business Objective (Goal)** 

Maintain Enterprise reputation and Leadership

IT **Objective** (Goal)

#### Create Value

Trusted automated business Transactions and Information exchanges

**Preserve Value** 

Ensure that IT services can resist and recover from attacks

IT **Process** Objective (Goal)

IT

Goal

or

Activity

Control

Objective

#### **Good Things Happening**

Optimize authorized access to information, applications & infrastructure

**Bad Things Not Happening** 

Prevent, Detect & Resolve Attacks through Unauthorized access

**Exploit Opportunities** 

Effective, Efficient & Standardized User Identity and Authorization Management

**Resolve Problems** 

Emergency Response to Malware (viruses, worms, Spyware, spam) attacks

**Continuous Improvement** 

**Measure Results** 

Number of access rights authorized, revoked, reset or changed Number and type of malicious code prevented

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**Define Strategy** 

Business
Objective (Goal)

Maintain Enterprise reputation and Leadership

IT Objective (Goal) **Create Value** 

Trusted automated business

Transactions and Information
exchanges

**Preserve Value** 

Ensure that IT services can resist and recover from attacks

IT Process Objective (Goal) **Good Things Happening** 

Optimize authorized access to information, applications & infrastructure

**Bad Things Not Happening** 

Prevent, Detect & Resolve
Attacks through
Unauthorized access

**Exploit Opportunities** 

Effective, Efficient & Standardized User Identity and Authorization Management

**Resolve Problems** 

Emergency Response to Malware (viruses, worms, Spyware, spam) attacks

**Continuous Improvement** 

>Monitor User Identity and
Authorization Process
>Post incident response reviews

**Measure Results** 

Goal or Control Objective

Activity

IT



**Define Strategy** 

Business
Objective (Goal)

Maintain Enterprise reputation and Leadership

IT Objective (Goal) **Create Value** 

Trusted automated business Transactions and Information exchanges **Preserve Value** 

Ensure that IT services can resist and recover from attacks

IT Process Objective (Goal) **Good Things Happening** 

Optimize authorized access to information, applications & infrastructure

**Bad Things Not Happening** 

Prevent, Detect & Resolve
Attacks through
Unauthorized access

**Exploit Opportunities** 

Effective, Efficient & Standardized User Identity and Authorization Management

**Resolve Problems** 

Emergency Response to Malware (viruses, worms, Spyware, spam) attacks

**Continuous Improvement** 

➤ Monitor User Identity and
Authorization Process
➤ Post incident response reviews

**Measure Results** 

Fime to grant, change or remove access privileges
Figure 4 of incidents with business impact

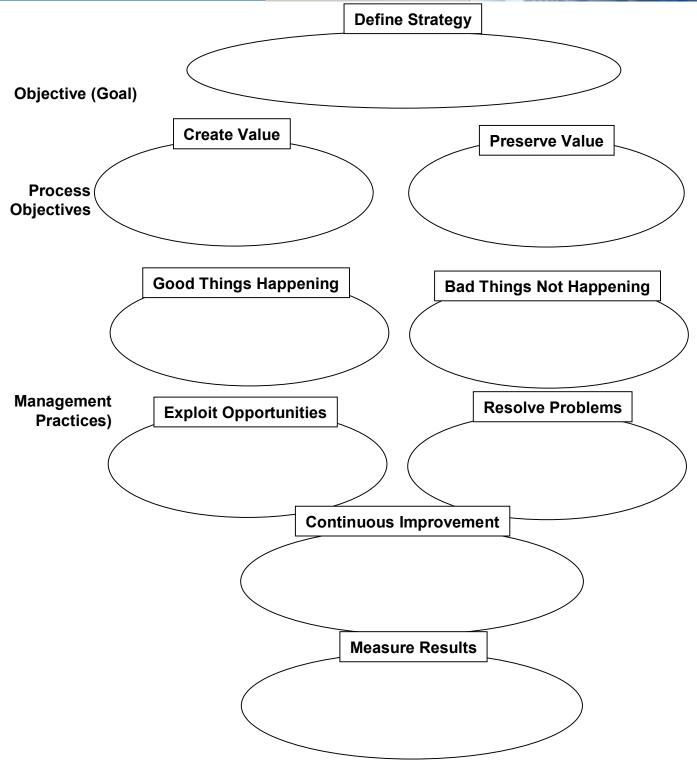
IT Activity Goal or Control Objective





- Start with CobiT Quickstart
- Expand focus and direction with CobiT 4.1





#### (PO5 Manage the IT **Investment**)



**Business Objective (Goal)**  **Define Strategy** 

Provide transparency and accountability into Total-cost-ofownership to realize business benefits

IT Objective (Goal)

Create measurable benefits and metrics

Create Value

**Preserve Value** 

Availability of the service defined by the business need Prevent unauthorized spending

IT **Process** Objective (Goal) **Good Things Happening** 

Monitoring, tracking and Improving IT strategy and Investment decisions

**Bad Things Not Happening** 

No interruption of service

IT Activity Goal or Control

Objective

**Exploit Opportunities** 

**Prioritize** nvestment decisions Resolve Problems

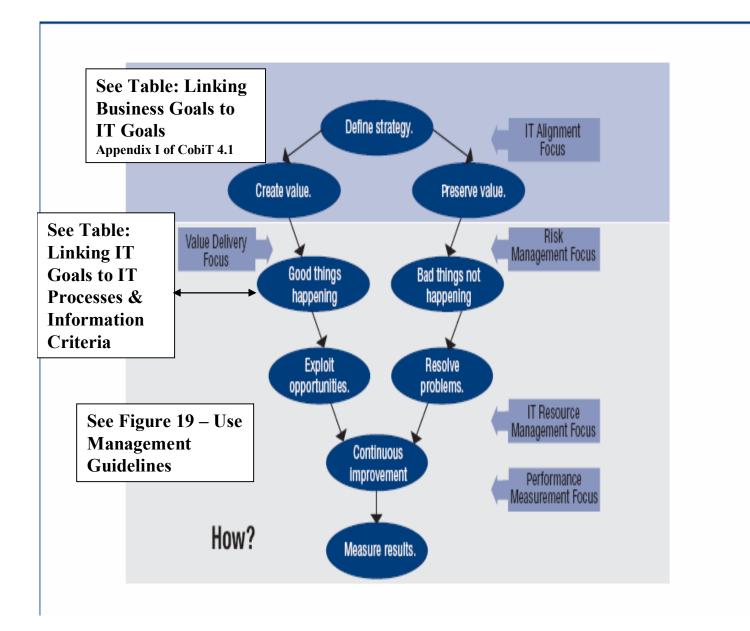
**Continuous Improvement** 

Impact of prioritized Investment decisions can be Continuously improved through Cost and investment management **Measure Results** 

Quantitatively tracked variances Of costs and benefits

#### References





#### **Linking Business Goals** to IT Goals & **Information Criteria**

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perspective

Castomer

perspective:

Internal

perspectives

growth

perspective.

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Information Criteria IT Goals **BUSINESS GOALS** 4 Estant melkatishara 25 2R y formase reconst g kahuraan inkeriment 94 4 Optimise asset utilisation 14 2 11 17 18 20 20 21 22 ٧ g Manage balances i disg Di prove co sconier or enceborrano service. Ĵ 20 7 Oiler candel tave products and sarvices. 5 24 g Service Availability 16 22 Againty in responding to thenging historiess requirements (hine to 9 marcon III 24 10 Cost of brickston of service delikery. 44 Automate en uintegrate the enterprise balde chain. u 11 (2) Improve and maintain business process it never all y 11 13 Lower process costs.  $_{14}$  Compliance with a ternal laws and ragillations. 22 26 ΙĐ 20 1R gy Transparenty group arce bit internal policies 2 13 17 or prove and maintain operational and staff productivity. U 11 Learning and 18 Froduct/cusiness innovation 25 20

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# Linking IT Goals to COBIT Processes & Information Criteria



Information Criteria

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	IT GOALS Processes											J.							
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ı	Opening use of information	PDF	D=1										*		J				
5	IT Agrity	POE	P04	F07	AIC.							Γ	•						
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1	Acquire and maintain inaugroupd and standard sed application systems	POs	4.2	AВ		د.د	A5					٧.	1		*				
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25	Deliver projekts on time and on budged neeting quarty standards	POE	P0:3									7	•						
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Recap – Report out



#### Lunch



- Look to the IT Archetype? Yes!
- Google search on IT archetypes.

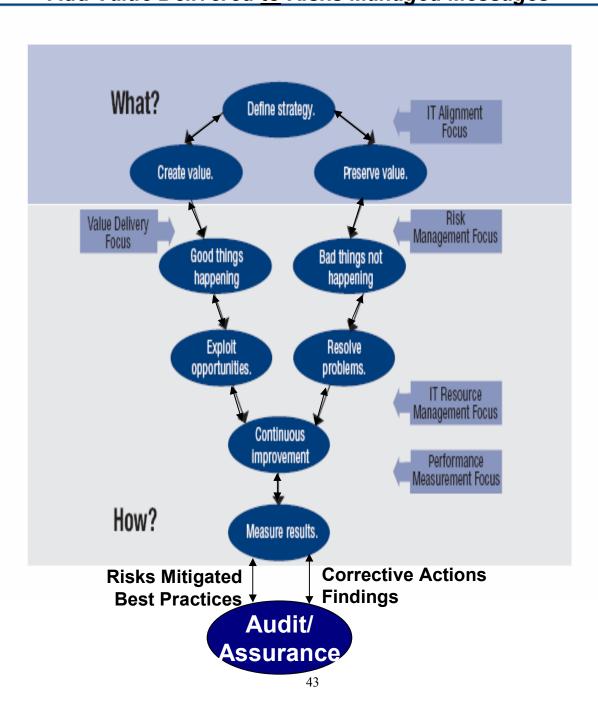
#### Closing the Loop from Audit findings to Strategic Action



#### Reversing the Control Flows

When performing Audit/Assurance, connect findings with observed Measured Results and Continuous Improvement Successes.

Add Value Delivered to Risks Managed Messages

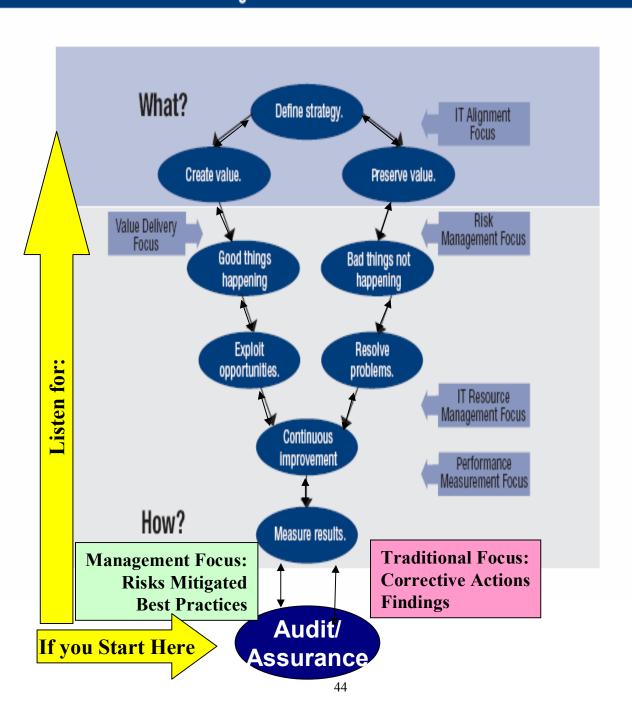


# Translating Observations into persuasive Communications



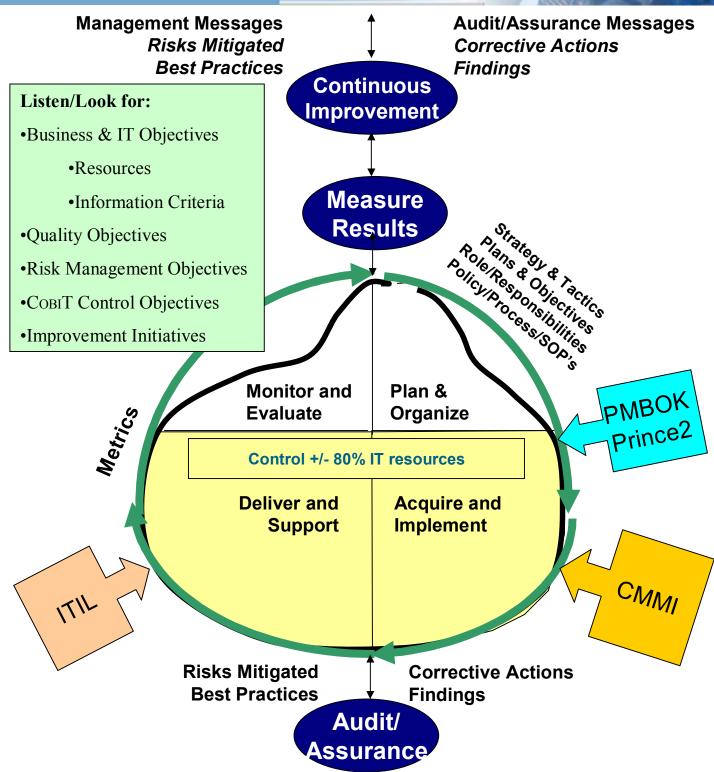
#### Value Delivery (Value Creation)

#### Figure 7—Two Views of Control



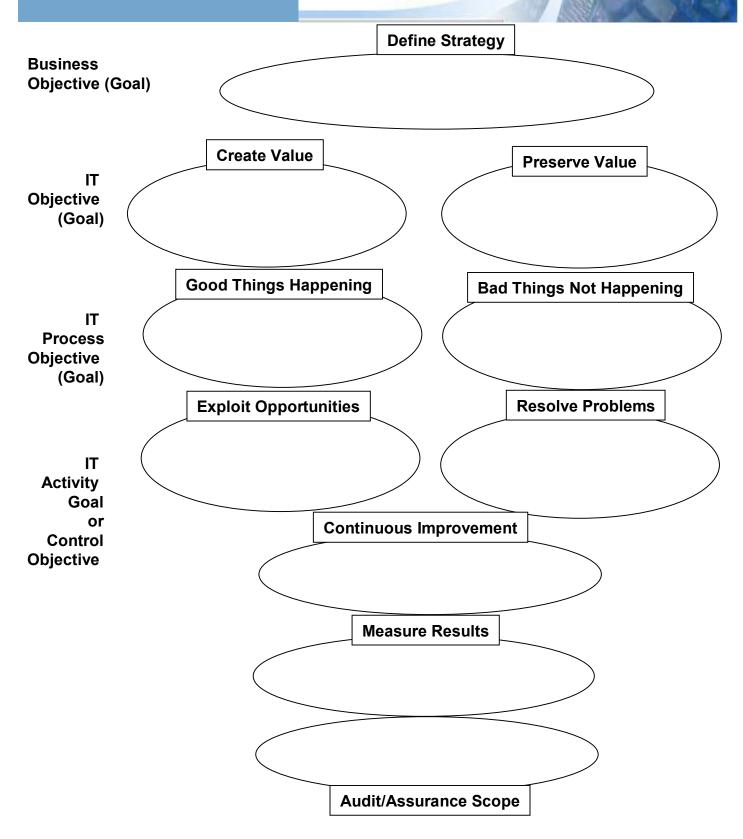
# Use COBIT to translate Audit Findings & Observations into Persuasive Communications





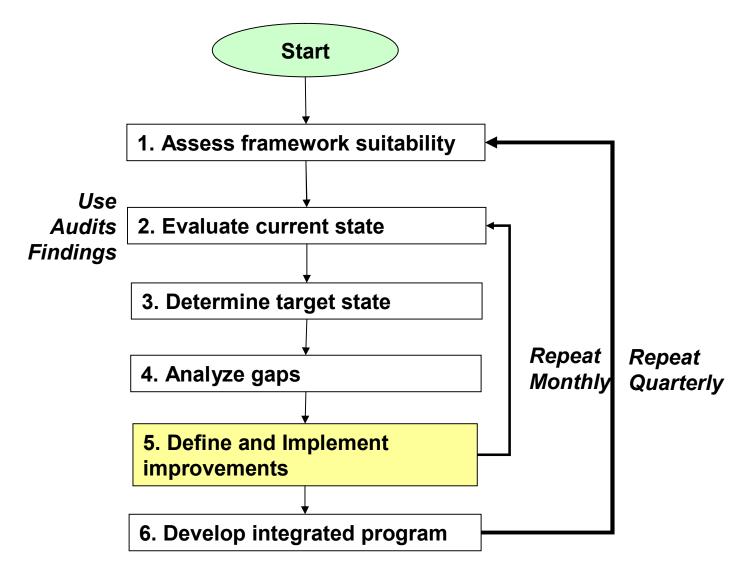
## Template to collect Management Messages in Audit/Assurance Visit:





# Systematic approach to Implementing Improvement





#### See Quickstart Page 21

For more robust guidance see IT Governance Implementation Guide, 2<sup>nd</sup> edition

### **Quickstart on Assessing Suitability**



• CD & see pgs 17 & 18

### **Evaluate current state Self-Assessment**



• CD – CobiT Quickstart see page 19 & 20 for instructions

### Review with Burning Questions



- What's after SOX?
  - ISO 9001 + Privacy/Security + Financial Controls
- Global/International Standard for a framework?

Thank You



#### For more information, please see

www.isaca.org

www.itgi.org

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