

CGEIT Exam Prep: Week 4


Alignment

Oct 22, 2009



Webinar URL: <http://tinyurl.com/cgeitPrep>
Dial IN: 641-715-3635 | CODE: 675-176#

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Resource Reminders

- **Share questions \ comments with class**
 - Use: cgeit@tunitas.com or wiki
- **Lectures and links**
 - <http://www.tunitas.com/cgeit>
- **Class Wiki for notes and candidate contributions**
 - <http://cgeitexamprep.wikispaces.com/>
- **Weekly sample questions generally found at:**
 - <http://Tinyurl.com/cgeit-wk#> where # is the week number

Agenda

- **Questions and Exam**
- **Alignment Concept**
- **CGEIT Tasks & Knowledge**
- **Alignment Tools & Techniques**
 - **Balanced Scorecard**
 - **COBIT**
 - **Enterprise Architecture**

Week 4 Test Scenario

- *Company A is an international firm providing technology consulting and risk management to banking and finance clients. IT currently supports the Company's large network of salaried consultants with the development of specialized technology, proprietary methods and expertise. Competitive pressures and market consolidation require that the Company develop new markets as well as more effective delivery methods to existing customers.*
- What questions should we expect?
 - Frameworks
 - IT apparently takes the lead in developing Company IP. What mechanisms ensure that IT is appropriately responsive to the needs of external customers?
 - Alignment
 - 'Competition' almost always begs a question of alignment. Is IT 'enabling' the appropriate business response? Meeting 'strategic' challenges?
 - Resource management
 - Issues related to the support / management of contracted workforce

Alignment Question Hints

Select options that best support:

- ☀ Business success
 - IT role in market creation / delivery of customer value
2. Strongest *business* driver / rationale for IT strategy
 - Option best supported by direction of Sr. Executive / Board
3. IT responsibility to inform
 - How IT strategy supports Business Strategy
 - New market opportunity created by new technology
4. Appropriate timing
 - IT implementation horizons typically than business'

Few hard and fast rules; rely upon your judgment.

Question 4.1

The IT department has developed much of the Company's intellectual property (tools & proprietary methods). What is the appropriate accountability? [Framework]

- Management of Professional Services for the utilization of new tools & methods in client engagements
 - Responsibility of the Management of Professional Services as this requirement applies to the strategy / tactic fo Professional Services
- The CIO for training of professional services staff in the use of new tools & methods
 - CIO cannot does not control the resources of professional staff. CIO may control development of training materials but will not schedule professional services staff.
- **The CIO for a positive impact on profits from any newly developed tools or methods**
 - **IT value is determined by the value to delivers to the Business. IT must act to remove barrier to the delivery of business value. If such barriers cannot be removed then IT should be foregoing development of the subject tool.**
- Management of Professional Services for the selection of new tools & methods to be included in the Portfolio.
 - IT owns the Portfolio of tools and proprietary methods

Question 4.2

What should IT Management be doing in response to new Bank regulation regarding information security? [Framework]

- Monitor, evaluate and identify new market opportunities that will follow promulgation of the new regulation
 - Better left to 'Marketing'. IT may have a role to identify potential opportunities due new technology, but that role is not one of evaluation. or market development.
- **Determine the adequacy of the Portfolio to respond to the requirements of the new regulation**
 - **IT is best positioned to understand limits to capabilities of the portfolio. IT has obligation to 'inform the business' should the Portfolio be found wanting.**
- Do nothing until Management of Professional Services reports a Client requirement for new security services
 - This risks the Company becoming a late entrant into market serving the new regulatory markets.
- Ensure staff attendance at an industry conference focused on the new regulation
 - This is a "Futures' perspective, but the risk and opportunity is current. Stronger immediate action is preferred.

Question 4.3

The Company has determined to 'productize' and sell some tools currently used by the Company's professional services staff. What must IT do to support this strategy? [Alignment]

- Rewrite tools to reduce dependence Company infrastructure
 - This may not be the best business strategy or use of Company infrastructure. A decision regarding this should involve Senior Executives after formation of product team.
- Plan for increase in size of the Help Desk support staff
 - This decision will depend upon decisions made about product strategy especially its delivery methods.
- Determine technical procedures required to protect products from piracy and unlicensed use
 - This is a technical question whose resolution will depend upon the specifics of the product strategy.
- Hire a consultant to determine requirements of the anticipated 3rd party customers
 - While the development of product strategy is not an IT function, IT must provide input regarding its capability to respond to anticipated requirements.

Question 4.4

The Company is considering converting most of its salaried consultants to 'independent contractor' status. What is the major IT challenge associated with such a move? [Resource Management / Alignment]

- A lower Staff commitment to report upon deficiencies in current Portfolio
 - While this is a challenge, it can be in part overcome by improving the QA and requirements collection capabilities of the development team as well as increasing user support requirements due to Staff turnover
- Increased user support requirements due to Staff turnover
 - While this is likely to occur, the requirement can be estimated and presumably handled by addition of service desk staff
- Need for increased tool automation due to lower experience and sophistication level of staff
 - Greater staff turnover means that without a reduction in the learning curve of the use of Company products, service quality will suffer. One method to shorten learning curve is to lessen the level of knowledge required to use the tools with increased level of tool automation.
- Protection of IP especially monitoring for unauthorized use of tools
 - This is a problem that existed before the change in status and should be addressed in the terms of the Independent Contractor agreement.

Question 4.5

The Board believes that the Company is an acquisition target by a large manufacturer of computer systems and discretely seeks an attractive offer. What should IT management recommend to maximize value to the potential buyers? [Alignment]

- Reduce Portfolio's dependence on Company infrastructure
 - *Increases opportunity for reuse by the acquiring company while minimizing risk to current operations. May otherwise make for more efficient IT operations.*
- Delay starting any new initiatives
 - Jeopardizes attainment of business goals that motivate original (pre-acquisition) strategy. The Company may become less attractive if it is unable to act on its business strategy.
- Reduce IT staff headcount
 - Jeopardizes current operations / market position. Negatively impact the current delivery of business value.
- Re-prioritize strategic plans to focus on initiatives that can be completed in the near term
 - 'Time to complete' is the wrong priority as the business benefit of any particular initiative may be dependent upon other components being in place. A better approach would be to focus on higher return projects or those with less completion risk.

CGEIT Task Competency

- Define and implement IT strategic planning framework
 - Existence of a IT strategic (long range) plan
 - Correlated with business determined goals / strategy
- Support / promote / participate in planning activity using EA framework
 - EA is a tool to organize activity / 'components' / relationships from multiple-perspectives
 - Model business functions & expectations | show relationship to IT
- Ensure cascade of business & IT goals into roles, responsibilities and actions
 - Linking of goals / objectives of all functions to business goals
- Monitor, evaluate and report on the effectiveness of IT alignment
 - Assessment of business results
- Monitor and assess current and future technologies provide advice on costs, risk and opportunity
 - Report on business consequences of IT trends

CGEIT Expected Knowledge

- ***Existence?* Methods to create & controls to ensure alignment of IT with business goals**
 - Creation & use of formal artifacts such as EA, Scorecards, etc
 - Accountabilities
 - 'Process'
- ***Effectiveness?* Judgments about the degree of alignment**
 - Map business objectives to IT strategies



Alignment Tools & Processes

- ☀ **Balanced Scorecard**
- **COBIT**
- **Enterprise Architecture**

- ☀ **Use of BSC is a core CGEIT capability**



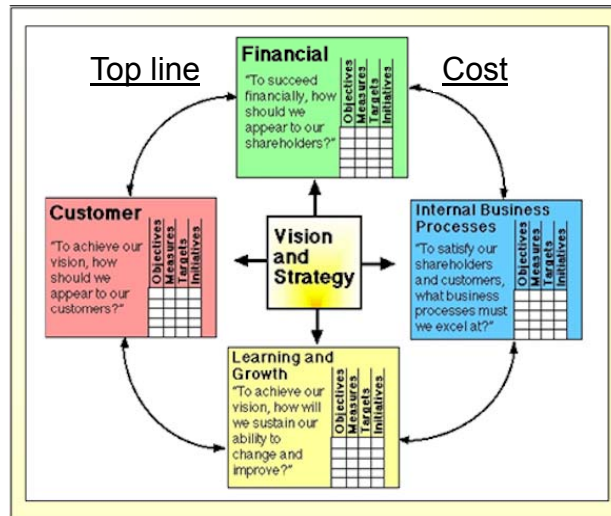
Business Balance Scorecard

- **Enterprise Business Planning tool**
 - Measure and manage performance of investments
 - Means of expressing business goals
 - Assessing goal satisfaction
- **Multiple Perspective of corporate performance**
 - Financial results
 - Customer
 - Market acceptance / positioning / customer satisfaction
 - “Operational excellence”
 - Internal process efficiency and effectiveness
 - “learning & growth” perspective
 - Ability to innovate

BSC Objectivity

- **Link operational performance measures to goals**
- **3 aspects to each perspective**
 - **Mission, for example:**
 - Be customers preferred supplier
 - **Objective, for example:**
 - Partnership with customer
 - Customer satisfaction
 - Customer lock-in
 - **Measure, for example:**
 - Re-subscription rate (magazines & health plans)
 - # of unresolved customer complaint
 - Rating on employer scorecard (health plans)

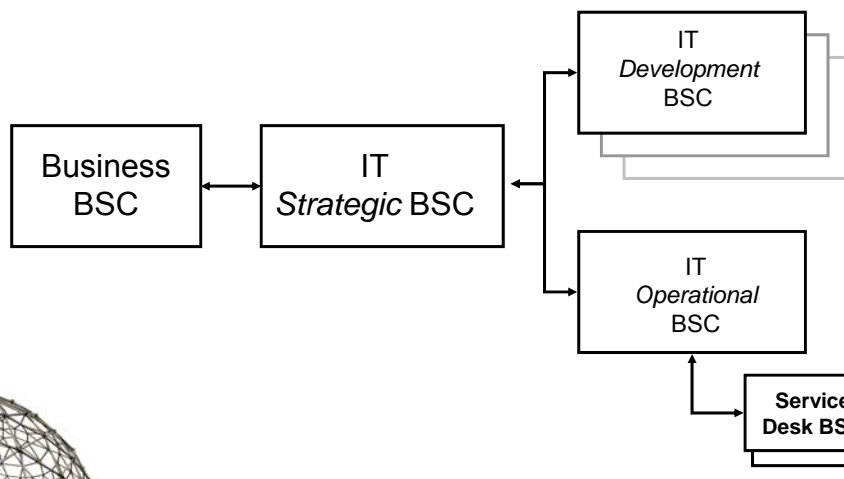
BSC Identifies Causal Relationship



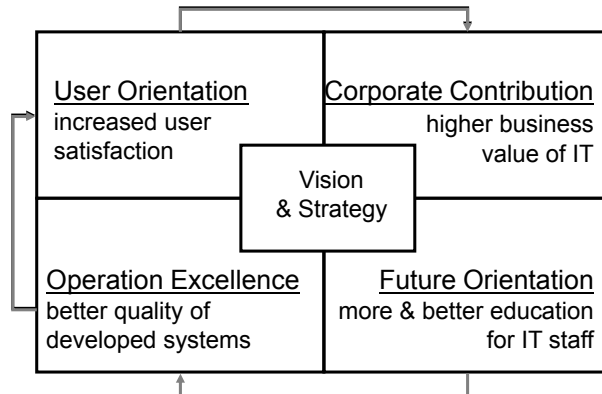
Note: addition of 'timelines' and 'initiatives' to each perspective. There a numerous 'versions' of the general BSC. Regard the BSc as an 'extensible' tool

Cascade of ScoreCards

Enterprise BSC drives formation of scorecards at department and functional levels. In principle can be applied at staff member level



IT BSC, for instance



Steps in BSC-centric Strategic Planning

<http://www.balancedscorecard.org/BSCResources/TheNineStepstoSuccess/tabid/58/Default.aspx>

- 1. Assessment**
 - BSC Development Plan
 - Strategic Elements
 - Change Management
- 2. Strategy**
 - Customer Value
 - Strategic Themes
 - Strategic Results
- 3. Objectives**
 - Strategy Action Components
- 4. Strategy Map**
 - Cause-and-Effect Links
- 5. Performance Measures**
 - Performance Measures
 - Targets
 - Baselines
- 6. Initiatives**
 - Strategic Projects
- 7. Automation**
 - Software
 - Performance Reporting
 - Knowledge Sharing
- 8. Cascade**
 - Alignment
 - Unit & Individual Scorecards
- 9. Evaluation**
 - Strategy Results
 - Revised Strategies

COBIT 'Cookbook'

1. **Link business goals to IT Goals (Appendix I), for instance**
 - **Business goal of: offer competitive products and services -> IT goals of:**
 - *Create IT agility*
 - *Deliver products on time meeting quality standards*
2. **Link IT Goals to IT Process (Appendix I), for instance**
 - ***Create IT agility ->***
 PO2: Information Architecture
 PO4: IT processes, orientation, and relationships
 PO7: HR resources
 AI3: Acquire & maintain technology infrastructure
 - ***Delivery products on time meeting quality standards***
 PO8: Manage quality
 PO10: Manage projects
3. **Assess maturity of targeted IT process against expectation | improve as need be**



COBIT Appendix I

LINKING BUSINESS GOALS TO IT GOALS

Business Goals		IT Goals										CoBIT Information Criteria							
		24	14	17	18	19	20	21	22	23	25	26	27	28	29	30	31	32	
Financial Perspective	1 Provide a good return on investment of IT-enabled business investments.																		
	2 Manage IT-related business risk.	2	14	17	18	19	20	21	22										
	3 Improve corporate governance and transparency.	2	18																
Customer Perspective	4 Improve customer orientation and service.	3	23																
	5 Offer competitive products and services.	5	24																
	6 Establish service continuity and availability.	10	16	22	23														
	7 Create agility in responding to changing business requirements.	1	5	25															
	8 Achieve cost optimisation of service delivery.	7	8	10	24														
Internal Perspective	9 Obtain reliable and useful information for strategic decision making.	2	4	12	20	26													
	10 Improve and maintain business process functionality.	6	7	11															
	11 Lower process costs.	7	8	13	15	24													
	12 Provide compliance with external laws, regulations and contracts.	2	19	20	21	22	26	27											
	13 Provide compliance with internal policies.	2	13																
Learning and Growth Perspective	14 Manage business change.	1	5	6	11	28													
	15 Improve and maintain operational and staff productivity.	7	8	11	13														
	16 Manage product and business innovation.	5	25	28															
17 Acquire and maintain skilled and motivated people.	9																		



COBIT Appendix I

LINKING IT GOALS TO IT PROCESSES

IT Goals	Processes										CoBIT Information Criteria						
	P01	P02	P04	PO10	A11	A16	A17	DS1	DS3	ME1	Efficiency	Effectiveness	Confidentiality	Integrity	Availability	Compliance	Reliability
1 Respond to business requirements in alignment with the business strategy.	P01	P02	P04	PO10	A11	A16	A17	DS1	DS3	ME1	P	P					
2 Respond to governance requirements in line with board direction.	P01	P04	PO10	ME1	ME4						P	P					
3 Ensure satisfaction of end users with service offerings and service levels.	P08	A14	DS1	DS2	DS7	DS8	DS10	DS13			P	P		S	S		
4 Optimise the use of information.	P02	DS11									S	P					S
5 Create IT agility.	P02	P04	P07	A13							P	P		S			
6 Define how business functional and control requirements are translated in effective and efficient automated solutions.	A11	A12	A16								P	P					S
7 Acquire and maintain integrated and standardised application systems.	P03	A12	A15								P	P					S
8 Acquire and maintain an integrated and standardised IT infrastructure.	A13	A15									S	P					
9 Acquire and maintain IT skills that respond to the IT strategy.	P07	A15									P	P					
10 Ensure mutual satisfaction of third-party relationships.	DS2										P	P	S	S	S	S	S
11 Ensure seamless integration of applications into business processes.	P02	A14	A17								P	P		S	S		
12 Ensure transparency and understanding of IT cost, benefits, strategy, policies and service levels.	P05	P06	DS1	DS2	DS6	ME1	ME4				P	P					S
13 Ensure proper use and performance of the applications and technology solutions.	P06	A14	A17	DS7	DS8						P	S					S
14 Account for and protect all IT assets.	P09	DS5	DS9	DS12	ME2						S	S	P	P	P	P	S
15 Optimise the IT infrastructure, resources and capabilities.	P03	A13	DS3	DS7	DS9						S	P					
16 Reduce solution and service delivery defects and rework.	P08	A14	A16	A17	DS10						P	P		S	S		
17 Protect the achievement of IT objectives.	P09	DS10	ME2								P	P	S	S	S	S	S
18 Establish clarity of business impact of risks to IT objectives and resources.	P09										S	S	P	P	P	S	S
19 Ensure that critical and confidential information is withheld from those who should not have access to it.	P06	DS5	DS11	DS12							S	S	P	P	P	S	S
20 Ensure that automated business transactions and information exchanges can be trusted.	P06	A17	DS5								P			P	S	S	
21 Ensure that IT services and infrastructure can properly resist and recover from failures due to error, deliberate attack or disaster.	P06	A17	DS4	DS5	DS12	DS13	ME2				P	S		S	P		
22 Ensure minimum business impact in the event of an IT service disruption or change.	P06	A16	DS4	DS12							P	S		S	P		
23 Make sure that IT services are available as required.	DS3	DS4	DS8	DS13							P	P			P		
24 Improve IT's cost-efficiency and its contribution to business profitability.	P05	DS6									S	P					S
25 Deliver projects on time and on budget, meeting quality standards.	P08	PO10									P	P		S	S		S
26 Maintain the integrity of information and processing infrastructure.	A16	DS5									P	P		P	P		S
27 Ensure IT compliance with laws, regulations and contracts.	DS11	ME2	ME3	ME4									S	S			P
28 Ensure that IT demonstrates cost-efficient service quality, continuous improvement and readiness for future change.	P05	DS6	ME1	ME4							P	P					P

Alignment Roles & Responsibilities per COBIT

ME4: Provide Governance	
Enterprise strategic direction for IT	CEO (R)
Expected business outcome for IT-enabled business investments	CEO (R)
PO1: Define Strategic IT Plan	
Link business goals to IT goals	Business Executive (A/R) CIO (R)
Determine current IT performance	Business Executive (R) CIO (A/R)
Build the IT Strategic Plan	CEO (A) CIO (R)

Homework Exercise

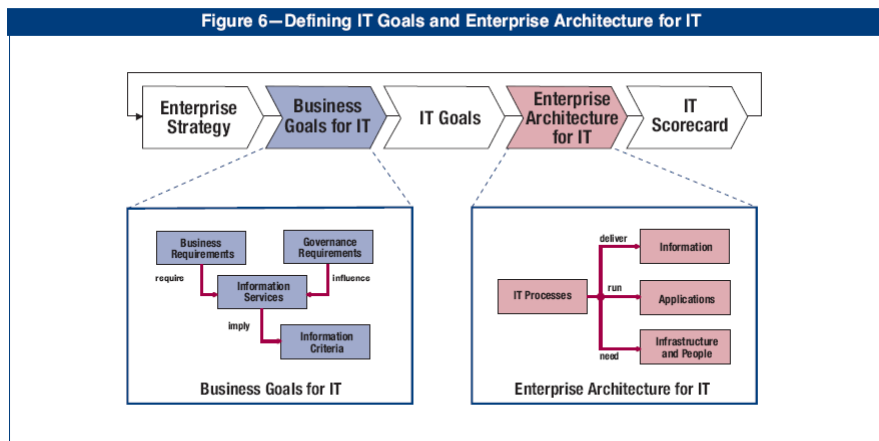
COBIT Alignment Processes

- 1. Determine IT Goals that support individual business goals of:**
 - A. Improve customer convenience
 - B. Create common branding for diverse portfolio of products and services
 - C. Obtain market recognition as an innovation leader
 - D. Reduce overhead costs
- 2. Determine IT processes that support these business goals**
- 3. Add ideas at class wiki site**
 - BP will seed a wiki page for this problem by 10/26

Architecture Expresses IT Strategy

resources & capabilities

Figure 6—Defining IT Goals and Enterprise Architecture for IT



TOGAF Four Architecture Domains

- **The Open Group Architecture Framework (TOGAF)**
 - framework for enterprise architecture
 - a comprehensive approach to the design, planning, implementation, and governance of an enterprise information architecture
- TOGAF is based on four [architecture domains](#):
 - [Business architecture](#) or business process architecture : which defines the business strategy, governance, organization, and key business processes of the organization
 - [Applications architecture](#) which provides a blueprint for the individual application systems to be deployed, the interactions between the application systems, and their relationships to the core business processes of the organization
 - [Data architecture](#) which describes the structure of an organization's logical and physical data assets and the associated data management resources
 - *Infrastructure or [Technical architecture](#) or [Technology architecture](#)* which describes the hardware, software and network infrastructure needed to support the deployment of core, mission-critical applications

TOGAF Framework

The [architecture framework](#) is a toolset or set of tools which can be used for developing a broad range of different architectures. It should:

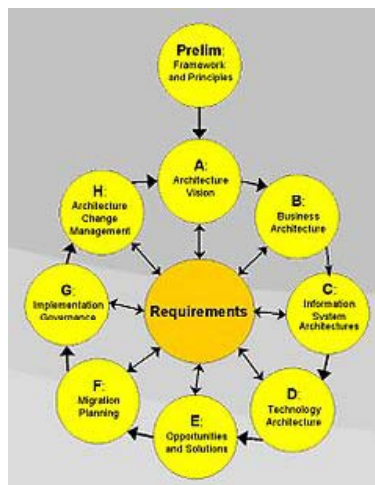
- describe a method for defining an information system in terms of a set of building blocks
- show how the building blocks fit together
- contain a set of tools
- provide a common vocabulary
- include a list of recommended standards
- include a list of compliant products that can be used to implement the building blocks

TOGAF

Architecture Development Method

- The Architecture Development Method (ADM) is applied to develop an enterprise architecture which will meet the business and information technology needs of an organization. It may be tailored to the organization's needs and is then employed to manage the execution of architecture planning activities.
- The process is iterative and cyclic. Each step checks with Requirements. Phase C involves some combination of both Data Architecture and Applications Architecture. Additional clarity can be added between steps B. and C. in order to provide a complete [information architecture](#).
- [Performance engineering](#) working practices are applied to the Requirements phase, and to the Business Architecture, Information System Architecture, and Technology architecture phases. Within Information System Architecture, it is applied to both the Data Architecture and Application Architecture.

TOGAF ADM



Zachman Enterprise Architecture

- Stakeholders X Architectural Aspects

	Why	How	What	Who	Where	When
Contextual	Goal List	Process List	Material List	Organizational Unit & Role List	Geographical Locations List	Event List
Conceptual	Goal Relationship	Process Model	Entity Relationship Model	Organizational Unit & Role Rel. Model	Locations Model	Event Model
Logical	Rules Diagram	Process Diagram	Data Model Diagram	Role relationship Diagram	Locations Diagram	Event Diagram
Physical	Rules Specification	Process Function Specification	Data Entity Specification	Role Specification	Location Specification	Event Specification
Detailed	Rules Details	Process Details	Data Details	Role Details	Location details	Event Details

Zachman Enterprise Architecture

- Collage of organizing perspectives

	What	How	Where	Who	When	Why	
Row 1 – Scope External Requirements and Drivers Business Function Modeling	1	Contextual	Contextual	Contextual	Contextual	Contextual	Contextual
Row 2 – Enterprise Model Business Process Models	2	Conceptual	Conceptual	Conceptual	Conceptual	Conceptual	Conceptual
Row 3 – System Model Logical Models Requirements Definition	3	Logical	Logical	Logical	Logical	Logical	Logical
Row 4 – Technology Model Physical Models Solution Definition and Development	4	Physical	Physical	Physical	Physical	Physical	Physical
Row 5 – As Built As Built Deployment	5	As Built	As Built	As Built	As Built	As Built	As Built
Row 6 – Functioning Enterprise Evaluation	6	Functioning	Functioning	Functioning	Functioning	Functioning	Functioning