

GOVERNANCE OF INFORMATION TECHNOLOGY (IT)

Chapter 13

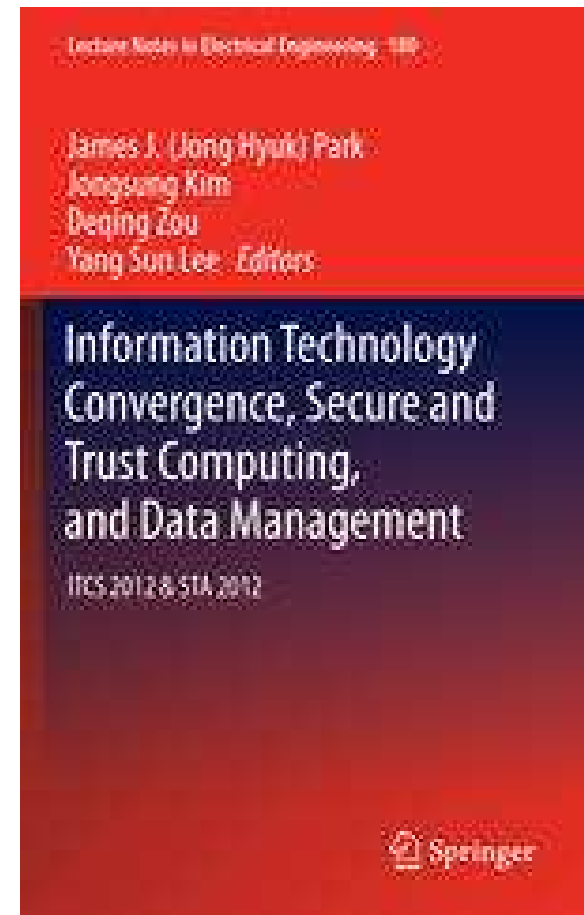
***“Knowledge will forever govern ignorance; and a people who mean to be their own governors must arm themselves with the power which knowledge gives.”
James Madison***

Summary

1. Introduction. Governing IT.
2. Management vs. Governance.
3. Decision-making and ...
4. ... structures of governance of IT.
5. Starting a framework for IT governance in their company without standards.
6. Business strategy, performance and governance of IT.
7. Align IT: indicators of progress.
8. The role of the CIO: IT leadership.
9. The value of IT.
10. ISO 38500, a conceptual model: the six principles of the standard.
11. Adapting the conceptual model of governance to the reality of the company.
12. Example Apps to aid decision-making for CIOs
13. Example Application Portfolio Management
14. To govern public enterprises, The 4 "E's"

Basic Reference

- Juiz, C.; Gómez, M.; Barceló, M.I.: Implementing Business/IT Projects Alignment through the Project Portfolio Approval Process, Lecture Notes in Electrical Engineering, vol. 180, pp. 1-8, ISSN 1876-1100 (2012)



Basic Reference

- **ISACA**
COBIT® 5: Enabling Processes, ISBN
978-1-60420-241-0
United States of
America



Enabling Processes

COBIT®
AN ISACA® FRAMEWORK

dFogIT (detailed Framework of governance of IT)



CORPORATE GOVERNANCE

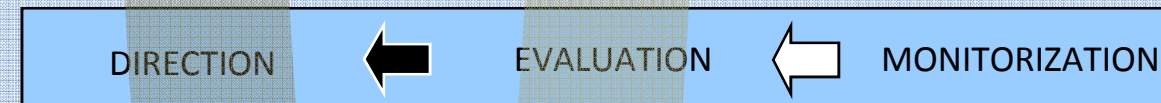


PRINCIPLES

INVESTMENTS / PORTFOLIO PROGRAMS / PROJECTS

KEY PERFORMANCE INDICATORS

IT GOVERNANCE

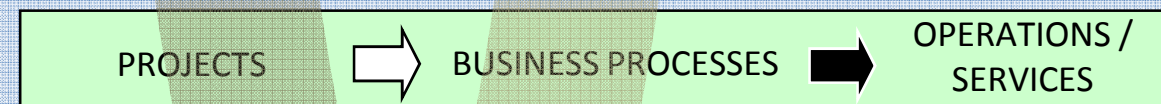


STRATEGY / POLICIES

PROPOSALS / PLANS

PERFORMANCE / CONFORMANCE

IT MANAGEMENT



RESOURCE NEEDS

EDUCATION / TRAINING

ARCHITECTURE / INFRASTRUCTURE

IT OPERATION



NEED / DEMMAND



PRODUCE / RESULT



dFogIT (detailed Framework of governance of IT)



CORPORATE GOVERNANCE

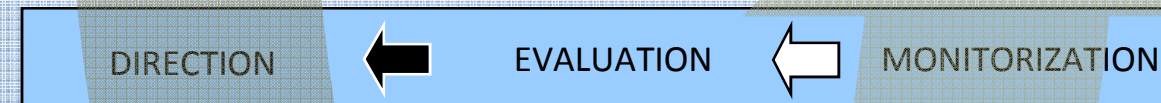


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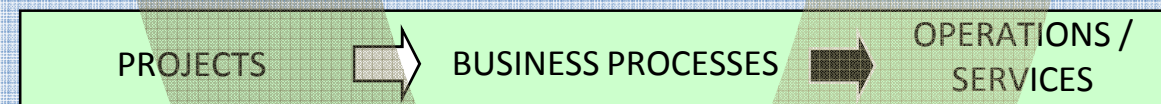


STRATEGY / POLICIES

PROPOSALS / PLANS

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RESOURCE NEEDS

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IT OPERATION



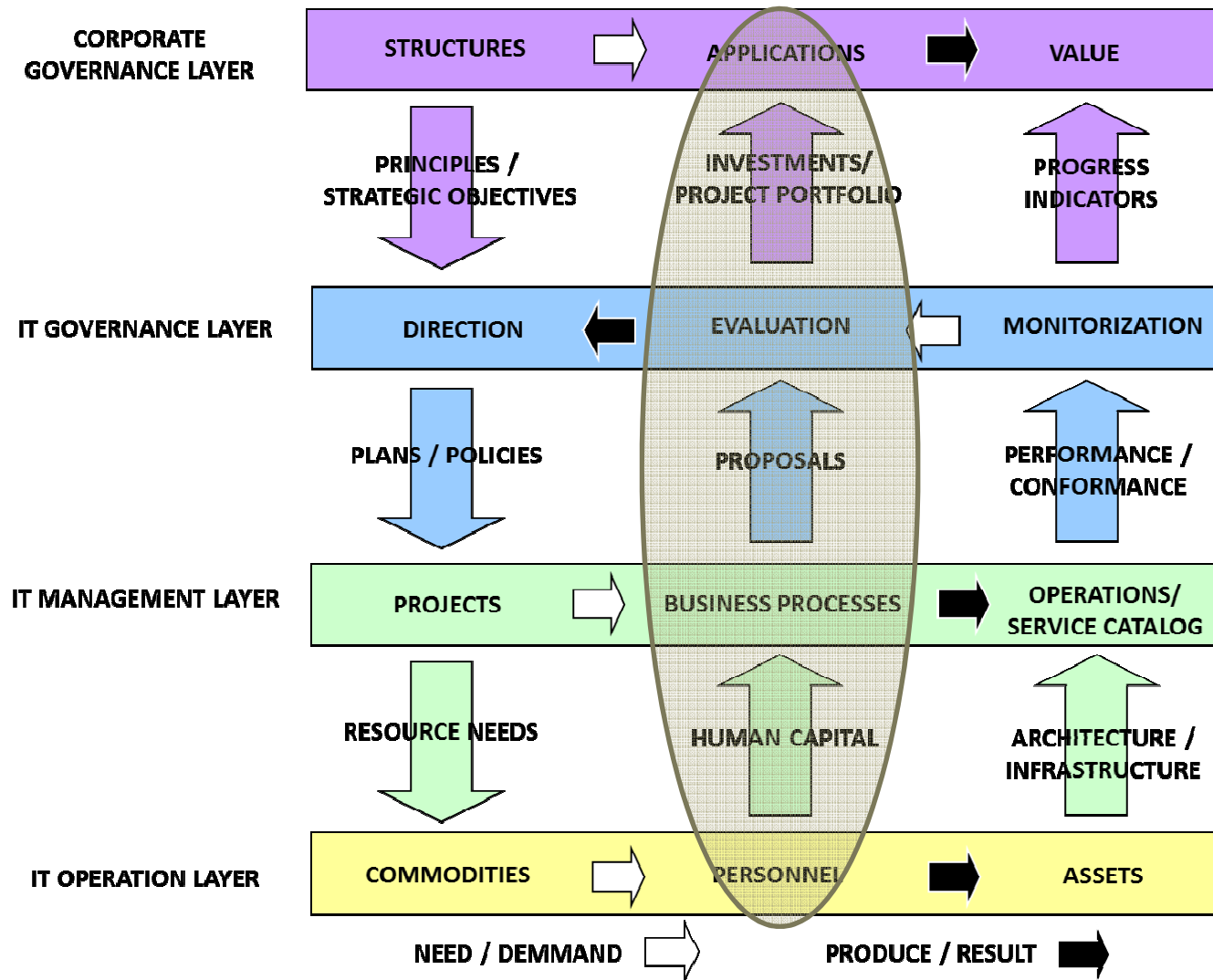
NEED / DEMMAND



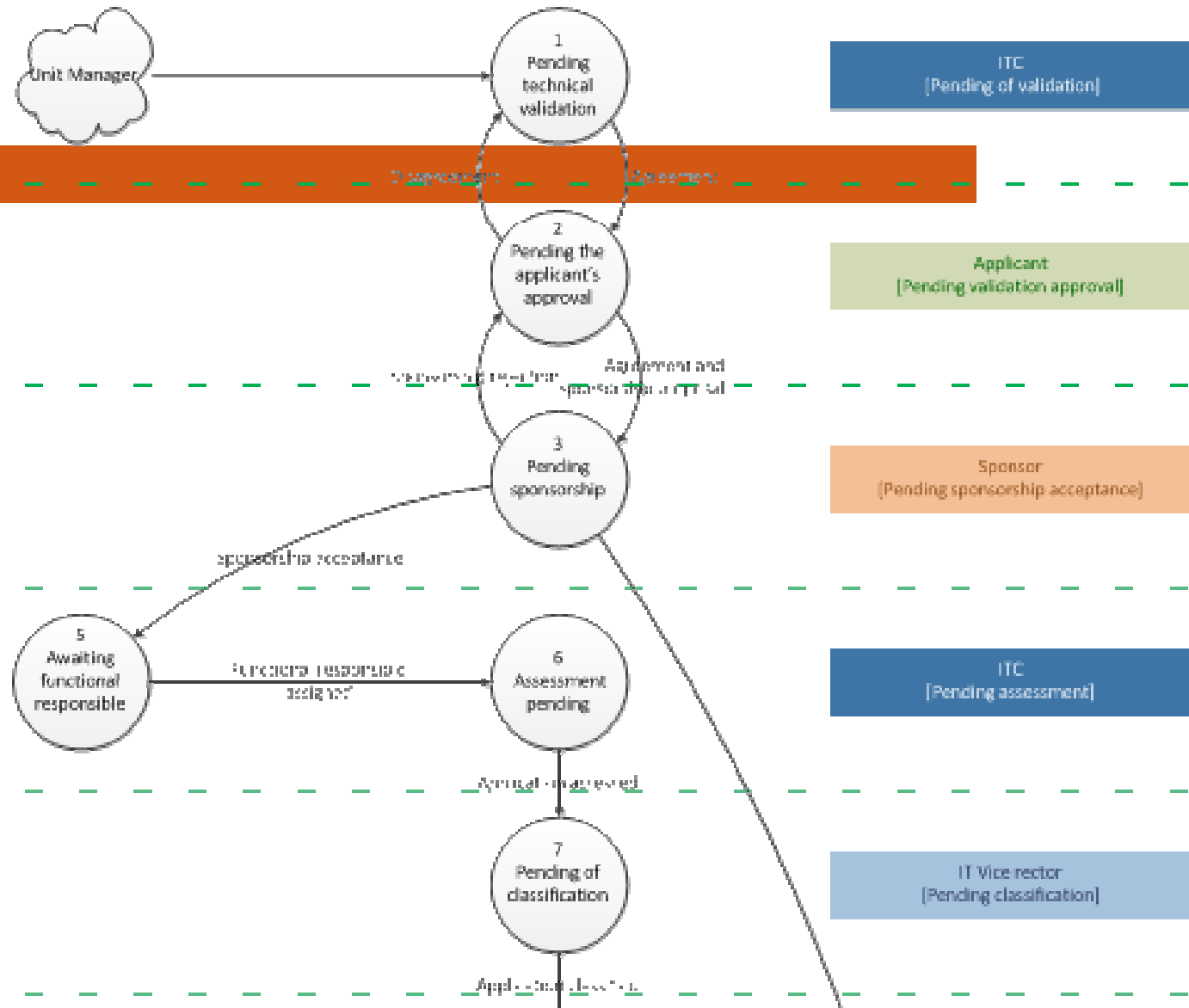
PRODUCE / RESULT



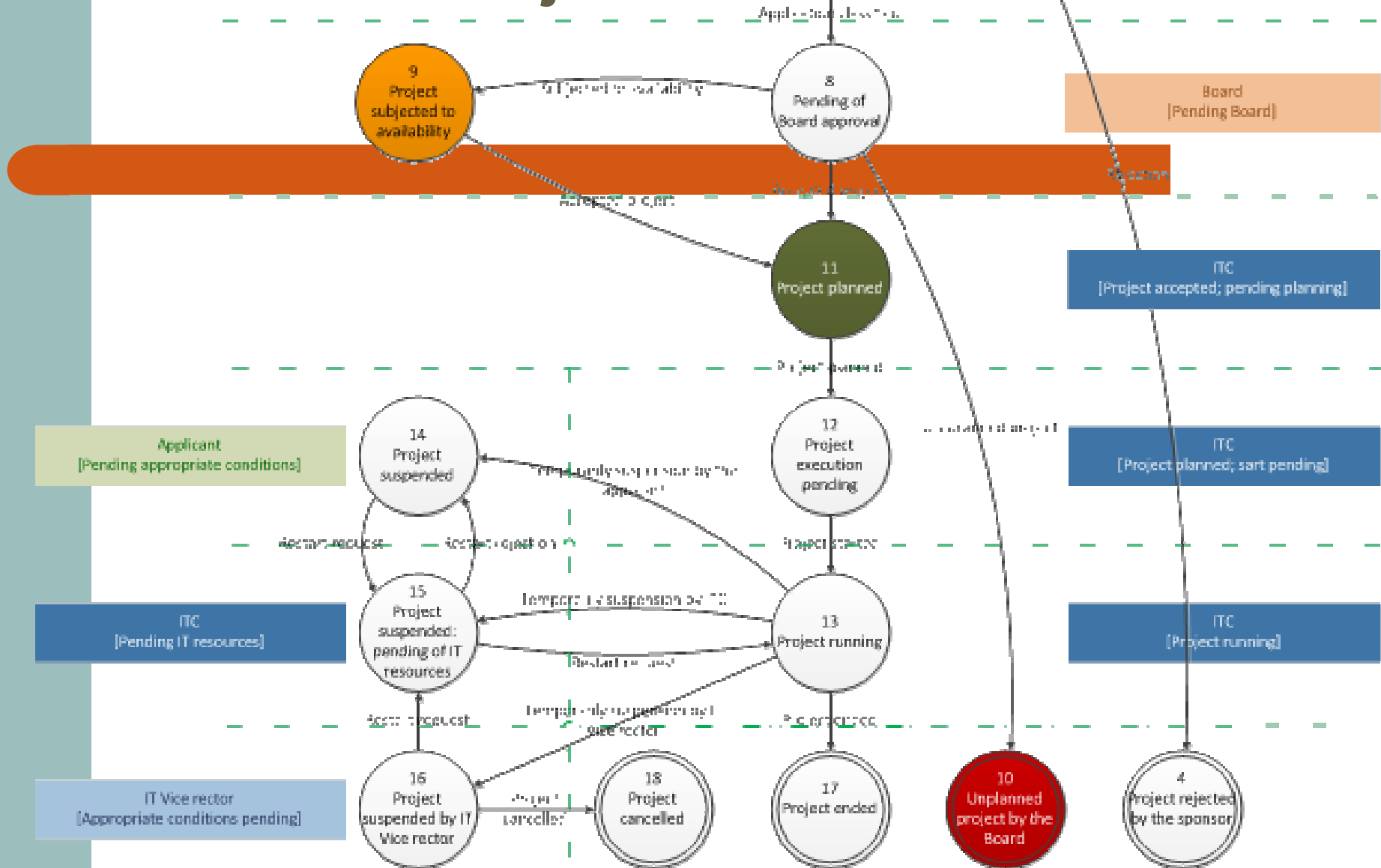
From Personnel to Applications



Project Portfolio Flowchart



Project Portfolio Flowchart



Standard Output Form Example

Application 69731 - IT Project

Application (state 0)

Date 28/10/2011, 10:22 pm Applicant Name

Description Implementation of a SSO access system to corporate applications. Gradual deployment to pilot production of "Single Sign On" to have unified access to different services through the Intranet credentials. The project involves the deployment of the pilot evaluation during the last months of 2011.

Recommended implementation 15/08/2012

Deadline implementation 30/11/2012

Arguments for project approval

Justification

Offering a step further to cover the entire cycle dynamic applications of digital identity credentials based on corporate DA.

How much value does the project provide?

Increase the functionality offered to the user, to obtain a single point of introduction of credentials for applications integrated corporate SSO system, during its work session.

Risk of not doing the project

Having a corporate identity management incomplete

Beneficiaries

Administration and Services Staff, Professors and Research Staff, and students, in general, all users of ICT services.

Costs saving

This would save users time when accessing to corporate applications.

Comment

Continuation of pilot project IDD01 started in 2011.

ITC: Technical validation (state 1)

02.11.2011 13:56 pm, technical person in charge of validation

Standard Output Form Example

Technical Review

Description

Implementation of a system of unified access SSO to different corporate applications through Intranet credentials.

Excluded Components

Only web technology applications will be integrated into the SSO system, and its integration will be gradual. Only a subset of applications currently accessible through *UIBdigital* credentials will be integrated during the project development.

Resolution Technical validation - Agreement

Applicant: Applicant's approval (state 2)

02.11.2011 20:21 pm, Applicant's Name

Applicant Review

Resolution Agreement and sponsorship proposal

Sponsorship IT Vice rector

Sponsor: Sponsorship acceptance (state 3)

04.11.2011 4:03 pm, Sponsor's Name

Sponsor Review

Expectations

Project aligned with tactical objective 7.4.

Project benefits must be clearly explained to users.

Functional responsible Functional responsible name

Resolution Sponsorship acceptance

ITC: Functional responsible (state 5)

04.11.2011 13:30, Technical Name

Report back to responsible functional

Standard Output Form Example

Report back to responsible functional
Responsible functional e-mail xxxxxx@uib.es
Resolution Functional responsible assigned

ITC: Assessment (state 6)
24.11.2011 17:31 pm, Technical Name

Project Overview
Project Code 12ILOIDG01
Project Title Establishment of a unified system of access to corporate applications.
Project Description
Implementation of a unified system of access Single-Sign-On, which should allow the gradual integration of the different corporate applications. The project is developed by the CAS software open, to have unified access to different services through the Intranet credentials.
Program Logical Infrastructure
Areas of the project (project objectives, quality criteria, personnel, project risks, ICT services affected)
Project evaluation (Tasks to do, dedication (ICT team, value))
Resolution Application assessed

IT Vice rector: Classification (state 7)
28.11.2011 12:48 pm, IT Vice rector name

IT Vice rector classification Planned
Strategic Objective 7. Ensuring information security
Tactical Objective 7.4 Provide a system of "unique login" applications for university management
Resolution Application classified

Board: Board's approval (state 8)
09.01.2012 13:46 pm, IT Vice rector Name

Board decision
Resolution Accepted project

A Simple Example

STRATEGIC OBJECTIVES	TACTICAL OBJECTIVES	PROJECT CODE
1. Change organizational culture by approaching to IT governance and IT management standard		
2. Progress in integrated management of the EHEA	2.5 Deployment of services for <i>UIBdigital</i> users	
3. Develop common IT values		
4. Improve use of resources to develop research and transfer		
5. Improve software applications for university management and Governance processes		
6. Promote institutional knowledge-based management		
7. Improving information security	7.1 Define IT security policy. Dispose of a secure and available infrastructure as well as reliable and scalable architecture.	
	7.2 Provides a contingency plan in case of IT disaster.	
	7.3 Make appropriate actions to enforce compliance of National and EU laws and regulations.	
	7.4 Provide a system of "unique login" for users of university applications.	12ILOIDG01
8. Promote use of appropriate, ethical and supportive of IT		

A Simple Example



STRATEGIC OBJECTIVE 7: Improving information security

	TACTICAL OBJECTIVES							TOTAL
	0.0	2.5	7.1	7.2	7.3	7.4		
Planned	5	1	21	1	0	1	29	
Subjected to availability	0	0	3	1	0	0	4	
Unplanned	0	0	2	0	0	0	2	
TOTAL	5	1	26	2	0	1	35	

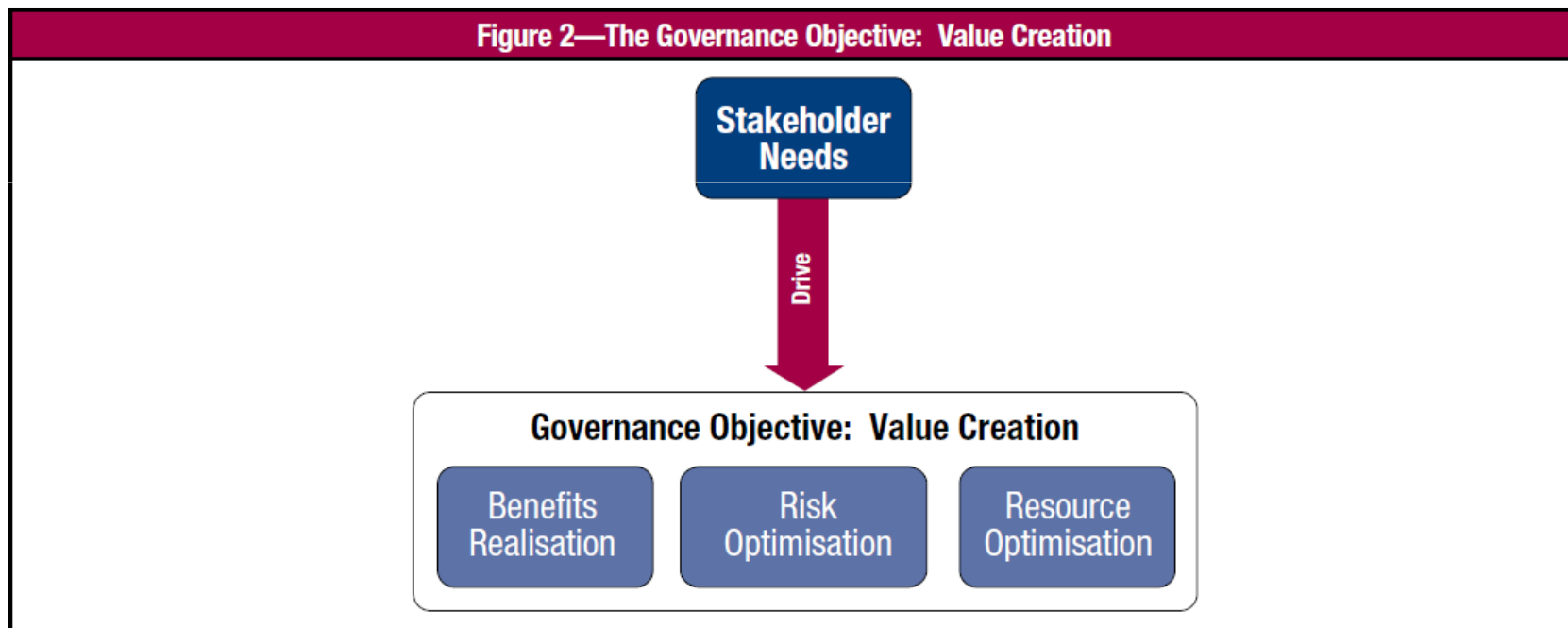
A Simple Example



	STRATEGIC OBJECTIVES									
	0 (Unaligned)	1	2	3	4	5	6	7	8	TOTAL
Planned	5	4	9	6	0	14	4	29	0	71
Subjected to availability	4	0	14	1	2	20	2	4	0	47
Unplanned	9	0	5	1	1	13	0	2	1	32
TOTAL	18	4	28	8	3	47	6	35	1	150



Governance Objective: Value Creation





Ideas for quick alignment

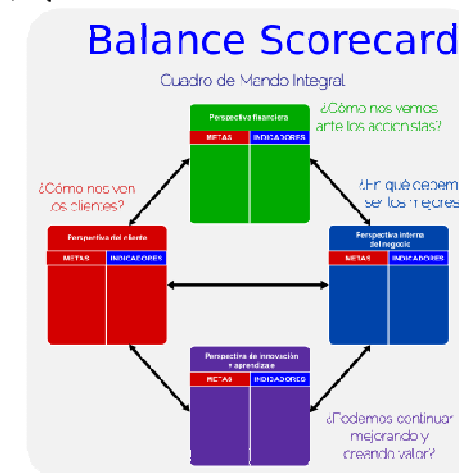
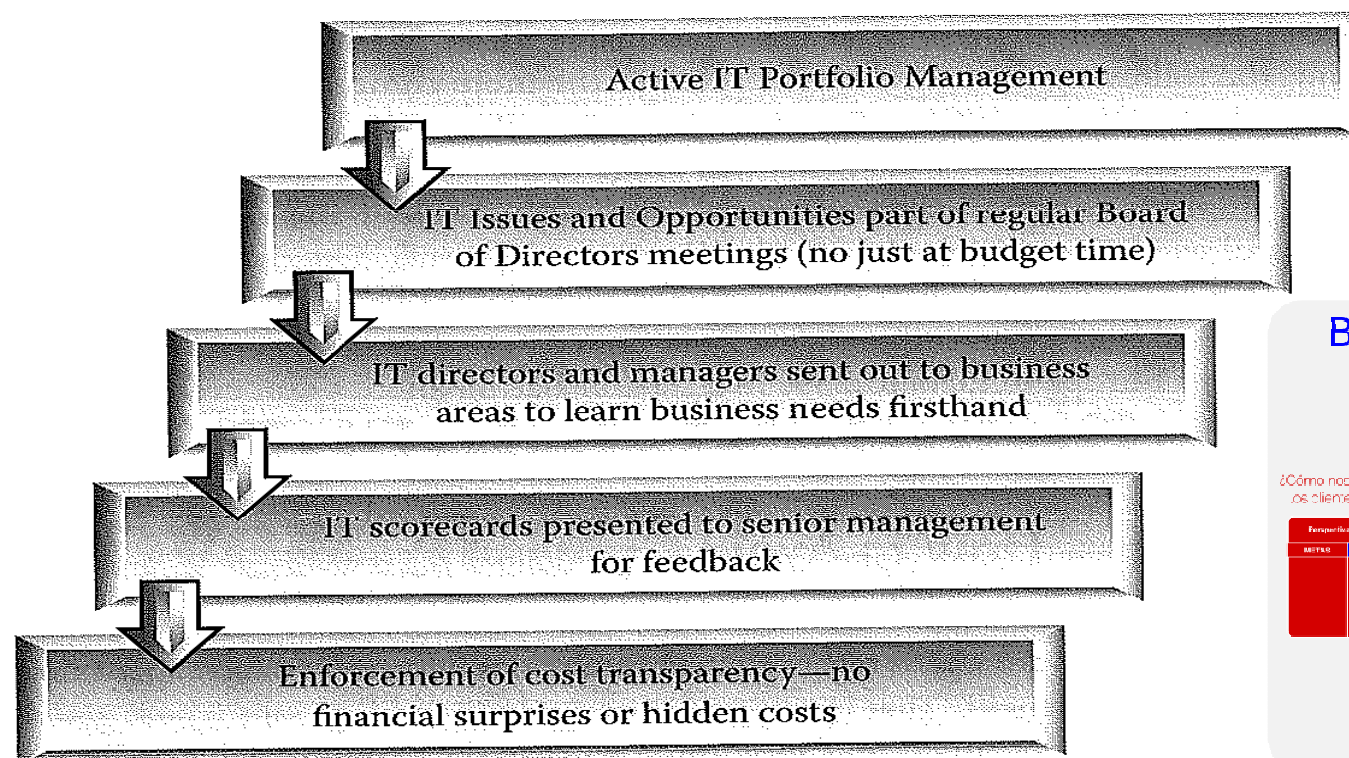


Figure 2.1 Example techniques to improve alignment.

From governance to planning

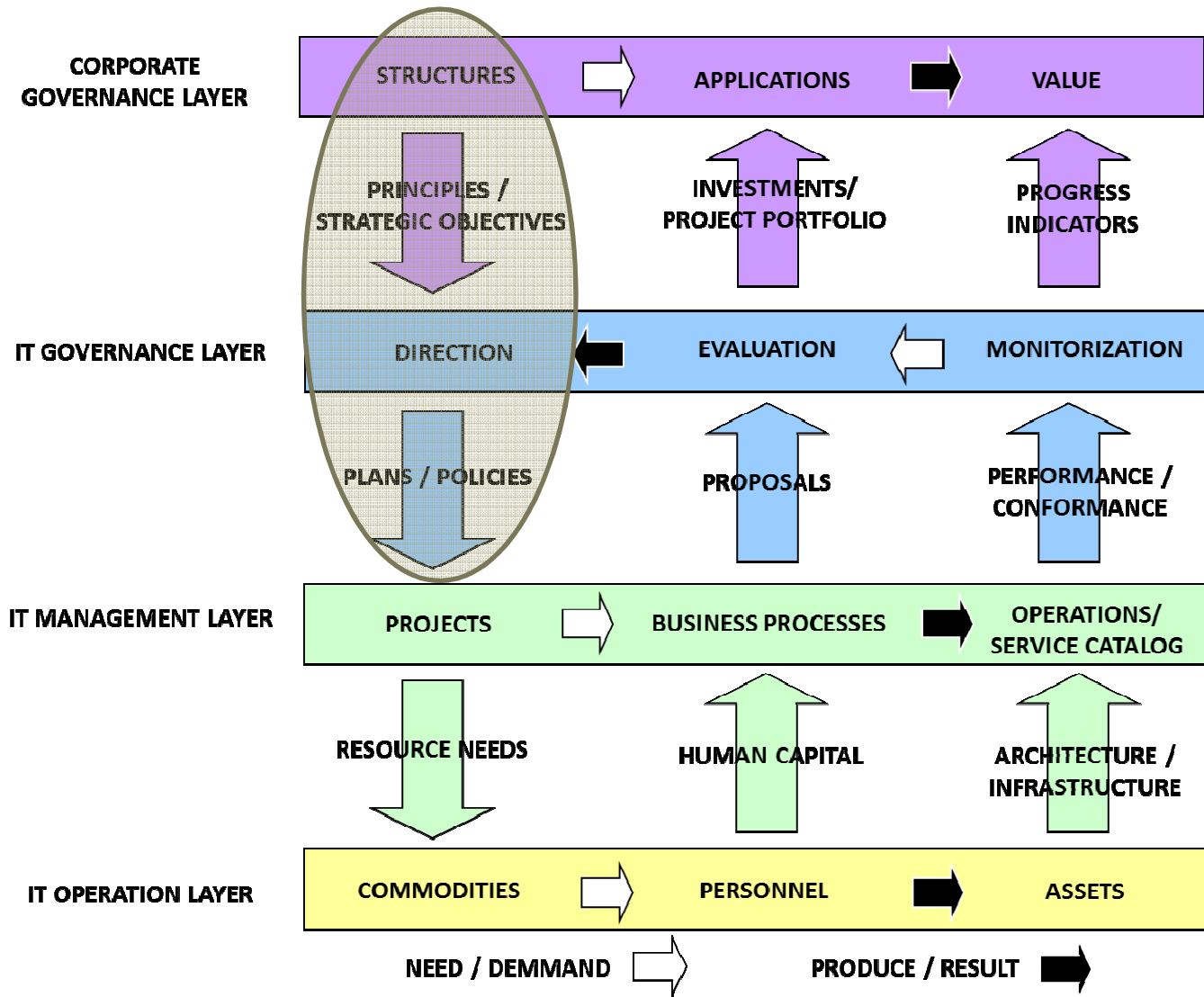




Figure 4—COBIT 5 Enterprise Goals

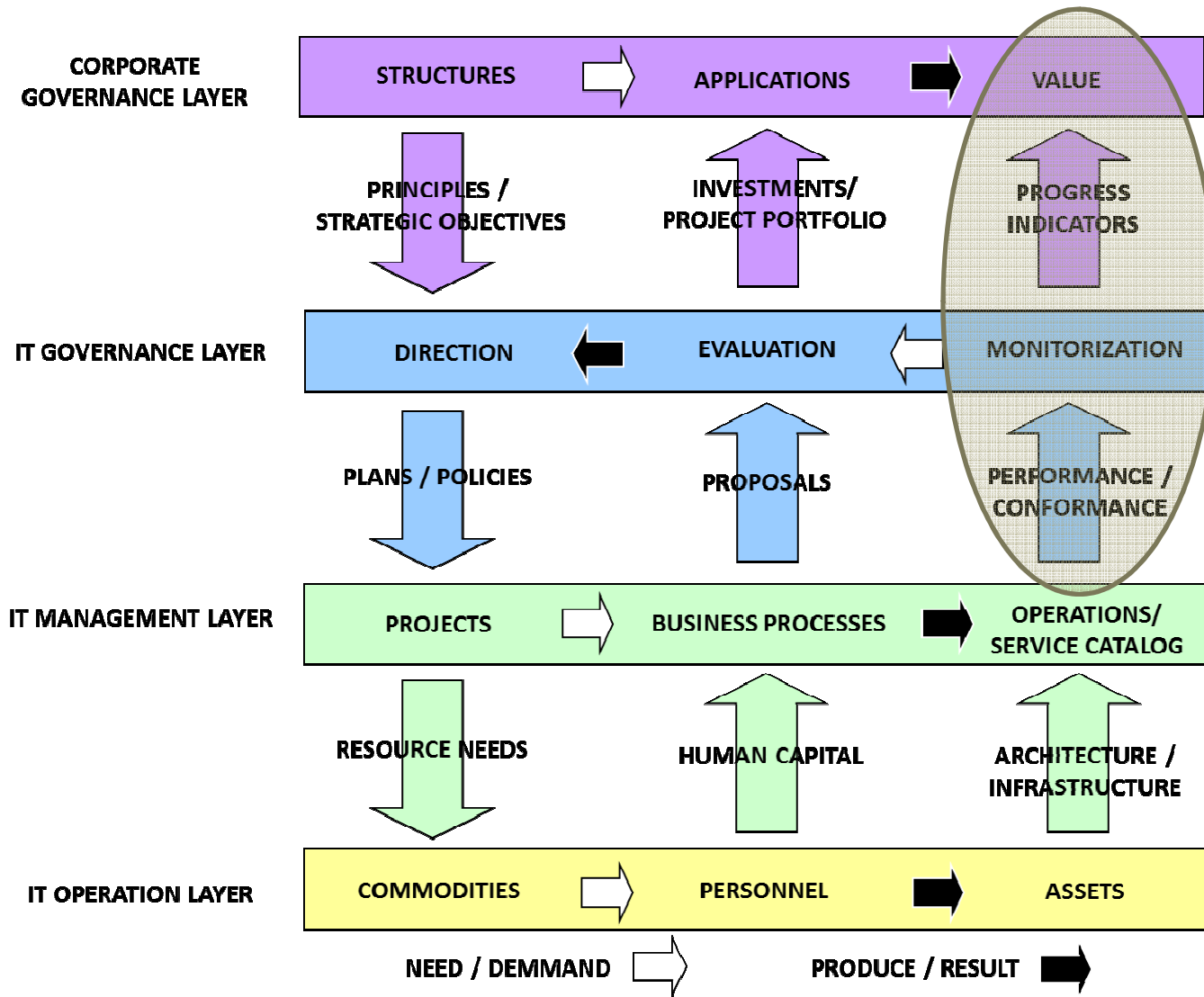
BSC Dimension	Enterprise Goal
Financial	1. Stakeholder value of business investments
	2. Portfolio of competitive products and services
	3. Managed business risk (safeguarding of assets)
	4. Compliance with external laws and regulations
	5. Financial transparency
Customer	6. Customer-oriented service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



Figure 5—IT-related Goals

Information and Related Technology Goal	
IT BSC Dimension	01 Alignment of IT and business strategy
	02 IT compliance and support for business compliance with external laws and regulations
	03 Commitment of executive management for making IT-related decisions
	04 Managed IT-related business risk
	05 Realised benefits from IT-enabled investments and services portfolio
	06 Transparency of IT costs, benefits and risk
Customer	07 Delivery of IT services in line with business requirements
	08 Adequate use of applications, information and technology solutions
Internal	09 IT agility
	10 Security of information, processing infrastructure and applications
	11 Optimisation of IT assets, resources and capabilities
	12 Enablement and support of business processes by integrating applications and technology into business processes
	13 Delivery of programmes 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
Learning and Growth	16 Competent and motivated business and IT personnel
	17 Knowledge, expertise and initiatives for business innovation

From services to value



ISO/IEC 38504

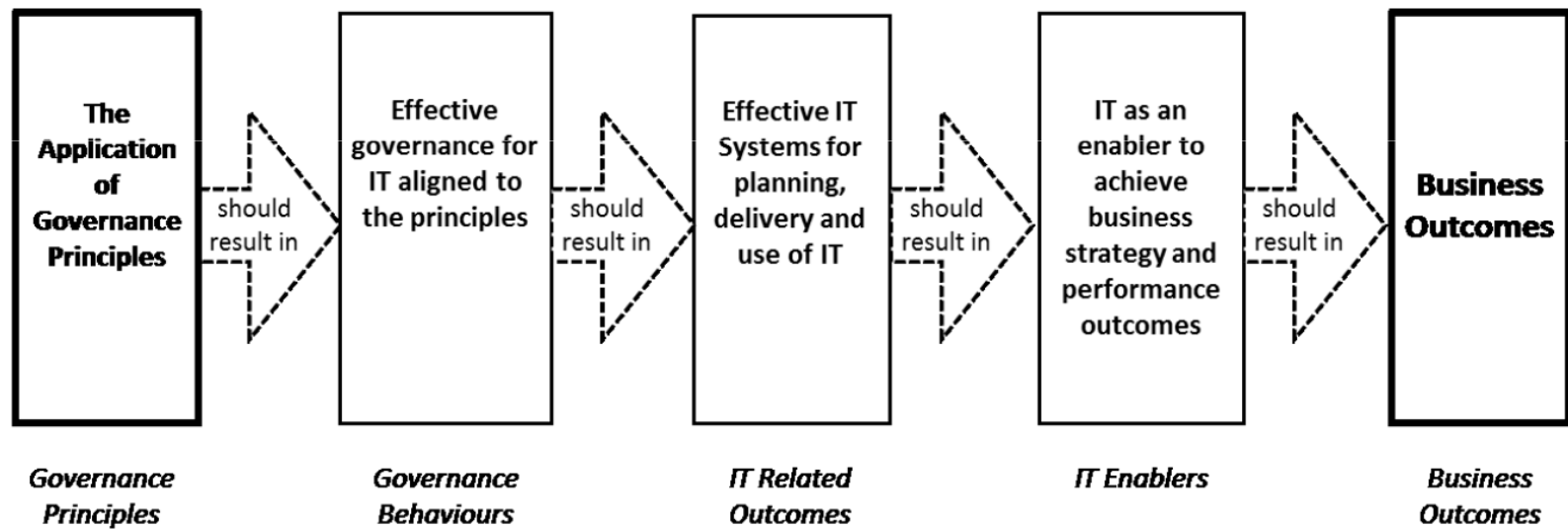


Figure 1 Relationship between governance principles and business outcomes

ISO 38500 and COBIT5



Figure 7—IT-related Goal Sample Metrics

BSC Dimension	IT-related Goal	Metric
Financial	01 Alignment of IT and business strategy	<ul style="list-style-type: none"> • Percent of enterprise strategic goals and requirements supported by IT strategic goals • Level of stakeholder satisfaction with scope of the planned portfolio of programmes and services • Percent of IT value drivers mapped to business value drivers
	02 IT compliance and support for business compliance with external laws and regulations	<ul style="list-style-type: none"> • Cost of IT non-compliance, including settlements and fines, and the impact of reputational loss • Number of IT-related non-compliance issues reported to the board or causing public comment or embarrassment • Number of non-compliance issues relating to contractual agreements with IT service providers • Coverage of compliance assessments
	03 Commitment of executive management for making IT-related decisions	<ul style="list-style-type: none"> • Percent of executive management roles with clearly defined accountabilities for IT decisions • Number of times IT is on the board agenda in a proactive manner • Frequency of IT strategy (executive) committee meetings • Rate of execution of executive IT-related decisions

ISO 38500 and COBIT5



Figure 7—IT-related Goal Sample Metrics (cont.)

BSC Dimension	IT-related Goal	Metric
Financial <i>(cont.)</i>	04 Managed IT-related business risk	<ul style="list-style-type: none"> • 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
	05 Realised benefits from IT-enabled investments and services portfolio	<ul style="list-style-type: none"> • Percent of IT-enabled investments where benefit realisation is monitored through the full economic life cycle • Percent of IT services where expected benefits are realised • Percent of IT-enabled investments where claimed benefits are met or exceeded
	06 Transparency of IT costs, benefits and risk	<ul style="list-style-type: none"> • Percent of investment business cases with clearly defined and approved expected IT-related costs and benefits • Percent of IT services with clearly defined and approved operational costs and expected benefits • Satisfaction survey of key stakeholders regarding the level of transparency, understanding and accuracy of IT financial information
Customer	07 Delivery of IT services in line with business requirements	<ul style="list-style-type: none"> • 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
	08 Adequate use of applications, information and technology solutions	<ul style="list-style-type: none"> • Percent of business process owners satisfied with supporting IT products and services • Level of business user understanding of how technology solutions support their processes • Satisfaction level of business users with training and user manuals • Net present value (NPV) showing business satisfaction level of the quality and usefulness of the technology solutions



ISO 38500 and COBIT5

Internal	09 IT agility	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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 internal policies	<ul style="list-style-type: none"> • Number of incidents related to non-compliance to policy • Percent of stakeholders who understand policies • Percent of policies supported by effective standards and working practices • Frequency of policies review and update



ISO 38500 and COBIT5

Learning and Growth	16 Competent and motivated business and IT personnel	<ul style="list-style-type: none">• Percent of staff whose IT-related skills are sufficient for the competency required for their role• Percent of staff satisfied with their IT-related roles• Number of learning/training hours per staff member
	17 Knowledge, expertise and initiatives for business innovation	<ul style="list-style-type: none">• Level of business executive awareness and understanding of IT innovation possibilities• Level of stakeholder satisfaction with levels of IT innovation expertise and ideas• Number of approved initiatives resulting from innovative IT ideas