Secure Application Development

Governance of Information Technology:

Talking to Senior Management

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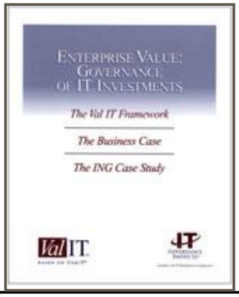
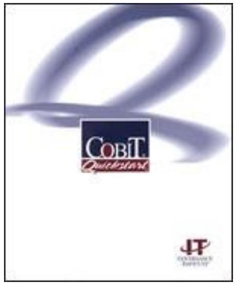




The Information Paradox

The value of IT is being increasingly questioned......

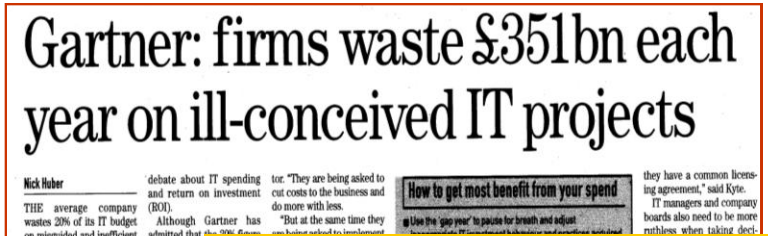
…yet organizations continue to spend more and more on IT

The Fundamental Question

Management concerned whether we are we managing our investments in IT such that:

- we are getting optimal value;
- at an affordable cost; and
- with an acceptable level of risk?

The Reality



Gartner: firms waste £351bn each year on ill-conceived IT projects

Nick Huber

THE average company wastes 20% of its IT budget on misguided and inefficient spending, the analyst firm Gartner has claimed.

This amounts to $500bn (£351.8bn) of corporate IT investment worldwide – about $140bn of this in Europe.

Over-specified hardware, inconsistent licensing policies for software, and projects that never see the light of day are the main precipita-

debate about IT spending and return on investment (ROI).

Although Gartner has admitted that the 20% figure is an approxi that many chi officers and officers it h believe the est servative one.

The finding managers face sure to use tec costs within while also d how new proj

tor. "They are being asked to cut costs to the business and do more with less.

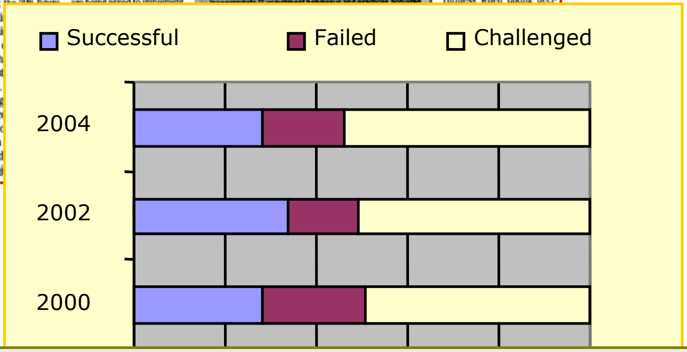
"But at the same time they are being asked to implement

How to get most benefit from your spend

- Use the 'gap year' to pause for breath and adjust

they have a common licensing agreement," said Kyte.

IT managers and company boards also need to be more ruthless when taking deci-



- Low return from high-cost IT investments, and transparency of IT's performance are two of the top issues
- More than 30% claim negative return from IT investments targeting efficiency gains
- 40% do not have good alignment between IT plans and business strategy
- Interest in and use of active management of the return on IT investment has doubled in 2 years (28 to 58%)

- Gartner – more than 600 billion $ thrown away annually on ill conceived or ill executed IT projects
- Standish Group – about 20% of projects fail outright, 50% are challenged and only 30% are successful
- ITGI 2005 Survey early findings confirm concerns

Delivery of Value is a key focus area

- ❑ Realization of value depends on sound IT investment decisions, and the processes and responsibilities governing those decisions
- ❑ Senior management increasingly recognizes the need to:
  - ❑ Look at the lifecycle of IT-enabled business investments from the investment decision to full benefits realisation
  - ❑ Manage them as portfolio of programmes, including the full range of activities that are required to achieve risk-adjusted business value

The current focus on IT governance

Communication with Senior Management

CEO concerns in relation with IT:

Costs and values

Responsiveness to Business

Risks and compliance

IT Management Focus Areas

IT management have moved from the technology- to the management-related arenas:

- **Strategic alignment,**

with focus on aligning with the business and collaborative solutions

- **Value delivery**,

concentrating on optimising expenses and proving the value of IT

- **Risk management**,

addressing the safeguarding of IT assets, disaster recovery and continuity of operations

- **Resource management**,

optimising knowledge and IT infrastructure

Furthermore, none of these factors can be managed appropriately without:

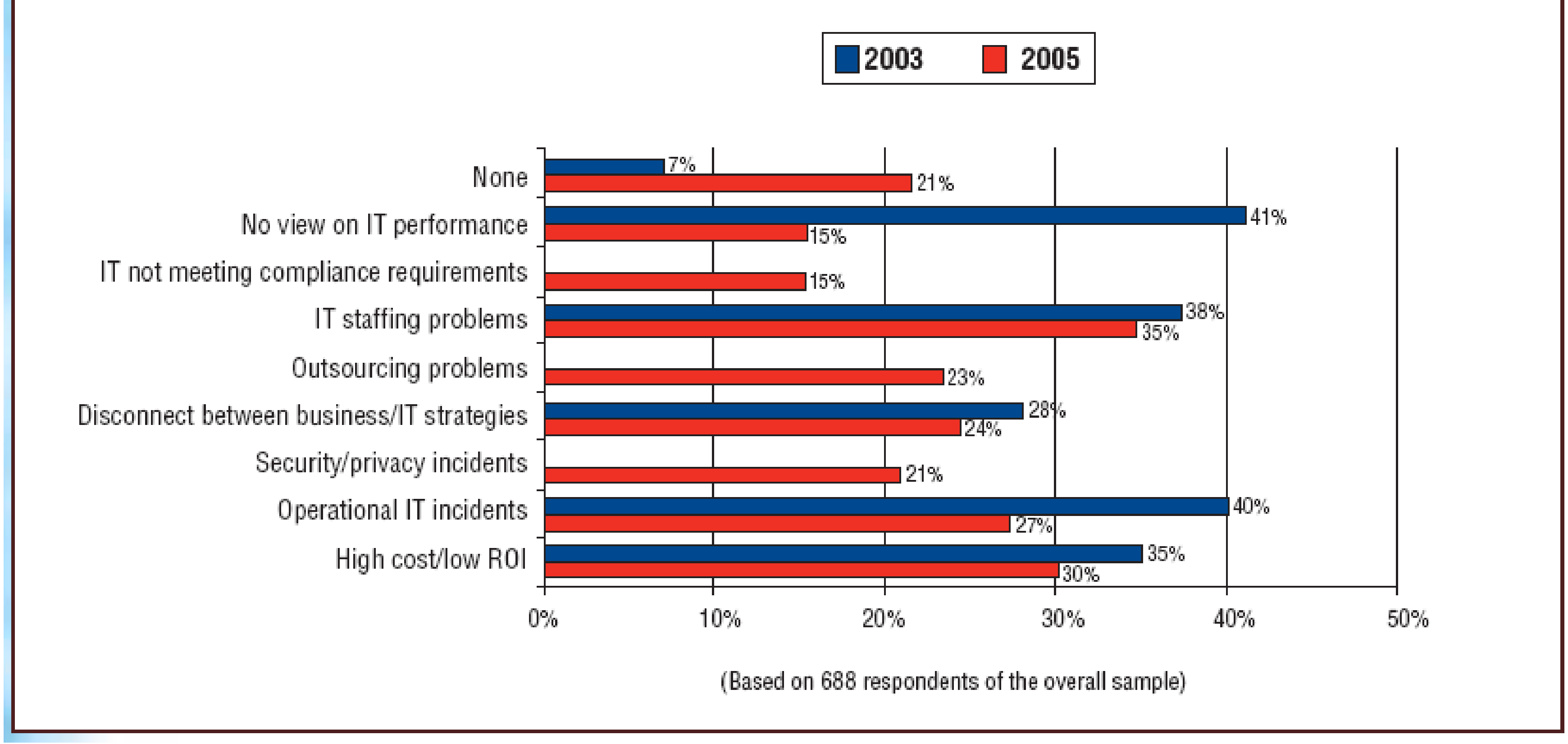
- **Performance measurement**,

tracking project delivery and monitoring IT services

Source: predictions of reputable market analysts such as Gartner, Compass, Giga and CSC

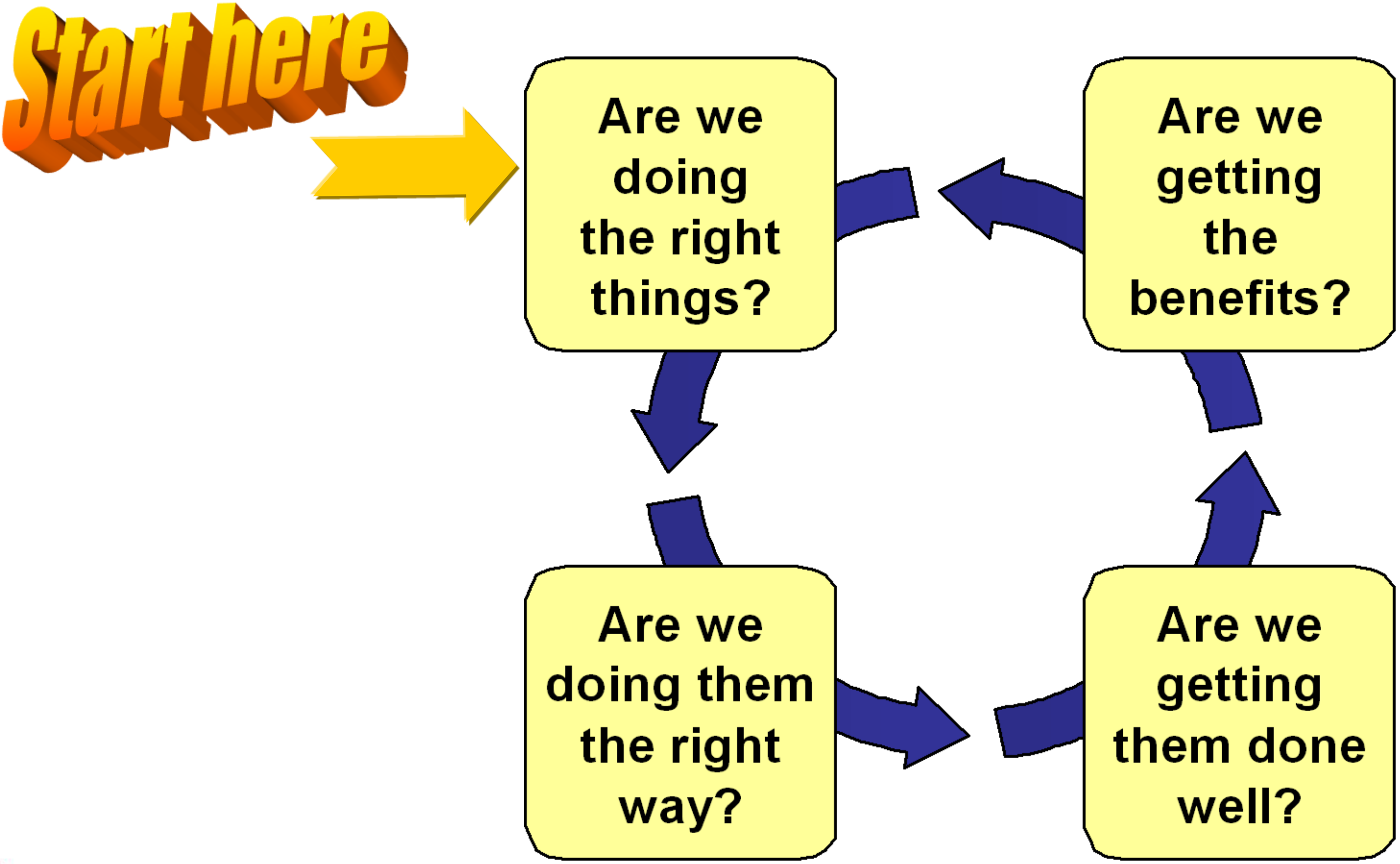
Results from a Global Survey

Figure 16—IT-related Problems in Last 12 Months



Source: *IT Governance Global Status Report—2006 (itgi.org)*

ValIT Approach


Start here
Are we doing the right things?
Are we doing them the right way?
Are we getting them done well?
Are we getting the benefits?

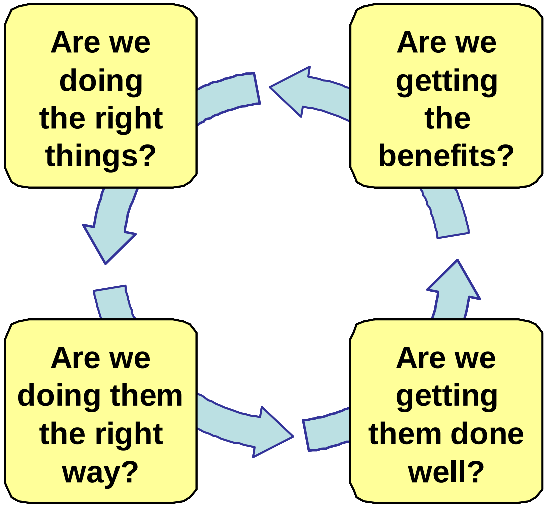
ValIT Developments

The ***strategic*** question. Is the investment:

- In line with our vision?
- Consistent with our business principles?
- Contributing to our strategic objectives?
- Providing optimal value, at affordable cost, at an acceptable level of risk?

- In the ***value*** question. Do we have:
- A clear and shared understanding of the expected benefits?
- Clear accountability for realising the benefits?
- Relevant metrics?
- An effective benefits realisation process?

Some fundamental questions


Are we doing the right things?
Are we getting the benefits?
Are we doing them the right way?
Are we getting them done well?

about the value delivered by IT

- The ***architecture*** question. Is the investment:
- In line with our architecture?
- Consistent with our architectural principles?
- Contributing to the population of our architecture?
- In line with other initiatives?

The ***delivery*** question. Do we have:

- Effective and disciplined delivery and change management processes?
- Competent and available technical and business resources t deliver:
  - the required capabilities; and
  - the organisational changes required to leverage the capabilities.

The Reality

Only 38% of executives/senior management can describe their organizations IT Governance process

In most cases, IT Governance has not been designed – it has just developed "piecemeal" in response to specific issues

Source: Peter Weill and Jeannie W. Ross, *IT Governance*

85% of organisations demand business cases for change projects

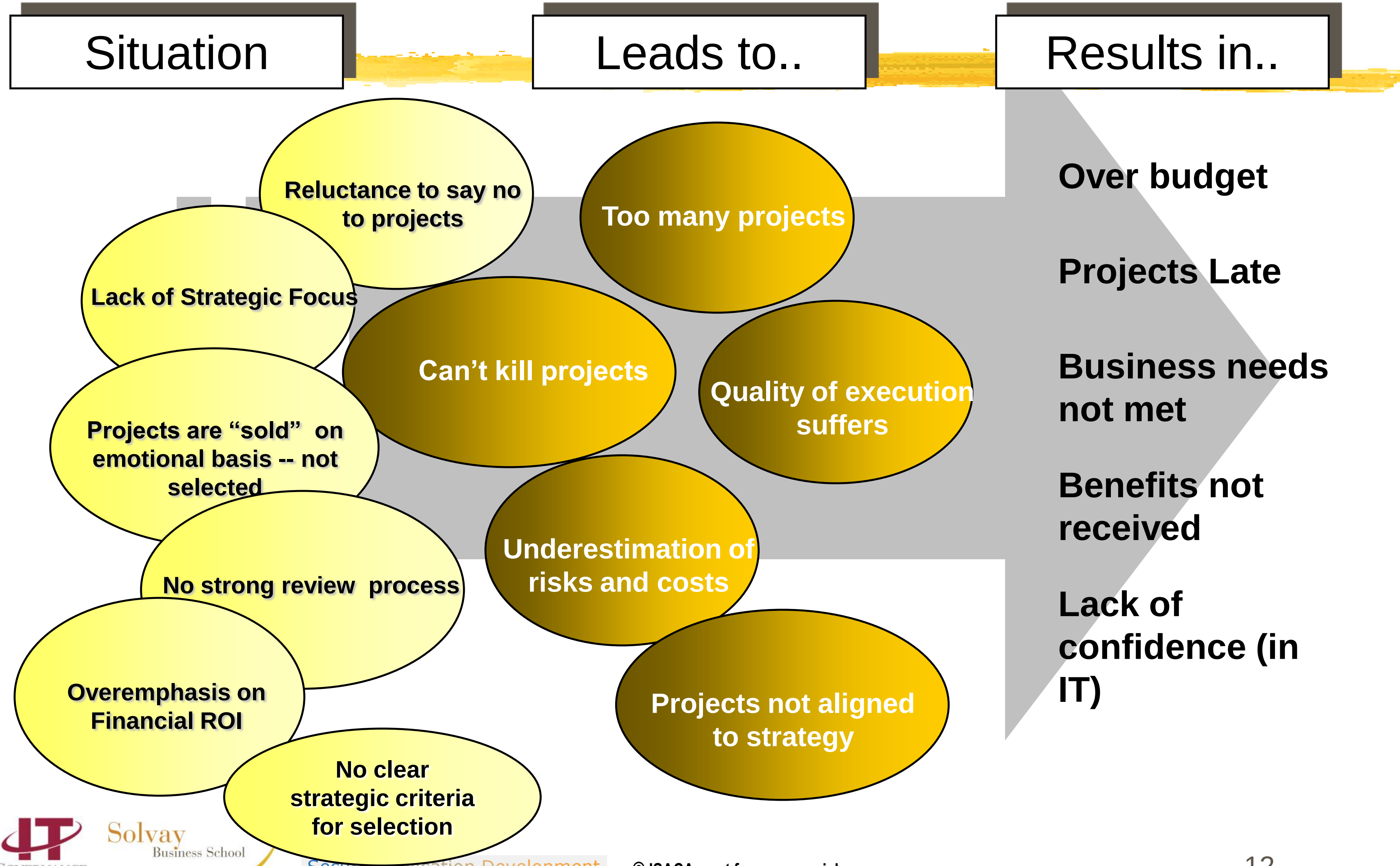
Only 40% of approved projects have valid (realistic) benefit statements

Less than 10% of organisations ensure benefits are realised post-project

Less than 5% of organisations hold project stakeholders responsible for benefit attainment

Source: Meta Group July 2004

Without Effective Governance…



Situation

Reluctance to say no to projects

Lack of Strategic Focus

Projects are “sold” on emotional basis -- not selected

No strong review process

Overemphasis on Financial ROI

No clear strategic criteria for selection

Leads to..

Too many projects

Can’t kill projects

Quality of execution suffers

Underestimation of risks and costs

Projects not aligned to strategy

Results in..

Over budget

Projects Late

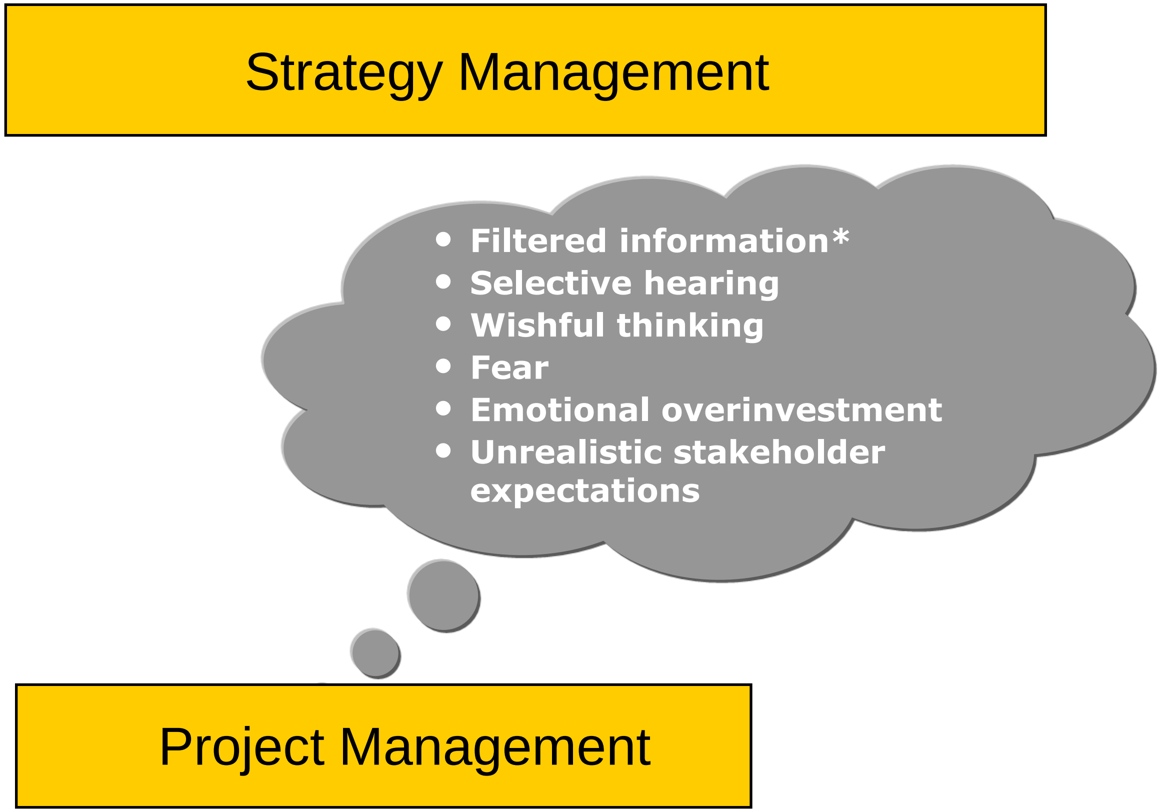
Business needs not met

Benefits not received

Lack of confidence (in IT)

Source: Fujitsu

The Big Disconnect



Strategy Management

- Filtered information*
- Selective hearing
- Wishful thinking
- Fear
- Emotional overinvestment
- Unrealistic stakeholder expectations

Project Management

*Source: Larry Bossidy, Ram Charan – Confronting Reality

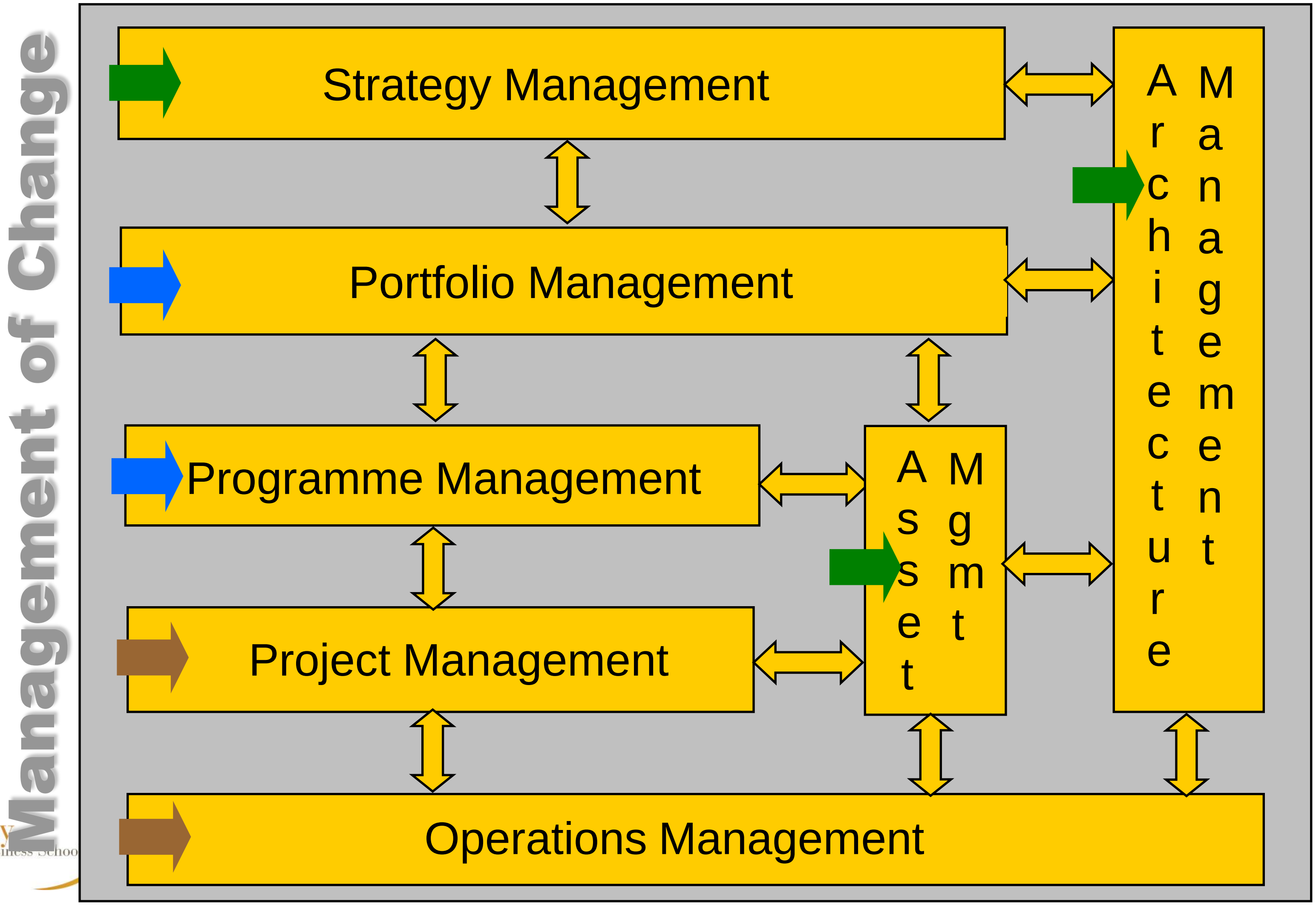
A Strategic Governance Framework

COBIT

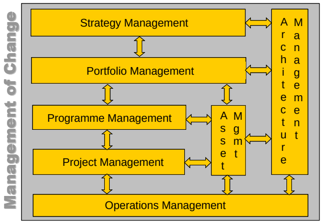
Val IT

Future

Total Benefits
–
Total Costs

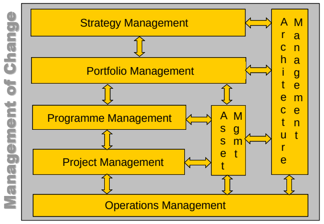


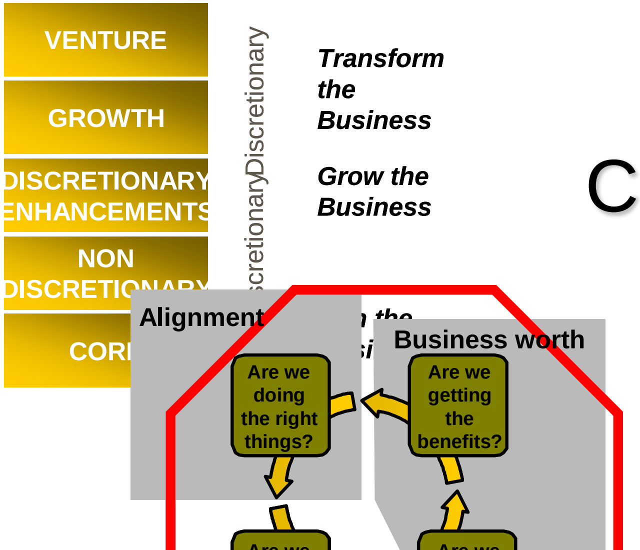
The Business Case

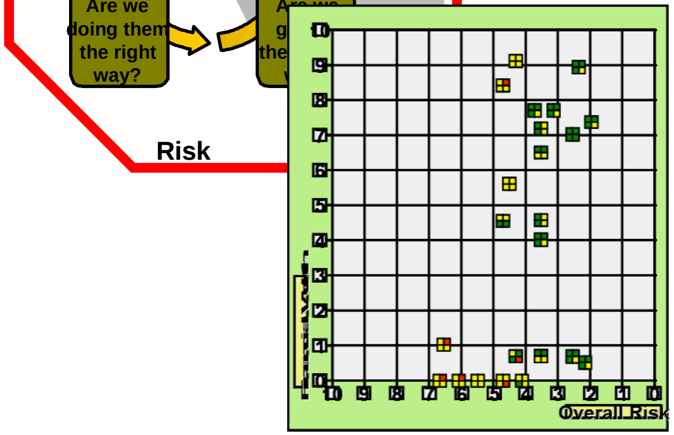


- Same level of focus and rigor on Business Benefits as on Costs
- Full scope of effort (BPPTO), including managing the process of change
- Value contribution represented by three measures
  - Business worth - $ & non-$ contribution
  - Alignment - fit with business goals
  - Risk - chance of not realising benefits
- An Operational Tool
  - Pick the winners
  - Manage the realisation of value

Portfolio management







Categorise

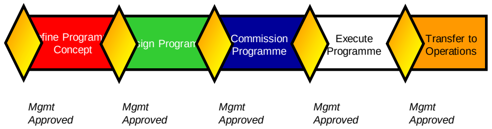
Transformational
Informational
Transactional
Infrastructure

Mandatory
Sustaining
Discretionary

Evaluate

Alignment
Business Worth
•Financial
•Non-Financial
Risk

Select & Monitor



Moving Forward – The business challenge

To realize the true potential of investments in IT-enabled change

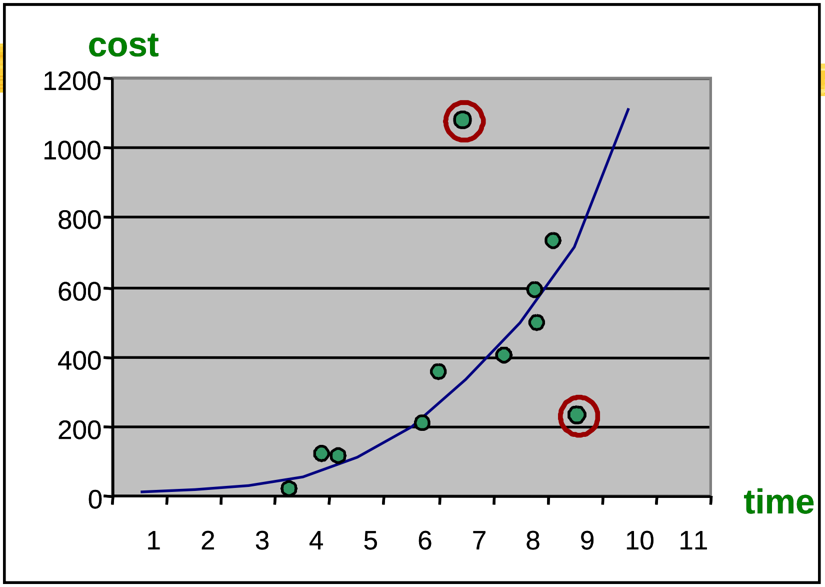
- Recognize we are implementing change not technology
- Continue to strengthen “core” IT competencies
- Take an integrated approach to IT and strategic governance
  - Establish portfolio management
  - Get business engagement and accountability
  - Manage the full economic life-cycle
  - Ensure clarity of the desired outcomes (strategy)
  - Enable understanding of the full scope of effort required (architecture)
  - Break down the “silos” and “connect the dots”
  - Sense and respond to changes and deviations along the way

This is a significant leadership opportunity for CIO's as a respected member of the CxO team!

CobiT - Research

Key is the delivery of IT Value

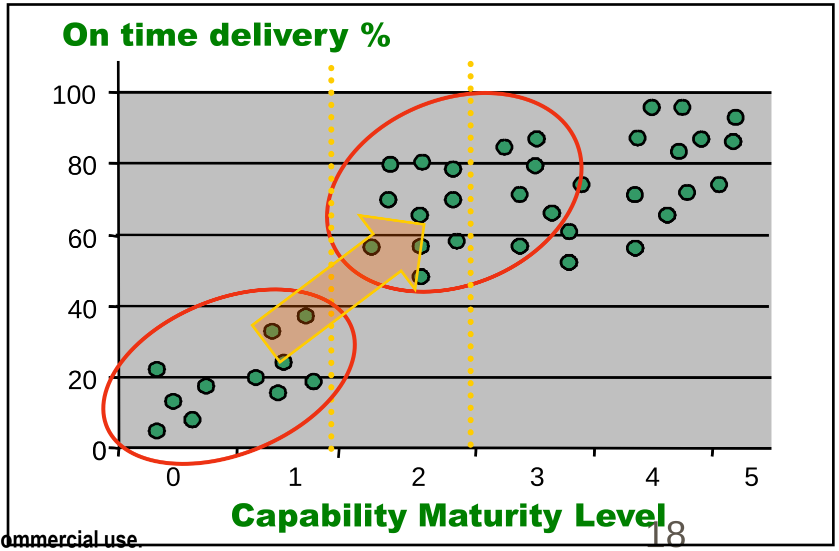
- Comparison of cost vs. duration
- Correlation of delivery vs. capability



COBIT Financials -- VALIT

- Research, develop and promote a free internationally accepted set of good practices for optimising the value of IT enabled change through sound investment decisions, value transparency, cost optimisation and risk management, based on CobiT, supported with empirical data

- Principles
- Definitions
- Management Processes
  - IT Value Governance
  - Portfolio Management
  - Investment Management
- Control Objectives <> COBIT

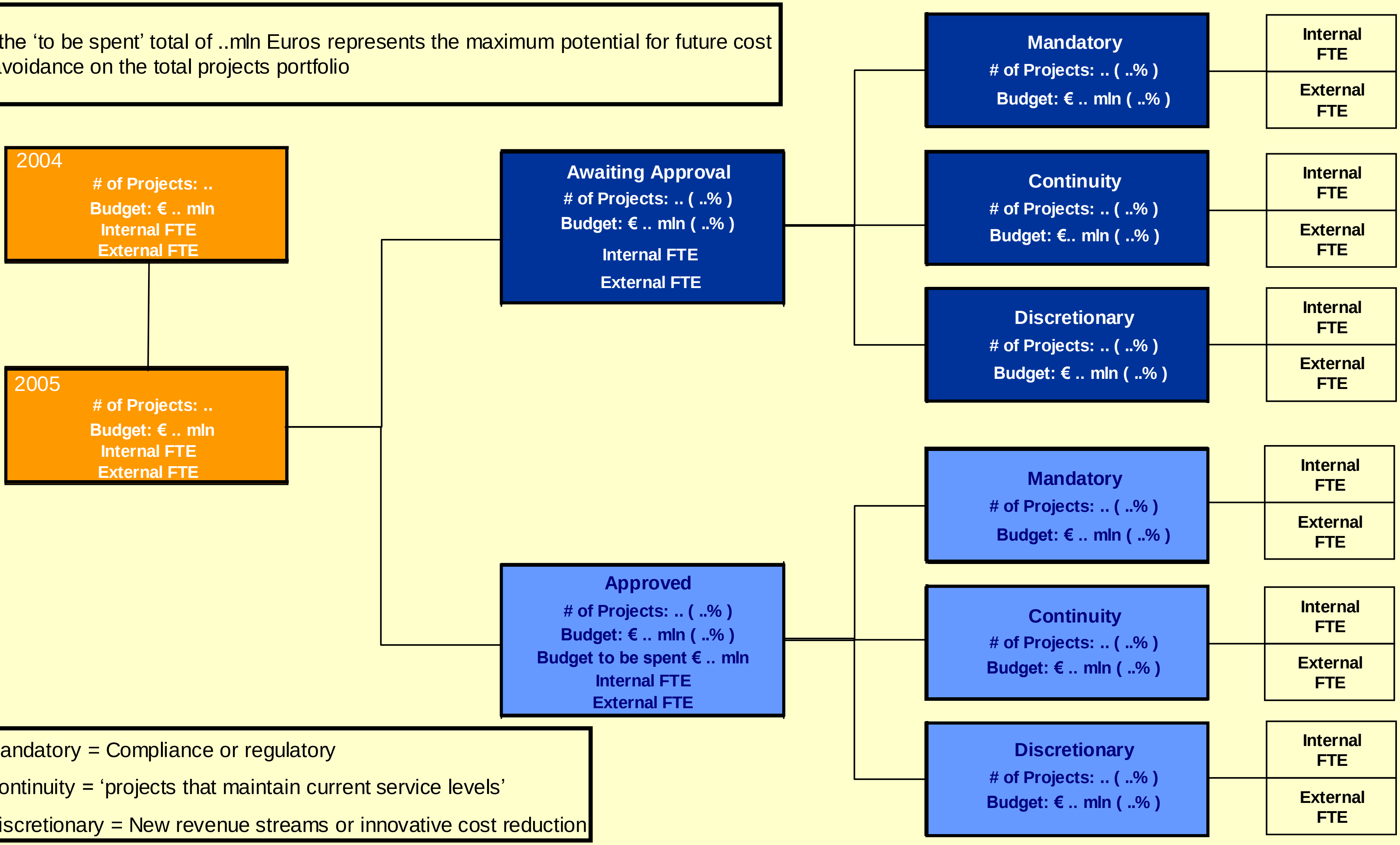


Value Governance Principles

- IT-enabled investments (programmes and projects) will
  - be managed as **a portfolio of investments**
  - include the **full scope of activities** (BPPTO) that are required to achieve business value
  - be governed through their **full (economic) life-cycle** from initial concept to the full realisation of value
- Value delivery practices will
  - define and monitor **key metrics** (lead and lag indicators) and will respond quickly to any changes or deviations
  - engage the business and assign **appropriate accountability** for the delivery of capabilities and realisation of business benefits
  - be **continually monitored, evaluated and improved**

Do we know the size and shape of our IT investment portfolio?

*the ‘to be spent’ total of ..mln Euros represents the maximum potential for future cost avoidance on the total projects portfolio



2004
# of Projects: ..
Budget: € .. mln
Internal FTE
External FTE

2005
# of Projects: ..
Budget: € .. mln
Internal FTE
External FTE

Awaiting Approval
# of Projects: .. (..%)
Budget: € .. mln (..%)
Internal FTE
External FTE

Mandatory
# of Projects: .. (..%)
Budget: € .. mln (..%)

Internal FTE
External FTE

Continuity
# of Projects: .. (..%)
Budget: €.. mln (..%)

Internal FTE
External FTE

Discretionary
# of Projects: .. (..%)
Budget: € .. mln (..%)

Internal FTE
External FTE

Approved
# of Projects: .. (..%)
Budget: € .. mln (..%)
Budget to be spent € .. mln
Internal FTE
External FTE

Mandatory
# of Projects: .. (..%)
Budget: € .. mln (..%)

Internal FTE
External FTE

Continuity
# of Projects: .. (..%)
Budget: € .. mln (..%)

Internal FTE
External FTE

Discretionary
# of Projects: .. (..%)
Budget: € .. mln (..%)

Internal FTE
External FTE

Mandatory = Compliance or regulatory

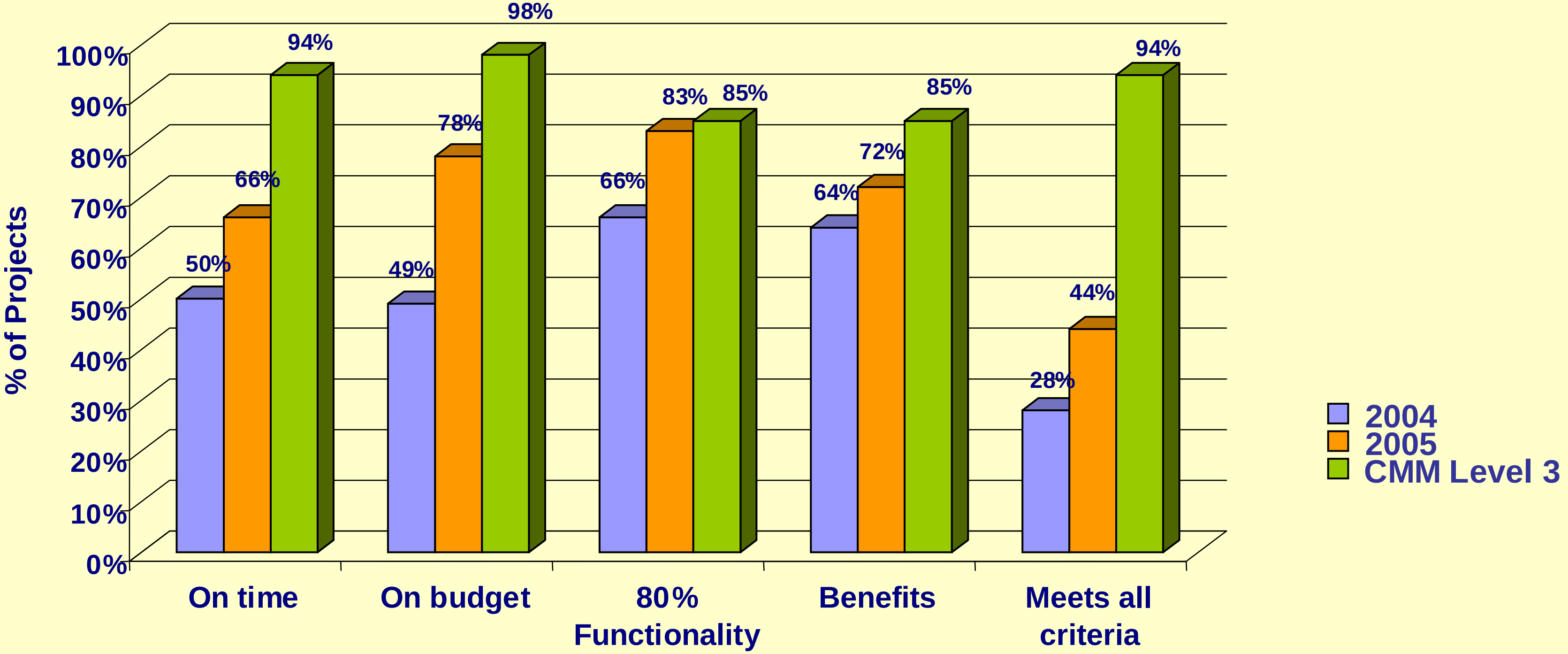
Continuity = ‘projects that maintain current service levels’

Discretionary = New revenue streams or innovative cost reduction

How good are we at delivering projects?

Solution Delivery Performance

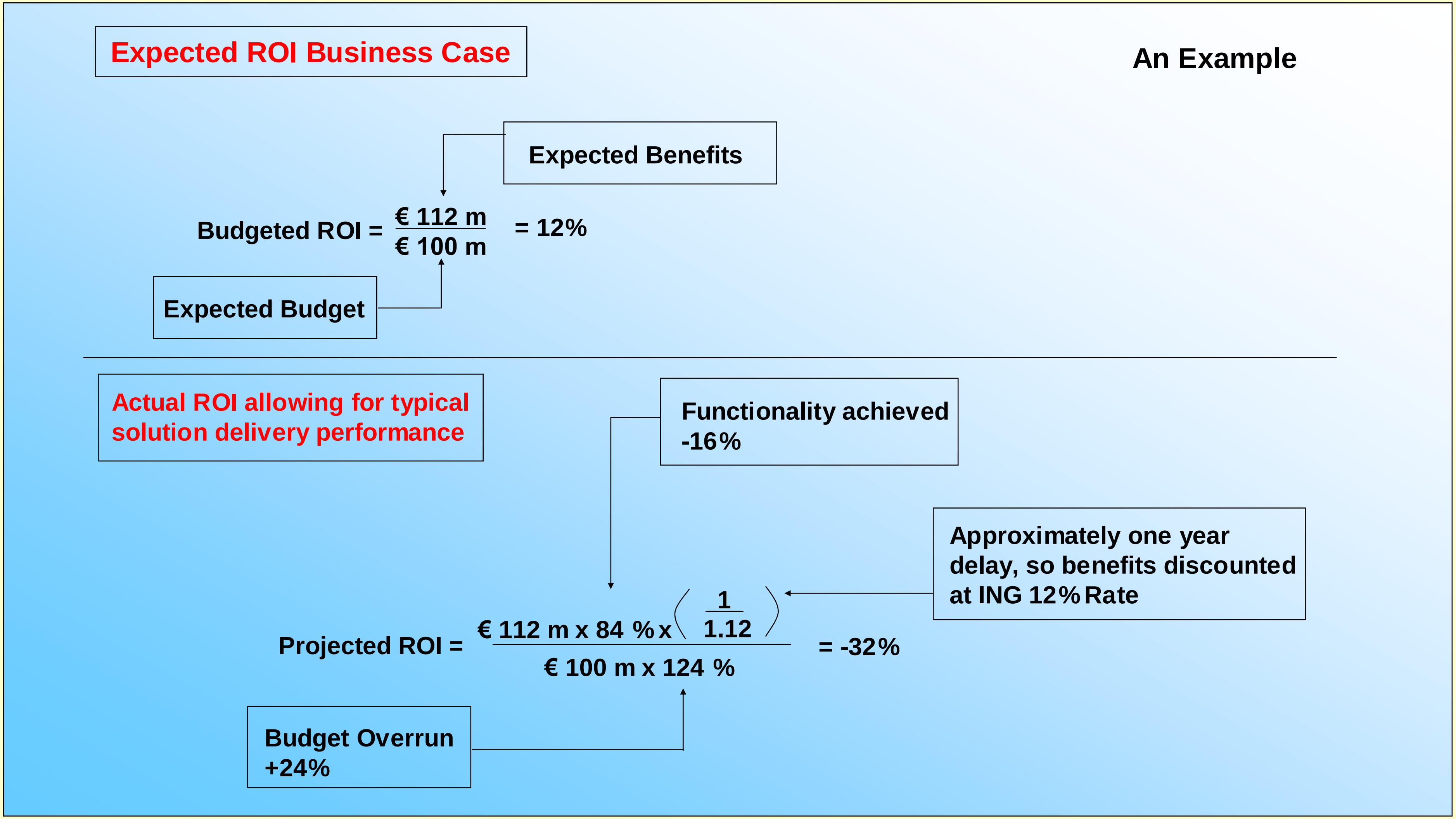
2005: 13 projects (€ 22 mln)
2004: 33 projects (€ 11 mln)



SeaQuation
Enterprise Portfolio Intelligence

ING

ROI impact of Solution Delivery Performance



Expected ROI Business Case

An Example

Expected Benefits

$$\text{Budgeted ROI} = \frac{\text{€ 112 m}}{\text{€ 100 m}} = 12\%$$

Expected Budget

Actual ROI allowing for typical solution delivery performance

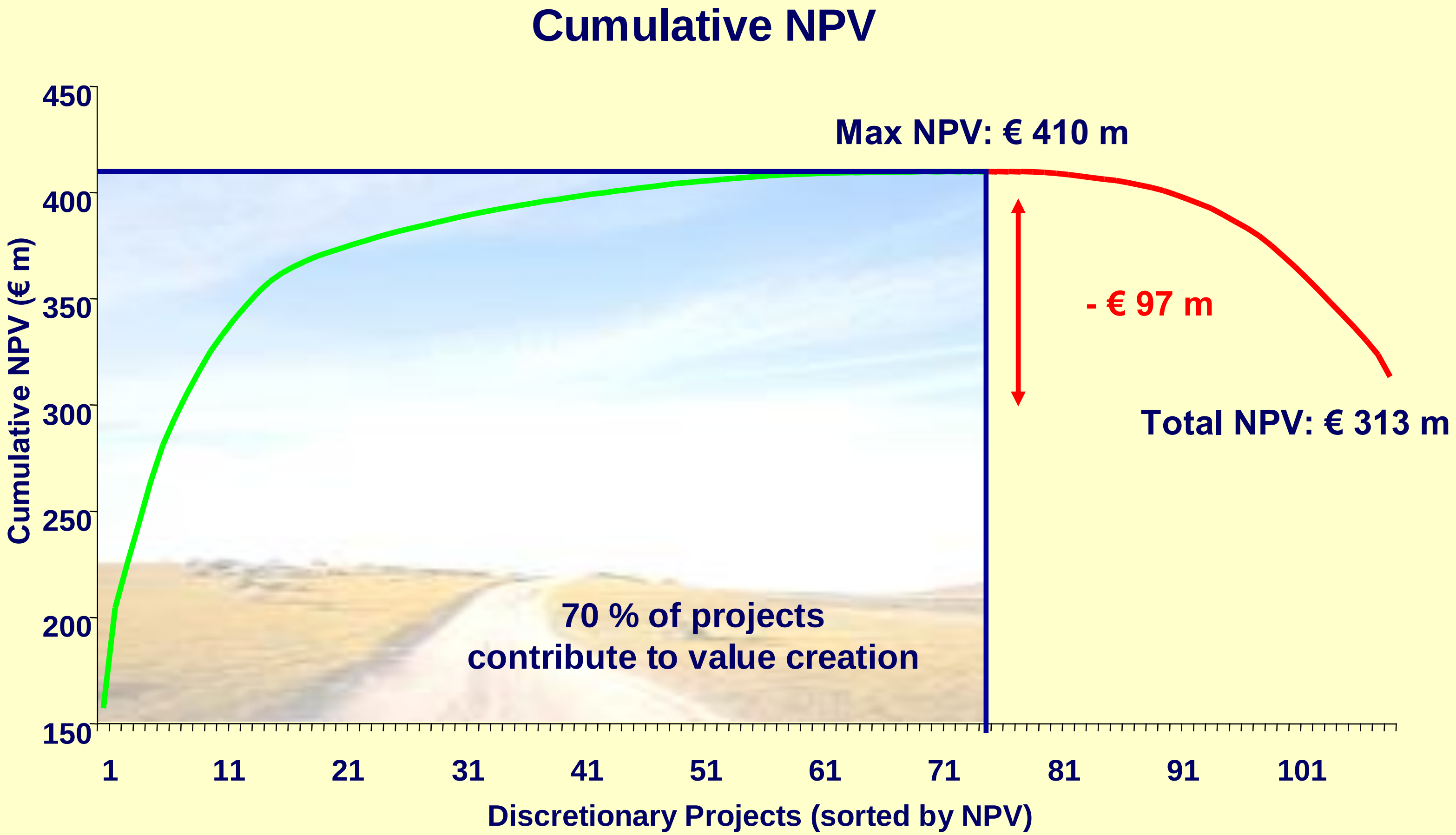
Functionality achieved -16%

Approximately one year delay, so benefits discounted at ING 12% Rate

$$\text{Projected ROI} = \frac{\text{€ 112 m x 84 \% x}\left(\frac{1}{1.12}\right)}{\text{€ 100 m x 124 \%}} = -32\%$$

Budget Overrun +24%

How do our projects contribute to value creation?

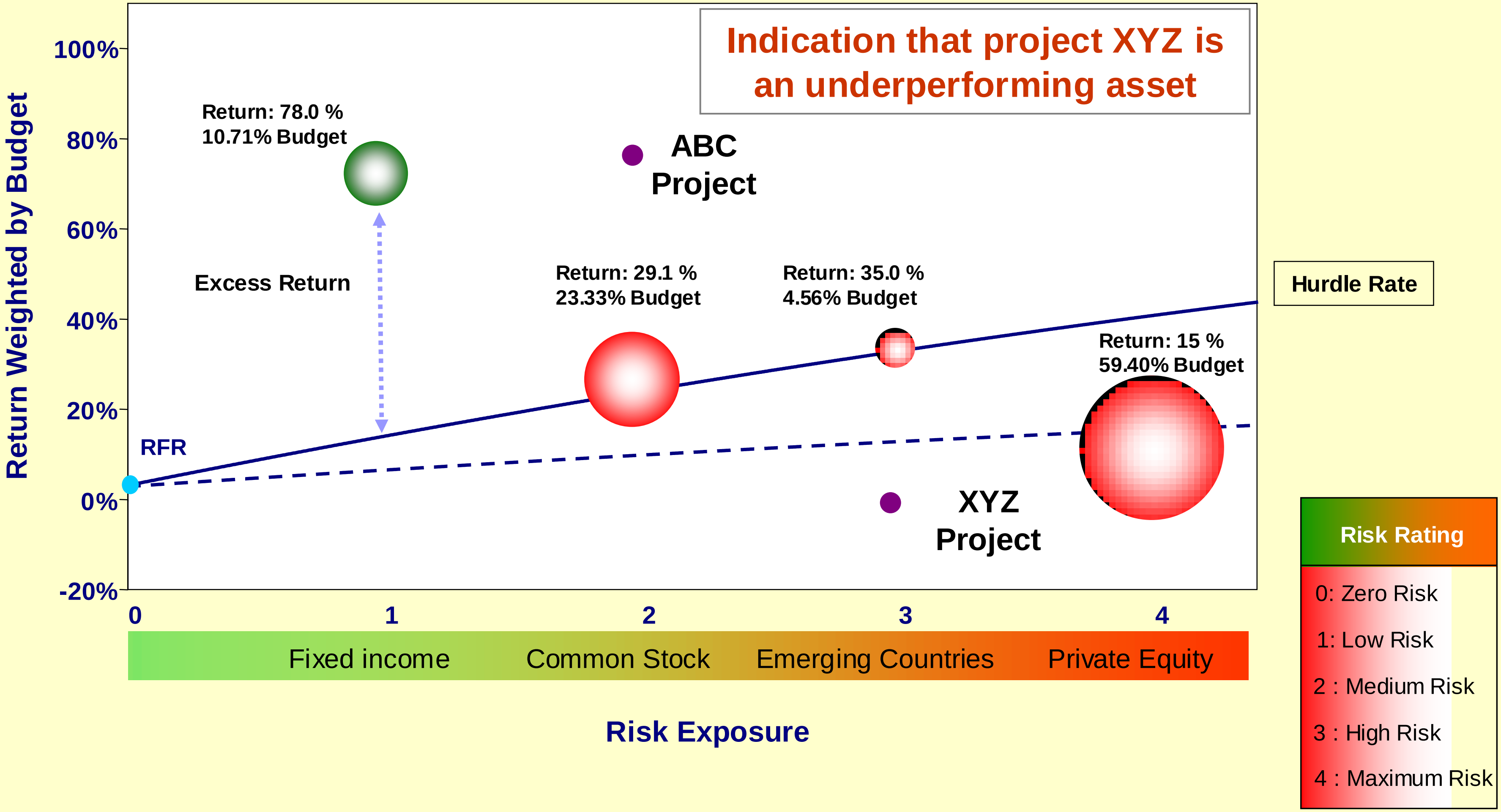


SeaQuation
Enterprise Portfolio Intelligence

ING

Are our projects outperforming the index?
Efficient Frontier Analysis

Risk - Return Analysis Based on Investment Budget


Indication that project XYZ is an underperforming asset

Risk Rating

- 0: Zero Risk
- 1: Low Risk
- 2 : Medium Risk
- 3 : High Risk
- 4 : Maximum Risk

Risk Governance principles

- Management assurance on the risk position
- Cascading risk assessment and ownership
- Risk action plan promoted and controlled by management
- Software related risk is a black box for management

Risk Management process

- Understand legal and regulatory requirements and business drivers and objectives
- Carry out a **risk and threat analysis**
- Define the company's acceptable risk level
- Outlined in security policies, standards, guidelines and procedures
- Identify the necessary countermeasures to **mitigate the calculated risks**
- Carry out cost/benefit analysis for these countermeasures and
- Report to senior management their findings

Risk and threat analysis :

- Identify company assets
- Assign a value to each asset
- Identify each asset's vulnerabilities and associated threats
- Calculate the risk for the identified assets

Mitigate the risk by :

- implementing the recommended countermeasure
- Accept the risk
- Avoid the risk
- Transfer the risk by purchasing insurance

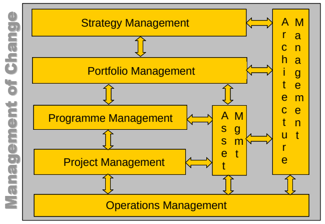
The IT Governance Institute (ITGI)

- The IT Governance Institute (ITGI) (*www.itgi.org*) was established in 1998 to advance international thinking and standards in directing and controlling an enterprise's information technology.
- Effective IT governance helps ensure that IT supports business goals, optimises business investment in IT, and appropriately manages IT-related risks and opportunities.
- The IT Governance Institute offers original research, electronic resources and case studies to assist enterprise leaders and boards of directors in their IT governance responsibilities.
- CobiT is the international de facto standard for IT governance.
- ValiT is a new publication designed to shed light on realising value from IT enabled business investments.

Suggested readings

- www.ITGI.org
- www.ISACA.org
- www.ISACA.be
- Board briefing on IT Governance, ITGI
- www.solvay.edu/ict
- www.solvay.edu/itgov

The Four “Ares”



Continually asking…

- ❑ Are we doing the right things?
- ❑ Are we doing them the right way?
- ❑ Are we getting them done well?
- ❑ Are we getting the benefits?

Conclusions

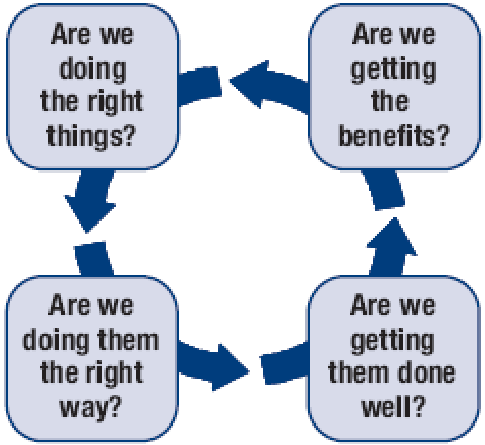
ValIT Project Status

DONE

- Framework
- Business Case
- Case Study

PLANNED

- Benchmarking
- Empirical Analysis
- Forum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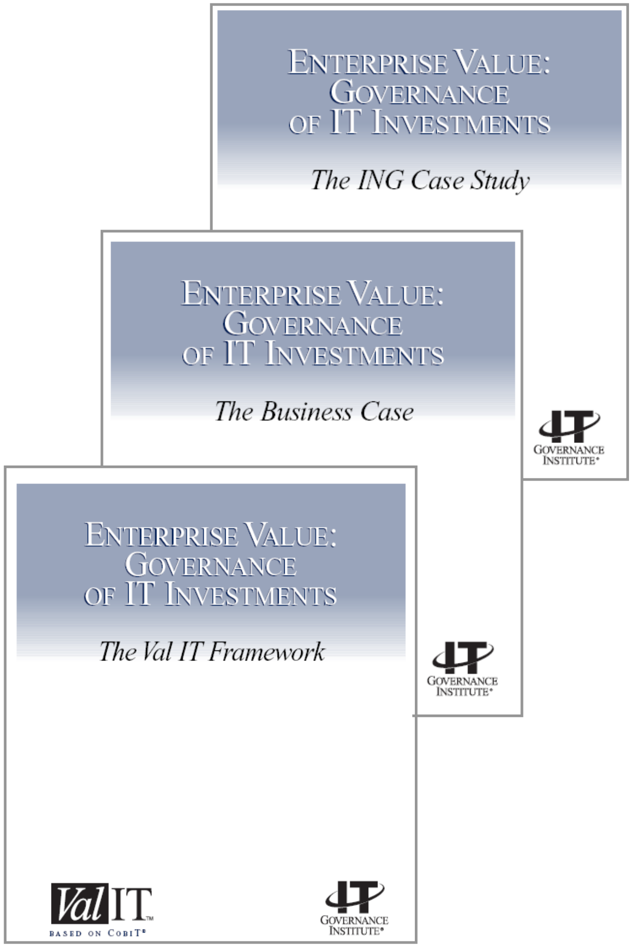

ENTERPRISE VALUE: GOVERNANCE OF IT INVESTMENTS

The ING Case Study

ENTERPRISE VALUE: GOVERNANCE OF IT INVESTMENTS

The Business Case

IT GOVERNANCE INSTITUTE

ENTERPRISE VALUE: GOVERNANCE OF IT INVESTMENTS

The Val IT Framework

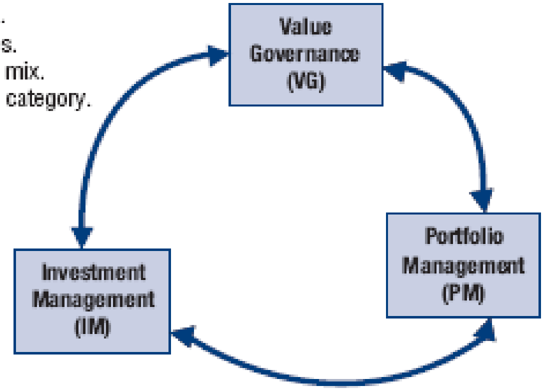
IT GOVERNANCE INSTITUTE

Val IT BASED ON COBIT

IT GOVERNANCE INSTITUTE

ValIT Framework - Processes

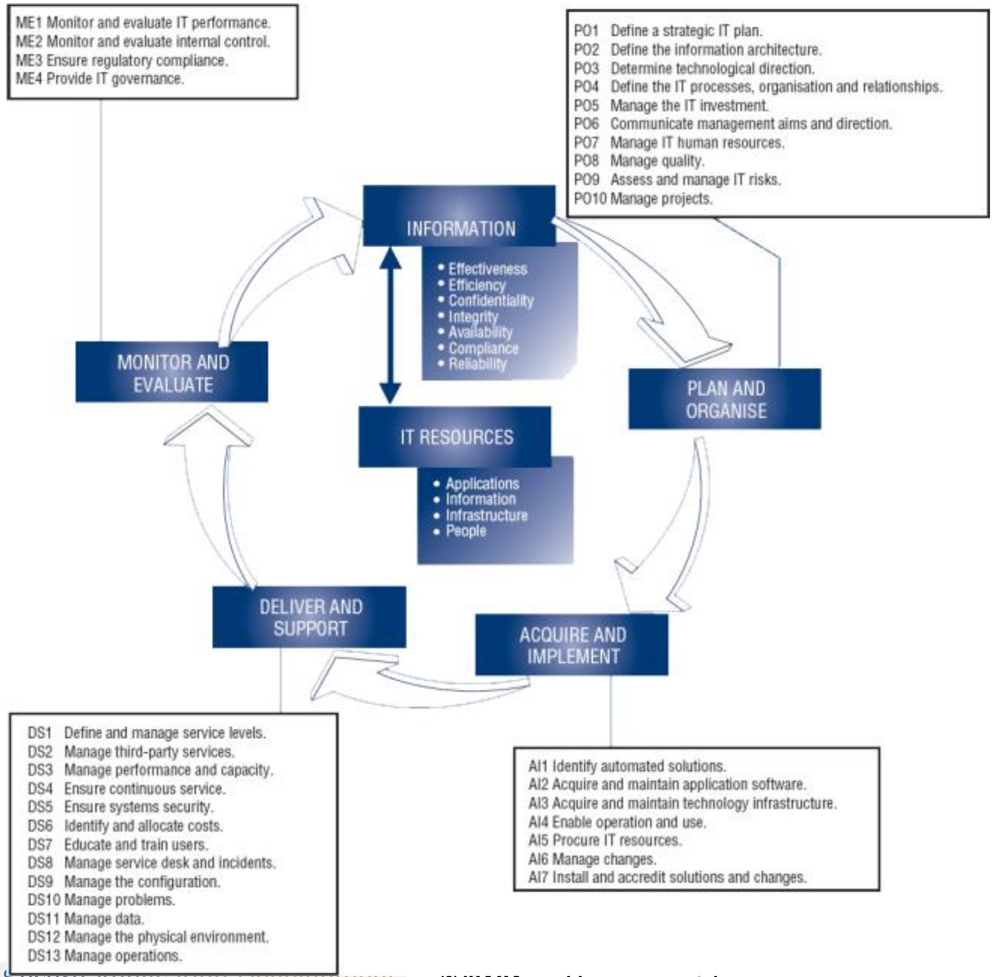
VG1 Ensure informed and committed leadership.
VG2 Define and implement processes.
VG3 Define roles and responsibilities.
VG4 Ensure appropriate and accepted accountability.
VG5 Define information requirements.
VG6 Establish reporting requirements.
VG7 Establish organisational structures.
VG8 Establish strategic direction.
VG9 Define investment categories.
VG10 Determine a target portfolio mix.
VG11 Define evaluation criteria by category.



PM1 Maintain a human resource inventory.
PM2 Identify resource requirements.
PM3 Perform a gap analysis.
PM4 Develop a resourcing plan.
PM5 Monitor resource requirements and utilisation.
PM6 Establish an investment threshold.
PM7 Evaluate the initial programme concept business case.
PM8 Evaluate and assign a relative score to the programme business case.
PM9 Create an overall portfolio view.
PM10 Make and communicate the investment decision.
PM11 Stage-gate (and fund) selected programmes.
PM12 Optimise portfolio performance.
PM13 Re-prioritise the portfolio.
PM14 Monitor and report on portfolio performance.

IM1 Develop a high-level definition of investment opportunity.
IM2 Develop an initial programme concept business case.
IM3 Develop a clear understanding of candidate programmes.
IM4 Perform alternatives analysis.
IM5 Develop a programme plan.
IM6 Develop a benefits realisation plan.
IM7 Identify full life cycle costs and benefits.
IM8 Develop a detailed programme business case.
IM9 Assign clear accountability and ownership.
IM10 Initiate, plan and launch the programme.
IM11 Manage the programme.
IM12 Manage/track benefits.
IM13 Update the business case.
IM14 Monitor and report on programme performance.
IM15 Retire the programme.

CobiT Framework - Processes



ME1 Monitor and evaluate IT performance.
ME2 Monitor and evaluate internal control.
ME3 Ensure regulatory compliance.
ME4 Provide IT governance.

PO1 Define a strategic IT plan.
PO2 Define the information architecture.
PO3 Determine technological direction.
PO4 Define the IT processes, organisation and relationships.
PO5 Manage the IT investment.
PO6 Communicate management aims and direction.
PO7 Manage IT human resources.
PO8 Manage quality.
PO9 Assess and manage IT risks.
PO10 Manage projects.

INFORMATION

- Effectiveness
- Efficiency
- Confidentiality
- Integrity
- Availability
- Compliance
- Reliability

MONITOR AND EVALUATE

PLAN AND ORGANISE

IT RESOURCES

- Applications
- Information
- Infrastructure
- People

DELIVER AND SUPPORT

ACQUIRE AND IMPLEMENT

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.
AI6 Manage changes.
AI7 Install and accredit solutions and changes.

ValIT Framework - Detail

Domain: Value Governance (VG)

Process Description	**Control Objectives**	**CobiT Cross Ref.**	**RACI Chart**		
			Exec	**Bus**	**IT**
•Establish governance, monitoring and control framework •Establish Strategic Direction •Establish portfolio characteristics	*VG1 Ensure informed and committed leadership* The reporting line of the CIO should be commensurate with the importance of IT within the enterprise. All executives should have a soundunderstanding of strategic IT issues such as dependence on IT, technology insights and capabilities, in order that there is a common and agreed understanding between the business and IT of the potential impact of IT on thebusiness strategy. The business and IT strategy should be integrated clearly linking enterprise goals and IT goals and should be broadly communicated.	Primary: PO1.2, PO4.4, ME3.1, ME3.2	A,R	C	C
	VG2 Define and implement processes Define, implement and consistently follow processes that providefor clear and active linkage between the enterprise strategy, the portfolio of IT-enabled investment programmes that execute the strategy, the individual investment programmes, and the business and IT projects that make up the programmes. The processes should include: planning and budgeting; prioritisation of planned and current work within the overall budget; resource allocation consis-tent with the priorities; stage-gating of investment programmes; monitoring and communicating performance; taking appropriate remedial action; and benefits management such that there is an optimal return on the portfolio and on all IT assets and services.	Primary: PO4.1, ME1.1, ME1.3, ME3.1 Secondary: PO5.2-5, PO10.2	A	R	C
	VG3 Define roles & responsibilities Define and communicate roles and responsibilities for all personnel in the enterprise in relation to the portfolio of IT-enabled business investment programmes, individual investment programmes and other IT assetsand services to allow sufficient authority to exercise the role andresponsibility assigned to them. These roles should include, but not necessarily be limited to: an investment decision body; programme sponsorship; programme management; project management; and associated support roles. Provide business with procedures, techniques, and tools enabling them to address their responsibilities. Establish and maintain an optimal coordination, communication and liaison structure between the ITfunction and other stakeholders inside and outside the enterprise.	Primary: PO4.6, PO4.15 Secondary: PO4.8, PO4.9	A	R	C
	VG4 Ensure appropriate and accepted accountability Establish a supporting and appropriate control framework that isconsistent with the overall enterprise control environment, and generally accepted control principles. The framework should provide for unambiguousaccountabilities and practices to avoid breakdown in internal control and oversight. Accountability for achieving the benefits, delivering required capabilities and controlling the costs should be clearly assigned and monitored.	Primary: PO1.1, ME3.1-3, ME3.3 Secondary: ME3.2	A	R	C

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