

# ENTERPRISE VALUE: GOVERNANCE OF IT INVESTMENTS

*The Val IT Framework*



BASED ON COBIT®



LEADING THE IT GOVERNANCE COMMUNITY

## **The IT Governance Institute®**

The IT Governance Institute (ITGI™) ([www.itgi.org](http://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.

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Fujitsu, whose generous sharing of its many years of experience with enterprise value management contributed significantly to the development of the Val IT management practices

ING and SeaQuation for sharing their experience and for their major contribution to the development of the Val IT management practices. ING, originally through its IT performance measurement and investment management workflow and since 2005 as SeaQuation, a wholly independent company, has done substantial investment research into IT and enterprise value.



The following organisations support Val IT as good practice for governance of IT-related business investments:



# THE VAL IT FRAMEWORK

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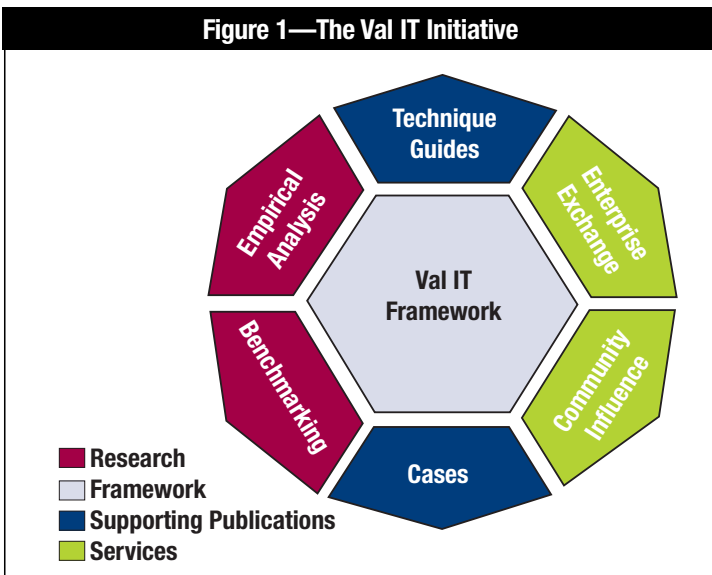
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## 1. THE VAL IT INITIATIVE

This document forms part of the Val IT™ initiative from the IT Governance Institute. The initiative is intended to respond to the need for organisations to optimise the realisation of value from IT investments.

The initiative has drawn on the collective experience of a team of practitioners and academics, existing and emerging practices and methodologies, and research to develop the Val IT framework. The work of the team has been reviewed and further enhanced by a broader group of global advisors, including the organisations that have chosen to endorse the work of the initiative.

As the initiative evolves, it will include a number of types of research activities, publications and supporting services grouped around the core Val IT framework described in this document, as illustrated in **figure 1**.



*Control Objectives for Information and related Technology (COBIT®)*,<sup>1</sup> also from ITGI, provides a comprehensive framework for the management and delivery of high-quality information technology-based services. It sets best practices for the *means* of contributing to the process of value creation.

Val IT now adds best practices for the *end*, providing the means to unambiguously measure, monitor and optimise the realisation of business value from investment in IT. Val IT complements COBIT from a business and financial perspective and will help all those with an interest in value delivery from IT.

This document, *Enterprise Value: Governance of IT Investments, The Val IT Framework*, is the foundation document in the Val IT series, and presents key management practices for three processes:

- Value governance
- Portfolio management
- Investment management

The guide and examples shown are applicable to all enterprises, addressing all of the aspects that should be contained in any IT investment appraisal. The guidance is not, however, intended to be prescriptive and should be tailored to fit the enterprise's management approach. Small and medium-sized enterprises can adapt the templates to be simpler to create and maintain, but in all cases the model adopted should cover business alignment, cost and benefits (financial and non-financial), and risks, as these play a major role in every investment analysis of every enterprise.

Other documents in the series are available from the ISACA Bookstore, [www.isaca.org/bookstore](http://www.isaca.org/bookstore).

<sup>1</sup> COBIT, from the IT Governance Institute, is an internationally accepted standard for IT management processes. The latest edition, COBIT® 4.0, was released in December 2005.

## 2. EXECUTIVE SUMMARY

Organisations continue to make significant IT-enabled business investments: investments in sustaining, growing or transforming the business that have a critical IT component. Experience and an increasing volume of empirical research demonstrate that such investments, when managed well within an effective governance framework, provide organisations with significant opportunities to create value.

Many organisations have created value through selection of the right investments and effective management of the investments from concept through implementation to realisation of the expected value. Examples include IBM, which reportedly was able to save more than US \$12 billion over two years by linking disparate pieces of its supply chain and thereby reducing inventory levels, and Southwest Airlines, which was able to reduce procurement costs and increase service levels through its supply chain transformation project.

However, without effective governance and good management, these investments provide an equally significant opportunity to erode or destroy value. Indeed, according to a 2002 Gartner publication,<sup>2</sup> 20 percent of all expenditure on IT is wasted, representing, on a global basis, annual value destruction of US \$600 billion.

A key lesson is that IT investment is no longer only about implementing IT solutions. It is increasingly about implementing IT-enabled change. This implies greater complexity and greater risk than historically has been the case. The management practices that have traditionally been applied are no longer sufficient. The message is clear: IT-enabled business investments can bring huge rewards, but only with the right governance and management processes and full commitment and engagement from all management levels. Up until now, however, management has not had a clear way to consider investments in IT or how to report on, or monitor, the potential success or failure of such investments.

In considering the lack of IT investment and management guidelines, the IT Governance Institute, working with other leading thinkers in the business and IT community, has undertaken the Val IT initiative. The goal of this initiative, which includes research, publications and supporting services, is to help management address this challenge, and to ensure that organisations realise optimal value from IT-enabled business investments, at an affordable cost, with a known and acceptable level of risk.

Val IT extends and complements COBIT, which provides a comprehensive control framework for IT governance. Specifically, **Val IT focuses on the investment decision (are we doing the right things?) and the realisation of benefits (are we getting the benefits?), while COBIT focuses on the execution (are we doing them the right way, and are we getting them done well?).**<sup>3</sup>

Effective governance starts with leadership, commitment and support from the top. However, such leadership, whilst critical, is not enough. Val IT supports the leadership by providing a comprehensive framework, with a full complement of supporting processes and other guidance materials, developed to assist the board and executive management in understanding and carrying out their roles related to IT-enabled business investments.

Val IT, supported by the control framework in COBIT, provides a one-stop, credible and codified source to support the creation of real business value from IT-enabled investments. Val IT has relevance to all management levels across both the business and IT, from the CEO and the C-suite to those directly involved in the selection, procurement, development, implementation, deployment and benefits realisation processes. Val IT contains essential guidance for all.

<sup>2</sup> Gartner, 'The Elusive Business Value of IT', August 2002

<sup>3</sup> Based on the 'Four Ares' as described by John Thorp in his book *The Information Paradox*, written jointly with Fujitsu, first published in 1998 and revised in 2003

In the near term, the Val IT material will be expanded with the results of a number of research initiatives that are currently underway related to leading practices and risk drivers for value management of IT-enabled business investments. While the initial focus of Val IT is on new IT-enabled investments, subsequent releases will expand the scope to include all IT services and assets, including legacy systems and infrastructure. In the longer term, the intention is to establish a non-commercial service offering to provide benchmarking, performance measurement and performance attribution services and to enable enterprises to exchange experiences on best practices for value management of IT-enabled business investments.

It is the responsibility of the board, the CEO and all executives to ensure that shareholder and stakeholder returns are optimised through judicious use of the resources and opportunities available. Proper consideration and implementation of the best practices contained within COBIT, now complemented by the Val IT framework, will make a significant contribution to the achievement of real business value from today's significant investments in IT-enabled change by:

- Increasing the understanding and transparency of costs, risks and benefits
- Increasing the probability of selecting those investments with the highest potential return
- Increasing the likelihood of success of executing selected investments such that they realise or exceed the expected return

## 3. VAL IT INTRODUCTION

### Goal of Val IT

The goal of the Val IT initiative, which includes research, publications and supporting services, is to help management ensure that organisations realise optimal value from IT-enabled business investments at an affordable cost with a known and acceptable level of risk. Val IT provides guidelines, processes and supporting practices to assist the board and executive management in understanding and carrying out their roles related to such investments.

While applicable to all investment decisions, Val IT is primarily targeted at IT-enabled business investments: significant business investments in sustaining, growing or transforming the business with a critical IT component, where IT is a means to an end—the end being to contribute to the process of value creation in the enterprise. The end and the means are represented by the ‘Four Ares’ as illustrated in figure 2.

Specifically, Val IT focuses on the investment decision (are we doing the right things?) and the realisation of benefits (are we getting the benefits?). COBIT, the generally accepted international standard for control over IT, specifically focuses on the execution (are we doing them the right way and are we getting them done well?).

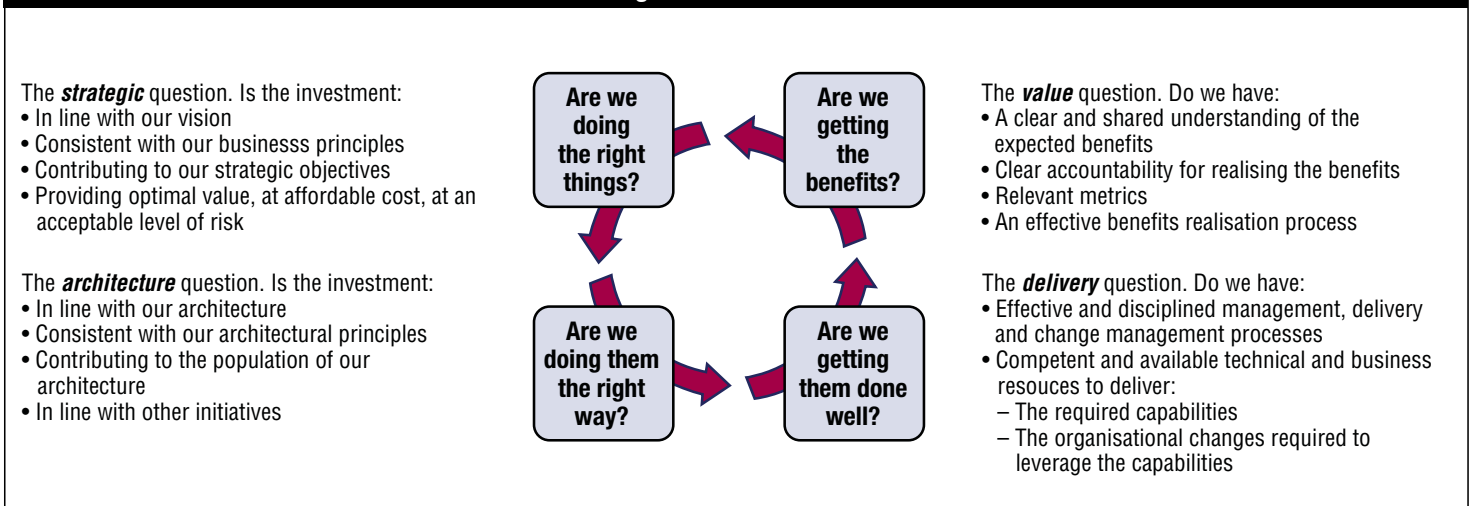
Effective application of the principles, processes and practices contained in Val IT will enable organisations to:

- Increase the understanding and transparency of cost, risks and benefits resulting in much better informed management decisions
- Increase the probability of selecting investments that have the potential to generate the highest return
- Increase the likelihood of success of executing selected investments such that they achieve or exceed their potential return
- Reduce costs by not doing things they should not be doing and taking early corrective action on or terminating investments that are not delivering to their expected potential
- Reduce the risk of failure, especially high-impact failure
- Reduce the surprises relative to IT cost and delivery, and in so doing increase business value, reduce unnecessary costs and increase the overall level of confidence in IT

### The Need for Val IT

The level of investment in IT is significant and continues to increase. Few organisations could operate for long today without their IT infrastructure. Yet, while there are many examples of organisations generating value from investing in IT, at the same time, many executives are questioning whether the business value realised is commensurate with the level of investment. This questioning is based on specific

Figure 2—‘Four Ares’



organisational experience and more broadly based industry experience, including:

- A 2002 Gartner publication that claimed that 20 percent of all expenditure on IT is wasted, representing, on a global basis, annual value destruction of US \$600 billion
- A 2004 IBM survey of *Fortune* 1000 CIOs,<sup>4</sup> in which CIOs reported that, on average, 40 percent of all IT spending brought no return to their organisations
- A 2004 Standish report,<sup>5</sup> which found that only 29 percent of all IT projects succeeded while the remainder were either challenged or failed

It is no surprise, then, that there is an increasing demand from boards and executive management for generally accepted guidelines for decision making and benefit realisation related to IT-enabled business investments.

IT-enabled business investments, when managed well within an effective governance framework, provide organisations with significant opportunities to create value. Without effective governance and good management, they provide an equally significant opportunity to destroy value. Horror stories abound around the value destruction suffered by major organisations through the failed implementation of IT-enabled business investments. Nike reportedly lost more than US \$200 million through difficulties experienced in implementing its supply chain software,<sup>6</sup> and failures in IT-enabled logistics systems at MFI and Sainsbury in the UK led to multimillion-pound write-offs, profit warnings and erosion of share price.<sup>7</sup> Other organisations reported to have suffered in a similar fashion include Hershey,<sup>8</sup> AMR and National Australia Bank as well as public sector entities including the UK Passport Office, Child Support Agency and the US Internal Revenue Service.

On the other hand, many organisations have been able to demonstrate success, including:

- Southwest Airlines, whose supply chain transformation improved the forecast of demand, reduced procurement costs and increased service levels while costs fell
- IBM, which saved US \$12 billion over two years through linking up disparate pieces of its supply chain, thereby reducing inventory levels

- Great West Life, where extensive IT synergies formed a significant part of the financial success of its recent acquisitions, as expressed by its market value
- The UK Royal Mail, where new business and accounting IT systems helped turn daily losses of £1 million into earnings of £2 million and saved tens of millions of pounds, whilst battling a potential price cap on postage costs

The message is clear. IT-enabled business investments can bring huge benefits. Indeed, a study carried out within global financial services group ING<sup>9</sup> indicates that IT-enabled business investments offer the opportunity to deliver greater returns than almost any other conventional investment. This research, carried out in mid-2004, indicated that, in comparison to more traditional investments such as commercial real estate, publicly traded equities and sovereign bonds, the return on a well-balanced portfolio of IT-enabled business investments can be expected to be significantly higher. However, the result of getting it wrong can be significant, including catastrophic financial losses and competitive disadvantage.

The preliminary results of a 2005 global survey of more than 600 executives (consisting of approximately one-quarter CEOs and three-quarters CIOs), performed by PricewaterhouseCoopers Belgium for the IT Governance Institute, confirm that the topic of realising value from IT-enabled business investments is high on executives' agendas and they are responding with a demand for improved governance (**figure 3**).

### A New Perspective

A key lesson to be learned from the experiences mentioned earlier and many others is that IT investment is no longer about implementing IT solutions. It is about implementing IT-enabled change. Business value is generated by what organisations do with IT rather than by the technology itself. This implies greater complexity and greater risk than traditionally has been the case. The management practices that traditionally have been applied are no longer sufficient. There is a clear incentive for management to ensure that the right governance and management processes are in place to

<sup>4</sup> IBM Strategy and Change, survey of *Fortune* 1000 CIOs as presented to SHARE in New York by Doug Watters, 17 August 2004

<sup>5</sup> The Standish Group International 2004 Third Quarter CHAOS Report

<sup>6</sup> Songini, Marc L.; 'Nike Blames financial snag on supply-chain project', *Computerworld*, 27 February 2001

<sup>7</sup> *The Times*, 'MFI Mulls Supply Chain Suit', and business editor's commentary, 22 July 2005

<sup>8</sup> *The Wall Street Journal*, 'Hershey's Biggest Dud Is Its New Computer System', 29 October 1999

<sup>9</sup> ING Investor Relations, 'IT Investment and Shareholder Return', *ING Shareholder's Bulletin*, volume 12, number 2, May 2004, ING Group, The Netherlands, [www.seaquation.com](http://www.seaquation.com)

# THE VAL IT FRAMEWORK

## Figure 3—ITGI Research on Executives' View of IT Investments

- The perceived low return from high-cost IT investments, and an inadequate view of IT's performance are two of the four top problems they face.
- More than 30 percent claim a negative return from IT investments targeting efficiency gains.
- Forty percent do not have good alignment between IT plans and business strategy.
- The number of enterprises that consider active management of the return on IT investments a good practice, or that have actually implemented the practice, has doubled in two years, from 28 percent to 58 percent.

optimise the creation of value. As was recently pointed out in *Harvard Business Review*, 'a lack of board oversight for IT activities is dangerous; it puts the firm at risk in the same way that failing to audit its books would'.<sup>10</sup> Ensuring that value is obtained from IT-enabled investments is an essential component of enterprise governance. It involves selecting investments wisely and managing them as an asset or service throughout their life cycle.

COBIT provides a comprehensive framework for the management and delivery of high-quality information technology-based services. It sets best practices for the *means* of contributing to the process of value creation. Val IT now adds best practices for the *end*, thereby providing the means to unambiguously measure, monitor and optimise the returns, both financial and non-financial, from investment in IT. In a preliminary analysis<sup>11</sup> undertaken for ITGI, SeaQuation found that the intelligent application of processes as defined by COBIT and Val IT can help enterprises significantly improve the return on their investments. It is not enough, however, to simply have the processes in place. There is empirical evidence that it is increasing process maturity, as defined by the Capability Maturity Model (CMM),<sup>12</sup> in combination with economies of scale and scope, that has the most significant impact on value creation in terms of total shareholders' return, capital efficiency or return on assets. These findings are further supported by a recent McKinsey study<sup>13</sup> that found that IT investments have little impact unless they are accompanied

by first-rate management practices, and those companies that combined good management practices with IT investments performed best of all.

Val IT complements COBIT from a business and financial perspective and will help all those with an interest in value delivery from IT. It has relevance to all management levels across the business and IT, from the CEO and the C-suite to those directly involved in the selection, procurement, development, implementation, deployment and benefits realisation processes. Val IT contains essential guidance for all.

## Why Is Val IT Relevant to IT Governance?

ITGI regards value delivery as one of the five focus areas of IT governance, alongside strategic alignment, performance measurement, resource management and risk management. Indeed, unless success is achieved in the other four focus areas, achieving value delivery will remain elusive.

A recent CISR study and a number of other related projects<sup>14</sup> claim that: 'Effective IT Governance is the single most important predictor of the value an organization generates from IT' and 'firms with focused strategies and above average IT Governance had more than 20% higher profits than other firms following the same strategies'. Val IT, together with COBIT, now provides a one-stop, credible and codified source, providing the overall governance framework and supporting processes to achieve effective governance. Further, in doing so, Val IT fosters a close partnership between IT and the business, with clear and unambiguous accountabilities and measurements—another key requirement for effective governance.

Effective governance starts with leadership, commitment and support from the top. However, such leadership, whilst critical, is not enough. Val IT supports the leadership by providing clear and consistently applied processes; a clear understanding of executive, business and IT roles and responsibilities; relevant information; and appropriate organisational structures.

<sup>10</sup> Nolan, Richard; F. Warren McFarlan; 'Information Technology and the Board of Directors', *Harvard Business Review*, USA, October 2005

<sup>11</sup> SeaQuation Investment Research; *IT and Enterprise Value—Empirical Evidence for Val IT*, September 2005. The ITGI pilot study is based on a sample of the current SeaQuation knowledge bases. The follow-up study will leverage the complete risk and return data repository of more than 2,500 investment projects, representing about US \$15 billion, to identify the value drivers to optimise solutions delivery and risk-adjusted return of IT-enabled business investments.

<sup>12</sup> A future Val IT technique guide, an implementation guide, will include guidance on getting started on and moving up the CMM scale.

<sup>13</sup> McKinsey & Co., 'Does IT improve performance?' *The McKinsey Quarterly*, June 2005

<sup>14</sup> As documented by Peter Weill and Jeanne W. Ross in their book *IT Governance, How Top Performers Manage IT Decisions for Superior Results*

To maximise the return on IT-enabled investments, a sound governance framework; attention to portfolio management<sup>15</sup> and programme management; the preparation of formalised, consistent business cases;<sup>16</sup> use of hurdle rates; and application of relevant metrics are essential.

**Figure 4** illustrates some of the governance questions that organisations should be asking and the type of information that is required to answer them effectively.

To be in a position to have the information necessary to answer these questions and act upon the answers, the enterprise needs to establish processes, practices and metrics to support consistent and transparent decision making. IT-enabled business investments should be treated like any other investment decision, where the investor balances opportunity, return and risk while looking for assurance that the benefits will be delivered.

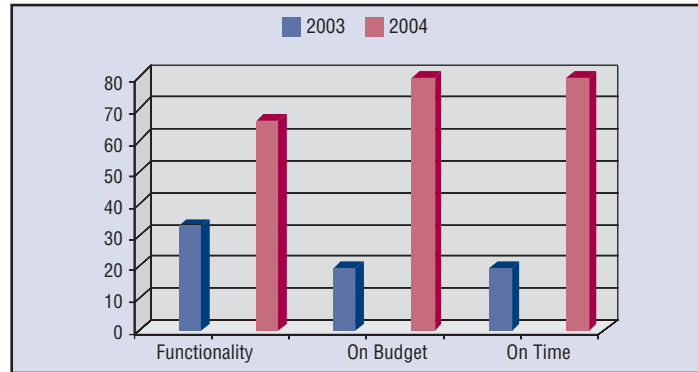
The key challenge is to ensure that the expected and risk-adjusted benefits respond to the goals set for the investment. Doing this effectively and efficiently on a continuous basis requires a culture change in many organisations.

## Conclusion

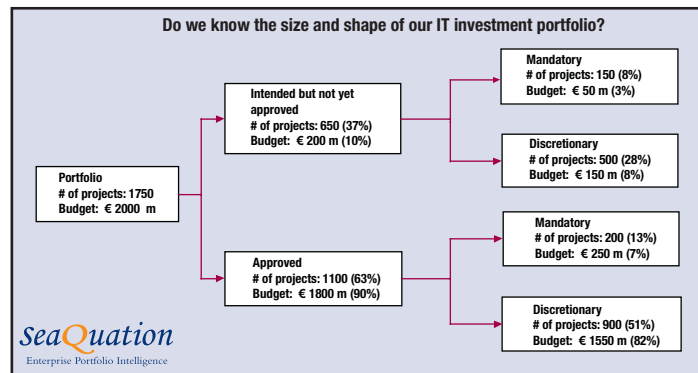
It is the responsibility of the board, the CEO and all C-suite executives to ensure that shareholder and stakeholder returns are optimised through judicious use of the resources and opportunities available. This responsibility includes IT-enabled business investments and resources where costs, the visibility of success or failure, and the risks of value destruction are high, but the potential for significant value creation is apparent. Balancing risk and return has to be prominent on the agenda. The intelligent and disciplined implementation of the best practices contained within COBIT and Val IT will make a significant contribution to achieving success.<sup>17</sup>

**Figure 4—Governance Questions**

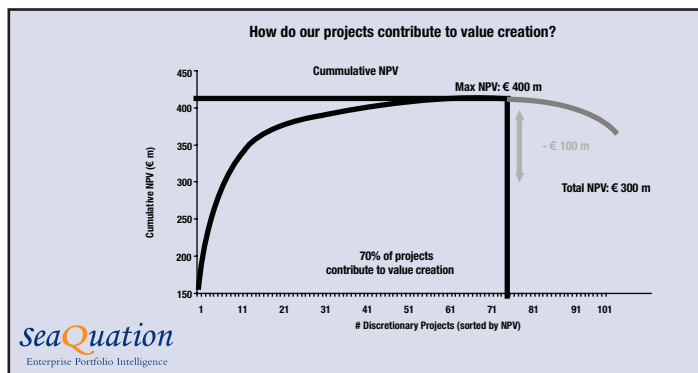
Given that billions of US dollars are wasted on IT investments and given that between 35 and 45 percent of IT projects fail, would it not be good to know how many projects are on time, on budget and provide the functionality expected?



Would it not be good to know how many projects we have and why we do them? Should we not be concerned about how much they represent in investment? Should we not be asking questions about the management capability and skills necessary for all these projects and investments?



Would it not be good to know how much benefit these investments return so we can ask questions about the key projects that really drive our profitability and those that endanger it?



Figures are illustrative examples only and do not disclose ING information.

<sup>15</sup> For a case study on the effective use of portfolio management, see the companion document in the Val IT series, *Enterprise Value: Governance of IT Investments, The ING Case Study*.  
<sup>16</sup> For more information on how to create and effectively use the business case, see the companion document in the Val IT series, *Enterprise Value: Governance of IT Investments, The Business Case*.  
<sup>17</sup> As described in chapter 4 under 'Future Developments', a future Val IT technique guide will provide more detailed guidance related to implementation of the Val IT processes and supporting key management practices.

## 4. THE VAL IT FRAMEWORK

Value is not a simple concept. Value is complex, context-specific and dynamic. Value is indeed ‘in the eye of the beholder’. The nature of value differs for different types of organisations. For commercial or for-profit organisations, value tends to be viewed primarily in financial terms and can be simply the increase in profit to the organisation that arises from the investment. For not-for-profit organisations, including the public sector, value is more complex and is often non-financial in nature. It should be the improvement in the organisation’s performance against business metrics (which measure what those whom the organisation exists to serve receive) and/or the net increase in income that is available to provide those services, either or both of which arise from the investment.

**Figure 5** defines a number of terms that are used in the Val IT framework. While organisations may choose to use different terms, or give different meanings to the terms, it is important for the reader to understand how the terms are used in this publication.

### Figure 5—Definition of Key Terms Used in Val IT

**Value**—The end business outcome(s) expected from an IT-enabled business investment where such outcomes may be financial, non-financial or a combination of the two

**Portfolio**—A grouping of programmes, projects, services or assets selected, managed and monitored to optimise business return (Note that the initial focus of Val IT is primarily interested in a portfolio of programmes. COBIT is interested in portfolios of projects, services or assets.)

**Programme**—A structured group of interdependent projects that are both necessary and sufficient to achieve the business outcome and deliver value. These projects could include, but are not limited to, changes to the nature of the business, business processes, the work performed by people, as well as the competencies required to carry out the work, enabling technology and organisational structure. The investment programme is the primary unit of investment within Val IT.

**Project**—A structured set of activities concerned with delivering to the enterprise a defined capability (that is necessary but NOT sufficient to achieve a required business outcome) based on an agreed schedule and budget

**Implement**—Includes the full economic life cycle of the investment programme through retirement, i.e., when the full expected value of the investment is realised, as much value as is deemed possible has been realised, or it is determined that the expected value cannot be realised and the programme is terminated

Val IT consists of a set of guiding principles, and a number of processes conforming to those principles, which are further defined as a suite of key management practices. The relationship between these, and the linkage to COBIT, is illustrated in **figure 6**.

### Figure 6—Relationship Amongst Val IT Principles, Processes and Practices, and COBIT

#### Val IT supports the business goal of

Realising optimal value from IT-enabled business investments at an affordable cost with an acceptable level of risk

#### and is guided by

A set of principles applied in value management processes

#### that are enabled by

Key management practices cross-referenced to COBIT key controls

#### and are measured by

Key outcome and performance metrics

### Val IT Principles

The Val IT principles are:

- IT-enabled investments will be managed as a **portfolio of investments**.
- IT-enabled investments will include the **full scope of activities** that are required to achieve business value.
- IT-enabled investments will be managed through their **full economic life cycle**.
- Value delivery practices will recognise that there are **different categories of investments** that will be evaluated and managed differently.
- Value delivery practices will define and monitor **key metrics** and will respond quickly to any changes or deviations.
- Value delivery practices will engage all stakeholders and assign **appropriate accountability** for the delivery of capabilities and the realisation of business benefits.
- Value delivery practices will be **continually monitored, evaluated and improved**.

## Val IT Processes

To obtain return on investment, the Val IT principles should be applied by the stakeholders of the IT-enabled investments in the following processes:

- Value governance
- Portfolio management
- Investment management

### Value Governance (VG)

The goal of value governance is to optimise the value of an organisation's IT-enabled investments by:

- Establishing the governance, monitoring and control framework
- Providing strategic direction for the investments
- Defining the investment portfolio characteristics

The control framework defines the processes and activities (relative to the governance of IT-enabled business investments) that occur within the context of overall enterprise governance. It defines the relationship between the IT function and the other parts of the business and between the IT function and those functions in the organisation with governance responsibilities, such as the CFO, CEO and the board.

### Portfolio Management (PM)

The goal of portfolio management is to ensure that an organisation's overall portfolio of IT-enabled investments is aligned with and contributing optimal value to the organisation's strategic objectives by:

- Establishing and managing resource profiles
- Defining investment thresholds
- Evaluating, prioritising and selecting, deferring, or rejecting new investments
- Managing the overall portfolio
- Monitoring and reporting on portfolio performance

IT-enabled business investment programmes are managed as a portfolio of investments. The programmes in the portfolio must be clearly defined, evaluated, prioritised, selected and managed actively throughout their full economic life cycle to optimise value for individual programmes and the overall portfolio. This includes the proper allocation of resources, the management of risk, the early identification and correction of problems (including programme cancellation, if appropriate) and board-level programme portfolio oversight.

Portfolio management recognises the requirement for a balanced portfolio. It also recognises that there are different categories of investment with differing levels of complexity and degrees of freedom in allocating funds. Evaluation criteria with appropriate weightings are established for each category of investment. The decision to include a programme in the portfolio is not a one-time decision. The portfolio is actively managed and, depending on the relative performance of programmes within the portfolio and changes to the internal or external business environment, the make-up of the portfolio may be adjusted.

### Investment Management (IM)

The goal of investment management is to ensure that an organisation's individual IT-enabled investment programmes deliver optimal value at an affordable cost with a known and acceptable level of risk by:

- Identifying business requirements
- Developing a clear understanding of candidate investment programmes
- Analysing the alternatives
- Defining the programme and documenting a detailed business case, including the benefits details
- Assigning clear accountability and ownership
- Managing the programme through its full economic life cycle
- Monitoring and reporting on programme performance

There are three key components of investment management:

- Business case development—Supporting selection of the right investment programmes
- Programme management—Managing execution of the programmes
- Benefits realisation—Actively managing the realisation of benefits from the programmes

Each of these components is described in greater detail in the following sections.

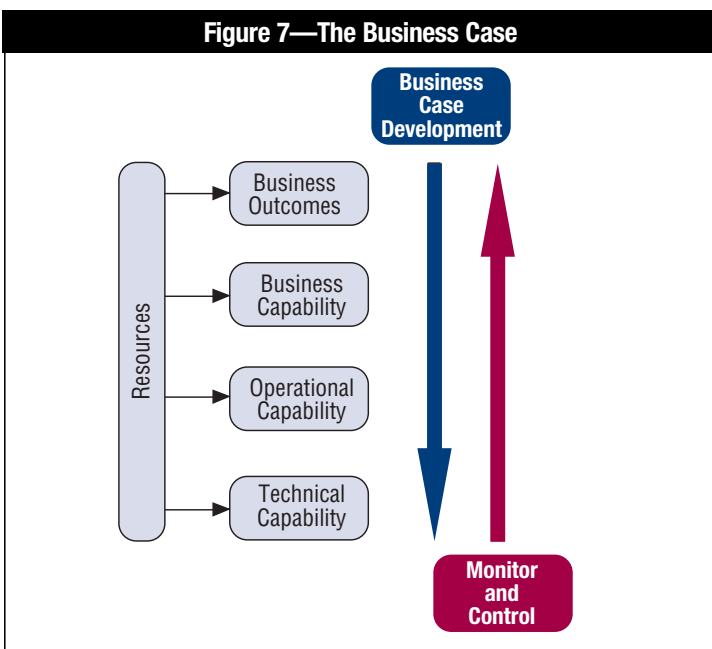
### Business Case Development

The seeds of success or failure are sown in the business case. However, organisations generally are not good at developing and documenting comprehensive and comparable business cases. The business case contains a set of beliefs and assumptions on how value can be created. To ensure that the expected outcomes will be achieved, these beliefs and assumptions need to be well tested. Qualitative and

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quantitative indicators enable validation of the business case and provide insight for future investment decisions. This is where it all starts. A companion volume to this publication, *Enterprise Value: Governance of IT Investments, The Business Case*, provides guidance to maximise the quality of business cases, with particular emphasis on the definition of key indicators, both financial (net present value, internal rate of return and payback period) and non-financial, and the comprehensive assessment and appraisal of the downside risk.

The basic content of the business case consists of the major input resources and three activity streams leading to delivering technical capabilities, operational capabilities and business capabilities resulting in financial return or other non-financial outcomes (figure 7). Each of these streams needs to be documented with data to support the investment decision and portfolio management processes: initiatives, costs, risks, assumptions and outcomes.



The business case should be developed top-down, starting with a clear understanding of the desired business outcomes. Once an investment is approved, the delivery of the required capabilities and the desired outcomes must be diligently monitored and controlled through the full economic life cycle of the investment. Furthermore, the business case is not a one-time, static document. It is an operational tool that must be continually updated to reflect the current reality and to support the portfolio management process.

## Programme Management

IT alone does not deliver business value. It is only when IT is implemented in conjunction with associated changes in the business, business processes, individuals' work and competencies, and necessary organisational changes that value is realised. All of the changes that are required must be understood, defined and managed as a programme of IT-enabled change. There must be clarity of the desired business outcomes, the full scope of initiatives required to achieve the outcomes, the relationship between the initiatives and how they individually and collectively contribute to the outcomes, and any assumptions that are being made related to those contributions or to the outcomes themselves. This requires the IT function and the other parts of the business to work closely together with clearly understood roles and responsibilities and shared accountabilities.

## Benefits Realisation

Benefits do not just happen, and they rarely happen according to plan. Benefits do not automatically start flowing with the implementation. If value is to be created, it is essential that investment programmes and the benefits expected from the programmes be actively managed through their full economic life cycle—'from concept to cash'. Organisations traditionally are very bad at this, but if it is not done, effective governance cannot be achieved, value will be eroded and the business will not learn and improve its business case and portfolio management processes.

Each of the Val IT processes is enabled by a number of key management practices, which are documented in chapter 5, Val IT Processes and Key Management Practices. These management practices have been developed based on the collective experience of the Val IT team and a broader team of global advisors, and draw from existing and emerging practices, methodologies and research. Whilst management practices are comprehensive and detailed, they should not be considered a methodology. They provide a framework that organisations can use to assess their current practices, determine where there are areas for improvement and guide initiatives to make that improvement.

## Future Developments

In the near term, the Val IT material will be expanded with the results of research into empirical data about IT projects, best practices and risk drivers for value management for IT-enabled business investments. An additional technique guide, an

implementation guide, will also be developed and will include guidance on getting started on and moving up the CMM scale.

In the longer term:

- Whilst initial focus of Val IT is on new, IT-enabled investments, subsequent releases will expand the scope to include all IT services and assets, including legacy applications and infrastructure.
- More specific technique guides will be provided, including how to apply the principles, processes and practices of Val IT to specific investments, e.g., customer relationship management (CRM).
- Additional case studies will be provided, including public sector, not-for-profit organisations and small/medium-sized enterprises (SMEs).
- Additional research into the correlation between best practices and the realisation of value will be undertaken and published.

- A non-commercial service offering will be established, providing benchmarking and allowing enterprises to exchange experiences on best practices for IT value management.
- Value management, as it applies to IT-enabled investments, is an emerging discipline, and the practices contained within Val IT can be expected to evolve over time, as experience with the discipline grows. The Val IT framework will be continually extended and improved based on the results of research and experience with the framework.

IT should be viewed as a significant asset to be governed within enterprise governance just like other key assets, and, as such, IT governance should increasingly become simply an integral part of enterprise governance. The corollary of this is that the Val IT framework could have broader application and, indeed, may have so today.

## 5. VAL IT PROCESSES AND KEY MANAGEMENT PRACTICES

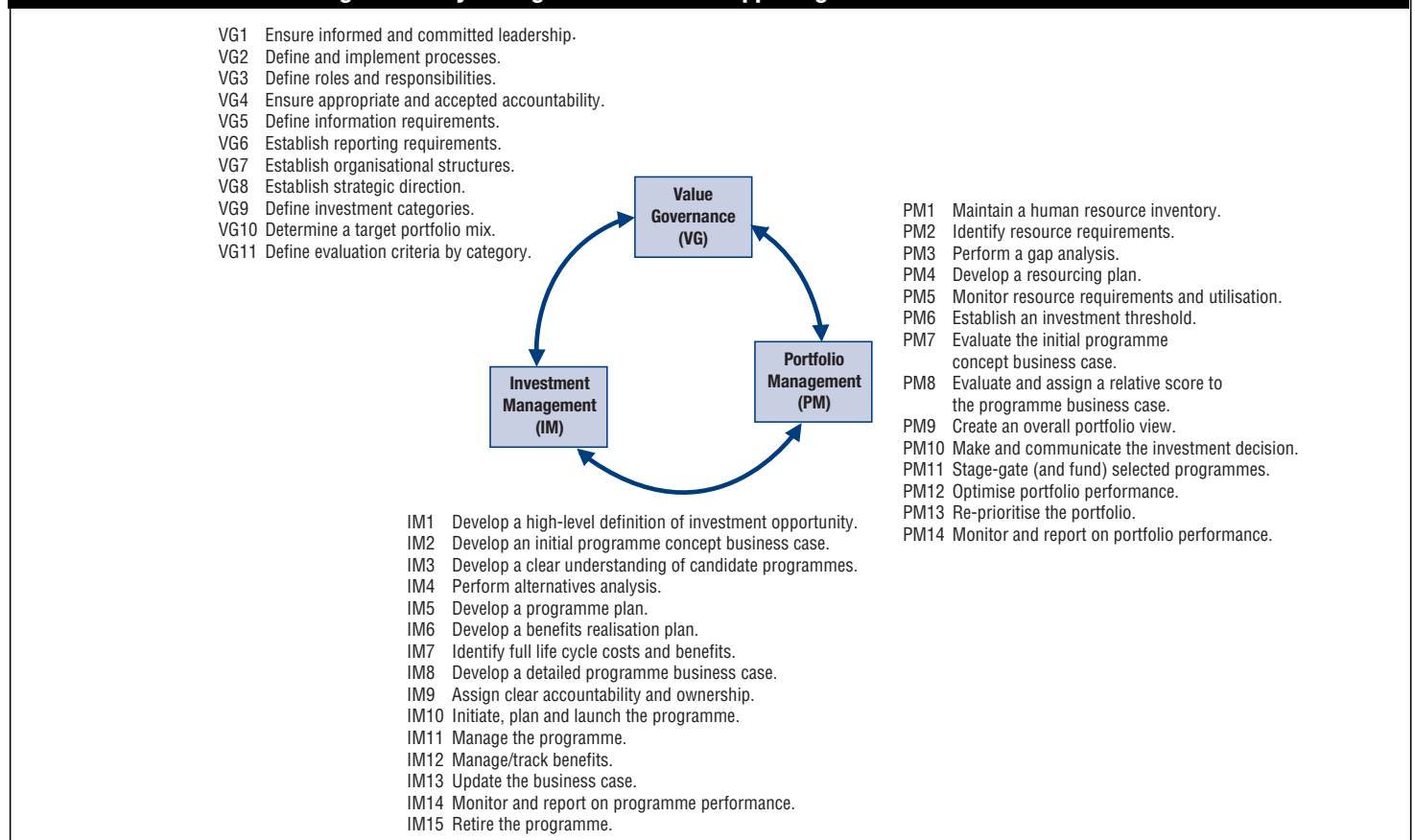
Management practices are characteristics of successful processes. Each enterprise needs to consider its own policies, risk appetite and environment before selecting the management practices that best apply to the enterprise. Key management practices are provided for the following three processes:

1. Value Governance (VG)—11 key management practices covering:
  - The establishment of the governance, monitoring and control framework
  - The provision of strategic direction for the investments
  - The definition of investment portfolio characteristics
2. Portfolio Management (PM)—14 key management practices covering:
  - Identification and maintenance of resource profiles
  - The definition of investment thresholds
  - Evaluation, prioritisation and selection, deferral or rejection of investments

- Management of the overall portfolio
  - Monitoring and reporting on portfolio performance
3. Investment Management (IM)—15 key management practices covering:
    - Identification of business requirements
    - Development of clear understanding of candidate investment programmes
    - The analysis of alternatives
    - Programme definition and documentation of a detailed business case, including benefits details
    - Assignment of clear accountability and ownership
    - Management of the programme through its full economic life cycle
    - Monitoring and reporting on programme performance

The complete suite of management practices is shown in **figure 8**.

**Figure 8—Key Management Practices Supporting the Three Val IT Processes**



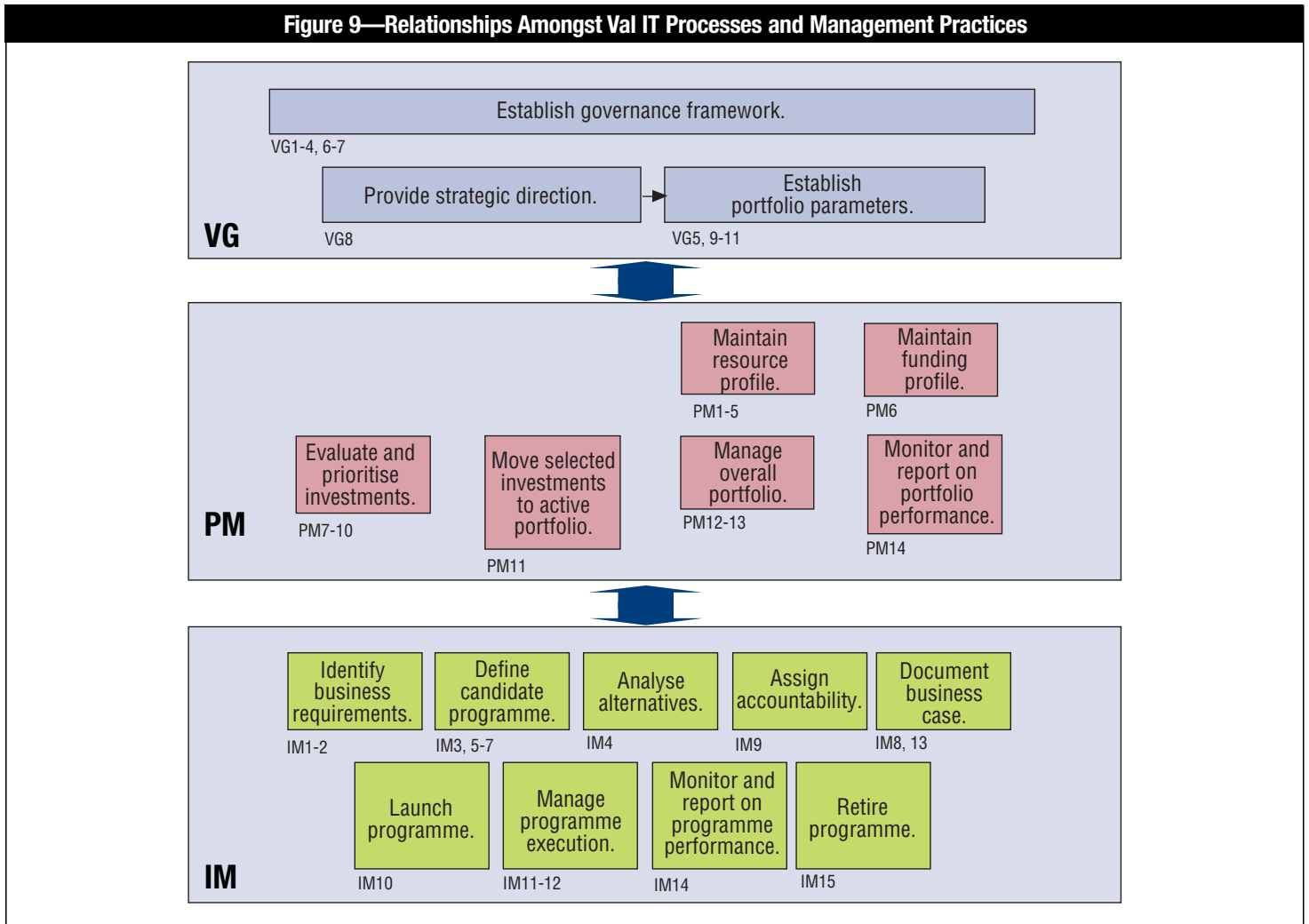
It should be noted that although, by necessity, the processes and management practices are presented in a sequence, it does not imply a ‘waterfall’ approach. Whilst there is some logic to the sequence, many of the practices will and should be followed both in parallel and iteratively. At a high level, the flow would be:

- Value governance establishes the overall governance framework, strategic direction, the desired characteristics of the portfolio, and the resource and funding constraints within which portfolio decisions must be made.
- Investment management defines potential programmes based on business requirements, determines if they are worthy of further consideration, and passes candidate investment programmes to portfolio management for evaluation based on their alignment with strategic objectives, business worth, both financial and non-financial, and risk, both delivery risk and benefits risk.

- Portfolio management evaluates and prioritises programmes, within resource and funding constraints, and moves selected programmes into the active portfolio for execution.
- Investment management launches and manages the execution of active programmes, and reports on performance to portfolio management.
- Portfolio management monitors the performance of the overall portfolio, adjusting the portfolio as necessary in response to programme performance or changing business priorities.
- Programme management retires programmes when there is agreement that desired business value has been realised, or when retirement is deemed appropriate for any other reason.

The relationships among the processes and the management practices is illustrated in **figure 9**.

**Figure 9—Relationships Amongst Val IT Processes and Management Practices**



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## The Relationship Between Val IT and COBIT

Val IT provides a ‘value lens’ into COBIT. While a detailed correlation between Val IT management practices and COBIT control objectives is provided in the material that follows, the high-level relationship between Val IT processes and COBIT domains is illustrated, using the ‘Four Ares’, in **figure 10**.

The primary focus of Val IT processes is on delivering business value by:

- Establishing a broad governance, monitoring and control framework that provides for clear and active linkage between the enterprise strategy and the portfolio of IT-enabled investment programmes that execute the strategy (VG)
- Managing the overall portfolio to optimise value to the enterprise (PM)
- Managing the results of individual investment programmes, including business, process, people, technology and organisational change enabled by the business and IT projects that make up the programmes (IM)

The primary focus of COBIT domains is on delivering the technology capability that the enterprise needs by:

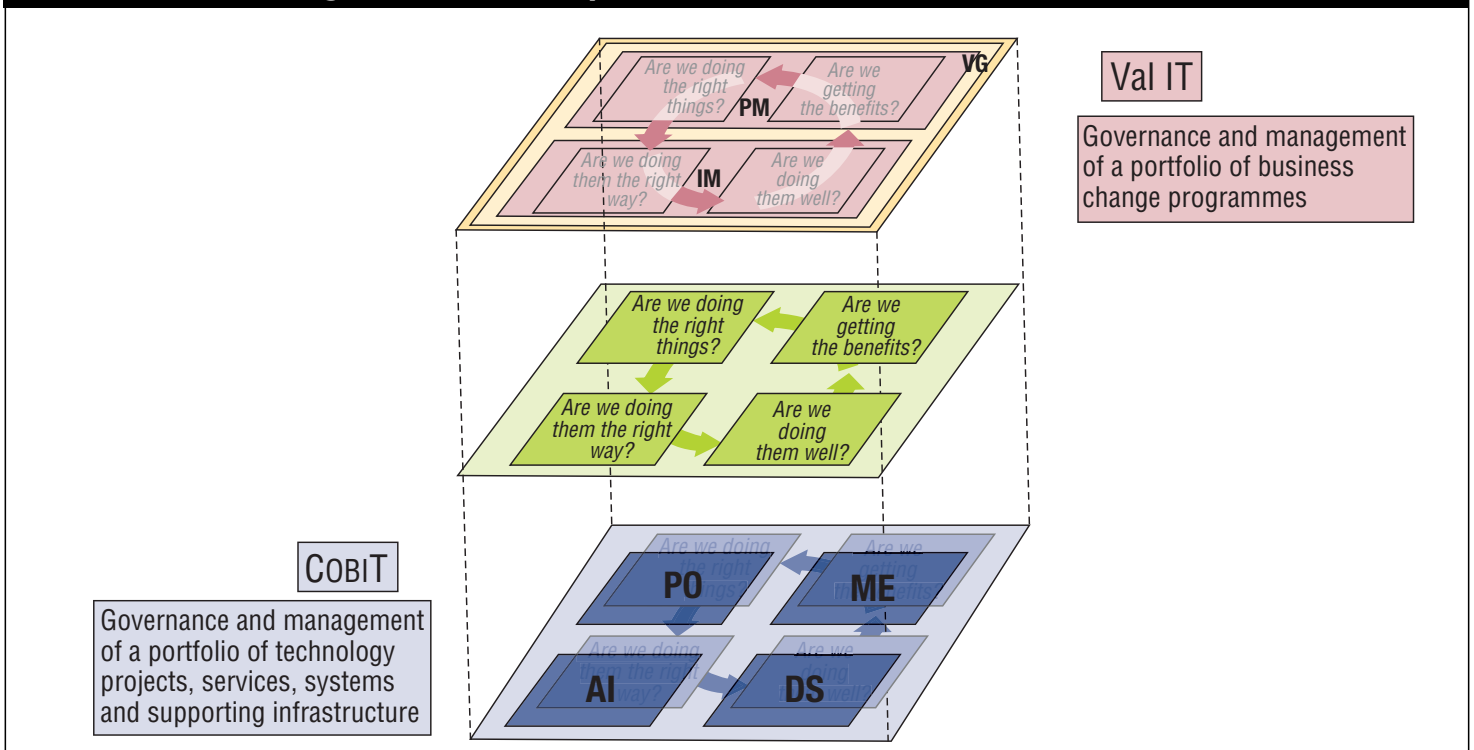
- Planning and organising the enterprise IT resources (PO)

- Acquiring and implementing, through a portfolio of technology projects, the technology capabilities that are required to support the change programmes and the ongoing operation of the enterprise (AI)
- Delivering and supporting those technology capabilities, along with existing services, systems and supporting infrastructure (DS)
- Monitoring and evaluating IT performance (ME)

Key management practices are presented in the tables below covering:

- Process description—A brief indication of what the process is about
- Key management practices—Essential management practices that positively influence the achievement of the desired result or purpose of a particular activity
- Cross-reference to COBIT—A mapping to the COBIT control objectives indicating where there are primary or secondary links
- RACI chart—An abbreviated version of the COBIT RACI model providing guidance on whether the executive (Exec), business (Bus) or IT function (IT) should be Responsible (R), Accountable (A), Consulted (C) or Informed (I) for a particular management practice

**Figure 10—Relationship Between Val IT Processes and COBIT Domains**



## Process: Value Governance (VG)

Process Description	Key Management Practices	COBIT Cross-references	RACI Chart		
			Exec	Bus	IT
<p>Establish governance, monitoring and control framework.</p> <p>Establish strategic direction.</p> <p>Establish portfolio characteristics.</p>	<p><i>VG1 Ensure informed and committed leadership.</i> The reporting line of the CIO should be commensurate with the importance of IT within the enterprise. All executives should have a sound understanding of strategic IT issues, such as dependence on IT, and technology insights and capabilities, so there is a common and agreed understanding between the business and the IT function regarding the potential impact of IT on the business strategy. The business and IT strategy should be integrated, clearly linking enterprise goals and IT goals, and should be broadly communicated.</p>	<p>Primary: PO1.2, PO1.4, PO4.4, ME4.1, ME4.2</p>	A/R	C	C
	<p><i>VG2 Define and implement processes.</i> Define, implement and consistently follow processes that provide for clear and active linkage amongst 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 consistent with the priorities, stage-gating of investment programmes, monitoring and communicating performance, taking appropriate remedial action, and benefits management so there is an optimal return on the portfolio and on all IT assets and services.</p>	<p>Primary: PO4.1, ME1.1, ME1.3, ME4.1</p> <p>Secondary: PO5.2, PO5.3, PO5.4, PO5.5, PO10.2</p>	A	R	C
	<p><i>VG3 Define roles and responsibilities.</i> 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 assets and services to allow sufficient authority to exercise the roles and responsibilities assigned. 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 the business with procedures, techniques and tools enabling it to address its responsibilities. Establish and maintain an optimal co-ordination, communication and liaison structure between the IT function and other stakeholders inside and outside the enterprise.</p>	<p>Primary: PO4.6, PO4.15</p> <p>Secondary: PO4.8, PO4.9, PO10.1, PO10.2</p>	A	R	C

## Process: Value Governance (VG), *cont.*

Process Description	Key Management Practices	CobiT Cross-references	RACI Chart		
			Exec	Bus	IT
	<p><i>VG4 Ensure appropriate and accepted accountability.</i> Establish an appropriate supporting control framework that is consistent with an overall enterprise control environment and generally accepted control principles. The framework should provide for unambiguous accountabilities and practices to avoid a breakdown in internal control and oversight. Accountability for achieving the business benefits, delivering required capabilities and controlling the costs should be clearly assigned and monitored.</p>	<p>Primary: PO1.1, PO6.1, PO6.2, PO6.3, PO6.4, ME4.1, ME4.2, ME4.3</p> <p>Secondary: ME4.2</p>	A	R	C
	<p><i>VG5 Define information requirements.</i> Define a balanced set of performance objectives, measures, targets and benchmarks, and have them approved by the business and other relevant stakeholders. Processes should be established to collect timely and accurate data to report on progress against targets. The monitoring process should deploy a method (e.g., balanced scorecard) that provides a succinct, all-round view of portfolio, programme and IT (technology and functional) performance and that supports decision making, the execution of decisions, and monitoring to track that expected results are being achieved. The method should fit within the enterprise monitoring system.</p>	<p>Primary: ME1.1, ME1.2, ME1.3, ME4.1</p>	A	R	C
	<p><i>VG6 Establish reporting requirements.</i> Relevant portfolio, programme and IT (technology and functional) performance should be reported to the board and executive management in a timely and accurate manner. Management reports should be provided for senior management's review of the enterprise's progress toward identified goals. Status reports should include the extent to which planned objectives have been achieved, deliverables obtained, performance targets met and risks mitigated. Integrate reporting with similar output from other business functions. Upon review, appropriate management action should be initiated and controlled.</p>	<p>Primary: ME1.5, ME3.5, ME4.1, ME4.6</p>	A	R	C
	<p><i>VG7 Establish organisational structures.</i> Establish appropriate boards, committees and support structures including, but not limited to, an IT strategy committee, an IT planning or steering committee, and an IT architecture board. Establish and maintain an optimal co-ordination, communication and liaison structure between the IT function and various other stakeholders inside and outside the IT function, such as users, suppliers, security officers, risk managers, the corporate compliance group, outsourcers and offsite management.</p>	<p>Primary: PO3.5, PO4.2, PO4.3, PO4.15, ME4.1</p>	A	R	C

**Process: Value Governance (VG), cont.**

Process Description	Key Management Practices	CobIT Cross-references	RACI Chart		
			Exec	Bus	IT
	<p><i>VG8 Establish strategic direction.</i>            Make sure the business direction to which expenditures on IT-enabled business investments should be aligned is understood, including the business vision, business principles, strategic goals and objectives, and priorities. Make sure there is a common and agreed understanding between the business and the IT function regarding the potential impact of IT on the business strategy and the role of IT in the enterprise, and ensure that this is broadly communicated.</p>	Primary: PO1.2, ME4.2	R	C	C
	<p><i>VG9 Define investment categories.</i>            The governance processes must recognise that there are a variety of investment types that differ in complexity and the degree of freedom in allocating funds. These different investment types must be categorised. Categories could include, but are not limited to, mandatory, continuity or sustaining, and discretionary. Discretionary could include, but is not limited to, strategic or transformational (to gain competitive advantage or major innovation), informational (to provide better information), transactional (to process transactions and reduce the cost of doing business) and infrastructure (to provide shared services and integration).</p>	Primary: PO5.1	A	R	C
	<p><i>VG10 Determine a target portfolio mix.</i>            The portfolio mix must be aligned with the strategic direction of the enterprise. The mix must achieve the right balance of investments on a number of dimensions. These dimensions could include, but are not limited to, an appropriate balance of categories, short- and long-term returns, financial and non-financial benefits, and high-risk vs. low-risk investments.</p>	Primary: PO5.1  Secondary: ME4.5	A/R	C	C
	<p><i>VG11 Define evaluation criteria by category.</i>            For each category of investment, evaluation criteria must be in place to support fair, transparent, repeatable and comparable evaluation. Evaluation criteria should include, at a minimum, alignment with the enterprise's strategic objectives; benefits, both financial and non-financial; overall financial worth (as determined by the practices of each enterprise); and risk, both delivery risk (the risk of not delivering a capability) and benefits risk (the risk of not realising the expected benefit from the capability). For each category of investment, weightings should be applied to the evaluation categories to allow an overall relative score to be derived for each investment.</p>	Primary: PO5.1  Secondary: PO1.2, PO2.1, PO5.2, ME4.5	A/R	C	C

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## Process: Portfolio Management (PM)

Process Description	Key Management Practices	CobiT Cross-references	RACI Chart		
			Exec	Bus	IT
Establish and manage resource profiles.  Establish an investment threshold.	<i>PM1 Maintain a human resource inventory.</i> Create and maintain an inventory of current IT human resources, their competencies, and their current and committed utilisation. Identify and pay special attention to key IT personnel that are in short supply.	Primary: PO4.5, ME4.4  Secondary: PO4.13			A/R
Evaluate, prioritise and select (defer or eliminate) new investments.  Manage the overall portfolio.	<i>PM2 Identify resource requirements.</i> Understand the current and future demand for IT resources based on the current portfolio and a forward view of the portfolio. Identify and pay special attention to key IT personnel that are in short supply. For IT-enabled change programmes, required business resources should also be identified.	Primary: PO4.5, ME4.4  Secondary: PO4.13		C	A/R
Monitor and report on portfolio performance.	<i>PM3 Perform a gap analysis.</i> Identify shortfalls between current and future IT and business resource demand and current and planned IT and business resource supply. Develop strategies and plans to address the shortfall.	Primary: PO4.5, ME4.4  Secondary: PO4.13		C	A/R
	<i>PM4 Develop a resourcing plan.</i> Create and maintain tactical IT plans for resources that are required to support the portfolio of IT-enabled investment programmes and the IT strategic plan. These tactical plans describe how IT initiatives will contribute to the programmes, which resources are required, and how the use of resources and delivery of the expected contribution will be monitored.	Primary: PO4.5, ME4.4  Secondary: PO4.13, PO7.1, PO7.2, PO7.5	A	C	R
	<i>PM5 Monitor resource requirements and utilisation.</i> Periodically review the IT function and business organisational structure to adjust staffing requirements and sourcing strategies to meet expected business objectives and respond to changing circumstances.	Primary: PO1.5, PO4.5, ME4.4  Secondary: PO4.13		C	A/R
	<i>PM6 Establish an investment threshold.</i> Determine the overall budget available for the portfolio, the current commitment of that budget, the current approved spend and the actual spend to date.	Primary: PO1.4, PO5.3	A	R	C
	<i>PM7 Evaluate the initial programme concept business case.</i> Perform an initial, high-level assessment ('triage') of the programme concept business case looking at strategic alignment; benefits, both financial and non-financial; overall financial worth and risk; and fit with the overall portfolio. Determine whether the programme concept has sufficient potential to justify proceeding to full programme definition and evaluation.	Primary: PO1.1, PO5.1, PO5.2, ME4.3		A/R	C

**Process: Portfolio Management (PM), cont.**

Process Description	Key Management Practices	COBIT Cross-references	RACI Chart		
			Exec	Bus	IT
	<p><i>PM8 Evaluate and assign a relative score to the programme business case.</i> Perform a detailed assessment of the programme business case evaluating strategic alignment; benefits, both financial and non-financial; financial worth; risk, including delivery risk and benefits risk; and availability of resources. Assign a relative score to the programme based upon evaluation criteria and their weighting for this category of investment.</p>	<p>Primary: PO1.1, PO5.1, PO5.2, ME4.3</p>		A/R	C
	<p><i>PM9 Create an overall portfolio view.</i> Assess the impact on the overall portfolio of adding a candidate programme. Determine the impact on the portfolio mix. Identify any changes that might be required to other programmes in the portfolio as a result of adding this programme. Assess the impact and viability of those changes.</p>	<p>Primary: PO1.1, PO5.1, PO5.2, ME4.3</p>		A/R	C
	<p><i>PM10 Make and communicate the investment decision.</i> Determine whether the candidate programme should be selected and moved to the active portfolio. If the programme is not selected, determine if it should be held for consideration at a later date, held and provided with some 'seed' funding to determine if the business case can be improved or eliminated from further consideration. Communicate and review the decision with the business sponsor.</p>	<p>Primary: PO1.1, PO5.1, PO5.2, ME4.3</p>	A	R	C
	<p><i>PM11 Stage-gate (and fund) selected programmes.</i> Determine the required stage-gates for the programme's full economic life cycle. Confirm business case requirements at each stage-gate. Commit total programme funding, release funding to next stage-gate and identify funding requirements at subsequent stage-gates. Move the programme into the active portfolio.</p>	<p>Primary: PO1.1, PO5.1, PO5.2, ME4.3</p>	A	R	C
	<p><i>PM12 Optimise portfolio performance.</i> Review the portfolio on a regular basis to identify and exploit opportunities for synergies and to identify, mitigate and minimise risks.</p>	<p>Primary: PO1.1, PO1.6, PO5.1, ME1.4, ME1.6, ME4.3</p>	A	R	C
	<p><i>PM13 Reprioritise the portfolio.</i> When changes occur to the internal or external business environment, or when programme business cases are updated to reflect changes in requirements or programme performance, re-evaluate and reprioritise the portfolio to ensure that the portfolio is aligned with the business strategy and the target mix of investments is maintained so the portfolio is achieving maximum overall value. This may require programmes to be changed, deferred or retired, and new programmes to be initiated.</p>	<p>Primary: PO1.1, PO1.6, PO5.1, PO5.2, ME1.4, ME1.6, ME4.3</p>	A	R	C

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## Process: Portfolio Management (PM), *cont.*

Process Description	Key Management Practices	COBIT Cross-references	RACI Chart		
			Exec	Bus	IT
	<p><i>PM14 Monitor and report on portfolio performance.</i>            Provide a succinct, all-round view of the performance of the portfolio to the board and executive management in a timely and accurate fashion, and in a way that fits within the enterprise monitoring system. Management reports should be provided for senior management's review of the enterprise's progress toward identified goals. Status reports should include the extent to which planned objectives have been achieved, deliverables obtained, performance targets met and risks mitigated. Upon review, appropriate management action should be initiated and controlled.</p>	<p>Primary:            ME1.1, ME1.3, ME1.5, ME4.3, ME4.6</p> <p>Secondary:            PO5.4, PO5.5</p>	A	R	C

## Process: Investment Management (IM)

Process Description	Key Management Practices	COBIT Cross-references	RACI Chart		
			Exec	Bus	IT
<p>Identify business requirements.</p> <p>Develop clear understanding of candidate programmes.</p> <p>Perform analysis of alternatives.</p>	<p><i>IM1 Develop a high-level definition of investment opportunity.</i> Recognise opportunities for investment programmes to create value in support of business strategy or to address operational or compliance issues. Categorise the opportunity. Clarify expected business outcome(s) and identify, at a high level, business, process, people, technology and organisational initiatives required to achieve the expected outcomes. These requirements should be owned by business management acting as sponsor for the overall opportunity including the necessary IT projects.</p>	<p>Primary: PO1.2, PO1.3, AI1.1</p>		A/R	C
<p>Define the programme and document a detailed business case including the benefits details.</p> <p>Assign clear accountability and ownership.</p> <p>Manage the programme through its life cycle.</p>	<p><i>IM2 Develop an initial programme concept business case.</i> The business case should describe the business outcome(s) to which the potential programme will contribute, the nature of the programme's contribution, and how that contribution would be measured. High-level benefits, both financial and non-financial, and costs for the full economic life cycle of the programme should be estimated. Any key assumptions should be stated. Key risks should be identified, along with their potential impact and mitigation strategies. The IT function manager signs off on the technical aspects of the programme. The business sponsor approves and signs off on the business case.</p>	<p>Primary: PO1.1, PO5.3, AI1.5</p>		A/R	C
<p>Monitor and report on programme performance.</p>	<p><i>IM3 Develop a clear understanding of candidate programmes.</i> Utilise appropriate methods and techniques, involving all key stakeholders, to develop and document a complete and shared understanding of the expected business outcomes (both intermediate, or 'lead', and end, or 'lag', outcomes) of the candidate programmes, how they will be measured, and the full scope of initiatives required to achieve the expected outcomes. These initiatives should include any changes required to the nature of the enterprise's business, business processes, people skills and competencies, enabling technology and organisation structure. The nature of each initiative's contribution, how that contribution will be measured and all key assumptions should be identified. Relevant metrics or similar indicators to monitor the validity of these assumptions should be identified. Key risks, both to the successful completion of individual initiatives and to the achievement of the desired outcomes, should also be identified.</p>	<p>Primary: PO1.1, AI1.1, AI1.2</p>		A/R	C

## Process: Investment Management (IM), *cont.*

Process Description	Key Management Practices	COBIT Cross-references	RACI Chart		
			Exec	Bus	IT
	<p><i>IM4 Perform alternatives analysis.</i> Identify alternative courses of action to achieve the desired business outcomes. Assess the relative benefits, costs, risks and timing for each identified course of action. Select the course of action that has the highest potential value, at an affordable cost with an acceptable level of risk. Document the rationale for recommending the selected course of action. Business management should assess the business impact of the alternative courses of action, and the IT function should assess the technical impact.</p>	Primary: P01.1, A11.3		A/R	C
	<p><i>IM5 Develop a programme plan.</i> Define and document all projects, including business, business process, people, technology and organisational projects, required to achieve the programme's expected business outcomes. Specify required resources, including project managers and project teams as well as business resources where applicable. Specify funding, timing and interdependencies of multiple projects. Specify the basis for acquiring and assigning competent staff members and/or contractors to the projects.</p>	Primary: P01.1, P010.1, P010.7, P010.8, ME4.4		A/R	C
	<p><i>IM6 Develop a benefits realisation plan.</i> For each key outcome, identify and document baseline and target measurements to be achieved, the method for measuring each key outcome, the accountability for achieving the outcome, the expected delivery schedule, and the monitoring process, which should include some form of detailed benefits register, along with an explanation of the risks that may threaten the achievement of each key outcome and how those risks will be mitigated.</p>	Primary: P01.1, P05.5		A/R	C
	<p><i>IM7 Identify full life cycle costs and benefits.</i> Prepare a programme budget that reflects the full economic life cycle costs and financial and non-financial benefits, and submit it for review, refinement and approval by the business sponsor.</p>	Primary: P01.1, P05.3		A/R	C

**Process: Investment Management (IM), cont.**

Process Description	Key Management Practices	CobiT Cross-references	RACI Chart		
			Exec	Bus	IT
	<p><i>IM8 Develop a detailed programme business case.</i>            Develop a complete and comprehensive business case for the programme consistent with the enterprise’s standard business case requirements. The business case should include an executive summary; a description of the programme purpose, objectives, approach and scope; programme dependencies, risks and milestones; organisational change impact of the programme; a value assessment; and a programme plan. The programme value assessment should include full economic life cycle costs and benefits, both financial and non-financial; overall financial worth; strategic alignment; risks, both delivery and benefits risks; the programme’s overall relative value scoring; and any key assumptions. The programme plan should include component project plans, a benefits realisation plan, the approach to risk and change management, and the programme governance structure and controls. The IT function manager signs off on the technical aspects of the programme. The business sponsor approves and signs off on the business case.</p>	Primary: PO1.1, PO5.3		A/R	C
	<p><i>IM9 Assign clear accountability and ownership.</i>            Accountability for achieving the benefits, controlling the costs, managing the risks, and co-ordinating the activities and interdependencies of multiple projects should be clearly and unambiguously assigned and monitored. Where accountability is assigned, such accountability must be accepted, there must be a clear mandate and scope, and the person accountable must have sufficient authority and latitude to act, requisite competence, commensurate resources, clear lines of accountability, an understanding of rights and obligations, and relevant performance measures.</p>	Primary: PO1.1, PO6.1, PO10.1		A/R	C
	<p><i>IM10 Initiate, plan and launch the programme.</i>            Plan, resource and commission the necessary projects required to achieve the programme results.</p>	Primary: PO10.1, PO10.3, PO10.6		A/R	C
	<p><i>IM11 Manage the programme.</i>            Manage programme performance against key criteria (e.g., scope, schedule, quality, cost and risk), identify deviations from plan and take timely remedial action when required. Monitor individual project performance related to delivery of the expected capability, schedule, costs and risks to identify potential impacts on programme performance, and take timely remedial action when required.</p>	Primary: PO10.13, ME1.4, ME4.3		A/R	C

# THE VAL IT FRAMEWORK

## Process: Investment Management (IM), *cont.*

Process Description	Key Management Practices	CobiT Cross-references	RACI Chart		
			Exec	Bus	IT
	<p><i>IM12 Manage/track benefits.</i> Implement a benefit monitoring process to ensure that planned benefits are achieved, sustained and optimised. Benefit delivery should be monitored and reported. The performance against targets should be regularly reviewed and root cause analysis performed for deviations from plan. Remedial action to address the underlying causes should be initiated and controlled.</p>	<p>Primary: PO5.5, PO10.13, ME1.4, ME4.3</p>		A/R	C
	<p><i>IM13 Update the business case.</i> Update the business case to reflect the current status of the programme. This should be done whenever the projected costs or benefits of the programme change, when risks change, and in preparation for stage-gate reviews.</p>	<p>Primary: PO5.4, PO5.5, PO10.6</p>		A/R	C
	<p><i>IM14 Monitor and report on programme performance.</i> Define and implement enterprise practices to ensure that programme performance and IT's contribution to that performance are reported to the board and executive in a timely and accurate fashion. Reporting may include performance against the overall portfolio, IT strategy, compliance with policy and standards, benefit realisation, process maturity, end-user satisfaction, and the status of IT internal control.</p>	<p>Primary: ME4.3, ME4.6</p>	A	R	C
	<p><i>IM15 Retire the programme.</i> When there is agreement that the desired business value has been or will be realised, ensure that the programme is brought to an orderly closure, including formal approval of retirement by the business sponsor. Programme closure does not necessarily mean an end to benefits monitoring and optimisation. When the programme results in an ongoing service or other asset, accountability and processes must be put in place to ensure that the organisation continues to optimise business value from the service or other asset. Once the programme is closed, it should be removed from the active portfolio. Closure should also ensure that all the lessons learnt from the programme are reviewed and any necessary changes implemented to improve the programme management process.</p>	<p>Primary: ME4.3, PO10.14</p> <p>Secondary: AI4.1, AI4.2 AI4.3, AI4.4</p>	A	R	C

## 6. REFERENCES

- Curley, M.; *Managing Information Technology for Business Value*, Intel Press, 2004
- Finnerty, J.D.; *Project Financing: Asset-based Financial Engineering*, John Wiley & Sons, USA, 1996
- Gartner, 'The Elusive Business Value of IT', August 2002
- IBM Institute for Business Value, 'Reaching Efficient Frontiers in IT Investment Management', IBM Global Services, USA, 2004
- ING Investor Relations, 'IT Investment and Shareholder Return', volume 12, number 2, ING Group, The Netherlands, May 2004, [www.seaquation.com](http://www.seaquation.com).
- IT Governance Institute, *Board Briefing on IT Governance, 2<sup>nd</sup> Edition*, USA, 2003, [www.itgi.org](http://www.itgi.org)
- IT Governance Institute, *IT Governance Global Status Report*, USA, 2004, [www.itgi.org](http://www.itgi.org)
- IT Governance Institute, *Optimising Value Creation From IT Investments*, USA, 2005
- Lutchen, Mark D.; *Managing IT as a Business*, John Wiley & Sons, USA, 2004
- META Group, 'Portfolio Management and the CIO, Part 3', March 2002
- Nolan, Richard; F. Warren McFarlan; 'Information Technology and the Board of Directors', *Harvard Business Review*, USA, October 2005
- Pironi, W.; 'IT and Shareholder Return in the Insurance Industry', *Best Review*, 2002
- Rinnooy Kan, Alexander; 'IT Governance and Corporate Governance at ING', *Information Systems Control Journal*<sup>®</sup>, ISACA, USA, volume 2, 2004
- Ross, J.; C. Beath; 'Beyond the Business Case: Strategic IT Investment', *Sloan CISR*, October 2001
- Ross, Jeanne; Peter Weill; 'Six Decisions Your IT People Shouldn't Make', *Harvard Business Review*, USA, November 2002
- SIM International Working Group, 'Managing the IT Investment Portfolio', October 2001
- Standards Australia, 'Corporate governance of information and communication technology', AS 8015-2005
- Thorp, John; 'The Challenge of Change', The CFO Project, MRI Research, 2003
- Thorp, John; *The Information Paradox—Realizing the Business Benefits of Information Technology*, Revised Edition, McGraw Hill, 2003
- Tiernan, C.; J. Peppard; 'Information Technology: of Value or a Vulture?', *European Management Journal*, volume 22, number 6, December 2004, p. 609-623
- US General Accounting Office, 'ITIM: A Framework for Assessing and Improving Process Maturity', 2004
- Weill, P.; J.W. Ross; *IT Governance: How Top Performers Manage IT Decision Rights for Superior Results*, Harvard Business School Press, USA, 2004
- Williams, P.; 'Optimising Returns From IT-related Business Investments', *Information Systems Control Journal*, ISACA, USA, volume 5, 2005

## 7. APPENDIX—GLOSSARY

**Amortisation:** The process of cost allocation that assigns the original cost of an intangible asset to the periods benefited. It is calculated in the same way as depreciation.

**Architecture:** Description of the fundamental underlying design of the components of the business system, or of one element of the business system (e.g., technology), the relationships among them, and the manner in which they support the organisation's objectives

**Balanced scorecard:** The balanced scorecard, developed by Robert S. Kaplan and David P. Norton, is a coherent set of performance measures organised into four categories. It includes traditional financial measures, but adds customer, internal business process, and learning and growth perspectives.

**Benchmarking:** A systematic approach to comparing an organisation's performance against peers and competitors in an effort to learn the best ways of conducting business (e.g., benchmarking of quality, logistical efficiency and various other metrics)

**Benefit:** An outcome whose nature and value (expressed in various ways) are considered advantageous by an organisation

**Business case:** Documentation of the rationale for making a business investment, used to support a business decision on whether to proceed or not with the investment

**Business process:** A set of cross-functional activities or events that result in the delivery of a specific product or service to a customer

**Business sponsor:** The individual accountable for delivering the benefits of an IT-enabled business investment programme to the organisation

**Capital expenditure:** An expenditure that is recorded as an asset because it is expected to benefit more than the current period. The asset is then depreciated or amortised over the expected useful life of the asset.

**Change management:** A holistic and proactive approach to managing the transition from a current to a desired organisational state, focusing specifically on the critical human or 'soft' elements of change. It includes activities such as culture change (values, beliefs and attitudes), development of reward systems (measures and appropriate incentives), organisational design, stakeholder management, human resource policies and procedures, executive coaching, change leadership training, team building and communications planning and execution.

**Chargeback:** The redistribution of costs to the units within a company. Without such a policy, misleading views may be given as to the real profitability of a product or service, as certain key costs will be ignored or calculated according to an arbitrary formula.

**COBIT:** *Control Objectives for Information and related Technology*, from the IT Governance Institute (ITGI), is an internationally accepted IT control framework.

**Economic Value Added (EVA):** Technique developed by G. Bennett Stewart III, and registered by the consulting firm of Stern, Stewart, where the performance of the corporate capital base, including depreciated investments such as training and research and development, as well as more traditional capital investments, such as plant and equipment, is measured against what shareholders could earn elsewhere

**Hurdle rate:** Required rate of return, above which an investment makes sense and below which it does not. Often based on the cost of capital, plus or minus a risk premium, and also often varied based upon prevailing economic conditions. Also known as required rate of return.

**Internal rate of return (IRR):** The discount rate that equates an investment cost with its projected earnings. When discounted at the IRR, the present value of the cash outflow will equal the present value of the cash inflow. The IRR and NPV are measures of the expected profitability of an investment project.

**Life cycle:** A series of stages that characterise the course of existence of an organisational investment (e.g., product, project, programme)

**Modelling:** Developing a simplified representation of a system or phenomenon. Such representations may be static or dynamic, in which case behaviour of the system or phenomenon under different conditions can be simulated.

**Net present value (NPV):** Is calculated by using an after-tax discount rate of an investment and a series of expected incremental cash outflows (the initial investment and operational costs) and cash inflows (cost savings or revenues) that occur at regular periods during the life cycle of the investment. To arrive at a fair NPV calculation, cash inflows accrued by the business up to about five years after project deployment should be taken into account as well.

**Payback period:** The length of time needed to recoup the cost of capital investment. Financial amounts in the payback formula are not discounted. Note that the payback period does not take into account cash flows after the payback period and is therefore not a measure of the profitability of an investment project. The scope of the IRR, NPV and payback period is the useful economic life of the project up to a maximum of five years.

**Portfolio:** A grouping of programmes, projects, services or assets, selected, managed and monitored to optimise business return

**Project and programme:** In this document, a differentiation is made between the traditional use of the term ‘project’ and a new term ‘programme’, a term that is increasingly gaining wider acceptance. While it is recognised that organisations may choose to use different terms, or have different definitions of those terms, in the interests of clarity the following definitions are used in this book:

- **Project:** A structured set of activities concerned with delivering a defined capability (that is necessary but NOT sufficient to achieve a required business outcome) to the organisation based on an agreed schedule and budget
- **Programme:** A structured grouping of interdependent projects that include the full scope of business, process, people, technology and organisational activities that are required (both necessary and sufficient) to achieve a clearly specified business outcome

**Return on investment:** A measure of operating performance and efficiency, computed in its simplest form by dividing net income by average total investment outlay

**Stage-gates:** A point in time when a decision is made to commit funds to the next set of activities on a programme or project, stop the work altogether, or put a hold on execution of further work

**Val IT:** The standard framework for organisations to select and manage IT-related business investments and IT assets by means of investment programmes such that they deliver the optimal value to the organisation. Based on COBIT.

**Value:** Value is complex, context-specific and dynamic. It is the relative worth or importance of an investment for an organisation, as perceived by its key stakeholders, expressed in financial and non-financial terms.