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Benefit Realisation Lifecycle Management

In IT-related Business Projects

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A dissertation submitted to the Faculty of Engineering and the Built Environment, University of the Witwatersrand, in fulfillment of the requirements for a Master of Science in Electrical Engineering.

Johannesburg 2009

Declaration

I declare that this dissertation is my own unaided work. It is being submitted for the Degree of Master of Sciences to the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination to any other University.

_____

Allan Trevor Wattrus

_____ day of October 2009.

Benefit Realisation Lifecycle Management

In IT-related Business Projects

Abstract

IT enabled business projects are perceived to under-deliver, with between 20% and 35% meeting business expectations.[4] Despite improving IT and Project Management practices over the last 15 years, corresponding improvements in business benefits have not materialised. Research suggests that 21% of expenditure in IT is wasted[35] and based on 2008 BMI data this equates to R 12.0 billion in South Africa[11]. 96% of CEO's blame this non-performance on their CIO[33].

This research found that most organisations cannot identify the person accountable for benefit realisation and a Benefit Realisation Plan is a rarity. Little literature relating to benefit realisation exists.

This research defines a lifecycle for Benefit Realisation and Optimisation. It identifies critical practices that support benefit realisation and defines a skeletal process for managing the lifecycle.

Improving ROI by up to ten times[46], significantly reducing business risk, enhanced governance and better resource utilisation are some "benefits" of managing the Benefit Realisation Lifecycle.

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- Those who shook their heads in disbelief; *you fuelled my determination*.

1 Introduction to the Research

Returns on IT-related investments rarely meet the business' expectations.

Evidence from research by recognised research houses like Gartner, Forrester and Standish supports the view that while there has been some improvement in the last 15 years, the perceived levels of success in IT-related projects is still surprisingly low. Despite the focus of innovative and competent people in the IT industry the expected business benefits are frequently not realised and this trend persists globally.

A "Benefit" is defined by Gerald Bradley as *"an outcome of a change that is seen as positive by a stakeholder"*. [45] Bradley points out that a change consumes resources and incurs cost, but the business outcome can be the positive benefit that the stakeholder perceives.

The Standish Group report (2003) shows that 34% of projects are considered successful (i.e. deliver business benefits) versus just 16% in 1994[35]. A substantial improvement perhaps but the outcome is still poor. $55 billion or 21.6% of expenditure on IT-related projects was wasted in the US alone in 2002[35]. Numerous other references (covered in the Literature Review) confirm this viewpoint. The South African context has not been adequately researched or documented but analysts believe the local situation is not substantially different.

The statistics drawn from existing research material describing current practice in IT solution delivery reflects a substantial investment risk to business and a high probability of unnecessary cost. Any improvement to these practices that improves benefit realisation will contribute to the industry and the business that IT supports.

1.1 Business Perception is Reality for the CIO

Some discredit the claims in the Standish report; Robert Glass[47] points to flaws in the selection process used to gather input for the Standish "Chaos Report" and Sauer, Gemino and Reich[48] prefer the more positive viewpoint of project managers (not withstanding their bias) over business executives. This research is not focused on the accuracy of these measures or the methods used to determine these, but rather on identifying those factors that would enhance the benefit realisation rate.

Suffice to say, the perception expressed in the "Chaos Report" of 1994[18] remains real, even if the more recent statistics do show significant improvement[35]. The publishing of the Chaos Report has lent voice to business' perception that IT-based solutions frequently do not meet ROI objectives. This research sets out to deal with this reality rather than trying to argue the validity of the claims or the exactness of the metrics.

1.2 Motivation and Objective

This research investigates the underperformance of benefit realisation in IT related projects against business expectations. The aim was to identify aspects that if managed will improve the probability of realising the anticipated benefit. The research explored the cause-effect relationships to suggest ways to improve the probability of a solution's perceived success.

If the research is to make a meaningful contribution to Benefit Realisation practices in the IT industry, it should:

- describe a method or model which will contribute to an improvement in the realisation of benefits in the future and/or
- expose at least one area of predictable benefit realisation failure.

Achieving this objective will give insight that will contribute to better practice for the South African IT environment.

1.3 Hypothesis and Research Question

Hypothesis: There is a lifecycle for Benefit Realisation, that when properly managed will improve the probability of the business realising benefits from IT related projects.

Consider the following two statements:

1. There are discrete steps that exist between the business identifying their need and the business realising the benefits of the solution

and

2. There is at least one cause, and most likely more than one, that gives rise to the business perception that IT related solutions do not deliver the expected benefits.

We can conclude that the probability of benefit realisation will improve if:

- we can define the steps in the lifecycle in (1) above and
- we can identify the likely cause(s) and mitigating action(s) for benefit realisation failure in (2) above and
- we manage the lifecycle as a process while addressing the likely causes of failure.

This research seeks to confirm this hypothesis by answering the question below:

Question: Will following the postulated benefit realisation lifecycle model improve the probability of benefits meeting expectations of business?

1.4 Research Approach and Method

The approach was to follow the scientific method by:

- Considering the question (Initial Survey)
- Doing Background Research (Literature Survey)
- Constructing the Hypothesis and Model
- Testing the Hypothesis and Model through Structured Interviews and Questionnaires
- Analysing the Data and Drawing a Conclusion
- Communicate Results

An initial group of ten representative individuals was surveyed to determine the relevance of benefit realisation management to IT executives. A "one-on-one" qualitative discussion was planned to determine their level of interest, their understanding of the subject matter,

the degree to which the practice of benefit realisation was implemented and if the benefit realisation process had matured to a lifecycle approach.

Eight discussions with executives in the IT related community were conducted. (See appendix C – Section 1). Two of the ten identified respondents declined participation.

The interviewees demonstrated a high level of interest in the subject, a low level of understanding of the disciplines and minimal evidence of benefit realisation management as a practice. Without exception these participants noted the need for a model of good practice and expressed interest in accessing the outcomes of the research with a view to implementing a benefit realisation management process. None of the participants mentioned a "lifecycle" view, but when this was proposed the considered response was that a lifecycle approach was an obvious one.

Initial literature searches targeting benefit realisation management in IT related projects highlighted two pieces of work. Murphy referenced benefit realisation in a book titled "Achieving Business Value from Technology" published by Gartner[19] in 2002 and in 2006 Bradley[45] published his work titled "Benefit Realisation Management".

The literature review found substantial material to describe good practice and offer guidance in the disciplines necessary to underpin Benefit Realisation. None of the material in the literature review effectively links the process areas into a lifecycle that can be managed. The limited amount of information on the subject and the fact that it was not taught as a discipline at any tertiary institution at the time confirmed the importance of researching the subject.

The evaluation of current practice was effected through the use of a questionnaire and structured interviews. These findings together with the literature review were then used to test the hypothesis.

1.5 Readers Guide to this Document

This section concludes the introduction to the research and outlines the general structure of the balance of the document.

The next chapter (Chapter 2) examines current literature and articles that are relevant to the central theme, that of benefit realisation management

over the lifetime of IT-based solutions. The review pays particular attention to the possible causes of benefit realisation failure and in particular will seek supporting models and frameworks that may assist in improving the probability of realising benefits within underlying process areas.

Chapter 3 looks at the rationale behind the interviews and a questionnaire that explores the current practices. (A copy of the questionnaire is included in the appendices for reference – Appendix C.)

Chapter 4 suggests a concept and model that will facilitate more predictable benefit realisation (based on the literature reviewed and the feedback from the questionnaire). This chapter includes a brief analysis of the responses and the conclusions drawn from the responses. The importance of an underlying process based methodology is apparent and this chapter then draws specific linkages with the CMMI® [37] model. CMMI is a process improvement approach, developed by the Carnegie Melon University CMMI project, and integrates multiple process areas into a single framework.[46]

Chapter 5 provides a brief summary of the findings and then some conclusions surrounding the research and further work to be done.

Appendix A provides a high level introduction to the CMMI® model, the terminology and the 22 process areas defined in the model.

Appendix B contains a proposed process overlay for the CMMI® framework to support Benefit Realisation Optimisation Management.

Appendix C is a collection of the initial responses, the questionnaire used and details of the sample from which I gathered input for the research.

CMMI is a registered trademark of the Carnegie Melon University.[46]

2 Literature Review

2.1 What the Literature Review did not find.

The literature review was intended to validate the existence of a documented "best practice" benefit realisation lifecycle but this was not realised. This lifecycle is not documented.

The need for a method to effectively realise business benefits is substantiated by a number of researchers, scholars and business professionals referenced in this research, including Murphy[19], Glass[47], Schmidt[2], Hiatt and Creasey[5], Viney[12], Bradley[45], Johnson[54] and Tucker and Woolfe[34]. None of them however reach beyond the insular process area practices (the lower order contributors to benefit realisation) to the overarching lifecycle that provides an "end-to-end" process with the potential for continuous improvement as an outcome. Aron and Tucker[33] come closest to this with their reference to "Full Cycle Learning" but the view is still one of a "start to finish" process rather than the iterative lifecycle approach.

This literature review therefore exists as a backdrop that describes good practice relating to the underlying process areas while chapter 4 provides the links between these underlying process areas and the postulated Benefit Realisation Lifecycle model.

2.2 Background

The Standish "Chaos" Report of 1994[18] raised a flag with regards to the gap between the benefits that IT was claiming to bring to the business and the returns as viewed by many business executives. The debate has raged since then with some schools of thought challenging the validity of the Standish Report. Many academic and commercial institutions have conducted further research and while there is some variance in the results, the message remained consistently gloomy. IT-based solutions over-promised and under-delivered in about 4 out of 5 instances in the 90's[45].

The IT practitioners responded by improving the way solutions are delivered, gathering "best practice" methodologies in every aspect under

their control. Frameworks for defining business requirements, for developing software, for project management and for IT architecture emerged. Models for testing solutions, for managing user acceptance, for building business cases and for operating the systems they developed are now readily accessible[34]. All of these outcomes have brought some maturity to the industry over the past 15 years, but little tangible benefit.

The levels of expenditure on Information Technology under the guise of Y2K projects and the Dotcom debacle brought the credibility of IT practitioners and, in fact, the broader ICT industry into sharp focus. The business response to the excessive expenditure was to cut IT budgets for new investments and to adopt a "business led portfolio" or project oriented approach to IT investment. In most instances, the budget for IT expenditure was moved into "safer hands", those of the CFO or Finance Executive[22]. The tightening of expenditure and the improvements in results are evident in the trend line for annual budget growth for that period from Gartner and the metrics resulting from numerous research activities.

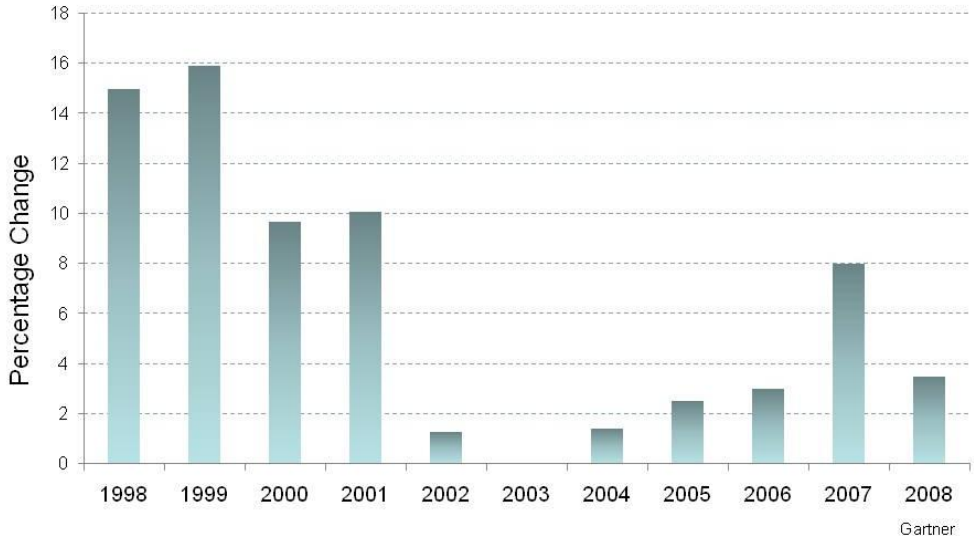


Figure 2.1 - Global IT Budget Change (% year on year)[22]

Research reports related to return on investments (ROI) on IT and Total Cost of Ownership (TCO) attracted CEO's attention (largely promoted by Gartner) as the reported results are not only disturbing but suggest that perceived strategic investments in IT are inherently a high risk activity.

The high-level quotations below highlight the changes that were taking place during this time.

- Cranfield University found in 1994 that *"78% of IT enabled change projects (in large UK companies) fail to deliver business benefits."* [12] The 2003 report shows an improvement to 66%. [35]
- Sheffield University's study in 2002 of 14 000 UK based companies shows between 10 and 20% of projects classified as outright success and the remaining 80% split evenly between outright failure and partial success. These results were consistent with a study by the British Computer Society published in 2004.[45]
- Gartner Research reports that 80% of IT projects do not deliver the promised benefits within budget and time. [4]
- The 2003 Chaos report shows an increase from 63% in 2000 to 82% of projects running over time.
- The Standish Group research in 1994 stated that *"31.1% of projects will be cancelled before they ever get completed"* against 2003's 15%
- *"52.7% of projects in 1994 will cost 189% of their original estimates"*. [18] The average overrun on cost for 2003 is 43%.
- Keen and Digrius in the foreword to the book Making Technology Investments Profitable state that *"over 50% of all Information Technology (IT) projects fail."* [3]
- The 2003 Standish numbers indicate that *"only 52% of required features and functions actually make it into the released product."* [35]
- The Chaos Report, states that *"more than 83% of all information technology project investments fail to meet their economic goals"*.

The following table reflects some of the key trends over time as reflected by the Standish Group[54].

Table 2.1 - IT Project Resolution Trends

Project Resolution Types © The Standish Group International, Inc	**1994 [18]**	**2000 [35]**	**2006 [55]**
Type 1 – Project on time, within budget with all features specified.	16%	28%	35%
Type 2 – Project over budget, over time and without all specified features.	53%	49%	46%
Type 3 – Project is cancelled at some point during development cycle.	31%	23%	19%

The same 1994 Standish Group research[18] correlates project size and failure rates – *"the larger the project the higher the failure rate"*. The Standish Group research also found a relationship between the size of the organisation and the probability of failure; *"on average only 16.2% of software projects are completed on-time and on-budget"* while *"in the larger companies only 9% of their projects come in on-time and on-budget."* More recent reports show that the risk area in 2006 is in the mid size company range as large projects now attract more experienced project management resource[48].

In 2002 the figures for the USA indicate that a total of $55 Billion was wasted out of the annual expenditure of $255 Billion, a cost to business of 21.6% of the annual budget[35]. 2006 shows this figure improved to 15.3%[55].

2.2.1 The South African Context

South African analysts claim that the project failure rates in South Africa are probably higher, although empirical data does not exist to support this claim. Based on the BMI Research projections of expenditure of close to R55 Billion on IT investments and related services in South Africa for 2006 [11] , there is clearly a case for drastic action. A 20% movement in the number of projects where benefit is realised would double the success rate on IT projects. The obvious challenge is to drive up benefit realisation. The question is then how one does this.

2.2.2 Benefit Creation and Realisation

Benefits for business are found in a number of areas, namely; cost reduction, speed to market, service improvement, visibility of information, strategic advantage, decision support, risk mitigation and consolidation. Very few single IT-related projects will deliver in all these areas. Business typically uses these benefit categories to motivate expenditure on technology based solutions.[2]

The motivation in the argument for an IT-based solution to a business problem targets a selected audience. The assessment of the projects success may be in another aspect of the business and from that vantage point, the initiative may be seen as a dismal failure.

Before committing to any IT-based solution, a business needs to know whether the transformation effort (cost) can be justified relative to the perceived future value (benefit) that this change will bring to the business. This cost / benefit relationship is usually defined in a Business Case where the relationship is reduced to monetary terms. The Business Case also serves to provide the project with time and scope boundaries[2].

Importantly the business case tries to look further than the immediate project. It should include analysis of the impact on related areas of the business, both positive and negative. The business case would therefore identify the areas where benefits are anticipated and more importantly the quantum and timeframe of these benefits.

The Business Case then becomes a part of the lifecycle of the IT-based solution. In reality the Business Case pre-exists the solution and if complete, should predict and track the ultimate disposal of that solution. A Business Case thus clearly has a longer (and more complex) lifecycle of its own and the solution lifecycle should perhaps be encapsulated in that longer lifecycle.

This led to the question at the centre of this literature review;

"If an IT Business Case really describes a Lifecycle, what is a best practice approach to managing elements of that lifecycle so that the probability of benefit realisation is significantly improved?"

2.3 Structure of the Literature Review

Murphy in his book Achieving Business Value from Technology [19] proposes a model that includes the "Five Pillars of Benefit Realisation". These pillars are;

- Strategic Alignment,
- Business Process,
- Architecture,
- Direct Payback and
- Risk.

He suggests that these five areas must be addressed for an IT solution to deliver returns, but that having done so does not guarantee benefits. There is a critical dependency on underpinning business processes and key roles defined in an organisational structure to ensure benefit realisation.

He defines the Five Pillars as the framework that deals with the "WHAT" while the process to achieve benefits is the "HOW" and the organisational structure describes the "WHO". The diagrammatic representation of the model shows the dependency of the five pillars and the text references the process and structural elements that are required to compliment the model. What Murphy does not reference are the aspects of organisational change considered critical by Hiatt and Creasey. [5]

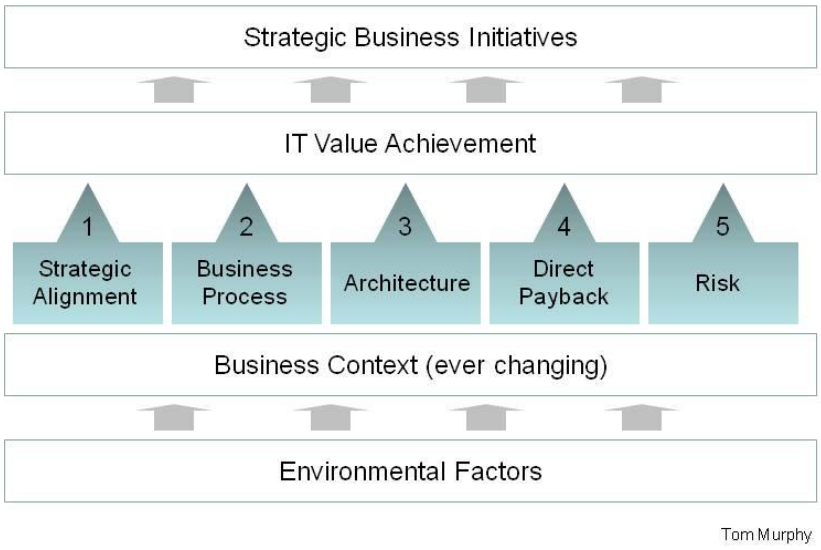


Figure 2.2 - Murphy's Five Pillars of Benefit Realisation

Murphy's model including the five pillars and the underlying process and structure dependencies, along with the aspects of organisational change formed a good point of departure or structure for this literature review.

2.4 The Five Pillars of Benefit Realisation

2.4.1 Pillar 1 - Strategic Alignment

Murphy[19] defines "strategic alignment" as a measure of the degree to which an investment in IT will assist the business in gaining their business goal. He maps a simple hierarchical alignment (one-to-many) between business goals, initiatives and underlying technologies. The technologies support the initiatives and strategic alignment can be assessed based on the linkages back to business goals. In the Zachman model [20], a public domain model that is widely used for defining Enterprise Architecture, Zachman points to six questions that the model must answer. The parallel to strategic alignment resides in Zachman's question of "Why?" He uses the word "motive" to describe the business goal.

A direct comparison can be drawn between Murphy's model and the more detailed one presented by Kaplan and Norton in Strategy Maps [8]. Both allow you to build a value tree that links strategy to initiatives and to action plans with accountability for delivery. The Kaplan and Norton approach is more complete from a strategic perspective (but does not deal with the technology aspects), as it is built largely on the work the authors pioneered in creating the balanced scorecard methodology. The Balanced Scorecard [7] methodology is more business focused and defines outcomes in the four domains; Customer, Financial, Internal Process and Learning and Growth and proposes Key Performance Indicators (KPI's) that define performance in each domain. Target figures for each KPI are embodied in the scorecard and the methodology facilitates a good view of cause/effect relationships and it is easy to link actions to the outcomes.

Many technology vendors and consulting firms use variants of the models defined above, however they all share a common goal; to make visible the linkage between an IT-related investment and the business benefit to be derived. Bradley[45] advocates the use of a graphical Benefit Realisation Map that shows the links through to the "end benefit".

Gartner Analysts have over many years made use of a simple triangle to model the components that support realisation of IT Strategy. [22] IT Strategy is reflected as the body of the triangle, with the three components; Technology, Process and People being the sides of the triangle. Clearly the model suggests interdependence between these components and the realisation of strategy. (The same triangle interestingly is used by Gartner



to represent IT Risk.) Davenport in Process Innovation [6] sees Process and People as the key contributors to business strategy and regards technology only in a process facilitation role.

Figure 2.3 - Gartner Magic Triangle

An interesting observation is the differing roles that various authors cast IT in. Ilbury and Sunter in "The Games Foxes Play" [21] make very little reference to Information Technology as a means of realising strategy. They do recognise technology (broadly) as a potential differentiator. The implication is that IT is a given or in Gartner terminology, a *"commodity"*. Davenport simply sees IT as a means to support process and people[6]. Kaplan and Norton recognise the potential strategic value of IT[8], while Murphy reflects the Gartner perspective of IT as a strategic imperative or differentiator[19].

The type of business that a company engages in will probably shape their view of IT's significance[2]. The more utilitarian views of IT correlate with enhanced risk mitigation, consistency in business process application and lowered cost of delivery while the more strategic views of IT align with speed or agility, knowledge provision and flexibility of the business response.

A Gartner view is that IT can be a limitation rather than an enabler in business simply because it takes too long to align IT with business initiatives[40]. The terms Agility and Flexibility present themselves frequently in documents relating to IT strategy and a search on the Gartner Research site in October 2006 using the word "Flexibility" returns 1710 references while "Agility" brings up 772 references. [22]

Herein lays a most interesting dichotomy. Of the three sides of the Gartner IT Strategy triangle, only one has the capability to be truly "flexible" and that is the "People" one. Technology is by definition predictable and not flexible; however it can facilitate speed in execution of a process. Process by itself is neither flexible nor agile, and traditionally

has been "hard coded" into IT solutions. It is intriguing that the very benefit that IT initially brought to business is now seen as the single greatest constraint on business itself. As we apply IT to drive down cost, reduce variance in process and mitigate risk, we eliminate the business' ability to be flexible and agile. We in effect annul our strategic ability to apply the increased knowledge we have.

2.4.2 Pillar 2 - Architecture

When considering a new approach to a business problem, we value total flexibility and a wide range of choice. This would ensure a close match of requirement to solution, a good balance of risk through vendor selection and a cost effective option. Murphy defines "architecture" as how well a new IT investment compliments the existing or envisaged future IT architecture. Any existing or future IT architecture is based on standards and *"the trick is to accomplish it (flexibility and choice) without losing the benefits of standardisation."* [19] He places emphasis on "any-where, anytime connectivity" as a premise for an architecture that supports benefit realisation going forward today.

There is an important point that Murphy does not make and that is that architecture must take into account future trends. Obviously, a failure to do so reduces the useful life of the technology and directly impacts the longer term benefit realisation potential. Another point that is not well made is that a solution that is architecturally compatible makes implementation simpler and therefore enhances early benefit realisation.

He references the Gartner Technology Architecture Framework as a guideline, and suggests inclusion of information and application architecture in the analysis. At the time he wrote the book, the Gartner Framework was somewhat limited, but the recent acquisition by Gartner of Meta has enriched that framework so that the 2005 release [23] now compares favourably with the de facto standard, the Zachman Framework.

The Zachman Framework [20] describes the essential elements of Enterprise Architecture in what is defined as the Designer and Builder's "view". Zachman applies four of the six questions; what, how, where and who to architecture. The model defines information, application, system and interface architectures at the Designer level and technology

architecture at the Builder level. More detailed pieces of the architecture are located lower down in the model (Sub-contractors View).

	WHAT DATA	HOW FUNCTION	WHERE NETWORK	WHO PEOPLE	WHEN TIME	WHY MOTIVATION
SCOPE Contextual PLANNER	Things important to the business	Processes the business performs	Locations where business operates	Organisations important to the business	Events / Cycles important to the business	Business Goals / Strategies
BUSINESS MODEL Conceptual (Examples) OWNER	Semantic Model	Business Process Model	Business Logistic System	Work Flow Model	Master Schedules	Business Plan
SYSTEM MODEL Logical (Examples) DESIGNER	Logical Data Model	Application Architecture	Distributed System Architecture	Human Interface Architecture	Processing Structure	Business Rule Model
TECHNOLOGY MODEL Physical (Examples) BUILDER	Physical Data Model	System Design	Technology Architecture	Presentation Architecture	Control Structure	Rule Design
DETAILED REPRESENTATION Out-of-context (Examples) SUB-CONTRACTOR	Data Definition	Program	Network Architecture	Security Architecture	Timing Definition	Rule Specification

Figure 2.4 - Simplified Zachman Framework for Enterprise Architecture

The Zachman model tries to compartmentalise each element to facilitate a "plug and play" approach typical of the multi-source IT environment we see emerging today. The model encourages the architect to consider the reality that pieces of the solution are likely to be delivered by independent vendors, and that the architecture for each, while complete and independent, must be compatible with each of the other elements too.

There is a proliferation of vendors providing services and applications that allow organisations to establish and maintain links between the business strategy and the enterprise architecture. The use of the word "Visible Enterprise" seems to be gaining popularity and numerous organisations provide models that make the Enterprise Architecture more visible and the links to strategy more graphic.

Many references raise concerns over the complexity of building (and maintaining) a fully fledged Enterprise Architecture based on the Zachman

model and the research has identified a methodology referred to as Agile Enterprise Architecture.[24] It is apparent that the various models all work toward the same objective but that *"the quality of the people on a project, and their organization and management, are much more important factors in success than are the tools they use or the technical approaches they take."* [25] The secret behind an Enterprise Architecture is that it is "good enough" but not over-engineered. Currency is more valuable than detail and something that is workable better than an academically perfect set of artefacts. Scott Ambler suggests using the "spike solution" concept from eXtreme Programming for Enterprise Architecture. [26]

Failure to consider architecture in a decision for an IT-based solution will impact negatively the potential to realise benefits both in the short term and the long term, and a workable abbreviated version of enterprise architecture (EA-Lite)[26] is an excellent starting point.

2.4.3 Pillar 3 - Business Process Impact

The most common use of IT is to enable (and enforce) business process. As the need for improved governance and compliance drives business to tighter control, IT will more frequently be used to limit deviations and thereby drive consistency in work. Murphy[19] argues that *"IT and Business Process are two sides of the same coin"* and that when you change one, you impact the other. Whilst this application of IT limits agility and flexibility in employee's response to client interactions it does this to reduce the risk of legal exposure. Every organisation has a different tolerance level for risk [27] and the perceived benefit of IT in the process domain is either through productivity and efficiency gains or through mitigation of risk[3].

Business process is the new frontier of efficiency gains and case studies show improvements that range from 40% to several orders of magnitude. [6] The common thread through the evolution from the earliest forms of process mapping (work study), through Michael Hammer's Process Re-engineering to latest thinking in process innovation and process monitoring (BAM) today, remains the value that can be derived from improving efficiency in process execution[6].

Wikipedia defines a **business process** as *"a description of tasks and outcomes associated with a business activity."* [28] They go on to classify

three types of business process; Management Process, Operational Process and Supporting Process. Perhaps the best known initiative that drives process improvement derives from the world of quality control with its roots in the work of Deming (1900-1993). Concepts of Quality Circles and Total Quality Management (TQM) have evolved and the buzz-word today is Six Sigma. [30]

Six Sigma was pioneered by Bill Smith at Motorola in 1986 and has its origin in a statistical metric (standard deviation) for measuring defect rates. At a six sigma level, the organisation can expect 3.4 defects per million opportunities. Six Sigma has now grown beyond defect control and embodies two distinct methodologies or processes; DMAIC for improving an existing process and DMADV for creating a new process. [36] The acronyms are:

D - Define formally defines the process improvement goals that are consistent with customer demands and enterprise strategy.

M – Measure to define baseline measurements on current process for future comparison. Map and measure the process in question and collect required process data.

A – Analyse to verify relationship and causality of factors. What is the relationship? Are there other factors that have not been considered?

I – Improve optimizes the process based upon the analysis using various approved techniques.

C – Control sets up pilot runs to establish process capability, transition to production and thereafter continuously measure the process and institute control mechanisms to ensure that variances are corrected before they result in defects.

D^{2nd} – Design develops the detailed design, optimises it, and plans for design verification. This phase may require simulations.

V – Verify design, setup pilot runs, implement production process and handover to process owners.

In some cases people add an “R” to form DMAIC(R) where “R” represents “Realise”, a process of benefit realisation or harvesting. There is another variant of the Six Sigma process that is best suited to the IT Solution Design environment and goes by the acronym of DMEDI which stands for;

Design, Measure, Explore, Develop and Implement. If this process is considered iterative, it aligns well with the CMMI® Framework and Agile Methodology.

In a case study prepared by Jarvis & Gristock at JP Morgan Chase [38] they found that not only were the two approaches (CMMI® and Agile) compatible but that when applied in a CMMI® framework [37], the outcomes were actually more easily legitimised. The Six Sigma approach meant that the development was driven by business needs, implementation was more disciplined and the results were measurable. The use of Extreme Programming created a solution that was more aligned to user requirements, lower cost to produce and the developers gained *"improved quality of life"*.

This research has identified a novel approach called Zero Delta. [31] The objective of **Zero Delta** is *"to eliminate the deltas between 'what an organization sets out to accomplish' and 'what an organization actually accomplishes' vis-a-vis its business and operational strategies."*

The Zero Delta methodology is compatible with Six Sigma but draws strategy and execution into closer alignment where Six Sigma is more focused on operational excellence. The use of feedback in the model to adjust performance also maps well to the CMMI approach and allows for maturity to develop through the ongoing application of the methodology.

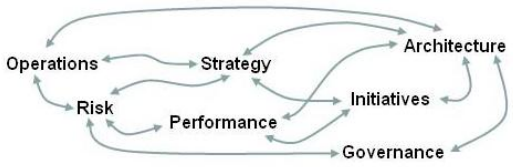


Figure 2.5 - The Zero Delta Model

Murphy notes the problematic consequence of business process being tightly integrated into IT systems as limiting agility and flexibility. He also points out the challenges that organisations face today where business processes span multiple IT systems and the task of providing "end-to-end" visibility is difficult[19]. Many organisations still have legacy systems at their core (with the associated architectural challenges) and as business process spans multiple organisations (e.g. in a Supply Chain Management solution) it becomes a very complex and costly project to integrate the business process and to maintain the tight integration. Most times this is not financially viable due to the integration layer's dependency on the

underlying systems and the impact of changes at this lower level[39]. This makes benefit realisation more difficult to achieve and measure.

There is a contrary view to Murphy's concern, and he does not deal with that in his work. Organisations can derive immediate benefit from adopting tightly coupled applications where the embedded process is an "industry good practice" process. This is typically the domain of ERP and CRM solutions. Gartner points out that *"Best-practice pre-configurations can be effective at lowering costs and shortening the time to business benefit, but they will not lead to business value through innovation."* [39] Best Practice does however have the potential to immediately "raise the bar" in organisations that are lagging an industry curve.

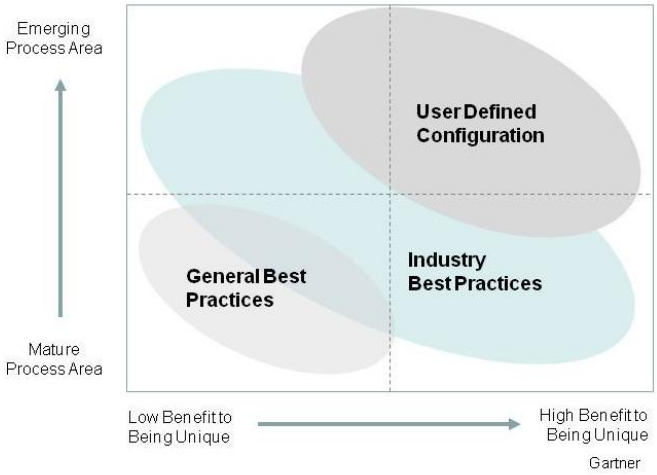


Figure 2.6 - Leveraging Best Practice for Strategic Advantage

Often these standardised application processes define "roles" that are associated with the process flow and this has organisational structure impact. In this way organisations can adopt processes that deliver unplanned structural benefits, and these are usually only recognised in the medium to longer term. Similarly, organisations can be forced to undergo drastic change as a consequence of a "hard coded" business process in an application that is not compatible with the organisational structure. The cost impact is immediate and will delay benefit realisation significantly if the change is not effectively managed. [40]

Business Process Impact is something that must be carefully considered when an IT-based solution is evaluated as it can significantly impact the rate and degree of benefit realisation for an organisation, both positively and negatively[45].

2.4.4 Pillar 4 - Risk Mitigation (and Governance)

"IT investment decisions (for or against) expose an organisation to significant risks; financial, organisational and competitive." [41]

IT has become part of the fabric of Organisational Structure and consequently is viewed as a critical component of governance and a contributor to the business risk profile, both as a direct risk and as an aid in mitigation. Organisations turn to the rigid controls inherent in IT to reduce the variableness typical found when people apply a process.

IT introduces a new level of complexity in the area of risk assessment and the importance of due diligence is *"borne out by the high proportion of failed projects and benefit leakage from successful ones."* [19] Good governance calls for organisations to apply their minds to risks that may become evident through the introduction of a new IT solution[41].

In the Board Briefing on IT Project Governance from IT Governance Limited the authors point out that *"These projects have ceased to be IT projects; they are complex whole business projects, with varied impacts across the business as a whole…and are too important…to be the management responsibility of one person alone."* [41] Calder suggests that there are four levels of risk associated with an IT solution and that *"these are at the strategic (or corporate), programme, project and operational levels."* [42]

The COBIT ver 4.0 documentation states that *"Risk management requires risk awareness by senior corporate officers, a clear understanding of the enterprise's appetite for risk, transparency about the significant risks to the enterprise, and embedding of risk management responsibilities into the organization."* [43] COBIT considers risk in 6 categories; business, regulatory, legal, technological, trading partners and human resources.

Murphy proposes grouping the risks under four main categories for purpose of assessment and to ensure that benefit realisation is not compromised; Organisational Risks, Project Risks, Staff Risks and External Risks. [19]

The table below provides a summary of Murphy's view of these risks by category[19].

Table 1.1 - Murphy's Categories of Risk

Risks by Category	Description
Organisational Risk	
Business Alignment	Similar to the "Strategy" pillar but focused on the dynamic changes to business and technology. IT could be a catalyst but becomes an impediment to business over time. Critical to have a process linking business and IT strategies.
Culture	Attitude of a company toward risk, appetite for "early adoption" of technology with it's challenges, the willingness and ability to cope with uncertainty and the perceived business benefit of taking the "risk".
Organisational Preparedness	Propensity of an organisation to adopt new business models that impact roles, structures, job security, development plans and power structures in the business.
Management Support	Degree of demonstrable management support for the new solution, both in anticipation and post implementation. This dimension assumes added significance as IT's role in organisational design increases.
Project Risks	
Project Management	The depth of project management experience and having resources committed to the role of managing the project rather than performing the work on the project is important. (Murphy doesn't indicate methodology and process maturity but these are critical.)
Size and Duration	Risk increases with size and duration of projects. This is true for number of resources and for activities, and the relationship is exponential. Accuracy in planning helps but research shows that estimates are usually 50% of reality.
Complexity	Complexity impacts risk similarly to project size and duration. The number of parties impacted by the solution, the number of systems impacted by the solution and the number of contractors party to developing and delivering the solution all drive up risk.
Functional Uncertainty	The broader the solutions scope the greater the risk of functional uncertainty. Tighter definition of the business problem and the KPI's that the solution addresses reduces risk. The choice of development languages and tools can also influence uncertainty.

Risks by Category	Description
Hardware and Vendor Risks	Although substantially reduced by commoditisation and standards, the risk related to hardware and vendors must be accounted where specialised technology is deployed, or where mission critical service is indicated.
Testing Capacity	The lack of testing increases risk in a project and as comprehensive testing becomes less realisable so risk profiles increase. As system complexity increases so load and process testing becomes more important but often less practicable within time constraints.
Business Continuity Plans	Disaster recovery has virtually been replaced by business continuity. This has been necessitated by business' increased dependence on technology and the dire consequences of outages. New solutions must consider the impact to the existing business continuity plans.
New Technology	New unproven technology introduces opportunity and risk into a solution and can extend project timelines as familiarity needs to be established. Adopting new technology can also extend a solutions life expectancy and therefore aid benefit realisation.
Business Process Related	One of the pillars is concerned with alignment of the solution to the process. This view is of the risk is the rate at which business processes transform and the capacity of the solution to adapt (flexibility and agility).
Staff Risks	
User Commitment	Many technically sound solutions fail through lack of user buy-in. Higher user involvement in development and solution design improves user adoption. Other factors include staff relationships, job security, IT training and support and the quality of the user interface.
User Capability	Increasingly applications depend on higher levels of user ability. Distributed and collaborative computing anticipates higher levels of business knowledge and improved ability to apply technology, but the concomitant risk of poor delivery is real.
Staff Stability	Higher staff turnover (especially in development) increases risk in a project. The cost of retraining and building experience is significant and the impact to timelines is substantial. The organisations ability to recruit and induct the right people quickly mitigates some risk.

Risks by Category	Description
External Environment	
Competitive Action	Competitors seek differentiation in their markets and innovative application of technology helps achieve this. It is more often the need to counter an emerging differentiator that places an IT initiative at risk, than something internal to the business.
Legislation	Changes to legislation can have dramatic impact on IT initiatives. Stable and reliable systems may need to be revised to comply and the effort introduces non-standard and high risk change. Government initiatives can impact the risk profile of an established company.
Economy	The economy can impact the well-being of a company and may dramatically alter the competitive landscape.

Murphy recommends that *"a formal, structured risk analysis is an essential perspective for evaluating IT investments."* [19] This view is reflected in the Gartner recommendations[33] and is part and parcel of good practice in project management too[54]. The key note is that organisations will compromise governance requirements and significantly impact benefit realisation by ignoring risk. Furthermore, it is not so critical what framework or methodology is used, but rather that the assessment is systematically done.

Norton and Kaplan[7] look at risks in the four groupings typical of a Balanced Scorecard; Customer, Internal Process, Financial and Learning and Growth (People). The COBIT Framework (Control Objectives for Information and related Technology) Version 4.0 (2005) provides a comprehensive IT management framework that is auditable and helps to effect IT Governance[43].

COBIT covers four domains; Plan and Organise, Acquire and Implement, Deliver and Support and Monitor and Evaluate. The underlying 34 high level objectives are supported by some 215 control objectives, providing a daunting level of granularity if fully implemented. [43]

There is a high-level control objective PO-9 which provides guidelines for assessing risk. The COBIT framework proposes 8 detailed control objectives;

- **Business Risk Assessment** – An ongoing management process of applying a systemic risk assessment framework.
- **Risk Assessment Approach** – A management defined approach providing scope, methodology and responsibility for risk assessment.
- **Risk Identification** – The process for cataloguing and ranking risk (qualitatively and quantitatively) and identifying cause / effect relationships.
- **Risk Measurement** – The quantitative and qualitative measurement of risk and the risk acceptance capacity of the organisation.
- **Risk Action Plan** – A process to ensure that a cost effective plan exists to manage avoidance, mitigation or acceptance of identified risk.
- **Risk Acceptance** – A formal process to ensure acceptance of residual risk through insurance, negotiated liabilities and self insurance.
- **Safeguard Selection** – A process to prioritise actions and balance prevention, detection, correction and recovery measures. Also ensures communication.
- **Risk Assessment Commitment** – Management must demonstrate the importance to the business of risk management.

Calder recommends the use of a capability maturity model to assess and develop project governance into what should become a core competence over time. [42] This approach is reflected in the Carnegie Melon CMMI® process area of Risk Management with its specific Goals and Practices[46].

2.4.5 Pillar 5 - Direct Payback

Any investment in a company is evaluated in terms of the benefit it will provide. Investments in IT should not be any different although the cost incurred in an IT-related project are rarely contained to just IT. Since the IT component is usually to enable or support a business initiative, the cost of the initiative is felt in all impacted areas even if not properly accounted. In exactly the same way, the return is felt in the impacted areas (rarely in the IT department) and is most times not accurately accounted. In fact,

the ability to account for the return accurately could well be the underlying cause for the perceived poor performance of IT projects as a whole. In a Gartner EXP publication *Show Me the Money: Advanced Practices in Benefits Realization*, the authors state that *"what the business really cares about is not systems, but benefits."* [33]

Murphy [19] points out that a component of the benefit companies will realise cannot be quantified and he classifies these as intangible benefits rather than hard benefits. He suggests there is a trend toward a more general acceptance of this category of benefits. Although these benefits occur outside of IT, Gartner Research [33] shows that *"96% of CEO's attribute benefits failures to IS, no matter where the failure arises."* Viney states *"The challenge of the 21st Century is increasingly how to realise end-to-end change across a boundary-less business."* [12] Gartner holds the view that multiple measures may be required to provide a representative view as *"each measure provides insight from one perspective, but does not provide a complete picture."*

Murphy[19] suggests that in order to define the "Direct Benefit" pillar, a conventional split of tangible and intangible benefits be recognised, and that the tangible benefits be broken into categories of cost reduction and revenue generation. IT has a traditional role in cost saving through process automation and optimisation and he suggests that *"senior management continues to look in this area for justification of IT expenditures."*

The key question for business before committing to any IT-based solution is whether the transformation effort (cost) can be justified relative to the perceived future value (benefit) that this change will bring to the business. This cost / benefit relationship is usually defined in a Business Case where this relationship is presented in monetary terms. Recent research from the Cranfield University School of Management found that *"47% of respondents believed that assessment of business benefits in business cases was poor or worse."* [12]

Schmidt in *The Business Case Guide* [2] says, *"When building the business case, design and process are everything."* It follows that gaining approval for expenditure on the basis of a well written business case is mechanistic. When one stands back you can ask, "Why the poor project track record?" Could it be that the challenge for the author of the business case becomes one of persuading the company to spend the money on a technology solution? The tendency for IT to develop business cases prior to 1999 is a

substantive example of this practice. In that process we may lose objectivity (and perhaps the strategic intent) and create unreasonable expectations. The objective then becomes one of gaining approval for investment in technology rather than remaining focused on solving the business issue.

In the Cranfield research 79% of respondents said that all the available benefits were not captured during the business case benefits assessment process. [12] This suggests that benefits are realised but not accounted, thereby diluting the return and building the perception that IT-based solutions are not contributing as expected.

The use of the Business Case is often limited to gaining financial approval against a somewhat vague promise of future business value, and in the Cranfield research 45% of respondents believed that benefits in the business case were overstated in their organisation to get investment approval[12]. There is little focus on how to ensure the future benefit, a process called "benefit realisation". Typically the business identifies a business problem, enlists IT's assistance and a technology solution is crafted. Since the foundation of this approach is the innovative application of technology, the preparation of the business case is easily relegated to the IT department.

Once the business case is approved, the focus moves to project management. Schmidt[2] also states that a good business case *"describes who needs to do what, by when, in order for the predicted results to appear."* This implies that effective project management of a solution as defined in a business case effectively guarantees the outcome. It may be argued that based on a solid business case, the cause of failed IT projects then lies with project management.

However it appears that even where "best practice" project management is apparent and the solution is tested and turned over to the business on time and within budget, the benefits are hardly realised. Gartner makes the following observation, *"The benefits life cycle is longer and broader than the systems life cycle, and IS organizations are often not skilled in, or connected to, much of the benefits process, especially the harvesting phase. IS normally bows out before the harvesting phase is complete, often just after it starts."* [33] User acceptance tests are seen to release IT of responsibility and the project "close out" ends the project management role. The business has their new solution, the money is spent and the

business case is lost in the archives. In reality, no benefit has accrued to the business at this stage.

Viney argues that this will only change *"when project managers and their people become accountable for – and obsessed by - delivering business benefits and value through Change, rather than simply projects to time and cost."* [12] What he suggests is in fact a change in the scope and discipline of project management. Is this really a desirable outcome?

In their book *Making Technology Investments Profitable* [3] Keen and Digrius say *"... the major reason why benefits evaporate is that no management process exists to ensure ongoing project success is occurring"*. Perhaps the emphasis should be placed on the word "ongoing". This suggests recognition of a missing component in the potentially protracted process of benefit realisation management. The project team has raced off into the distance, pursuing yet another business requirement, and the company or department is doing "business as usual". Is anyone minding the returns on the investment? Who should be? Only one thing emerges clearly, if there is no process and/or owner, it isn't happening!

This may appear to be a pessimistic view, but for various reasons so called IT-based solutions fail to deliver the business benefits defined in the business case in nearly 80% of projects [12]. In truth, these are not IT's projects. They are business' projects that IT was contracted to deliver only a part of. In reality, the benefit realisation part of the project is outside of the "solution development and delivery" project portion that IT owns. It is in fact in the business domain that benefit realisation needs to be managed. Has business abdicated their responsibility in ignorance or is it as Gartner suggests; a new skill and additional responsibility that IT must shoulder? [33]

Knowing what it is you are looking for makes it possible to find it. Benefits are frequently couched in woolly statements. The use of a graphical representation dramatically improves the way that benefits can be communicated and understood. Murphy[19] refers to a value map while Keen and Digrius[3] support the use of a value ladder to give substance to the way the benefit is derived. As the components that contribute benefit are assembled into a value ladder, it describes the links between the lower order benefits, the business results and the higher level strategic objectives. *"Achieving higher level benefits is especially difficult if the*

business case has not mapped this linkage at the time of solution funding." [3]

Ideally at a program management level, a project manager would be able to see a strategy map that ties all of the initiatives' value ladders into the company strategic plan. Use of the Norton and Kaplan approach to Strategy Maps reduces this to a visual representation with highly traceable and measurable linkages. Being able to visualise the interdependencies and the contributions of each initiative is a critical component in optimising the utalisation of resource. *"Strategy maps describe how the organisation creates value."* [8] Finding and measuring the contribution that initiatives make to the overall perception of value in an organisation is a great starting point for managing benefit realisation.

2.5 Supporting the Pillars

2.5.1 Organisational Change Management

There is a high probability that the new IT-based business solution impacts a business process or some other technology and that will cause user disruption. Adapting to change is something humans are not adept at. Hiatt and Creasey point out that organisational change occurs *"one individual at a time."* [5] Change in a person is not an event, it is a process. The process is predictable and follows a well documented sequence of steps. Between the phenomenon of Stimulus and Response, humans (by virtue of their intelligence), make a decision about their response. The response is not purely a genetically or learned reaction, but is a considered and sometimes conscious process. People actually choose to change. People's behaviour at each stage can be observed and therefore their progress through the process of change can be monitored. For change to be lasting there are certain psychological stages that can be facilitated, and earlier adoption of a new solution improves the rate at which benefits are realised.

While psychologists describe the stages of change based on emotional reaction to the underlying change event, and many change practitioners have described management approaches to dealing with these emotional responses, there is a lot of room for error. In general, an individual in the

"current reality" is Indifferent in their behaviour and is open to External stimuli normally with a tendency to be Past Focused. Once the person becomes conscious of change, the orientation becomes Internal and one can expect Reaction.

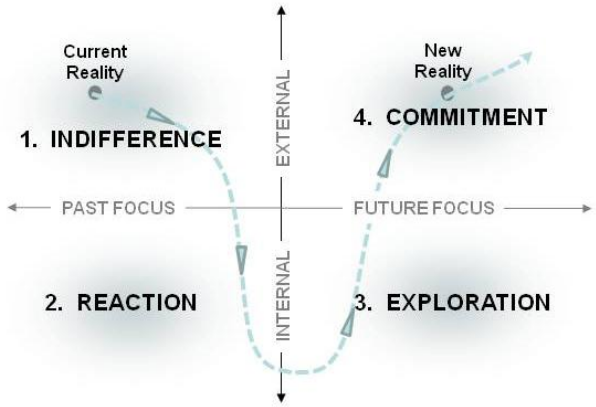


Figure 2.7 - Simplified Psychology of Change

As soon as the individual acknowledges the change, the focus moves to a Future orientation and the behaviour is more Explorative in terms of the change impact. When the person becomes settled with the new reality, the orientation becomes External again and the behaviour demonstrated is usually Commitment. Mistakes in managing change according to Prosci are a major underlying cause of project failure [32] and Hiatt and Creasey's work is based on the activities required to bring about the change event. The acronym for their change process model is ADKAR® (Awareness, Desire, Knowledge, Ability, and Reinforcement)[16].

The principle is simple; people will not begin to change until they become *aware* of the need for change. The first step is therefore, to make people aware. However a simple awareness is not sufficient motivation to change and to overcome any resistance to change at this stage, the change manager must cultivate a *desire* for the change. You can only build the desire on the basis of adequate *knowledge* of the future state. As soon as people begin to engage in the planned new behaviour, they need the skills or training that develops *ability* to perform the new tasks. Failure to do so will result in the change being seen as "too hard". Finally, to prevent regression the change manager must *reinforce* the change. People

progress through this continuum at their own pace and do so individually. Change managers need to manage the process accordingly.

The change intervention needs to be aligned with the project management process to ensure success[54]. The diagram below indicates the three possible scenarios, two of which are problematic. Success is achieved when project and change management initiatives are tightly coupled and the implementation proceeds apace. A strong project management focus with poor change management results in a solution being deployed but with no buy-in from the user community. This failure can result in sabotage of the solution by conscious non-adoption as the users were not consulted. An overly driven change management process results in users becoming frustrated by lack of project progress relative to their readiness to adopt the new solution.

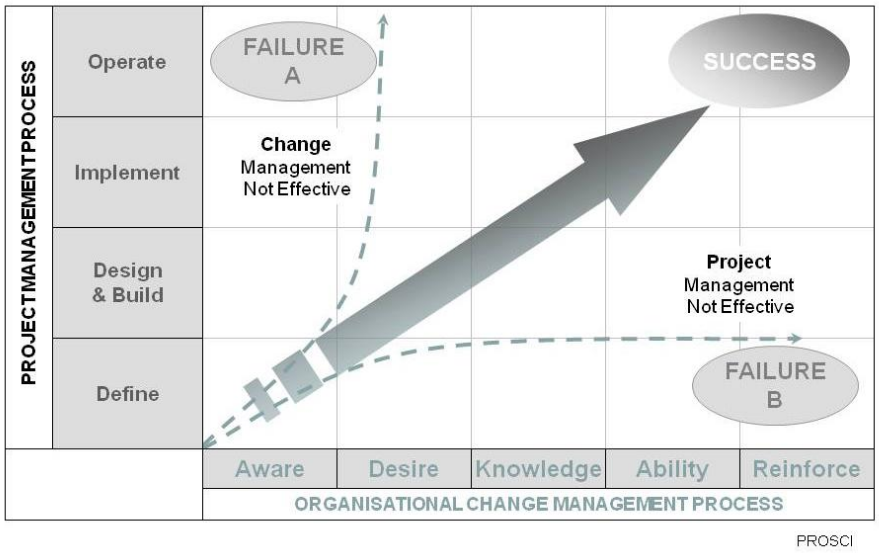


Figure 2.8 - Aligning Change and Project Management Processes

The project plan should be built in concert with the change management plan and joint reviews are critical to maintaining alignment of effort. At the implementation stage the focus needs to be on the user and their response to the change (and consequently the early adoption of the new solution).

2.5.2 Business Process for Benefit Realisation

While the pillars as defined by Murphy [19] facilitate the creation of a solution that has realisable benefit for the organisation, the process for realising that benefit is one of the keys to unlocking the business value.

Murphy suggests that this process should influence the way the five pillars are considered in the solution creation and that the process extends and wraps the solution lifecycle. Much of the benefit of this approach lies in the following words from his book[19]; *"...the exercise will not only optimize the chances of achieving business value from IT investments, but will enhance communication and understanding within the organisation and act as a tool for both strategic and operational control. Providing rigorously applied double-loop feedback, it will act as an enabler of corporate knowledge and process best practice."* The double-loop feedback he refers to is the two distinct control processes, the first feeding back operational information for the specific solution and the second; the learning from the solution is applied against other projects to enhance performance over time thereby building capability and maturity.

For each organisation and for each IT enabled business solution, a view of the relative importance of the five pillars is determined. This "weights" the pillars value and defines what Murphy refers to as the "ground rules". He suggests reaching these values by drawing input from senior executives and establishing a consensus view. At this point, the value ground rules should be communicated thoroughly and broadly in the organisation.

The value standards are a set of crucial criteria or questions for each pillar and these form the basis of measuring value of proposed solutions in each of the pillars. The process requires the criteria to be de-composed into KPI's that effectively evaluate the solutions performance and contribution. These criteria should be standardised for all IT-based initiatives to allow consistent evaluation. This principle is similar to the value ladders described by Keen and Digrius[3] and aligns well with Kaplan and Norton's views.

Murphy then suggests a derivative of project management that he refers to as IT value project management be used to manage the project and realise the benefits as determined for each "project" or "scenario". This information then compliments the operational information relating to the impacted business process. His view appears theoretical as it fails to deal

with the fact that the project management function is over before the benefits materialise and are accounted.

Bradley[45] takes a pragmatic view of Benefit Realisation. He advocates the creation of a Benefit Realisation Plan (as part of the business case). The plan in his view includes:

- A vision statement supported by a strategy map with a value ladder that shows how primary and end benefits link to the vision.
- A set of benefit maps with dependencies noted with measurements that show the baseline and target values with timescales for each tracked benefit.
- A trajectory chart that shows the planned and actual performance of each of the benefits relative to timelines. (This he points out is part of a good business case.)
- A documented methodology / mechanism to be employed for tracking and reporting benefit realisation, including how benefits are allocated across multiple projects in a program.
- A schedule of accountability and responsibility for the realisation of each of the benefits, with named individuals.

It is interesting to see the way Bradley brings together the work of so many in a composite extension of the business case and project plan. In his book he wrestles with ownership for Benefit Realisation as a discipline, eventually suggesting that the business appoint an individual as *"establishing such a role is a critical success factor for effective benefit realisation."* On the issue of reporting structure he says *"ideally this role sits in the business, not in IS/IT…"* pointing to the fact that it is a business unit responsibility to realise benefits on their initiative. He makes a point that the role is *"not reporting to finance…"* as many benefits are not hard dollars and finance creates pressure to reduce everything to dollar metrics.

2.6 Summary

Benefit Realisation is a logical outcome of a business initiated change. It is after all the reason why the change was initiated. The reviewed literature suggests that realising the benefit is rather rarer than might be expected. So much is being done at the inception of projects to try to improve outcomes, and such a wealth of information exists around good practice for the execution of the projects that one is left to wonder at the outcome (or lack of it).

The expectation in all the literature is that this body called "IT" will deliver the benefits on a platter, all neatly labelled and accounted. The harsh reality is that we're looking in the wrong place.

The benefit is not an IT benefit, it accrues to the business.

IT is merely tasked with managing the placement of the investment. When IT has done an exceptionally good job, they have minimised the cost and met the expectation of solution performance and there is no return, in fact there is just an expense.

The real issue is that the Management Process for Benefit Realisation is not taught to business managers. It is not an art form nor is it "rocket science". The potential to realise and enhance the benefit is real. The opportunity is to define the process and show Business Managers how to become Benefit Realisation Managers. Benefit is the product of change and managers have the task of effect change through people. Benefit Realisation is about ensuring that the change takes place in such a way that the outcomes are accounted and that they benefit the business.

Adequately supported with defined process and coaching, the Business Managers are best positioned to realise the benefits they sought at project inception.

3 Research Process and Expectation

3.1 The Conceptual Framework

Benefit Realisation is a term common in financial and stock trading jargon, and describes the process of turning investment benefits into tangible assets. Given the challenge that IT faces in quantifying the value that technology and systems provide to the business, there is a distinct parallel.

The literature review shed little light on the subject of benefit realisation other than to confirm that "*... the major reason why benefits evaporate is that no management process exists to ensure ongoing project success is occurring*".[3] The research effort was focused on understanding how to make the benefits from IT investments realisable as tangible business value.

Benefit in an IT-related project is usually described in a business case where the cost of realising the benefit is compared with the value of the benefit. Theoretically, when the value of the benefit is greater than the cost of realisation by an acceptable margin, the proposition is considered worthwhile.

Given that business has approved IT initiatives historically against expectations of acceptable returns and the perception business has is that IT only delivers benefits in less than 20% of the initiatives, there appears to be three potential scenarios:

1. The business case itself was flawed and it promises value that is not realisable and / or
2. The delivery of the solution was flawed and does not unlock the anticipated value and / or
3. The value is delivered but not recognised by the business. This means that the value exists but that a suitable mechanism for accounting for the value is not in place.

No doubt, the situation exists where more than one of these factors impacts the perception. The remedy for scenarios 1 and 2 above are significantly different than that for scenario 3.

The research sought to identify the factors that give rise to all three scenarios through existing literature. It became apparent that the problem

was acknowledged, but that a solution was not obvious. Extensive texts on building business cases exist and so do volumes of information on managing projects to deliver solutions, but until Bradley's book was published late in 2006, little exists on the subject of Benefit Realisation Management.

Through a series of initial conversations (early in the research process) with people in leadership positions in IT disciplines, it became evident that a defined set of practices around benefit realisation does not exist nor was there a clearly defined "responsible person" assigned to manage benefit realisation. Every person canvassed expressed interest in a solution to this challenge, indicating that it has been a latent issue for some time.

The "breakdown" or failure of benefit realisation appears to occur on or after project close-out *where ownership of the solution transfers but no similar transfer of responsibility for the realisation of the benefits takes place*. This provoked an analysis of what needs to be done, by whom, and how to realise benefits. The concept of a Benefit Realisation Lifecycle Management has crystallised during the period of the research. Initially it seemed to be a highly complex concept but this has now been simplified significantly.

This research concluded that:

- Benefit Realisation Lifecycle Management can be described as a set of interlinked processes and
- these processes have dependencies on lower order processes and
- a higher level of process maturity is necessary in an organisation for Benefit Realisation Lifecycle Management to be effective.

To validate some of the perspectives, a questionnaire was established and circulated to a representative group of senior people with responsibility for IT functions in South Africa (typically at CIO level). The questionnaire was structured to give "bucket" responses rather than absolute quantitative measures through the use of mostly multiple choice selection answers and limited use of verbose response.

The questions look at the existing process in business today, the "completeness" of the process, the maturity of the process and the perceptions of the "workability" of the process. The findings of the research are analysed in the next chapter while the underlying data is contained in Appendix C. Best practice aspects where identified may be drawn out from the analysis to form guidelines to further mature the benefit realisation practices.

3.2 The Questionnaire

The intention of the research questionnaire is to gain insight into current practice, verify the outcomes of initial interviews and to invite comment (without undue pressure) on the key issues. To this end an optional comment field is included with each selection.

The questionnaire forms an instrument to measure the practices across a spectrum of technology enabled businesses from an IT leadership perspective. The questions were structured around processes that support Benefit Realisation Lifecycle Management rather than the discipline itself, since the informal discussions had confirmed that there was no evidence of formal practices in the discipline.

The defined purpose of the questionnaire is thus to:

- To establish a baseline of practices in the broader research sample group
- Identify those practices that can be termed "better practice"
- Gauge the level of maturity in the practice of benefit realisation management.

3.2.1 Target Audience for the Questionnaire

The research has targeted people designated as CIO (Chief Information Officer) or the nearest equivalent role in predominantly larger South African organisations. The perspective that the research is extracting is one that represents corporate South Africa and spans private and public organisations. The audience has been selected to cover financial and

insurance, retail, manufacturing, telecommunications and hospitality and leisure.

3.2.2 The Expectation

At the onset the research expected that there would be minimal understanding of Benefit Realisation Lifecycle Management and that, where attempts were being made to manage this, they would be informal, forward thinking and probably poorly documented. This assumption came from the absence of literature on the subject and recognition that major research bodies (Gartner, Forrester, IDC and a number of academic organisations) have no material listed on their websites to support Benefit Realisation Lifecycle Management.

There was a concern that some respondents would be reluctant to reply as the questions were largely around higher levels of maturity and may be intimidating, possibly incriminating as they are seen to expose deficiencies in their own area of responsibility in their organisation.

It was not the quantitative answer that the research questionnaire was looking for but also the narrative that may be attached to the response. Often the narrative gives much deeper insight (qualitative input) into the respondents' reply.

3.2.3 The Questions Asked

The set of questions was established with specific intent. After many discussions with senior people tasked with leading IT operations, the focus was rarely on the benefit that their solutions was delivering to the business but rather on how to cut the costs associated with IT and how to fund new innovation rather than funding ongoing operations. Essentially the ongoing debate is about moving the balance of expenditure within a diminishing budget.

If Business perceived "benefit" rather than "cost" then surely this balance would change! The questions try to get "behind the scenes" and clarify roles, maturity and readiness for the change that a Benefit Realisation Management culture would drive.

Table 2.1 - Research Questions and Objectives

Question	Objective behind question
Briefly explain how the business initiates an IT-related project in your organisation?	Test for existence of a formal process. Allow the respondent freedom to elaborate on how "they" do it. What is the preferred method used by business to engage IT into a solution discussion?
Does your organisation use a documented business case to motivate IT investments? (Yes always, Sometimes, No) • If not, how is approval gained for IT expenditure? • Is there a financial value above which a business case is mandatory? (Yes, Uncertain, No)	Determine the extent to which business cases are used and the maturity of the process. Allow respondents to offer an alternative method to a business case. Understand if "gates" are in place in an existing process, indicating higher levels of maturity.
Who is responsible for preparing the business case to motivate for expenditure on IT-related projects? (Functional Title)	Identify the "owner" and see if it's in the business, in finance or in IT
Does your organisation follow a formal process to prepare an IT business case? (Yes always, Sometimes, No) • Is that process documented? (Yes, Uncertain, No) • Please list the major steps in the process. • Is there a standard format (layout) used for business case? (Yes, Uncertain, No)	Determine the extent to which the business case process is entrenched (maturity of the process framework) How mature is the process and is it widely known? Understand the scope of the process in place, looking for linkages to other processes. Testing maturity level.
List the functional titles for the key stakeholders responsible for input into a business case?	Does the process (formal or informal) encompass input from multiple disciplines (business, finance and IT)?
Who is considered to 'own' the IT business case? (Functional Title)	Is the business case owned by anyone in the business?

Question	Objective behind question
Are company policies published that define expected ROI and break even metrics for IT solutions? (Yes, Uncertain, No) • What is the typical time frame over which IT investments are amortised? (<24 Months, 25-48 Months, >48 Months) • When compared with your company's external business, the ROI expected of an IT investment should be: (smaller, the same, greater) • Does the ROI calculation take into account "soft costs" like end-user re-skilling and organisation change management? (Yes, Uncertain, No)	Testing maturity, particularly for quantitative measurement. Trying to establish a baseline for the industry and gauge expectations in different sectors. How does internal investment return stack up against the external expectations? Indicates how business views IT investments. Is the business case complete or are there typically unaccounted people related costs?
Does the IT-related business case account for costs associated with business process changes? (Yes, Some cases / some costs, No)	Is the business case complete or are there typically unaccounted process related costs?
Who presents the IT-related business case for approval? (Functional Title)	Is the business case presented by the business or do they abdicate to IT?
Who approves an IT-related business case in your organisation? (Functional Title)	At what level is budgetary authority held (the CIO, business, CFO or CEO)?

Question	Objective behind question
Is a formal process followed when responsibility moves from business case approval to project implementation? (Yes always, Sometimes, Never) • Who is responsible for implementation? (Functional Title) • Is the responsible person a part of the team that built the business case? (Yes always, Sometimes, Never) • Is the responsible person held accountable for achieving the projected business case benefits? (Yes always, Sometimes, Never, Don't Know) • Is the person responsible for implementation incentivised based on project implementation success? (Yes always, Sometimes, Never, Don't Know)	Looking for maturity and formality in the linkage between the business case and the project manager / office. Project office in place? Evidence of early resource planning and linkage and continuity in process. Is there a "Benefit Realisation" process in place at a project level? Is the organisational structure integrated with business outcomes measurement?
Does your organisation use a formal Project Management methodology for implementing IT solutions? (Yes always, Sometimes, Never,)	Maturity of process?

Question	Objective behind question
Is the business involved in IT-related solution development and implementations? (Yes always, Sometimes, Never) • When in the project is the business first consulted? (Before or during the business case preparation, During the business case approval process, After approval and during implementation, After implementation, Never) • To what extent is the business held responsible for project implementation success? (Totally, Jointly with IT, Not at all) • Is 'success' clearly defined in business terms for the solution IT deploys for the business? (Yes always, Most times, Rarely, Never, Don't know)	Does the business abdicate responsibility to IT? Is the business part of the business case or not? Just how closely aligned is the business and IT. Is it a business project with IT involvement or an IT project? Is business able to relate to the benefits that the IT-based solution must deliver?
Does your organisation employ a form of Program management? (Process of managing multiple ongoing inter-dependant projects) (Yes, Uncertain, No) • Are approved projects re-qualified periodically? (Yes, Uncertain, No) • Do projects get stopped or placed on hold at these reviews(Yes, Uncertain, No) • Is the business case revisited and updated during these reviews? (Yes, Uncertain, No)	Maturity question. Positions other responses in a context of project management capability. Maturity, in particular is it quantitatively managed and optimised? Does the project office have "power of veto"? Is the business applying a form of versioning on the business case?
Does your company use version control on business cases? (Yes, Uncertain, No)	Is the version control on the business case formalised?

Question	Objective behind question
What percentage of projects (historically) in approved status are stopped or placed on hold after a review? (<10%, 10-25%, 25-50%, >50%, Don't know) • When a project is stopped or placed on hold, is the business case revised? (Yes, Sometimes, Never, Don't know) • Does a 'lessons learned' exercise get conducted when a project is stopped? (Yes, Sometimes, Never, Don't know)	If proper reviews are held, what is the % of challenged projects (baseline)? Key input to indicate linkage between project delivery and the business case itself. Maturity question with emphasis on optimisation.
What percentage of IT projects complete on time? (<10%, 10-25%, 25-50%, 50-80%, >80%, Don't know)	Baseline verification question.
What percentage of IT projects complete within budget? (<10%, 10-25%, 25-50%, 50-80%, >80%, Don't know)	Baseline verification question.
What percentage of IT projects are delivered on time and in budget? (<10%, 10-25%, 25-50%, 50-80%, >80%, Don't know)	Baseline verification question.
Are IT-related solutions signed off against the original business case at project completion? (Yes, Sometimes, Never, Don't know)	Checking linkage between business case and project office.
Is your company able to measure IT-related solution performance against the respective business case on an ongoing basis? (Absolutely, Sort-of, No, Don't know)	Maturity question. This is also a validation question for others in the series.

Question	Objective behind question
Where variances exist between the business case and the solution performance are these formally documented? (Yes always, Sometimes, Never, Don't know)	Maturity question with emphasis on optimisation.
• Does the business case get updated with changed expectations? (Yes always, Sometimes, Never, Don't Know)	Post implementation business case updates?
• Is a formal remedial plan implemented? (Yes always, Sometimes, Never, Don't know)	Post implementation remedial action process in place?
• Who takes responsibility for the remedial action? (Functional Title)	Who owns benefit realisation management in a different guise?
Who determines whether an IT-related project delivers the business benefits as defined in the original business case?	Checking for accountability for the benefit realisation function meeting objectives. Close the loop?
What percentage of IT-related projects deliver the business benefits as defined in the original business case? (<10%, 10-25%, 25-50%, 50-80%, >80%, Don't know)	Baseline verification question.
• What percentage of projects with remedial plans deliver the business benefits as defined in the revised business case? (<10%, 10-25%, 25-50%, 50-80%, >80%, Don't know)	Baseline verification question.
• When a solution reaches 'end-of-life', is the solution performance reviewed against the original business plan? (Yes always, Sometimes, Never, Don't know)	Maturity question with emphasis on optimisation.
• Are new IT business cases checked against 'lessons learned' before submission for approval? (Yes always, Sometimes, Never, Don't know)	Maturity question with emphasis on optimisation.

4 Benefit Realisation Lifecycle Management

4.1 The Starting Point – Why do it?

Bradley states that *"the primary reason for identifying a benefit is to realise it"*. [45] Keen and Digrius make the point that *"... the major reason why benefits evaporate is that no management process exists to ensure ongoing project success is occurring"*. [3] This research found that Benefit Realisation Lifecycle Management was something most IT Executives believed was very important but that good practice methodology was not apparent. There was also an appreciation that Benefit Realisation Management depends on stable underlying processes being in place.

The very fact that **business** initiates an IT-related project means there is an expectation of **business** benefit. The literature review confirmed that a general problem with realisation of IT-related project benefits exists.

A key point is that the business has the expectation of the benefit, yet IT is considered to be the cause of realisation failure. Gartner Research [33] shows that *"96% of CEO's attribute benefits failures to IS, no matter where the failure arises."* On reflection it seems that IT and Project Management carry the responsibility for managing the "investment" up to project sign-off and at this point the baton of Benefit Realisation is dropped.

The heyday of IT projects is past. Recent Forrester research indicates a preference to refer to Information Technology rather as Business Technology. Taken one step further we can describe IT-based business solutions today as Business Enabling Technology (BET). The effect of this naming convention change may erode the divide that Gartner research recognizes as one of the top three challenges facing CIO's today; namely to align IT with the business. Benefit realisation would in this context become the measure of the degree to which technology has enabled business.

Gartner makes the following observation, *"The benefits life cycle is longer and broader than the systems life cycle, and IS organizations are often not skilled in, or connected to, much of the benefits process, especially the harvesting phase. IS normally "bows out" before the harvesting phase is complete, often just after it starts."* [33] This research seeks to define an

approach that will ensure seamless transition from the "investment" phase to "harvesting" of the benefits.

The model developed and proposed by this research overlays onto the CMMI process framework. It describes specific additional process areas that support benefit realisation. In a mature process environment the model allows for benefits to be optimised. The Process Area has been defined by the research as Benefit Realisation and Optimisation Management or BROM and is described in detail in Appendix B.

4.2 Observations: Interviews / Research Questionnaire

The feedback gained from the questionnaires and secondary discussions with the identified respondents is summarised below. The observations are numbered for ease of reference only and the numbering has no significance or relationship to the questionnaires.

1. In general the business does an initial feasibility study before initiating an IT-related project. The business initiates the project through budget allocation and formal communication with the IT department.
2. A business case is often used to justify expenditure, but not always. This raises a question around governance. Expenditure is sometimes approved without the formality of a business case, even at CEO level. For Benefit Realisation to be in place this would have to be changed. Standard formats for Business Cases do exist in a few companies, but are not always used and then not consistently. Documented methodology for preparation of a Business Case is evident in some companies, even if it's not fully applied in most instances.
3. There is substantial variation within organisations, largely demarcated by initiatives being driven by the style of the "owner" (based on commentary in the responses). Financial thresholds were confirmed as one criterion for Business Case usage, but respondents are vague as to relevance and application of thresholds.
4. Responsibility for Business Case preparation lies largely with the "project owner", typically a business person while ownership of the Business Case is seen to be at an executive level and in 75% of the responses, the title includes reference to IT. Major steps indicated in Business Case preparation always include reference to budget

approval. Key stakeholders identified for input to a Business Case include the business owner, IT and the project sponsor. Finance is rarely mentioned. ROI and Break Even expectations are not defined in the companies surveyed nor are they described in a policy.

5. Typical timeframes for amortisation of investment is greater than 2 years with a spread to 5 years. The general view of CIO's surrounding company expectation of ROI was that the company would expect similar returns to what their core business generates. 50% of the sample could not rate the question indicating a lack of knowledge of business expectation around returns. CIO's believe that soft costs are accounted for in the business case in about 50% of cases but that process change implications are not fully provided for. There is no clear indication of who typically presents the completed business case to the executive and approval is largely by the CEO or for larger projects, the board.
6. Most organisations follow a formal process of moving a project from an approved business case to a project team. The most likely candidate to hold responsibility for the implementation of the solution is the PMO or a Project Manager with the CIO or GM in IT sharing that function. The responsible person is generally part of the team (>75% of the time) that built the case to start with. The responsible person for the implementation is not generally considered to be accountable for the benefits anticipated by the business case.
7. Incentives are in place in <25% of the companies surveyed but none of these are tied to benefit realisation. Formal project management at varying levels of maturity is applied for implementing all IT-based solutions. The business is always involved in the solution development and implementation, generally from before the business case is developed, except where the project is an infrastructure one that doesn't have visible impact on the business. Where the business case is a business initiated one, IT believes that they are held accountable jointly with the business for the project implementation success. Respondents indicated that in most instances project success is clearly defined in business terms for every solution.
8. Program Management is present across the sample with varying levels of maturity. Projects are re-qualified periodically but not many are placed on hold (<75 % of the sample indicated yes and

rated <25 % within that sample). The business case is rarely revised or updated at program reviews. Version control on business cases is in place in all companies sampled. The answers and discussions suggest version management is in place prior to approval, but rarely after approval and/or implementation. The business case is revised in <50 % of projects that are placed on hold. Lessons learned are rarely extracted from projects placed on hold.

9. Between 50 and 80 % of projects complete on time and <50 % within budget. The combined rating is <50 % and indications are that business is very likely to flex timelines due to other priorities. Most respondents indicate the business only sometimes "signs-off" projects based on the business case at project completion. The business is generally not measuring ongoing solution performance against the business case and this reinforces the view that the application of the business case is for an investment approval and not a means to measure return.
10. Variances between the business case projections and the solution performance are formally documented in <25% of cases. The business case is rarely updated to reflect these variances and any changed expectations. A formal remedial plan is not often implemented for non-performing solutions, but when it is, the PMO or Project Owner is responsible for that plan. This suggests pre-handover issues and points to a post implementation benefit gap, as neither of these areas of responsibility are likely to be tracking benefits post-handover.
11. The project team or PMO determines that the project is delivering the business benefits as defined in the original business case. However, at the point where they assess performance, the benefits have not yet begun to accrue. The assessment is thus on the basis of functionality. The sample believes that between 25 and 50 % of projects deliver business expectations.
12. At "end of life" the solutions historic performance is rarely checked against the business case. New business cases are not generally validated against "lessons learned" before submission for approval, although comments suggest this may be worthwhile considering as it could add value.

4.3 Benefit Realisation is a Lifecycle – Define it.

There is a logical progression between the recognition of a business need, the deployment of a solution, the realisation of benefit and ultimately the replacement or disposal of the resultant solution that suggests a sequence of defined steps, each with a definable start and end points. Each of these steps has "inputs" and "outcomes", effectively by definition; each step is a "process". The Stanford University department of Nuclear Physics website defines a process as "*a series of inter-related activities that result in an outcome*".

Further analysis shows that each of the "steps" is in themselves a series of activities (or sub-processes). The collection of activities follow logically over a period of time, typically the period is longer than the project, more aligned with the lifecycle of the solution. When viewed together as a collection of processes these sequential steps describe a lifecycle. The International Edition of *The Standard Dictionary* [1] defines a "lifecycle" as; *"that entire series of processes comprehended in a period of existence"*.

Each process in the lifecycle itself produces some *outcome*. This outcome has a cost associated with its production and is probably of some value in the organisation, either tangible or not. Questions immediately arise as to how these outcomes are (or should be) accounted for. The probability therefore exists that there are benefits realised throughout the lifecycle, but they may not always be accounted for.

All engineering disciplines acknowledge and define lifecycles as having distinct phases in their own terms. By way of example; Software engineering sees the software development lifecycle as the series of processes in the phases of *assessment, design, implementation and maintenance* of an application.

At the highest level, the realisation of a benefit from a IT solution may embody a lifecycle made up of just three broad phases, and each of the phases can be described as *a set of processes*:

- the process set that sets the expectation of a benefit,
- the process set that enables the change and,
- a process set during which the benefits from the solution are realised.

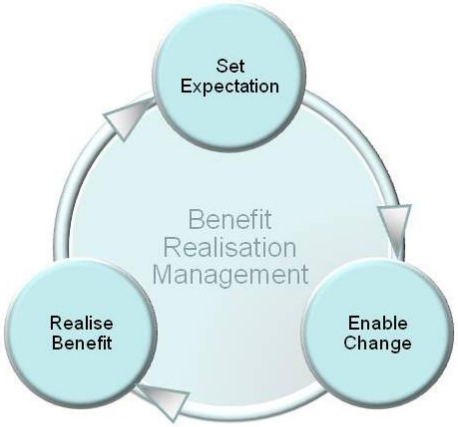


Figure 4.1 - Phases of Benefit Realisation (Simplified)

While this simplistic approach considers three stages (generally time ordered), in practice these stages are not always discrete. Typically business expectations drive change, but the change process may in turn moderate or enhance expectations. Similarly, the solution deployed to enable the change is expected to deliver a business benefit, but aspects of the solution development and deployment may enhance or diminish the expectation and the benefit. A key issue though is that the changes in expectations of benefit in each phase are material and must be quantified and captured for there to be visibility of benefits.

4.3.1 Benefit Realisation in Context of Business

Business exists against a backdrop of the set of established objectives for the organisation, generally described in a Vision and Strategy document. The outcome of the "business" is to generate a "benefit" even if it is a non-profit organisation. The organisation takes into account the environment in which it operates and the expectations of its "stakeholders" and defines a relationship between outcomes and risk in the venture that it is comfortable with. These two dimensions; Vision and Strategy and Risk and Return effectively define the business itself.

Any IT solution is therefore set against this business backdrop and must share these attributes. Any IT solution is in itself not one dimensional. Gartner has for many decades referred to the three dimensions of an IT solution as People, Process and Technology. These three dimensions form

a strong anchor point for most learning and business recognises these against the backdrop of the objectives of the business itself.

The key considerations in the lifecycle of Benefit Realisation have therefore been grouped by this research into five *dimensions*. These dimensions are:

- Business Strategy and Vision,
- Business Process,
- People,
- Technology and
- Risk and Reward.

Represented graphically we can encapsulate the 3 stages within the 5 dimensions in a simple graphic below.

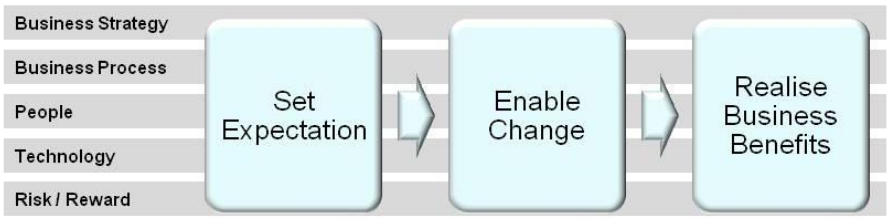


Figure 4.2 - Dimensions of Benefit Realisation Management

Each of these dimensions needs consideration (some uniquely) in each phase of the Benefits Realisation Lifecycle. The dimensions chosen are similar to the five pillars of benefit realisation defined by Tom Murphy of Gartner [19]. These dimensions embody all of the Gartner pillars (combining Direct Payback with Risk), but introduce the People dimension throughout. (Note: Murphy's approach considers the people only in the definition of roles to *manage* benefit realisation, a practice that Bradley challenges.)

The five dimensions are tightly inter-related and there is quantifiable inter-dimensional impact. Clearly the inter-dimensional impact may be causal or consequential, but could be both. As an example, a change to business strategy may cause change in all the other dimensions, while a business process may have a critical dependency on an aspect of

technology. Similarly a technology change could have consequential impact on all of the other dimensions, and even on other elements within the technology dimension itself (intra-dimensional impact).

While business strategy often drives the creation of initiatives for strategic advantage, the underlying motivation for an IT-related initiative is either one of a business return, or of mitigation of a business risk, or perhaps both. The Risk / Benefit dimension thus has two key drivers; business return (benefit) and risk and these are tightly inter-related. These drivers are considered to have intra-dimensional impact.

4.4 The Three Lifecycle Phases of a BET Solution

As we narrow the debate to BET (Business Enabling Technology) Solutions we are able to define the three phases more precisely. The stakeholder group (or audience) for the solution becomes more specific and the scope of the change that is possible is limited to technology enabling or enhancing a business process. The expectations are limited to four categories or permutations of these:

- Enhanced functionality
- Reduced cost
- Improved performance
- Governance enforcement

Benefits that will accrue will relate back to these four classes of expectations. When a change is envisaged the answer to "Why are we doing this?" should always tie back to at least one of the points above.

4.4.1 Initiating the Lifecycle

Expectations for a BET solution arise from the business defining a need or the industry sector in which the business operates "moving the goalposts". In some instances the company may be the innovator who consciously chooses to "move the goalposts" as a means of creating competitive advantage. Either of these "motivators" results in a set of expectations that need to be evaluated and tested in relation to the 5 pillars of benefit realisation.

A key question at this stage is whether the initiative will contribute to the vision of the company and net of costs, what the quantum of the benefit will be. Sometimes referred to as a "feasibility study" the early stage is to determine if the initiative looks like a sensible one to fund.

Once the viability of the initiative is indicated, a more detailed and scientific analysis is done to prepare a business case for board or executive approval. This process moves the initiative from a concept with expectations to a commitment by the business to deliver the expectations of business benefit. Once approved the business case is a form of contract between the executive who has committed funding to the initiative and the business who has committed certain returns to the business in exchange for the funding granted.

The "contract" is in effect a documented set of bi-directional commitments between the business and the owners or executive. Both parties have expectations that need to be managed through to delivery. These expectations are defined in the business case and either they are met or they are adjusted with mutual agreement to a new set of expectations during the lifecycle of the solution. At this point the process moves forward and the solution crafting begins.

The BET solution is the underpinning enabler for the business. Layered on top of the technology solution is a set of process changes and some behavioural adaptations that allow the solution to function as envisaged, and generate the benefits committed in the business case. This phase of enabling change is about an ordered set of carefully executed steps that move the business from the "old" way of doing things to a new and improved way of generating a business return. The changes are managed as part of enabling the business transformation.

Once the solution is deployed and operational, the benefits that the business expected should begin to materialise according to the plans agreed in the business case. An active and periodic review process needs to be effected in the realisation phase to monitor the solution adoption and success and to account for the benefits as they materialise. This regular review process will identify benefits that are lagging the plan and remedial process must then be enforced to correct the deviation. Where benefits exceed expectation or are materialised earlier than planned these are recorded and encouraged.

The review process seeks to understand the deviations and provides input into the change enablement process or to the realisation process for minor issues. Where significant deviations occur the feedback may need to go through a focused process requiring a re-adjustment of expectation and a new round of change enablement to remedy the problem.

Another function of the review process is to identify and evaluate improvement opportunities identified during the change enablement and/or realisation phases. These improvement initiatives are fed back into the expectations phase and may in turn initiate another cycle of business case generation, approval, change enablement and then benefit realisation for the improvement initiative.

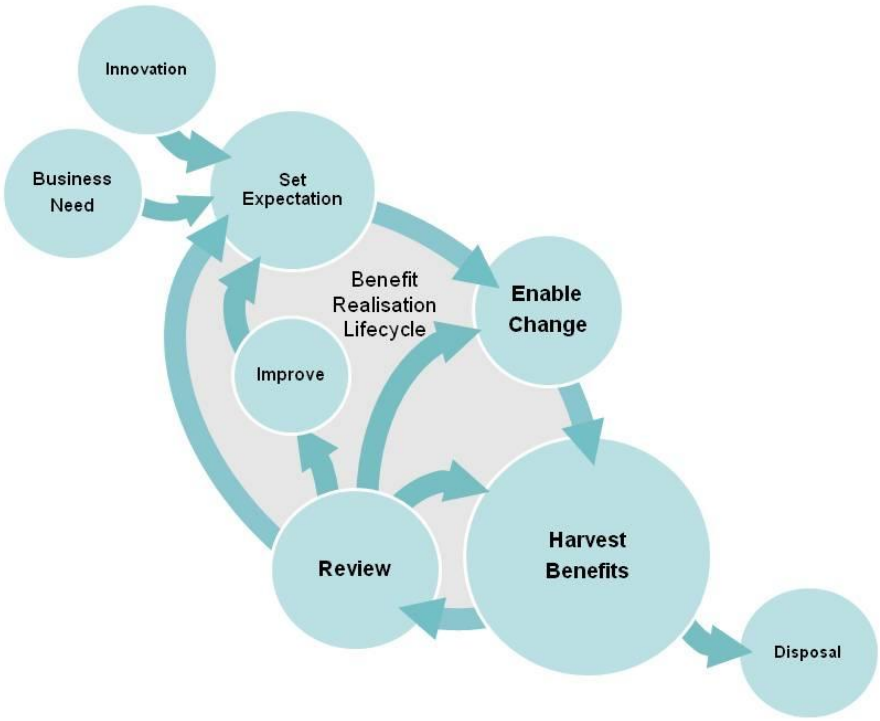


Figure 4.3 - Detailed Benefit Realisation Lifecycle

The disciplines associated with the lifecycle ensure that all expected benefits are actively tracked, deviations are managed to conclusion, opportunities are exploited and that lessons learned throughout the lifecycle are contained in the business case.

4.4.2 Phase 1 - Setting Expectations

Any BET initiative is likely to impact on a number if not all of the interrelated dimensions; Strategy, Technology, Process, People and Benefit/Risk. There are certainly unique expectations in each dimension as they are the domain of different stakeholders. Ignoring the stakeholders' expectations, even if they are not obvious, strengthens the perception that IT-related projects do not meet business expectations.

4.4.2.1 Origin and nature of expectation

It is important to have an inclusive dialogue with stakeholders over the proposed solution, agreeing on the benefits that should be accounted. Ensuring that the solution can meet the "need to have" functionality as a baseline is critical. Having the benefits agreed as a baseline of expectation is an imperative. It is important to document those benefits that were considered but not prioritized into the solution, as both a project risk register entry for scope creep and to use as a reminder of agreed project constraint.

IT-related projects typically have their origin in a few distinct areas and the business expectations of benefits from these resultant initiatives are quite different:

> Infrastructure upgrades are generally driven either from a point of technology redundancy or by user demand that exceeds infrastructure capacity. The criteria for motivating the changes are usually functionality and/or total cost of ownership. In most instances these "upgrades" are not business impacting events as they provide more of what the business has grown used to and the outcome may be perceived as an improvement in performance or service, or not at all. The business is unlikely to perceive a return.
>
> Risk mitigation and governance driven projects are often perceived as a "grudge expense" and the expectation by the business for a direct return on investment is reduced. These projects often impose disciplines on business which they did not ask for, and can be seen as a constraint that "IT" has imposed. The overall view on return is most probably negative.

Business enabling projects use technology to facilitate a business process (either existing or new) in such a way as to provide an advantage for the business. The perceived need may become a compelling motivation and expectations of benefit may be inflated. Often a key question that is missed is the "need to have or nice to have" one. Competitive activity may shorten available lead time potentially restricting functionality and sacrificing quality as a trade-off against "speed to market" of the solution. The overall view on return must be managed.

Innovative "quantum leap" projects that use technology based investment to catapult a business into a different competitive landscape. The investments are typically significant, projects are often high risk and time critical and the benefits are "make or break" for the business. The focus on delivery is extreme, meaning that the solution development and deployment is likely to be well executed, unless compromised by constraints. Benefits are dependent on customer response and the competitive landscape. Executive involvement is usually high and realisation of benefits is a business imperative.

Regardless of the origin of the IT-related initiative, the funding allocated is an investment by the business and the expectation of a return exists. The owner of the IT-related initiative must have a thorough grasp of these expectations as they move to commitments.

4.4.2.2 Expectation to Commitment – The Business Case

The key question for business to answer before committing to any BET solution is whether the transformation effort (cost) can be justified relative to the perceived future value (benefit) that this change will bring to the business. This cost / benefit relationship is usually defined in a Business Case where this relationship is presented in monetary terms. Keen and Digrius [3] describe the process of building the business case as "*joining the dots*". In essence it is taking the expectations and linking these to the benefits, tying the benefits into a value ladder and stacking the value ladder into a strategy map for the organisation. This simple process allows us to answer the question; "How does this solution contribute to realising the business vision?"

The use of the Business Case is often limited to gaining financial approval against a somewhat vague promise of future business value, and there's little focus on how to ensure the future benefit, the process of "benefit realisation". Schmidt[2] suggests that the function of a business case is broader than financial approval and that a good Business Case *"describes who needs to do what, by when, in order for the predicted results to appear."* This is the core of a benefit realisation plan that Bradley[45] promotes.

In order to facilitate benefit realisation a "signed-off" business case should therefore contain sections that define:

- The purpose of the change initiative and how it supports the vision of the business.
- Assumptions and risks associated with the change proposal.
- The value of the benefits for the business relative to the costs to achieve the future state.
- The mechanism to measure the benefits and the anticipated timeline for benefit realisation.
- The assigned person responsible for realising each defined benefit.
- The governance structure and schedule for benefit realisation management.
- Revision history that tracks agreed changes to any of the sections of the business case.

With the *"blueprint for change"* in hand, the project team can move into the next phase; that of enabling the change in the organisation through the application of best practice in project, process and change management.

4.4.3 Phase 2 - Enabling Change

> *"The purpose of change should always be the realisation of benefits. It is therefore worth investing time and energy…"* Bradley[45]

Within the narrowed confines of BET Solutions, the change we are likely to bring about is limited to one of three categories:

- Deploy a technology enabled solution where none existed before or
- Replace an existing technological solution with another or
- Make a change to an existing system.

This apparent over-simplification of fact belies the complexity in the interfacing either between the new solution and existing solutions or between the new solution and its users.

These two scenarios require completely different disciplines to manage. The first is an engineering solution based on technology elements (something technologists are well able to manage) while the second is in the realm of psychology and behavioural change management. Hiatt and Creasey [5] point out repeatedly that adoption of change in an organisation needs to be managed *"one individual at a time"* since technology adoption actually happens *"person by person"*. User adoption of a solution is thus clearly a critical part of a successful deployment, and ultimately of benefit realisation.

The purpose of this change is to allow the business to realise benefits and a good business case together with a well executed IT project only forms a solid basis for benefit realisation. A proven change management methodology is a pre-requisite and the Prosci model[16] is an example of one of these. The discipline of Project Management is well defined with best practice methodologies like Prince II, and plays an essential part of any BET Solution's development and deployment. However the project team does not realise the business benefits. The project phase is really about reaching a steady state after change in the shortest and most cost effective manner. Change always impacts productivity and the project team needs to minimise the negative impact. The project should take the people, process and technology changes into account and with minimal disruption reach a point where people are consciously competent with the new solution.

The Panorama Consulting model[52] (enhanced with some additional material) depicts these challenges in this simple but meaningful diagram. By shortening the implementation period and minimising the downturn in productivity Project Management can reduce productivity losses (area under the curve). The focus of attention here must be on process re-alignment, solution adoption and skills development in the user community. The sooner the delta between the baseline productivity (pre-solution) and the targeted productivity can be closed the sooner benefit realisation as defined in the business case is effected.

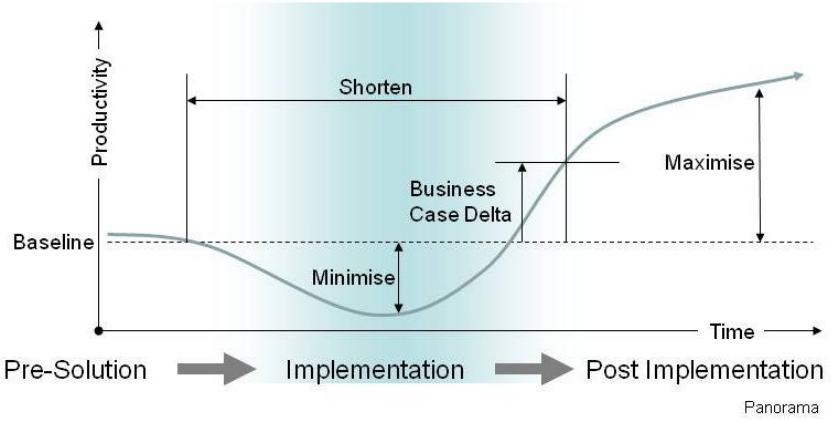


Figure 4.4 - Typical Impact of Project Implementation on Productivity

The opportunity to reduce the payback term is directly impacted by the gradient of the productivity curve (post implementation) and the quantum of the return is dependent on the maximum level sustained in the solution lifecycle. Achieving this outcome requires more than an effective technology deployment. The gradient is a direct consequence of change readiness in the user community and process integration at a solution level. The sustainable level of productivity is dependent on user support and benefit optimisation post implementation.

4.4.4 Phase 3 - Realising Benefit

"Relevant business units are accountable for delivery of the business benefits and IS is accountable for providing a secure, cost-effective and reliable infrastructure" Tony Murphy [19]

A perception remains that IS is not aligned with the business. The quote by Murphy above would be challenged in a number of business contexts. As IT works to deploy BET solutions the reality will dawn that benefit realisation in this context becomes the measure of the degree to which technology in reality enabled business.

Quantifying benefits is the pre-requisite to accounting for them. The Concise Oxford Dictionary describes a benefit as *"an advantage or profit gained from something"*. This suggests that a benefit may be a non-financial advantage that the business gains from technology and

accounting for that "benefit" may not appear directly in the financial statements.

4.4.4.1 Tangible versus Intangible Benefits

There is considerable debate over how to handle benefit realisation in respect of tangible versus intangible benefits. It may be argued that the only benefits that can be realised are those benefits which are tangible. In some instances the preferred practice is to convert intangible benefits into an indicated financial benefit. This allows for measurement of benefit realisation even when the underlying contributor is difficult to quantify directly.

> A typical example of this would be where the objective of business is to improve profitability. A technology enabled solution may make self-service possible and even more convenient than assisted service. Here typical direct measures might be the rate at which users adopt that form of inter-action with the business and the cost reduction in service delivery. The derived financial benefit would be the product of the reduced cost of the business process and the number of people making use of the service.

The key point made here is that we may recognise intangible benefits, but it's only when we can link them to objective measures and assign a derived value that we can account for the benefit effectively.

4.4.4.2 Perspectives that define the Business Benefits

Stakeholders in a business each have their own set of expectations. When considering the Benefit Realisation Lifecycle the stakeholders in each Phase and in each Dimension may be differing groupings of people. The manner in which people perceive benefits also varies. In fact their expectations may be opposing. A significant challenge thus exists in translating the "outcomes" throughout the lifecycle into perceived benefits, and to capture these in a tangible way (given that the benefit may itself be intangible).

It is quite possible to realise significant benefits from an IT-related project and to meet most expectations and still have the project deemed to be a failure. This generally relates to key stakeholders not perceiving their

expected benefit as being realised. Just as identifying and aligning expectations is a critical phase in the management of a BET project so too, the longer term perceptions of benefit realisation needs to be aligned and managed.

There is rarely a single repository for these expectations but they would best be documented in the business case and it should reflect the quantum of the benefit expectations and the manner in which they will be measured. More specifically, the business case should define the manner in which the benefit is perceived, the time line and the target value of the benefit the business expects to realise from the initiative.

4.4.4.3 Classification of Benefits

The classification of benefits helps us to understand the consequences of changes. With each change stakeholders expectations may shift and it is only when the changes are effectively managed that the anticipated benefits will materialise. Bradley [45] suggests that these benefits be classified in five distinct ways:

- By Stakeholder – who gets what from the initiative using a Benefit Distribution Matrix
- By Category – outcomes like cost reduction, productivity or company image, that will accrue to the business from an initiative
- By Business Impact – the nature of the impact being operational, supportive, strategic or speculative (Boston Matrix)
- By Value – defines tangible and intangible benefits in financial and non-financial terms in a SIGMA® Value Table
- By Change Type – describes the type of change people experience as a consequence of the initiative (do new things, stop doing things, do things differently)

4.4.4.4 Recognition of Benefits

For every BET solution there is that finite set of benefits that *can be* quantified and possibly measured. These measures may not all be financial. The research refers to these as the inclusive set of *actual benefits*.

There is another grouping, the one that this research is concerned with, namely *realised benefits*. The *Standard Dictionary* [1] definition of "realised" is *to make real or give an appearance of reality*. Realised

benefits are a subset (but may be an inclusive set) of the actual benefits, where the "face" value of the benefit has been "realised" into financially accounted returns as defined in the business case.

The diagram below represents the ways that benefits may be recognised. It is critical to understand that this view of benefits could be completely different for each stakeholder and that at each phase of the lifecycle, the same stakeholder's view of the benefits may also be different.

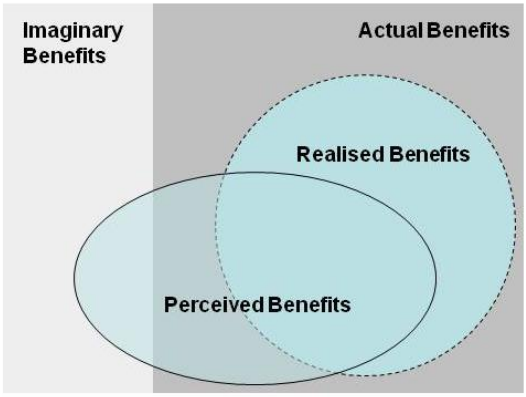


Figure 4.5 - Categories of Benefits

The stakeholders have a perception of the benefits that a solution delivers. These *perceived benefits* may be tangible and/or intangible. They may include a subset of the actual benefits and some benefits that are not real, referred to in this diagram as *imaginary benefits*.

A real business benefit (*actual benefit*) can arise from the change in behaviour of people to imaginary benefits if they perceive these to be real. This research has not investigated this any further.

> An example may be where a client perceives an environment to be secure and is then "more" comfortable transacting in that environment than in another. The benefit of increased business is very tangible (*Realised Benefit*) despite the perceived benefit of security being an imaginary benefit.

Accounting for the business benefits that arise from these intangible "imaginary" perceptions becomes very subjective, unless comparative measures can be made across environments that include and exclude these perceptions.

4.5 Who owns the Responsibility for Realising the Benefit?

The perceived failure of benefit realisation may have less to do with whether the benefit exists and more to do with the fact that the business benefit resulting from a BET solution is often poorly accounted for. Keen and Digrius[3] say *"... the major reason why benefits evaporate is that no management process exists to ensure* ***ongoing project success*** *is occurring"*. This suggests a missing component in the ongoing process of benefit realisation management after the project has been closed out.

A critical observation is that benefits can't be managed into existence.[45] It is the behavioural change that leads to the benefit that needs to be managed.

Benefits accrue through the *changes* in the actions of people. The process of realising a benefit may thus be *identifying and managing that set of changes in behaviour that causes the desired benefit to materialise*. This process of managing change is not generally well understood (particularly change related to technology adoption) and failure to realise benefits may be a management competency issue.

A key pair of questions for the research is "where does the ownership for realising the benefits in the initiative belong" and "who has responsibility for measuring the success of the initiative?" In its most basic form "Whose baby is it anyway?"

Does ownership reside in the business unit where the process is effected or is it in IT where the technology that enables the process is housed? A definitive answer is not easily reached, but clearly both parties are stakeholders and should be held accountable for the eventual realisation of the benefits to the business. Maybe the question really is "Where does the skill set to realise business benefits lay?"

In the research surrounding benefit realisation in IT, the general expectation is that IT never delivered the benefit that was expected. This has immediate reference to the CIO and implications that it's a failure of that function that causes the poor track record.

Tony Murphy of Gartner [19] has the view that CIO's typically have lower competence in the areas of benefit realisation and prefer to drive those activities they have more control over and are more comfortable with. This results in high focus on areas like day-to-day operations which have high visibility and immediate impact to business (typically the supply side). The more abstract area of benefit realisation with its low predictability and more complex measurement criteria do not enjoy the same level of focus and are thus at risk. There is also relevance in the timeframes associated with these activities. The urgent day-to-day activity enjoys more focus than the long cycle activity of Benefit Realisation.

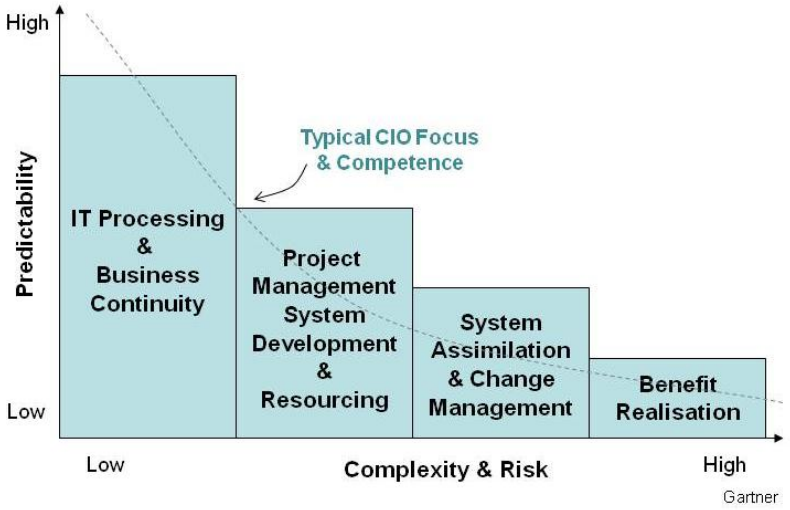


Figure 4.6 - CIO Governance - Predictability and Complexity/Risk

4.5.1 Candidates for Benefit Realisation Ownership

There clearly isn't a group of people who rush to the fore and claim responsibility for the failures associated with IT-related projects. The research conducted by Standish, Gartner, Forrester and Glass, to name a few, would have identified and defined these. The absence of the "responsible party" suggests a gap in ownership that could be the critical

success factor to achieving "best practice". The skills to "harvest" benefits are broad, encompassing essentially the five domains of Strategy, Technology, Process, People and Benefit/Risk. Who might therefore be the most suited candidate for the responsibility?

4.5.1.1 The Project Office

The Project Office is process oriented and disciplined. They typically carry responsibility for managing a set of processes or a part of the initiative along with all the requisite measures and controls that ensures a solution handover. At project sign-off the Project Office relinquishes responsibility. The whole process focus up to that point is on scope, cost, risk, timeframe and handover. It is the "project focus" that precludes long term ownership.

Perhaps this is the grouping in a company that is best equipped to close the loop on benefit realisation. They have tracked the project from approval, through its variances and changes, managed the risks and the people most closely related to the initiative, and they understand the intended outcomes better than most. The discipline of project management entrenches the concept of review and critical assessment and the ability to track and manage change is a core skill for project managers. While benefit realisation is not a traditional function in project management, the basic principles of this discipline may be best aligned to achieving the outcome.

4.5.1.2 The Process Office

An organisation that has an embedded process framework is by definition a mature organisation and will routinely review the processes to ensure that adequate levels of adoption and compliance exist. If "Benefit Realisation" is distilled into a process, then benefits should just flow from the process. Simply defining a "responsible person" would then have the desired outcome, and the process team would be able to raise an alarm if that process was not being followed, if the process was failing or if the returns did not materialise as projected.

The research has identified that this is not the case. The frameworks, even where process groups are integrated, manage and measure solution delivery (typically CMMI®) and repetitive type activities (ISO-9000 / ISO-20000) very well. The quantitative measurement of outcomes allows for continuous improvement to be demonstrated and realised and are referenced in most frameworks. The frameworks however do not take the longer composite view of the Lifecycle Management of Benefit Realisation into account. A process does not "care" about the outcome, people should.

It comes back to the point that you cannot manage benefits into existence, you need to guide people's behaviour and that change will cause the benefit to materialise. The Process Office may monitor compliance but does not have the motivation to realise the benefit

4.5.1.3 The Finance Office

The competence in accounting the costs is certainly there and it may be argued, they have the motivation to see the return against the investment. Based on the concept of Benefit Extraction (where benefits are simply taken out of budgets), it may be argued that the best "home" is in the finance or accounting function. Bradley[45] points out that every attempt to manage Benefit Realisation by reverting to Benefit Extraction has failed over the longer term.

The finance office tends to measure financial outcomes rather than the processes that produce them. The challenge becomes more obvious as you realise that benefit realisation is not an outcome, but rather a process (similar to farming). It requires careful nurturing over the whole lifecycle of the solution. The reality is that some benefits are not financial and there is no motivation or mechanism in the finance office to account for those.

There is no doubt that to effect Benefit Realisation in an organisation, there is a critical role that the finance function must play. They will have played an important role in the building of the business case to justify the expenditure and validating the ROI expectations. The systems to account for the cost and the benefit are the domain of finance. Finance is a reporting function for financial benefits that have been realised but not the owner of Benefit Realisation Management.

4.5.1.4 The Office of the CIO

The CIO's office is the default location for Benefit Realisation in BET solutions. Certainly IT has carried the responsibility and the blame for the historical perception that only 20% of IT-related projects deliver the expected ROI. The functions of IT are loosely described as Plan, Build and Operate. IT's responsibility in the project focused Plan and Build aspect of creating and deploying the solution is clear, and so is the role of operating the underlying technology that is an integral part of the solution. The other two components; People and Process are outside of the CIO's domain.

The realisation of the benefits though (guiding people's behaviour so that the change will cause the benefit to materialise), is outside of the authority of the CIO. This is the domain of the business unit leadership, although the skills to manage benefit realisation are not part of the business functions (typically marketing, sales, administration, and production or service delivery).

Again there is no doubt that to effect Benefit Realisation in an organisation, there is a critical part that the CIO function must play. They will have played an important role in the building of the business case to justify the expenditure and validating the ROI expectations, but their mandate is to continuously provision other business requirements while operating the existing environment optimally. Perhaps it's time to realise that IT is not the custodian of Benefit Realisation, but rather a substantial contributor to controlling the costs.

4.5.1.5 The Business Unit

Generally the company or department where the new solution is deployed is doing "business as usual". Their focus is on doing their business; marketing, sales, administration, production or service delivery. The BET solution was built to fulfil a business requirement and has now been deployed and has become part of "business as usual". The need to optimise the business process is a "given" and business requirements will continue to dictate further changes. However, ensuring that the deployed BET solution on an

ongoing basis is meeting the planned ROI is outside of the business unit manager's sphere of interest or competence.

The Business Unit Manager is a critical contributor to the business case; in fact the motivator for it, and the approval was evidence enough that the solution was required. The skill and motivation to manage benefit realisation is not here. Bradley[45] suggests that the Business Unit Manager is the Benefit Manager but later in his text he refers to an additional role, that of a Benefit Facilitator who is external to the business unit. This function has the requisite skills, supports benefit realisation through the Business Unit Managers and ensures that the expected returns are realised at a company level.

While benefit realisation must happen in the domain of the Business Unit Manager, it is a practice that requires ongoing support and a conscious effort to keep in focus. The Business Unit Manager is the conduit through which Benefit Realisation can be delivered.

4.5.1.6 The Office of the CEO

The CEO is accountable to the board or owners for the return generated by the business and one may argue that this office is the most appropriate owner for Benefit Realisation Management. Perhaps the role of Benefit Realisation is broader than just IT and the function should consider ALL initiatives rather than just BET related projects. This is the office where the authority resides to effect change in support of the business. It is where Vision and Strategy are harmonised and long term perspective is clearest. In the Board Briefing on IT Project Governance from IT Governance Limited the authors point out that *"These projects have ceased to be IT projects; they are complex whole business projects, with varied impacts across the business as a whole…and are too important…to be the management responsibility of one person alone."* [41]

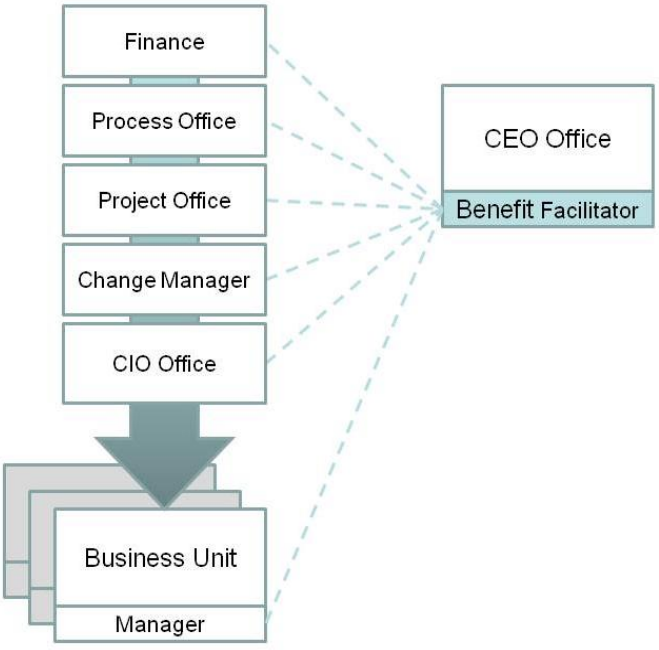
The skills required to manage benefit realisation across the breadth of the business are all accessible from the CEO's office, and the five domains of Strategy, Technology, Process, People and Benefit/Risk are represented in one place. Bradley's[5] proposal for a Benefit Facilitator is worthy of consideration and positioning this function

in the office of the CEO lends the appropriate level of importance to the Benefit Realisation Management.

4.5.2 The Role of the Benefit Facilitator

Since Benefit Realisation Management is a critical role and one that requires unique skills and access across the organisation, placing that function in the office of the CEO is a likely location. Reporting is through a Business Development or Performance Improvement mandate. The individual will work closely with strategic committees and with portfolio management, to align execution with strategy.

The daily activity is largely facilitation and support of the business. Although responsible for challenging progress and benefits realisation on lagging projects accounts for a smaller part of the function, this requires adequate authority to be vested with the candidate to interact on a par with the functions defined alongside.



The individual should have good interpersonal and communication skills, credibility at executive levels, good domain skills in benefit realisation tools and techniques and besides being analytical, must be politically savvy.

Figure 4.7 - Benefit Realisation Management Focus

Keen and Digrius'[3] point bears repeating yet again *"... the major reason why benefits evaporate is that no management process exists to ensure ongoing project success is occurring"*.

4.5.3 Critical Success Factors for Benefit Realisation

> *"...to achieve significant and lasting value it is necessary to embed Benefit realisation Management within the culture and practices of the organisation. This is a non-trivial transition..."* Bradley 2006 [45]

If you don't know when to expect a benefit, and you don't know where it's coming from, it may just as well not exist. While no individual is responsible for delivery of the benefits, the benefits will not materialise as they should and without a process of accounting these benefits, there are none to see.

Fundamentally, benefit realisation is a process that is recursive, has a long cycle time and has the potential to add significant value to business through continuos improvement and innovation. The lifecycle of benefit realisation spans multiple years and for a single solution, may have to account for hundreds of changes to the expectations of multiple stakeholders in that timeframe. Benefit realisation is about measuring outcomes, sometimes where the intermediate outcome is intangible. Benefit realisation management drives change initiatives so that value can be unlocked in the business and by default spans the whole organisation. It is not the domain of one department or division.

The most critical dependency is that of a mature process orientation in the business. Without this foundation it is highly unlikely that benefit can be accounted. Benefit realisation as a practice sits on top of existing processes and draws its input from the base of underlying good practice which is consistent and managed. In some instances there may be additional steps in the underlying process to link to benefit realisation.

Benefit Facilitators will develop an intimate knowledge of the business and know exactly how value is derived. Without the support of the executive

Benefit Realisation Management will be disregarded by those whose contribution is critical to its success. The table below summarises the Critical Success Factors that this research has identified as essential for implementing Benefit Realisation Management.

Table 3.1 - Critical Success Factors for Benefit Realisation Management

Critical Success Factor	Rationale
Executive buy-in	Benefit Realisation is a culture that needs to be adopted throughout the organisation and it takes time and commitment to do that. The Executive must demonstrate commitment to the change and reinforce the required behaviour change.
Assigned BRM responsibility	Benefit Realisation is best run as a program in an organisation and requires a dedicated person who is accountable for management of that program with a clearly articulated Executive mandate.
Embedded process orientation	Benefit Realisation is strongly process based and in the absence of an underlying process culture, will be very difficult to make work.
Long term business perspective	The lifecycle of benefit realisation spans multiple years and a short term focus will result in frustration.
Strong project management	The seeds of benefit realisation are planted in the early stages of an IT project. Weak or no project management discipline will make it very difficult or impossible to track expectations and investments.
Outcomes based culture	Benefit realisation is about driving change and measuring outcomes. If the organisation is not outcomes oriented, the task will be more difficult.
Receptive to Innovation	As Benefit Realisation Management matures in an organisation, it becomes proactive, seeking out opportunity to enhance benefits. This action results in innovation and the need to try new things, encouraging all employees to identify those candidates for enhanced benefit generation.
Behavioural change discipline	The organisational mindset should be comfortable with doing things differently and doing different things. Psychologists refer to being “change-fit” indicating a willingness and capacity to change.

Critical Success Factor	Rationale
Organisational skills development	Changes in support of Benefit Realisation frequently require new skills to be learned and even existing skills to be honed. The organisation should be a learning organisation.
Quantitative orientation	The accounting of benefits realised is a quantitative process and if the organisation regularly views performance through metrics, the addition of Benefit Realisation metrics is simple.

4.6 Managing Benefit Realisation

The hypothesis in this dissertation is that there is an overarching lifecycle to benefit realisation in any BET solution. This lifecycle needs to be managed but it embodies a number of other defined lifecycles and process areas for which documented best practice already exists, including the project lifecycle, the software engineering lifecycle, the technology lifecycle and the lifecycle of psychological change. Organisations apply these best practices today at varying levels of maturity and there is evidence that value is being realised from these better practices. These practices tend to be siloed in disciplines and the benefits of these best practices are then limited to the silo.

In frameworks that look at organisational maturity, the indicators of higher levels of maturity are in *integrated* processes. Benefit Realisation has dependencies across multiple disciplines and their underlying processes. In this sense, the application of Benefit Realisation in an organisation is to integrate a set of seemingly disparate actions over time to achieve a desired outcome. The process of Benefit Realisation Management is then to facilitate the actions in such a way as to secure or even maximise the benefits. This suggests that Benefit Realisation is most likely to be achieved in organisations with higher levels of process maturity.

Benefit Realisation typically has a plan timeline of between 3 and 5 years. This is substantially longer than most of the underlying disciplines lifecycles. A solution deployed in business over that period of time

undergoes literally hundreds of changes and each change impacts many different people. Each change also reshapes the benefit expectation. The potential complexity of the Benefit Realisation Management task becomes apparent. If we can understand and effectively manage the Benefit Realisation Lifecycle within IT's framework of Plan, Build and Operate, then the probability of the business realising the expected benefit from a BET solution may improve.

The research has defined the lifecycle (at a high level) as consisting of three distinct phases; setting the expectations, enabling the change and realising the benefits. The model for managing benefit realisation must take the other lifecycles into account, while recognising the overlay of the benefit realisation lifecycle.

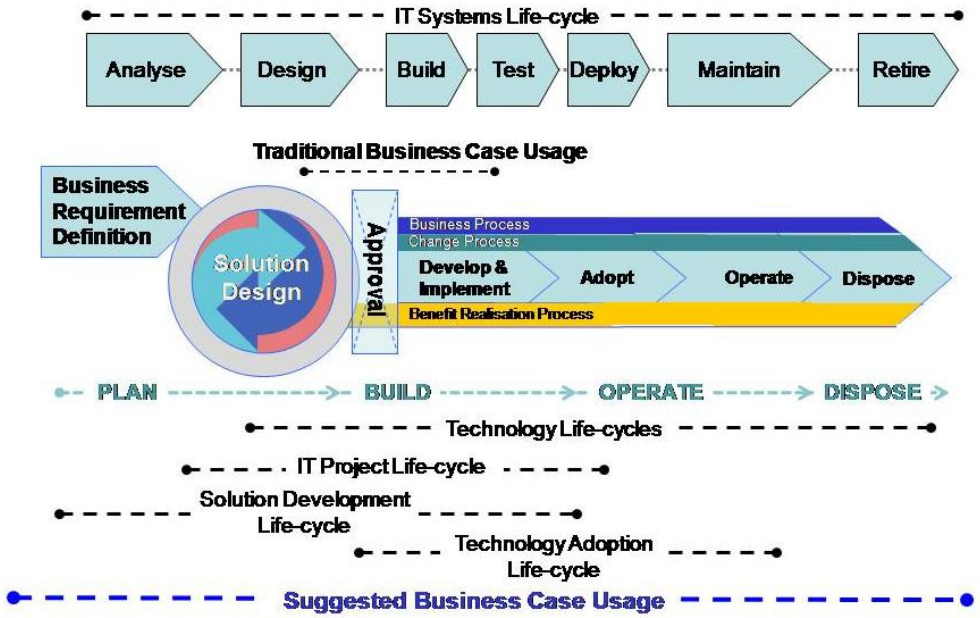


Figure 4.8 – Lifecycles Included in a Business Case

Much of the underlying process in these three phases is already in place and effectively managed in most organisations, it is the ability to see the "end-to-end" perspective and to review it objectively that poses the challenge. Historically IT has delivered the solution, business has adopted it and "everyone" expected the benefit to materialise automatically, without "anybody" having responsibility, and in some instances it does!

In line with the characteristics of mature process, the objective is to make the outcome of Benefit Realisation Management consistent, predictable, repeatable and optimal. The research looks at what inputs and outcomes are critical in each phase, and suggests a holistic approach to linking and managing the phases in the lifecycle.

4.6.1 The Benefit Optimisation Management Continuum

> *"Management comprises planning, organizing, resourcing, leading or directing, and controlling an organization (a group of one or more people or entities) or effort for the purpose of accomplishing a goal."* [9]

The objective of lifecycle management is not only to realise the anticipated benefits, but to improve the return over time for the current initiative and for any future initiative. Although these are continuous cycles in a lifecycle management process, we deal with them in two steps in a continuum.

4.6.1.1 Step One – Benefit Realisation Management

Benefit Realisation Management is about knowing:

- what business benefits should accrue,
- when the benefits are expected,
- where they will come from,
- how they are to be accounted and reported and
- who has responsibility for generating them?

A fully documented business case with a Benefit Realisation Plan will include these details. Simply depicted, this is a tabular schedule with headings for what's expected and then perhaps columns for what is actually realised. A useful addition for management purposes would be an indicator or two that shows if the benefit is ahead or behind schedule and if the gap between anticipated and realised is material enough to warrant intervention. If this schedule is updated at each review, and the historic data is tracked against benefit trajectories, the visibility created would be more than adequate for high level reporting of benefit realisation.

4.6.1.2 Step 2 – Benefit Optimisation

While benefit realisation management seeks to secure the benefits defined within the benefits realisation plan, an organisation with mature processes knows the value of optimisation. With benefit optimisation the focus is looking beyond the benefit realisation plan and unlocking added benefit for the business. These benefits exist either in lessons learned (allowing organisations to unlock added value in future projects) or in benefits not used in the business case justification (either because they couldn't be solidly quantified or they were not identified).

Often substantial opportunity exists for added benefits when two or more initiatives are viewed together. Synergies between the initiatives can be used to unlock greater value than originally anticipated in any one of the initiatives. Benefit optimisation management is an ideal source of innovation but may require deeper understanding of the business.

4.6.1.3 Linking Underlying Process into each Phase

The table set out below is not intended to be exhaustive but rather indicative of the multiple linkages with typical organisations underlying process flows during each phase of the Benefit Realisation Lifecycle. Steps indicated in italics are critical to enabling Benefit Realisation and those with an asterisk (*) are key to measuring and maximising the benefit realised. In this instance the CMMI® process framework is referenced (it defines the "what") and best practices (describing the "how") may be detailed in other models.

Phase 1 - Setting Expectations (Process Linkage)

Table 4.2 - Setting Expectations – CMMI® Process Linkage Example

Underlying Process/Sub-Process		**CMMI® Process Area (See Appendix A)**
Problem Analysis		
	Identify the business issue	RD
	*Define the problem and its impact	CAR

Underlying Process/Sub-Process		CMMI® Process Area (See Appendix A)
	Establish a Process Baseline (AS-IS)	CM
	Perform a root cause analysis	CAR
	*Determine improvement expectations	RD
High Level Solution Outline		
	Quantify the direct benefits	OPP
	High level solution design(s)	TS
	*Skills Impact Analysis	PP
	Define Process Target (TO-BE) v/s Expectations	OID
	Cost and resource estimates	PP
	Build 1st pass Project Plan and Risk Register	PP
	*Build the Change Management Plan (Technology Adoption)	IPM
Justify the Change		
	*Build a Business Case	IPM
	Build a *Benefit Realisation Plan*	MA
	Gain approval to proceed	PP

Phase 2 - Enabling Change (Process Linkage)

Table 4.3 - Enabling Change – CMMI® Process Linkage Example

Underlying Process/Sub-Process		CMMI® Process Area (See Appendix A)
Start the Project		
	Requirements Approved	REQM
	Detail Project Plan	PP
	*Monitor AS-IS Process	OPP

Underlying Process/Sub-Process		CMMI® Process Area (See Appendix A)
	Assign resources	PP
Build and Test the Solution		
	*Manage Project Plan, Change Plan and Risks	PMC
	User Acceptance Test	VER
	Training Material	OT
	Release Plan and Communications Plan	IPM
	*Track Budget	PMC
Deploy the Solution		
	Solution Implementation	PI
	User Training	IPM
	Transition Solution to Operations	IPM
	Review Benefit Realisation Plan with Business	PMC
	Close out project	PMC

Phase 3 - Realising the Benefits (Process Linkage)

Table 4.4 - Realising Benefits – CMMI® Process Linkage Example

Underlying Process/Sub-Process		CMMI® Process Area (See Appendix A)
Stabilise Solution		
	*Track and support Technology Adoption	PMC
	Gather measurements for new solution	OPP
	*Train Benefit Realisation Managers	OT
	Support the Users	PP

Manage Benefit Realisation		
	*Track solution performance against Business Case	PMC
	Monitor and track benefits against Benefit Realisation Plan	PMC
	*Highlight and analyse deviations	PPQA
	Report on Benefit Realisation (Trajectories)	PPQA
	Update "lessons learned" database	PPQA
Manage Deviations and Improvements		
	Highlight and manage deviations	PPQA
	Target low performance / lagging areas	OID
	*Seek out Benefit Improvement opportunities	OID
	Develop and implement corrective actions	CAR
	Update Business Case / Benefit Realisation Plan	PMC

4.6.2 Critical Benefit Realisation and Optimisation Outcomes

The research proposes a set of seven integration points that are critical to link benefit realisation and optimisation management into the benefit realisation lifecycle:

1. Business Problem Definition
2. Solution Design (Reiterative Process)
3. Business Case Presentation and Approval
4. Solution Development, Deployment and Implementation
5. Solution Adoption Review
6. Benefit Optimisation Review (Periodic Process)
7. Disposal

In reality, the stages of a lifecycle are not discrete but for simplicity we consider them so. It's therefore important to define the point at which a process effectively moves from one stage to the next.

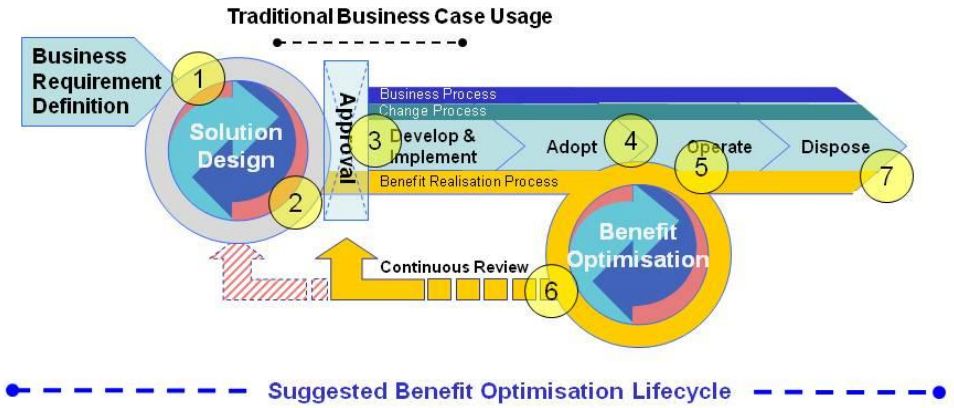


Figure 4.9 - Benefit Optimisation Process Management

The figure above reflects the model for managing the lifecycle more effectively and is annotated to indicate these points. To assist in understanding the Benefit Optimisation Management Process (and the activities required in each stage) the "deliverables" for benefit realisation management at the end of each stage are described as follows:

1. Business Problem Definition. The business problem is fully defined when a value map has been produced that tightly links the processes that will be impacted to strategic initiatives of the company. These processes are baselined and have current and target KPI's associated with them and the delta defines both the operational and the strategic value that the requested solution will add to the business.

2. Solution Design. The solution design is complete when the proposed solution is mapped against the value ladders derived from the value map and the projected performance of the solution is verified. (A value ladder depicts graphically how an initiatives features and / or functions impact the business results of a company.) Finally cost / performance metrics can be projected for all proposed solution alternatives and these form the basis of the business case calculations.

3. Business Case Presentation and Approval. The business case has been effectively presented when a fully documented preferred solution has been reviewed and approved by the responsible authority in the company, and a person (or team of people) is

mandated to deliver the solution within a given time and budget constraint. The solution is considered "fully documented" when the business case includes a realistic project plan with a risk register, a technology adoption plan, a solution transition plan and a benefit realisation plan with responsible benefit managers assigned.

4. Solution Deployment and Implementation. The solution is fully deployed and implemented when the technology adoption is past the critical level of recognition and the user representative executive signs-off acceptance, the functionality baseline defined in the business case is proven and the business unit formally accepts responsibility to realise the benefits defined in the business case and represented in the benefit realisation plan. The project should be reviewed at this stage and the business case updated to reflect the actual project costs, both for reporting and future learning. At this point the project team hands over the "baton of benefit realisation" to the business.

5. Solution Adoption Review. The solution is considered fully operational and being maintained when the results of the periodic benefit optimisation review reflect outcomes that are aligned with the business case benefit realisation plan. The solution performance should be closely correlated with the anticipated benefits in to be considered "on track" or better. If this is not the case then actions must be agreed to "fast track" the process of alignment.

6. Benefit Optimisation Review. The periodic solution performance review is complete when a report is published that indicates one or a combination of the conditions below:

    a. the benefits from the solution are aligned with the expectation and no additional management action is required.
    b. a shortfall on benefits against plan exists and a remedial action to bring the benefits back in line with the expectation has been implemented by management.
    c. a noted shortfall on benefits is related to the solution architecture (and it has been acknowledged by the architecture group) and is being reworked.
    d. a shortfall or over-realisation of benefits is attributed to an error in the business case (and has been acknowledged by the business case author) and the case is being revised.

7. Disposal. The disposal of the assets is complete when the benefit realisation plan has been completed, the business case is reviewed finally and lessons learned during the benefit realisation lifecycle are captured for re-use and to improve the quality of business cases in the future. A key measure that needs to be updated is the change in the indicator of benefit realisation probability for the business.

Despite a good benefits realisation program, a Business Case may still fail to deliver the anticipated benefits because it fails to take into consideration the changing Business Strategy. It is often considered difficult to cater for the ongoing re-alignment with dynamic business initiatives.

In a tightly managed benefit realisation environment, the business case becomes subject to periodic change management and will need to be managed using version control. The business case needs to be linked to the company strategy, implying that as strategy changes so the business case needs to be revisited.

4.6.3 Reviewing the Business Case

The "business case" is not a document but rather a repository of information about an initiative or program. The business case cannot be static in an environment where benefit realisation or optimisation is practiced. If established as a digital repository that is structured and has business intelligence tools available for reporting, a dashboard that tracks benefit realisation against plan with trending becomes feasible. This view would give good indication of underlying issues but needs to be integrated with existing and standard reporting for the business. If this is not the case, the burden of maintaining a separate set of data will rapidly make the dashboard a burden rather than a help.

At the highest level, per initiative, a benefits facilitator needs visibility of the actual benefits against the planned benefit trajectory (benefits mapped against a timeline). While real-time information is not required, periodic analysis would require the underlying data to be synchronised. A level of drill-down that allows quick identification of causes of variance would simplify further analysis and enable effective corrective action to be taken.

The inclusion of thresholds that indicate a need for management intervention and possibly optimistic and pessimistic views of the trajectory from the business case would enrich the usefulness of a dashboard. The value of the benefit trajectory chart as a communication tool and motivator for the stakeholders is huge.

The business should establish a policy that defines expectations for business cases and in particular, the level of variance that is considered to be significant after initial approval. If this threshold is breached then the policy may call for the business case to be reassessed and at certain criteria, to be presented to the approval body again. This is a form of governance and a good practice. Where a business case is revised, the trajectory map should be updated to include previous versions and highlight changed expectations. The actual benefit accrued should remain; it will just be the profile of expectation that is updated.

4.6.4 Project Close-out and Benefit Realisation Management

> *'The project is dead, long live the project."*

The project manager is expected to close-out the development and deployment project after handover, file the project plans, write the report and update the lessons learned. He then moves on to a new assignment and that chapter is closed. This is however not the end of the project, merely a new beginning. Benefit realisation can now commence.

The best possible beginning of this new chapter is a project that completed within budget, on time and provided 100% of the user requirement. This ending to a development and deployment project, unlikely as it may seem, defines a perfect start for the benefit realisation manager.

The likelihood is that a less than perfect world exists at the start of the benefit realisation manager's tenure. Cost and schedule over-runs, shortfalls in meeting expectations and pockets of users who are more like terrorists and saboteurs than disciples is a more probable landscape. Where the project manager is mature and realistic, he would hand over the project at close-out with a documented and active remediation plan. This

may include change requests (to fix known problems in the operational environment), a schedule of missed expectations and "work-arounds" (with reasons behind them), a full set of project accounts and minutes, an adoption report (showing areas where users are not yet comfortable with the new solution) and an up-to-date risk register. This is an optimistic expectation for a benefit realisation manager.

4.6.4.1 Taking over the Baton of Benefit Realisation

Reality suggests that the benefit realisation manager starts his task pretty close to the bottom of the benefit realisation trajectory (see figure 4.4), with good probability that it could get worse before it turns. This is a time for clear short term focused objectives that stabilise the changed environment and harness the energy of the change positively. "Begin with the end in mind"[30] and a clear map of what you need to happen to get there. Getting the benefits to flow is the key outcome for the business, and only people can make that happen.

Communication is the most critical ingredient to mobilise change. The stakeholders must understand and "want" the end state and have the ability and support they require to realise the "shared vision". They then need encouragement and ongoing visibility of their progress toward that objective. Short term (minor) goals with formal recognition and/or incentives can drive earlier benefit materialisation. Ideally, the baton of benefit realisation should be firmly in the hands of the lowest level of the organisation for the greatest impact to be realised.

4.6.4.2 Improve Predictability with Lessons Learned

The Benefit Optimisation Review should be a place to share success stories and will allow other benefit managers to adopt the practices that work into their areas of responsibility. Lessons learned should be captured and rather than glossed over, unpacked to highlight learning's for the current and future benefit realisation teams. Authors of new Business Cases and Benefit Realisation Plans should consider these "lessons learned" to architect future plans with higher probability of success.

The track record for solutions that provide positive returns will improve. As the pool of knowledge builds the consistency of benefit realisation will

improve and so will the predictability. This will allow the business to engage in solutions that have more marginal ROI, simply because the risk of failure is lower. Greater confidence in the outcome of business related change allows for more change to be taken on. This essentially builds a "change-fit" organisation which facilitates innovation.

A significant outcome of this use of feedback and the re-application of learning is the ability to predict (based on change type and project scope) the probability of benefit realisation in a future project. This allows for appropriate risk mitigation strategies (less resource intensive) to be developed and early warning systems to be in place for indicators of possible benefit leakage.

5 Summary

The IT Industry and its practitioners do not realise business benefits for the business. Their contribution to the benefits is through efficient management of the investment in the technology based solution. They best achieve this through application of good practices. At the conclusion of an IT-related project, the ultimate deliverable the business can expect from IT is a solution that meets the requirements that the business originally defined and that the costs of producing that solution were minimized and fully accounted. Business effectively receives a fully documented expense account that needs to be repaid from future profit.

For there to be a "Return on Investment", the business needs to generate the returns. The set of practices to generate the returns and to account for them on an ongoing basis are the keys to Benefit Realisation Management. IT practitioners and project managers should play a significant role in validating the expectations the business has, building a benefit realisation plan and establishing the baselines, metrics and plans for ROI realisation. The business needs to adopt a methodology for Benefit Realisation Management and assign responsibility for execution of that practice. Benefit realisation is an ongoing, process oriented set of activities that measures and optimizes outcomes throughout the lifecycle of the solution.

The model proposed in this paper is intended to overlay an existing set of processes in project management and IT solution development but shows how the inter-dependencies extend beyond the traditional project life cycle into the extended solution life cycle of benefit realisation. It is only when the benefit realisation life cycle is managed "end-to-end" that ROI can be predictably realised.

Benefit Realisation Management is not practiced to any identifiable degree within the sample of the research. There is little evidence of a defined process or a proven methodology for organisations to follow. The principles behind benefit realisation are simple and logical and form a natural extension of the process embodied in business case development. Ownership of benefit realisation is in most instances misplaced or simply not assigned. Benefits may be realised but if they are not accounted, they are not recognised.

Benefits can only accrue through improvements in process or peoples performance and the responsibility for realisation is therefore in the

domain of the business. IT is a facilitator of the technology element to enable those process or performance benefits, but realisation needs to occur where the work happens. There is substantial scope for benefit enhancement and the research suggests that maturity in benefit realisation management could manifest in benefit optimisation practices. The optimisation process is described as a lifecycle for benefit realisation.

IT-related projects end where benefit realisation must engage and unless the baton of benefit realisation is handed over and accepted, the benefits are unlikely to be accounted. The research suggests an extension to the CMMI® framework to include a set of post implementation processes that will embed benefit realisation and the requisite work products throughout the benefit realisation lifecycle. An end-to-end (lifecycle) approach will enhance the accountability of business and embed good governance.

Understanding some of the issues around recognising ROI in IT-related initiatives suggests that the same opportunity exists to optimise benefit realisation in non-IT-related initiatives. The principles are generic and the proposed practices are not necessarily unique to IT. Merely bringing benefit realisation management into the focus of business management is likely to improve the ROI on any business related project, and as the practices mature, so the accounted benefits will grow.

5.1 Conclusion 1 - The Hypothesis is Substantiated

It states:

> There is a **lifecycle for Benefit Realisation**, that when **properly managed** will **improve the probability** of **business realising benefits** from IT related projects.

This research has shown:

5.1.1 Evidence of a Lifecycle for Benefit Realisation

> The logical sequence of events or steps that exist between the business identifying a need and the solution delivering benefits is defined in the postulated lifecycle. (section 4.3 and figure 4.3)

5.1.2 The importance of Proper Management

A responsible person needs to be assigned to account for the benefits and in higher maturity organisations, to optimise the realisable benefit. (section 4.5)

The process proposed ensures that the steps in the lifecycle are properly managed. (section 4.6)

The benefit realisation manager should guide stakeholders to ensure that no critical dependencies are missed and that every opportunity for benefit realisation is managed against the Benefit Realisation Plan. (section 2.5.2)

5.1.3 Actions that Improve the Probability of Benefit Realisation

The proposed CMMI process overlay (Appendix B) takes into account the "pillars of benefit realisation" as these are shown to be critical to benefits materialising. (section 2.4)

Underlying process areas that support the higher order process of benefit realisation must be examined and taken to higher levels of maturity where they are lacking. (section 4.6.1.3)

For benefits to be realised there needs to be a clear understanding of what the benefit is and how it will be measured. If the Benefit Realisation Plan with a process baseline and a timeline for benefits is established, benefit realisation is more probable. (section 2.5.2)

The mechanism to identify "lessons learnt" and effect continuous improvement to the benefit realisation process (and the underlying processes) is embedded in the proposed Benefit Realisation process. (section 4.6) and in the CMMI Process Overlay (Appendix B)

5.1.4 The Reality is that Business (not IT) must Realise Benefits

The business is responsible (and should be accountable) for the realisation of the benefits agreed as the benefit is only realised through the actions of people. (section 4.5)

5.2 Conclusion 2 - The Research Objective has been Met

The Objective is stated as:

> For the research to make a meaningful contribution to Benefit Realisation practices in the IT industry, it should:
>
> - describe a method or model which will contribute to an improvement in the realisation of benefits in the future and/or
> - expose at least one area of predictable benefit realisation failure.

The research has described a method (management process) and a model (Benefit Realisation Lifecycle) which will contribute to an improvement in the realisation of benefits in the future and it exposed multiple areas of predictable benefit realisation failure. Areas where potential benefit realisation failure might occur are highlighted in the research and listed below:

Table 5.2 – Seven Contributors to Benefit Realisation Failure

Contributors to Benefit Realisation Failure	
1	The business problem is poorly defined giving rise to a flawed business case
2	The business case is poorly developed and sets an incorrect expectation
3	The execution of the project to deliver the solution is poor
4	The technical solution is fundamentally flawed
5	The delivered solution is not effectively adopted by the business
6	The business changed significantly between inception and project completion
7	The benefit is effectively realised but not properly recognised (or reported).

The stakeholders need to be constantly aware of these risks and the proposed extension to the CMMI framework assists in managing theses factors. (Appendix B).

5.3 Recommendations

This work is done, but the task of benefit realisation is hardly begun……..

Benefit realisation, when considered as a process, depends on a higher level of process maturity in the underlying organisation. The IT industry experience of only 20% of projects being perceived to deliver the expected outcomes may well correlate with the maturity of the organisations into which those solutions are deployed. This research did not examine those aspects, nor was it quantitative by design.

An organisation achieving this underlying level of maturity, even without implementing an overarching benefit realisation lifecycle, will already improve the probability of benefit realisation. This is due to the fact that the areas of potential failure described in section 5.2 are minimised through the underlying processes.

Opportunity exists to extend the research, or even to initiate a "test" environment where the findings of this work can be validated. The probability of benefit realisation for an IT-related business initiative may then become substantively qualified.

As business wrestles with finding greater returns for shareholders, perhaps a part of the answer lies in a closer management of benefit realisation. Improving competence in these aspects of business process, performance and information technology management may well result in higher ROI's for the business.

The "lifecycle" framework may help the cynics of process orientation to see the "value ladder" and become more comfortable with the "mechanistic" process driven approach. Simply overlaying the proposed CMMI® process extension into an existing mature organisation would be an interesting test, and the outcomes could be used to optimise the proposed Benefit Realisation process approach.

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APPENDIX A – Overview of CMMI and Summary of Terms

Overview

CMMI is the successor of the Capability Maturity Model (CMM) or Software CMM. The CMM was developed from 1987 until 1997. In 2002, CMMI Version 1.1 was released. Version 1.2 followed in August 2006[9].

CMMI is a process improvement approach, developed by the Carnegie Melon University CMMI project. The goal of this project is to improve the usability of maturity models by integrating many different models into one framework. It was created by members of industry, government and the Carnegie Mellon Software Engineering Institute (SEI). The main sponsors included the Office of the Secretary of Defence (OSD) and the National Defence Industrial Association.

The root of CMMI is a scheme for software engineering, but CMMI is highly generalised to embrace other kinds of product, such as the mass manufacture of electronic components. The word software does not appear in definitions of CMMI. This unification of hardware and software engineering makes CMMI extremely abstract. It is not as specific to software engineering as its predecessor.

CMMI Concepts

All CMMI models contain multiple Process Areas (PAs). A PA has 1 to 4 *goals*, and each goal is comprised of *practices*. These goals and practices are called *specific* goals and practices, as they describe activities that are specific to a single process area. An additional set of goals and practices applies across all of the process areas; this set is called *generic* goals and practices. The table below describes CMMI terminology in more detail.

Table A.1 - CMMI® Terminology

Concept	Definition
AMPLIFICATION	Amplifications are informative model components that contain information relevant to a particular discipline. For example, to find an amplification for software engineering, one would look in the model for items labelled "For Software Engineering." The same is true for other disciplines.
CAPABILITY LEVEL	Achievement of process improvement within an individual process area. A capability level is defined by the appropriate specific and generic practices for a process area.
CMMI MODEL	A model generated from the CMMI Framework.
CONTINUOUS REPRESENTATION	A capability maturity model structure wherein capability levels provide a recommended order for approaching process improvement within each specified process area.
GENERIC GOAL	A required model component that describes characteristics that must be present to institutionalize processes that implement a process area.
GENERIC PRACTICE	An expected model component that is considered important in achieving the associated generic goal. The generic practices associated with a generic goal describe the activities that are expected to result in achievement of the generic goal and contribute to the institutionalization of the processes associated with a process area.
GENERIC PRACTICE ELABORATIONS	An informative model component that appears after a generic practice to provide guidance on how the generic practice should be applied to the process area.
GOAL	A required CMMI component that can be either a generic goal or a specific goal. The word goal in a CMMI model always refers to a model component (e.g., generic goal and specific goal).
MATURITY LEVEL	Degree of process improvement across a predefined set of process areas in which all goals in the set are attained.

Concept	Definition
PROCESS AREA	A cluster of related practices in an area that, when implemented collectively, satisfies a set of goals considered important for making improvement in that area. All CMMI process areas are common to both continuous and staged representations.
REFERENCE	An informative model component that points to additional or more detailed information in related process areas.
SPECIFIC GOAL	A required model component that describes the unique characteristics that must be present to satisfy the process area.
SPECIFIC PRACTICE	An expected model component that is considered important in achieving the associated specific goal. The specific practices describe the activities expected to result in achievement of the specific goals of a process area.
STAGED REPRESENTATION	A model structure wherein attaining the goals of a set of process areas establishes a maturity level; each level builds a foundation for subsequent levels.
SUBPRACTICE	An informative model component that provides guidance for interpreting and implementing specific or generic practices. Sub practices may be worded as if prescriptive, but they are actually meant only to provide ideas that may be useful for process improvement.
WORK PRODUCT	In the CMMI Product Suite, a useful result of a process. This can include files, documents, products, parts of a product, services, process descriptions, specifications, and invoices. A key distinction between a work product and a product component is that a work product is not necessarily part of the end product.

Key process areas of the CMMI

The CMMI contains several key process areas indicating the aspects of product development that are to be covered by company processes.

Table A.2 - CMMI® Process Area Acronyms

Acronym	Name	Area	Maturity Level
REQM	Requirements Management	Engineering	2
PMC	Project Monitoring and Control	Project Management	2
PP	Project Planning	Project Management	2
SAM	Supplier Agreement Management	Project Management	2
CM	Configuration Management	Support	2
MA	Measurement and Analysis	Support	2
PPQA	Process and Product Quality Assurance	Support	2
PI	Product Integration	Engineering	3
RD	Requirements Development	Engineering	3
TS	Technical Solution	Engineering	3
VAL	Validation	Engineering	3
VER	Verification	Engineering	3
OPD	Organisational Process Definition & IPPD*	Process Management	3
OPF	Organisational Process Focus	Process Management	3
OT	Organisational Training	Process Management	3
IPM	Integrated Project Management	Project	3

Acronym	Name	Area	Maturity Level
	& IPPD*	Management	
RSKM	Risk Management	Project Management	3
DAR	Decision Analysis and Resolution	Support	3
OPP	Organisational Process Performance	Process Management	4
QPM	Quantitative Project Management	Project Management	4
OID	Organizational Innovation and Deployment	Process Management	5
CAR	Causal Analysis and Resolution	Support	5

*IPPD – Integrated Product and Process Development. A systematic approach to product development that achieves timely collaboration of relevant stakeholders throughout the product lifecycle to better satisfy customer needs.[46]

APPENDIX B - Benefit Realisation and Optimisation Management

A Proposed Extension to the CMMI® Framework

Background.

The research around Benefit Realisation and Optimisation Management (BROM) suggests that a higher level of process maturity in an organisation is required to consistently deliver benefit realisation. The set of processes specific to BROM need the broader disciplines associated with a process framework like CMMI in order to underpin the outcomes.

BROM is a proposed end-to-end management process that spans the solution lifecycle from before defining the business requirement through to after disposal of the technology assets used to deliver the solution. The CMMI framework does not have a process group to manage Benefit Realisation and this proposed overlay of Benefit Realisation specific processes closes that gap. The CMMI framework describes "what" needs to be done and the "how" can be supplemented from other frameworks like ITIL and Prince-II.

This chapter proposes a BROM overlay for a *mature process* implementation of the CMMI framework. The document is structured identically to any other process area already defined in the CMMI Second Edition handbook by Chrissis, Konrad and Shrum[46]

This chapter should be read in conjunction with the handbook.

Benefit Realisation and Optimisation Management

A Process Management Process Area at Maturity Level 5

Purpose

The purpose of the Benefit Realisation and Optimisation Management process is:

- to make benefits of technology enabled solutions visible and optimal
- to provide insight into the returns being generated by a technology based business solution during it's lifetime so that remedial action can be taken when the return on investment deviates substantially from the approved Benefit Realisation Plan and/or
- to identify and act on opportunities to enhance the planned return on investment delivered by the technology based business solution.

Introductory Notes

The Benefit Realisation and Optimisation Management process uses the Benefit Realisation Plan (part of the Business Case for the solution) as a basis for the timing and quantum of benefits that should accrue to the business through the adoption and use of the technology based solution. Benefits accrue when they are quantitatively defined, recognised and recorded in a measure that can be audited and evaluated relative to the investment made to enable that benefit.

The ratio of realised benefit against the investment is defined as the return and for meaningful evaluation is framed relative to a timeline. The timeline is projected in the Business Case and the actual return is shown as a trajectory against the planned return over time.

Appropriate visibility of Benefit Realisation is when a significant deviation in the recognition of benefit (the quantum of the benefit or the time in which the benefit is manifest) is made evident in time for remedial action to curtail negative financial impact. A deviation is considered significant if it places the return, as projected in the Business Case, at risk in a given timeframe.

When metrics deviate significantly from the Business Case, appropriate corrective action may require revision of the Business Case, changes to the

technical solution, business process changes, timeline revision and/or changes to the Solution Adoption Program.

A solution that is meeting the expectations as defined in the Business Case may be a candidate for optimisation. The optimisation process seeks to improve the quantum of the benefit and/or reduce the time lag before a benefit materialises.

Related Process Areas

Refer to the Causal Analysis and Resolution process area for more information about identifying the causes of deviations against Benefit Realisation Plans and implementing remediation to prevent and/or curtail loss and prevent recurrence.

Refer to the Configuration Management process area for more information about establishing and maintaining baseline information for measuring improvements against and for controlling changes to documentation.

Refer to the Decision Analysis and Resolution process area for more information about selecting methods of evaluating solution performance and alternative remediation measures.

Refer to the Integrated Project Management process area for more information about establishing the Benefit Realisation Plan as part of the solution development and deployment project plan and involving the relevant stakeholders to ensure that Benefit Realisation is achieved.

Refer to the Measurement and Analysis support process area for more information about developing and maintaining a measurement function to track Benefit Realisation metrics over the solution lifecycle.

Refer to the Organisation Innovation and Deployment process area for more information about selecting and deploying incremental and innovative improvements to the solution to enhance Benefit Realisation.

Refer to the Organisational Process Definition process area for more information about establishing and maintaining the Benefit Realisation Process assets and standards.

Refer to the Organisational Process Focus process area for more information about deploying process improvements into the business in support of enhancing Benefit Realisation.

Refer to the Organisational Process Performance process area for more information about understanding the performance of business processes to provide process data, baselines and models to quantitatively manage Benefit Realisation.

Refer to the Organisational Training process area for more information about developing the skills and knowledge of people impacted by the change so that they adopt technology based solutions more readily and then contributes more effectively to Benefit Realisation.

Refer to the Project Monitoring and Control process area for more information about managing the Benefit Realisation Plan, understanding the progress and taking the appropriate actions when the performance deviates significantly from the plan.

Refer to the Project Planning process area for more information about developing the Benefit Realisation Plan, gaining and maintaining stakeholder commitment to the plan and maintaining the plan.

Refer to the Process and Product Quality Assurance process area for more information about evaluating processes and providing insight into the performance of business processes and the Benefit Realisation process.

Refer to the Quantitative Project Management process area for more information about recording statistical and quality management data from Benefit Realisation management in the organisations measurement repository.

Refer to the Requirements Development process area for more information about identifying and documenting the benefit expectations of the business and stakeholders for the solution.

Refer to the Requirements Management process area for more information about managing expectations of different stakeholders and identifying and dealing with inconsistencies and conflicts between the expectations and the solution deliverables.

Refer to the Risk Management process area for more information about defining a risk strategy for benefit realisation, identifying and analysing risks and managing those risks that arise.

Refer to the Technical Solution process area for more information about developing and maintaining end user documentation.

Refer to the Validation process area for more information about ensuring that the components of the solution are fulfilling their intended functions and are adopted by the users.

Specific Goals and Practice Summary

SG 1 Understand Benefits to be Realised.

SP 1.1 Establish the baselines for the targeted solution area.

SP 1.2 Map planned changes, dependencies and expected end benefits.

SP 1.3 Identify skills and behavioural change requirements.

SG 2 Develop a Benefits Realisation Plan and Obtain Business Commitment.

SP 2.1 Consolidate Benefits Proposition.

SP 2.2 Build Benefits Realisation Plan.

SP 2.3 Gain Sign-off on Business Case Components.

SG 3 Monitor Performance against Plan.

SP 3.1 Implement mechanisms for benefit tracking / reporting.

SP 3.2 Monitor Benefits Realised against Benefits Realisation Plan.

SP 3.3 Conduct Benefit Optimisation Reviews.

SP 3.4 Report Benefit Realisation Progress.

SG 4 Manage Remedial / Improvement Action to Closure.

SP 4.1 Analyse deviations and opportunities.

SP 4.2 Initiate remedial / improvement actions.

SP 4.3 Update plans and manage actions.

Specific Practices by Goal

SG 1 **Understand Benefits to be realised.**

Know what will change when the new solution is implemented and how these changes will translate into benefits for the business.

The changes that the business is expecting will come from improvements in functionality in the new solution, a productivity improvement (reduction in time taken to perform a function) or in a lowered cost for a function. To quantify these changes into business benefits the nature of the change must be known and the quantum of the change must be clear.

These changes will translate into business benefits only if there is a direct link between the change and a positive outcome. The positive outcome must be expressed as a measure of value to the business. The benefit may be a compendium of benefits and losses that sum to a business value. Indirect benefits may need to be accounted as derived values.

SP 1.1 Establish the baseline for the targeted solution area.

The existing solution delivers certain functionality which forms the basis for this measurement. The details of that functionality and the current performance must be defined quantitatively.

The baseline is typically described in units of time, money or a count. These would usually be determined by observation, analysis and/or calculation. The basis of the baseline assessment should be defined so that future measurements could be performed from the same perspective.

Examples:

1. The current solution allows a maximum of 5 transactions a minute and results in a 40% utalisation of the operator time.
2. The cycle time on a transaction is 12 seconds which includes 4 seconds of operator time.

3. The operator enters the data in 4 seconds and is idle for the 8 seconds it takes the system to process the input.

SP 1.2 Map changes, dependencies and end benefits.

The envisaged solution may deliver different functionality and it is important to understand what the differences will be. The envisaged changes, what will be impacted by the changes, what these changes depend on and what benefit the change will deliver must be defined. This input is critical for building the business case.

The change and the dependencies are usually expressed in technical detail and the benefit in business terms. The impact may be described in a number of ways, probably combining technical and business.

Example:

1. The new solution will verify data immediately it's entered before processing the transaction, allowing the operator to commence data entry for the next transaction after only 2 seconds. The benefit is a doubling of transaction throughput provided the operators can maintain concentration. (Implied productivity increase).
2. Reducing the wait time between transaction entries to 2 seconds, the new solution will allow the business to halve the number of operators doing data entry. (Implied cost reduction through staff reduction).
3. By embedding the verification process into the XML screen and leaving the transaction posting in the back end system, the new solution will reduce the operator wait time from 8 seconds to 2 seconds, resulting in a doubling of operator throughput.

Elaboration:

Work products may include the following documents:

- Benefit Dependency Map.
- Value Ladder.

SP 1.3 Identify skills and behavioural change requirements.

The new solution may depend on new skills and behaviours that the user must adopt. It is imperative that these changes are understood and that the people are up-skilled before the new solution is deployed. Where required behavioural change engagements may be required.

Knowing what the gap is and how broadly the training effort needs to be deployed, is a critical success factor for solution adoption and early benefit realisation. It is also important to allow the cost and time frame for training to be built into the deployment plan.

Elaboration:

Work products may include the following documents:

- Training Requirements Document.
- Training Budget and Schedule.
- Behaviour Profile.

SG 2 **Develop a Benefits Realisation Plan and Obtain Business Commitment.**

The Benefits Realisation Plan documents the expectations that the business has for returns from the solution. It is a critical document that describes how the benefit made up and where it will come from. The plan also defines the method of measurement and identifies who is accountable for delivery of that benefit and when.

SP 2.1 Consolidate Benefits Proposition.

The business case will reference largely tangible benefits with derived financial values. The underlying contributory benefits are the behavioural changes that need to be enabled for the benefit to materialise. These need to be decomposed into the value ladder so that a benefit realisation plan can be built. The end benefits must also be aligned with the business vision and mission to provide motivation to users to adopt the change. There may be aspects relating to risk and governance that the solution addresses and

these need to be identified and taken into account in the Benefits Dependency Map.

The benefits will flow in a specific time frame and between project start and the benefits being realised there may be negative cash flows and specific funding may be needed. These issues need to be planned for. The following list of sub-practices may be useful as guidelines:

1 Review Technical Solution for assumptions and additional benefit realisation opportunities.
2 Verify effort and cost estimates particularly relating to adoption and training.
3 Align benefits to vision and value to identify the "why" for users to adopt the solution.
4 Check budgets and schedules to ensure that solution deployment, training, change management, communications and benefit realisation requirements and timing is aligned.
5 Look out for complex risk resulting from change and lack of experience with the new solution.
6 Define specific governance requirements if they exist.
7 Cash Flow / Funding requirements may need to be reviewed.
8 Evaluate Alternatives even at this stage as they could bring about significant savings and improve benefit realisation.

SP 2.2 Build Benefits Realisation Plan.

The benefit realisation plan documents each benefit (contributory- or end-benefit) and how it is measured, who produces the benefit and what change is required to do so and when the benefit is expected to materialise. The plan will also indicate if the benefit materialises over time or in a single event.

There may be different ways in which the solution could be deployed and these may require scenario planning to identify the best returns model. Since the costs are fixed to a time line and the benefit timeline is known, the planned benefit realisation trajectory can be drawn and mechanisms for measurement proposed.

There are a few useful sub-practices that will assist in compiling the benefit realisation plan:

1 Model ROI scenarios to identify the most attractive / suitable approach to benefit realisation.
2 Define Net Benefit Trajectory by aligning costs and benefits along a time line and plotting the planned benefit curve.
3 Propose mechanisms for benefit tracking / reporting
4 Assign responsibilities for Benefit Management formally with a sign-off document for each benefit manager

Elaboration:

Work products may include the following documents:

- Benefit Trajectory Map.
- Benefits Map.
- Benefits Realisation Schedule.
- Change Plan.

SP 2.3 Gain Sign-off on Business Case Components.

Ensuring commitment to a plan requires explicit definition of responsibility and clear understanding of what needs to be accomplished by the responsible person. A critical step is to engage people responsible for the realisation of the benefits and gain their commitment to their tasks. A sign-off of the plan with specific tasks, responsibilities and timelines is a good practice.

Elaboration:

Work products may include the following documents:

- Benefits Realisation Plan.
- Benefit Management Responsibility Matrix.

SG 3 **Monitor Performance against Plan.**

Once a Benefit Realisation Plan has been registered, the mechanisms for tracking benefits against the plan must be implemented. Then on a regular and periodic basis, the actual performance from a benefit realisation perspective needs to be compared with the planned returns. If

there is evidence of a substantive variance then a remedial action must be initiated. Benefit Optimisation Reviews are facilitated sessions where the individuals assigned the Benefit Management roles are coached and assisted in their task of materialising the benefits they are responsible for by a Benefits Facilitator. The overall solution performance is summarised and presented to the Executive.

SP 3.1 Implement mechanisms for benefit tracking / reporting.

At the highest level, per initiative, a benefits manager needs visibility of the actual benefits against the planned benefit trajectory (benefits mapped against a timeline). The inclusion of thresholds that indicate a need for management intervention and possibly optimistic and pessimistic views of the trajectory from the business case enriches the usefulness of a simple dashboard.

The value of the benefit trajectory chart as a communication tool and motivator for the stakeholders is huge. It is recommended that this form the basis of reporting for benefit tracking.

A useful sub-practice that will assist in tracking and reporting on the benefit realisation plan:

> The business should establish a policy that defines expectations for business cases and in particular, the level of variance that is considered to be significant after initial approval. If this threshold is breached then the policy may call for the business case to be reassessed and based on certain criteria, to be presented to the approval body again. This is a form of governance and a good practice. (See GP2.1 for more detail).

Benefits may reflect in the business case as derived or as indirect measures. The benefit manager should have access to the underlying data from which the derived measures are provided. This visibility helps with understanding causes for variances. Where benefits contribute to strategic objectives or the realisation of a vision, the benefit map used in the business case should be matched with actual data.

SP 3.2 Monitor Benefits Realised against plan.

While real-time information is not required, periodic analysis requires the underlying data to be synchronised. A dashboard with a level of drill-down that allows quick identification of causes of variance would simplify further analysis and enable effective remedial action to be identified and taken.

Monitoring benefits is an exercise in business intelligence gathering. The correct information empowers benefit managers to take action. Encourage the use of information as a forward planning tool rather than one with which to conduct witch hunts. The benefit manager cannot rewrite history, he can only shape it.

SP 3.3 Conduct Benefit Optimisation Reviews .

The purpose of the benefit optimisation review is to coach benefit managers, to review benefits realised against the benefit realisation plan, to identify added benefits not included in the benefit realisation plan and to identify improvements that can be made to the benefit realisation management process. The review also provides a forum to gather information for the preparation of the benefit realisation progress report.

The review should consider the 5 dimensions of benefit realisation:

Business Strategy – measure contribution to vision realisation.

Business Process – look at optimisation of business delivery.

People – consider effectiveness of change management.

Technology – evaluate performance and utilisation.

Risk / Reward – analyse contribution to governance and profit.

A formal structure for the review with minutes and annotated action lists is recommended. Quarterly reviews are adequate for most organisations.

SP 3.4 Report Benefit Realisation Progress.

The purpose of reporting benefits is two fold; it drives action (demonstrating the end-to-end visibility) and it motivates and encourages those whose actions deliver the business benefits. The report of progress will neutralise the argument around what value that technology adds to business and replace it with facts and a mechanism to improve the contribution to business success.

SG 4 **Manage Remedial / Improvement Action to Closure.**

Remedial actions are initiated and managed to closure when the performance of the solution deviates significantly from the Benefit Realisation plan. Improvements Actions are initiated and managed to conclusion when opportunity has been defined for meaningful additional benefit to be realised.

SP 4.1 Analyse deviations and opportunities.

Variances in benefits realised against plan will have their root in one of three areas. If there is a shortfall on benefits against plan, either the plan is wrong or benefits have not been correctly accounted or the solution is not delivering the anticipated benefits. Where an excessive benefit is reported, this could be because the plan is wrong or benefits have not been correctly accounted or the solution is delivering ahead of the anticipated plan.

A deviation may in fact mask an opportunity to gain greater sustainable benefit from the solution. Analysing the variance causes a deeper analysis of the source of the benefit and aspects missed in the design of the benefit realisation plan can come through. Capturing those provides an enhanced return.

Revisiting the documentation in the business case will highlight those benefits discarded by the author of the benefit realisation plan on the basis of their difficulty to justify or measure. With the changes in place, measurement is simpler and these benefits can now be accounted and attributed to the initiative.

SP 4.2 Initiate remedial / improvement actions.

Once a variance has been quantified and the cause understood, a remedial action to bring the benefits back in line with the expectation is developed. This correction needs to be initiated by business management, or if the variance is attributed to an error in the business case then the case must be revised. In extreme cases, a change order may have to be crafted and a project initiated to correct the deviation. In these cases, the cost of non-conformance should be weighed against the cost of remediation.

When an opportunity has been identified and evaluated and meaningful additional benefit is to be realised improvements actions are initiated and managed to conclusion by the business. These initiatives may have to go through a business case revision with approvals and the benefit realisation plan may require updating.

SP 4.3 Update plans and manage actions.

Update the business case repository with the revised plans and monitor the remediation actions as agreed. Analyse the results of the remedial and improvement actions through the benefit optimisation review process to determine their suitability and effectiveness.

Capture the lessons learned to improve future benefit realisation plans.

Generic Practices by Goal

GG 1 Achieve Specific Goals.

The process supports and enables achievement of the specific goals of the process area by transforming identifiable input work products to produce identifiable output work products.

GP 1.1 Perform Specific Practices.

Perform the specific practices of the BROM process to develop work products and provide services to achieve the specific goals of the process area.

GG 2 Institutionalise a Managed Process .

The process is institutionalised as a managed process

GP 2.1 Establish an Organisational Policy.

Establish and maintain an organisational policy to support the BROM process.

Elaboration:

The policy establishes operational expectations for monitoring the actual benefit realisation against the benefit realisation plan and managing remedial action to closure when actual performance or results deviate significantly from the plan.

GP 2.2 Plan the Process.

Establish and maintain the plan for performing the BROM process.

Elaboration:

The plan for the BROM process may be part of, or be referenced by, the project plan as described in the Project Planning process area.

GP 2.3 Provide Resources.

Provide adequate resources for performing the BROM process, developing the work products and providing the services of the BROM process.

Elaboration:

Examples of the resources include:

- Cost tracking systems.
- Process monitoring tools.
- Business Intelligence tools.

GP 2.4 Assign Responsibility.

Assign authority and responsibility for performing the process, developing the work products and performing the services of the BROM process.

GP 2.5 Train People.

Train the people performing or supporting the BROM process as needed.

Elaboration:

- Training may include:
- Data mining.
- Report writing.
- Change management.
- Mentoring.

GP 2.6 Manage Configurations.

Place designated work products of the BROM process under appropriate levels of control.

Elaboration:

Examples of work products under control may be:

- Benefit Realisation Plans.
- Benefit Dependency Maps.
- Benefit Trajectory Reports.
- Remedial Action Plans.

GP 2.7 Identify and Involve Relevant Stakeholders.

Identify and involve the relevant stakeholders of the BROM process as planned.

Elaboration:

Examples of activities in which stakeholders will be involved include:

- Approval of Benefit Realisation Plans.
- Benefit Optimisation Reviews.
- Behavioural Change Workshops.

GP 2.8 Monitor and Control the Process.

Monitor and control the BROM process against the plan for performing the process and take appropriate remedial action.

Elaboration:

Examples of work products and measures that are used in monitoring and control include:

- Monthly financial performance figures.
- Periodic process performance measures.
- Benefit Optimisation Review Meeting schedules.
- Benefit Optimisation Review Meeting minutes.

GP 2.9 Objectively Evaluate Adherence.

Objectively evaluate adherence of the BROM process against its process description, standards and procedures, and address any non-compliance.

Elaboration:

Examples of activities include:

- Monitoring Benefit Realisation Managers against the process standards.
- Managing remedial actions to closure.

Examples of work products include:

- Records of Benefit Realisation Managers performance.

- Benefit Realisation Trajectory Charts

GP 2.10 Review Status with Higher Level Management.

Review the activities, status and results of the BROM process with higher levels of management and resolve issues.

GG 3 Institutionalise a Defined Process.

The process is institutionalised as a defined process

GP 3.1 Establish a Defined Process.

Establish and maintain the description of a defined Benefit Realisation/Optimisation Management process.

GP 3.2 Collect Improvement Information.

Collect work products, measures, measurement results and improvement information derived from planning and performing the BROM process to support the future use and improvement of the organisation's processes and process assets.

GG 4 Institutionalise a Quantitatively Managed Process.

The process is institutionalised as a quantitatively managed process

GP 4.1 Establish Quantitative Objectives for the Process.

Establish and maintain quantitative objectives for the BROM process, which addresses quality and process performance, based on customer needs and business objectives.

GP 4.2 Stabilise Sub process Performance.

Stabilise the performance of one or more sub processes to determine the stability of the BROM process to achieve the established quantitative quality and process performance objectives.

GG 5 Institutionalise a Optimising Process.

The process is institutionalised as an optimised process

GP 5.1 Ensure Continuous Process Improvement.

Ensure continuous improvement of the BROM process in fulfilling the relevant business objectives of the organisation.

GP 5.2 Correct Root Causes of Problems.

Identify and correct the root causes of defects and other problems in the BROM process.

APPENDIX C – Research Study and Questionnaire

Initial Study – Relevance of Benefit Realisation Management

During initial interviews with Senior Executives from a spectrum of representative businesses in South Africa, a view on the relevance of research into Benefit Realisation Management was sought. The objective of the discussion was to specifically avoid direct questions (in the form of a questionnaire). These might have pre-empted responses or may have been incorrectly answered since the concept being discussed was not well documented in publically available literature. The following table represents the qualitative analysis that was performed.

A simple scale of 4 points was used. The intent was to obviate a "middle of the road" view on any point. Often multiple questions and facilitation processes were used to gain the view reflected below.

The scale used is:

1 – Little or none, 2 – Some, 3 - Medium or Good, 4 – High or Excellent

Table C.1 Responses to Initial Study – Relevance of Research

Company	Role	Interest in BRM as a process	Understanding of BRM practices	Practice of BRM in place	Need for BRM model and process	Interest in BRM Research outcomes	Lifecycle view exists in business	BRM seen as a lifecycle process
Sun International	CIO	4	2	1	4	4	1	3
S A Post Office	CIO	4	1	1	4	4	1	4
S A Reserve Bank	CIO	4	1	2	4	4	1	4
Metropolitan	Exec	4	2	2	4	4	1	3
Shell Oil	CIO	3	2	2	4	3	1	3
Medscheme	Exec	4	1	1	3	3	1	3
Standard Bank								
Southern Sun	CIO	4	1	2	4	4	1	4
Telkom								
Barlow World (Plascon)	CIO	4	1	1	4	3	1	4

Business Case Life Cycle Questionnaire

Target Audience: South African CIO's or similar role

Selection Process: Targeted toward experienced individuals who can provide relevant breadth and depth of input, from organisations representative of SA industry and of varying organisational size.

Guidelines: The areas where input is anticipated are highlighted with a pale grey background. Kindly type answers into the fields indicated with "Type here" or check one of the multiple-choice blocks alongside the most appropriate answer by left clicking on the block with your mouse to insert an "X". (Additional comments may be added alongside these multiple-choice selections in the blank space).

Please save the completed questionnaire and then email (as an attachment) to awattrus@telkomsa.net

QUESTIONS

1. Does your organisation use a documented business case to motivate for IT investments?

- ☐ Yes, always Comment
- ☐ Sometimes
- ☐ No

2. Where a business case is not produced, how is approval gained for IT expenditure?

Type here

2a. Is there a financial value above which a business case is mandatory?

- ☐ Yes Comment
- ☐ Uncertain
- ☐ No

3. Who is responsible for *preparing* the business case to motivate for expenditure on IT related projects?

Functional Title Type here

4. Does your organisation follow a formal process to prepare an IT business case?

- ☐ Yes, always Comment
- ☐ Sometimes
- ☐ No

4a. Is the business case process documented?

- ☐ Yes Comment
- ☐ Uncertain
- ☐ No

4b. Please list the major steps in the business case process.

Type here

4c. Is there a standard format (layout) used for business case?

- ☐ Yes Comment
- ☐ Uncertain
- ☐ No

5. List the functional titles for the key stakeholders responsible for *input* into a business case?

Type here

6. Who is considered to *own* the IT business case?

Functional Title Type here

7. Are company policies published that define expected Return On Investment (ROI) and break even metrics for IT solutions?

- ☐ Yes Comment
- ☐ Uncertain
- ☐ No

7a. What is the typical time frame over which IT investments are amortised?

- ☐ <24 Months Comment
- ☐ 25-48 Months
- ☐ >48 Months

7b. When compared with your company's external business, the ROI expected of an IT investment should be:

- ☐ Smaller Comment
- ☐ The same
- ☐ Greater

☐ Don't know

7c. Does the ROI calculation take into account "soft costs" like end-user re-skilling and organisation change management?

☐ Yes Comment

☐ Uncertain

☐ No

8. Does the IT related business case account for costs associated with business process changes?

☐ Yes Comment

☐ Some cases / some costs

☐ No

9. Who *presents* the IT related business case for approval?

Functional Title Type here

10. Who *approves* an IT related business case in your organisation?

Functional Title Type here

11. Is a formal process followed when responsibility moves from business case approval to project implementation?

☐ Yes always Comment

☐ Sometimes

☐ Never

11a. Who is responsible for implementation?

Functional Title Type here

11b. Is the responsible person a part of the team that built the business case?

☐ Yes always Comment

☐ Sometimes

☐ Never

11c. Is the responsible person held accountable for achieving the projected business case benefits?

☐ Yes always Comment

☐ Sometimes

☐ Never

☐ Don't know

11d. Is the person responsible for implementation incentivised based on project implementation success?

☐ Yes always Comment

☐ Sometimes

☐ Never

☐ Don't know

12. Does your organisation use a formal Project Management methodology for implementing IT solutions?

☐ Yes always Comment

☐ Sometimes

☐ Never

13. Is the business involved in IT related solution development and implementations?

☐ Yes always Comment

☐ Sometimes

☐ Never

13a. When in the project is the business first consulted?

☐ Before or during the business case preparation Comment

☐ During the business case approval process

☐ After approval and during implementation

☐ After implementation

☐ Never

13b. To what extent is the business held responsible for project implementation success?

☐ Totally Comment

☐ Jointly with IT

☐ Not at all

13c. Is 'success' clearly defined in business terms for the solution IT deploys for the business?

- ☐ Yes always Comment
- ☐ Most times
- ☐ Rarely or Never
- ☐ Don't know

14. Does your organisation employ a form of Program Management? (Process of managing multiple ongoing inter-dependant projects)

- ☐ Yes Comment
- ☐ Uncertain
- ☐ No

14a. As part of the Program Management process, are approved projects re-qualified periodically?

- ☐ Yes Comment
- ☐ Uncertain
- ☐ No

14b. Do projects get stopped or placed on hold at these Program Management reviews?

- ☐ Yes Comment
- ☐ Uncertain
- ☐ No

14c. Is the business case revisited and updated during these Program Management reviews?

- ☐ Yes Comment
- ☐ Uncertain
- ☐ No

15. Does your company use version control on business cases?

- ☐ Yes Comment
- ☐ Uncertain
- ☐ No

16. What percentage of projects (historically) in approved status have been stopped or placed on hold after a Program Management review?

- ☐ <25% Comment

- ☐ 25-50%
- ☐ >50%
- ☐ Don’t know

16a. When a project is stopped or placed on hold, is the business case revised?

- ☐ Yes, always Comment
- ☐ Sometimes
- ☐ Never
- ☐ Don't know

16b. Does a 'lessons learned' exercise get conducted when a project is stopped?

- ☐ Yes, always Comment
- ☐ Sometimes
- ☐ Never
- ☐ Don't know

17. What percentage of your IT projects complete on time?

- ☐ <25% Comment
- ☐ 25-50%
- ☐ 50-80%
- ☐ >80%
- ☐ Don’t know

18. What percentage of your IT projects complete within budget?

- ☐ <25% Comment
- ☐ 25-50%
- ☐ 50-80%
- ☐ >80%
- ☐ Don’t know

19. What percentage of your IT projects complete on time and within budget?

- ☐ <25% Comment

- ☐ 25-50%
- ☐ 50-80%
- ☐ >80%
- ☐ Don’t know

20. Are IT related solutions evaluated and signed off against the original business case at project completion?

- ☐ Yes, always Comment
- ☐ Sometimes
- ☐ Never
- ☐ Don't know

21. Is your company able to measure IT related solution performance against the respective business case on an ongoing basis?

- ☐ Yes, absolutely Comment
- ☐ Sometimes
- ☐ No
- ☐ Don't know

22. Where variances exist between the business case and the solution performance are these formally documented?

- ☐ Yes, always Comment
- ☐ Sometimes
- ☐ Never
- ☐ Don't know

22a. Does the business case get updated to reflect these changed expectations?

- ☐ Yes, always Comment
- ☐ Sometimes
- ☐ Never
- ☐ Don't know

22b. Is a formal remedial plan implemented for non-performing solutions?

- ☐ Yes, always Comment

☐ Sometimes

☐ Never

☐ Don't know

22c. Who takes responsibility for the remedial action?

Functional Title Type here

23. Who determines whether an IT related project delivers the business benefits as defined in the original business case?

Functional Title Type here

24. What percentage of IT related projects deliver the business benefits as defined in the original business case?

☐ <25% Comment

☐ 25-50%

☐ 50-80%

☐ >80%

☐ Don’t know

25. When a solution reaches 'end-of-life', is the solution performance reviewed against the original business plan?

☐ Yes, always Comment

☐ Sometimes

☐ Never

☐ Don't know

26. Are new IT business cases checked against 'lessons learned' before submission for approval?

☐ Yes, always Comment

☐ Sometimes

☐ Never

☐ Don't know

27. Briefly explain how the business initiates an IT related project in your organisation?

Type here

Companies Reviewed and Sample Relevance

Table C.2 Questionnaire and Interview Respondents

Company	Role	Method	Sector
ABSA	Exec	Interview	Financial
African Bank	CIO	Interview	Financial
Arcelor Mital	Exec	Interview	Manufacturing
Barlow World (Plascon)	CIO	Interview	Manufacturing
BKB	CIO	Questionnaire	Agriculture
Capitec	CIO	Interview	Financial
Cell C	Exec	Interview	Communications
Chevron	Exec	Interview	Oil Retail
Cummins Diesel	Exec	Interview	Manufacturing
Ellerines	CIO	Questionnaire	Retail
Man Truck and Bus	Exec	Interview	Manufacturing
Medscheme	Exec	Questionnaire	Health Care
Metropolitan	Exec	Questionnaire	Insurance
Nedbank	Exec	Interview	Financial
PG Group	CIO	Interview	Manufacturing
S A Post Office	CIO	Questionnaire	Public Sector
S A Reserve Bank	CIO	Interview	Public Sector
Shell Oil	CIO	Interview	Oil Retail
Southern Sun	CIO	Interview	Hotel and Leisure
Standard Bank	Exec	Interview	Financial
Sun International	Exec	Questionnaire	Hotel and Leisure
Telkom	Exec	Interview	Communications

Notes

1. The interviews were conducted “one-on-one” as a facilitated alternative to the respondent filling in the questionnaire.
2. The questions asked were to gain qualitative input only.
3. The sample provided good qualitative feedback but was too small to use quantitatively.

4. The sample is not big enough to do any comparison by sector.
5. The summary results from the interviews and the questionnaires are reflected in Section 4.2