



# Project Optimism Bias in Capital Investment Decision Making

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Optimism bias is a known cognitive bias defined as the tendency of an individual or group to expect better than average outcomes from their actions.

## 1. INTRODUCTION

Cognitive bias describes the systematic error in thinking borne from how people process and interpret information that results in distorted decision making. For example, optimism bias is a common cognitive bias that causes someone to believe that they themselves are less likely to experience a negative event. If expectations are better than reality, the bias is optimistic; if reality is better than expected, the bias is pessimistic. The extent of the optimism bias is thus measured empirically by recording an organisation's expectations before a project event unfolds and contrasting those with the outcomes and forecast benefits that transpire since reality sometimes does not meet expectations.

This paper aims to promote proven methodologies and techniques sponsoring organisations and the accountable officer ought to use to ensure adjustments are made to business cases to better support capital investment decision making in projects and programmes. Initiating projects on the basis of unrealistic assumptions undermines value-for-money at best, and in the worst case, leads to unviable projects where sunk costs could have funded other organisational priorities. As such, risk and over-optimism comes at a cost and no organisation can spend the same money twice.

## 2. STRUCTURE & CONTENTS OF THIS WHITE PAPER

- ❑ In this white paper, we will discuss project optimism bias and its effects to inaccurately estimate actual time and cost requirements to successfully deliver agreed organisational (including strategic investment) objectives.
- ❑ Next, we will explain why sponsoring organisations and the accountable officer need to be confident that investment decisions are based on realistic estimates and assumptions, that there are clear project plans for mitigating known risks and that matters about which there is inherent uncertainty have been identified and actively managed.
- ❑ We will subsequently discuss the salient points of existing industry-leading guidance that help overcome optimism bias in projects particularly in the portfolio management process that should identify any unviable projects before full capital investment and where decisions to pivot can still be made.
- ❑ Finally, we will demonstrate easy to use techniques sponsoring organisations and the accountable officer ought to use to ensure adjustments are made to business cases to better support investment decision making in projects and programmes and to protect ongoing capital investment.

### 3. THE BUSINESS PROBLEM

A benefit is the measurable performance improvement resulting from change perceived as positive by one or more stakeholders that contributes towards organisational (including strategic) investment objectives.

Capital investment in Information and Communication Technology (ICT) has steadfastly increased with the rise of the digital economy. Despite the promises of significant benefits from ICT investments, results particularly in the public sector are often delivered over time, over budget, not to specification and/or sometimes not at all. Simply procuring assets and infrastructure is rarely a spending objective in itself. The intent of any organisation, in any industry or sector is to achieve more efficient running of the organisation through improved performance and service provision to the customer. Inherent in any capital investment process – from options analysis in the iterative development of the business case, through to eventual investment appraisal and balance of programmes and projects – is the demonstrated, systematic, tendency to be overly optimistic.

Promising to - design, build, test and release a product and/or service - for less than it finally costs makes projects appear more attractive than they actually are. However, understating costs also makes it difficult for sponsoring organisations and the accountable officer to differentiate good projects from unviable ones before they have been fully and independently assessed regardless of the project management methodology or product delivery framework used. That is, the process of defining objectives, examining a long list of options and weighing up the relevant costs, benefits, risks and uncertainties before an investment decision is made. Like the Infrastructure and Project Authority states in Setting Up for Success, “if we invest time and energy in setting projects up for success, we can obtain a clearer overview of the project lifecycle and make any required design changes when the cost of making these changes is still relatively low. Whilst successful project initiation can take more time at the start, this will be repaid repeatedly later on in delivery”.

Generally, sponsoring organisations and the accountable officer do not insist that sufficient time be quarantined up-front to build firm foundations that support a robust case for change and subsequent capital investment. Failing to commit the necessary time and effort to clearly define the investment logic early in the project lifecycle can lead to significant differences between planned and actual time, cost and delivery of the required outcomes that enable benefits realisation. As such, where projects are not planned carefully or structured properly, they will undoubtedly struggle during implementation and deliver disappointing results - if indeed they deliver any benefit at all - financial or otherwise. For the purposes of this white paper, a benefit is defined as the measurable performance improvement resulting from change perceived as positive by one or more stakeholders that contribute towards organisational (including strategic) investment objectives.



## 4. WHAT IS OPTIMISM BIAS?

Over-optimism, whether unconscious or deliberate, must be acknowledged and effectively managed in the planning and delivery of projects prior to full investment.

Optimism bias is a cognitive bias that causes someone to believe that they themselves are less likely to experience a negative event despite previous experience and lessons captured. This thinking often leads to a phenomenon first noted by Nobel Prize winning behavioural economists, Daniel Kahneman and Amos Tversky in 1979 called the planning fallacy (also known as unrealistic optimism or comparative optimism). This is where predictions about estimated time needed to complete a task displays an optimism bias where the actual time required is underestimated (see Figure 1). Without broad subject matter expertise in project cost estimation, based on independent and objective advice, sponsoring organisations and the accountable officer can be prone to make investment decisions based on optimism bias rather than on a rational weighting of gains, losses and probabilities.

The business case - that should never be perceived or used for simply gaining investment approval - can often overestimate benefits and underestimate the total cost of ownership in terms of capital, maintenance and support. As such, an inclusive and diverse range of credentialed people in the profession of project management and estimation should be involved in the iterative development of the business case that includes predictive estimates within a data range. Appointing persons who do not have the appropriate qualifications, experience or competence required for estimation and business case development would be unfair to them and deleterious to the project and the sponsoring organisation.

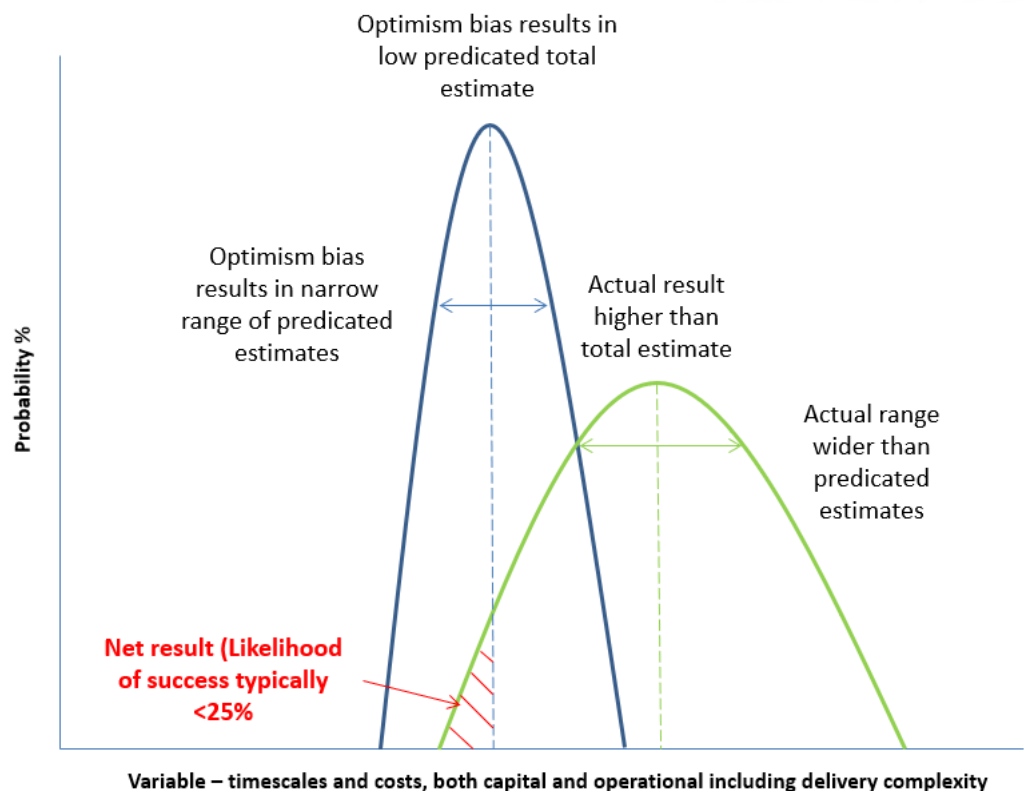


Figure 1: Probabilistic analysis of diverse upstream projects, 2005–2012, Westney Consulting Group.



The sunk cost fallacy is a cognitive bias which results in backward looking decision making, where organisations defend a capital investment and where spent costs are more than abandonment and a viable alternative.

The planning fallacy phenomenon, therefore, can occur irrespective of previous experience that past tasks of a similar nature have taken longer to complete than generally planned. It is simply the difference between a person's expectation and the resultant outcome that follows. The extent of the optimism bias is thus measured empirically by recording an organisation's expectations before a project event unfolds and contrasting those with the outcomes (desired result from change) and forecast benefits that transpire since reality can differ from customer expectations. The frequency of poor outcomes is an unavoidable result of organisations taking rational risks in uncertain situations.

## 4.1 ANCHORING

One of the strongest and most prevalent of cognitive biases is anchoring (or focalism). As a proposal, a business case by its very nature is designed to make the initial case for change. However, subsequent analysis can be skewed unintentionally or not towards overoptimism. This is a result of the anchoring effect that describes the common human tendency to rely too heavily on the first piece of information offered (the "anchor") when making investment decisions. During the investment decision making process, anchoring occurs when individuals use an initial piece of information – typically in the strategic outline business case – to make subsequent judgments. Once an anchor is set, other judgments – for time and cost are made by adjusting away from that anchor, and there is a bias toward interpreting other information around the anchor.

For example, the accountable officer is appraising the long list of options in the strategic outline business case against the known business problem and initially notices that Option A costs \$1 million while Option B costs \$500,000. It is at this point that anchoring occurs as people are prone to see Option B as inexpensive. Whereas, if they had solely seen Option B priced at \$500,000, they would probably view it as expensive. The anchor – the first price that is seen – unduly influences people's judgement and decision making. Anchoring bias, therefore, is an important concept to be wary of during the iterative development of the business case, particularly during options appraisal and later during investment appraisal when balancing the portfolio. As such, the long-list of options ought to include an option that provides the baseline for measuring improvement and value-for-money in terms of costs, risks and benefits. This option is known as 'Business As Usual (BAU)'.

## 4.2 RISK CONTINGENCY

While understanding that unforeseen costs may undoubtedly arise during the project lifecycle, sponsoring organisations and the accountable officer ought to have a sufficient contingency fund in place in their organisational financial plans proportionate to the size of the investment. The contingency is an estimated amount added to the project base cost estimate to cover optimism bias in the project and to prevent cost overruns. Simply, contingency is estimated as a predetermined percentage of base cost depending on the project stage and inherent uncertainty. Refer to Figure 2 for more information.

Another cognitive bias that may occur when the contingency fund is overspent and the project cost overall exceeded is **sunk cost fallacy** (or the *concorde fallacy*) which is rooted in the human desire to not appear wasteful.

That is, the idea that an organisation is more likely to continue with a project if they have invested considerable time, cost, or effort in it, even if further contribution is not the best thing to do. While sunk costs should be ignored in investment decision making, they should not be ignored entirely when monitoring projects. If a project can only show a positive return by continually shifting the starting line, it's a warning sign to the sponsoring organisation and the accountable officer about the accuracy of the original forecasts within the business case. This inaccuracy will often adversely impact the project's ongoing viability, desirability and achievability to any agreed timescales and cost parameters.



Figure 2: Core elements of a project budget from the Victorian Government, Department of Finance and Treasury, *Preparing Project Budgets for Business Cases Technical guide* (2012).

Typically, organisations recognise when a sunk cost has occurred that cannot be recovered by any means. However, the sunk cost fallacy reasoning states that further capital investments or commitments are justified because the resources already invested will be otherwise lost. Massimo Piattelli-Palmarini, Professor of Cognitive Science, states that "once we have committed a large sum, we are inclined to add to it more than we would have ever accepted to spend at the beginning". For example, a multi-million dollar capital investment in a project delivering a new finance solution will always appear more affordable if funding is provided incrementally without knowing the actual total cost of ownership or confirmation of the funding source. This also helps explain what Tim Branfield (formerly of the National Audit Office, UK) calls the "conspiracy of continuation, where a project is rarely stopped once it is given approval to start because the sunk cost fallacy comes into effect.

## 5. EXISTING GUIDANCE TO OVERCOME OPTIMISM BIAS

This section is intended to give only the salient points of the industry leading guidance on overcoming project optimism bias provided by each source document. It is not intended to be fully comprehensive. However, one or more of the following should be used in combination to not only adjust for optimism bias but to better protect finite capital investment.

The project budget ought to accurately identify the base cost estimate, while making provision for 'credible' risks over the life and capital investment of the project.

## 5.1 BETTER BUSINESS CASES

To account for optimism bias, Better Business Cases guidance for programmes and projects developed by HM Treasury uses an iterative development process for identifying the preferred way forward in two distinct stages using the 5 Case Model in terms of the strategic case, economic case, commercial case, financial case and management case. The engagement of key stakeholders affected by the proposed changes in the business case for whom the stated benefits are targeted towards should not be underestimated.

Failure to appreciate the impact and value added from others outside the immediate project team introduces unnecessary risks to the project and fails to redress uncertainty. Identifying stakeholder requirements and the level of influence of these groups can be crucial to the successful delivery of any project. This is known as the stakeholder case and creates the 6 case model as shown in Figure 3. However, organisations tend to be over-optimistic about its ability to align the different business needs and the amount of time it will take to have sufficient engagement, particularly where the project is complex or involves new ways of working. There is also a tendency to make assumptions about the behaviours of groups over whom the project has little direct control similar to herding cats when attempting to coordinate many different groups or people.

Organisations should set a total cost of ownership cost limit to monitor and gauge ongoing viability. Since risk and over-optimism comes at a cost and no organisation can spend the same money twice.

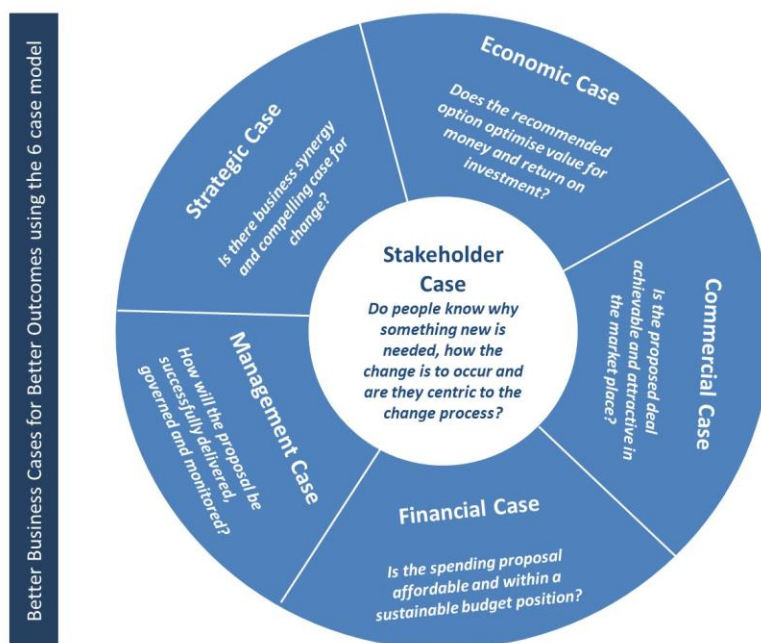


Figure 3: Better Business Cases for Better Outcomes

As such the Better Business Cases guidance advises to initially investigate and assess a wide range of plausible options (known as the “long-list”) against the agreed spending objectives and critical success factors for the project. It also advises to calculate the indicative net present social values of a reduced number of viable options (‘the short-list’) on the basis of a preliminary analysis of their costs and benefits, including optimism bias for uncertainty. To support this approach, sponsoring organisations and the accountable officer ought to quantify the cost of risk through a ‘base risk cost’ allocation. This is added to the costs of the short-listed options that best resolve the business problem to provide the full expected value in terms of public outcomes, services and trust. As the investment appraisal iteratively progresses more specific risks should be identified and actively managed to reduce the overall level of optimism bias.

Investment appraisals should not be overly dependent on non-financial benefits, as anything can be justified through subjective views of value.

Prior to full investment, the residual use of optimism bias to measure continued uncertainties should ideally be no more than 2 per cent. At this critical decision point, sponsoring organisations and the accountable officer should be able to clearly answer the following questions:

- ❑ By how much can we allow benefits to fall short of expectations, if the proposal is to remain worthwhile? How likely is this?
- ❑ By how much can the total cost of ownership costs increase, if the proposal is to remain worthwhile? How likely is this to happen?
- ❑ What will be the impact on benefits if operating costs are constrained?

## 5.2 MANAGING BENEFITS

Similarly, *Managing Benefits by Stephen Jenner – Optimising the Return from Investment* advises that benefits should be the underlying rationale for capital investment. Hence why the business case and benefits realisation plan should always be aligned and approved at the same time. It recognises that effort is often made to identify benefits used to help justify the investment for the preferred solution but not as a basis for managing their realisation in order to justify the actual cost required. Whether the cause is cognitive bias or worse, strategic misrepresentation that is defined by Professor Bent Flyvbjerg at Oxford University as the “planned, systematic, deliberate misstatement of costs and benefits to get the project approved”.

This conspiracy of optimism often results in identified forecast benefits that are unlikely to ever be realised in practice. Since organisations are often willing to accept an estimate that is the nearest match to the available resources (i.e. funding, people, materials, assets and services). To overcome this inherent optimism bias, *Managing Benefits* promotes the technique of staged release of funding by gated review, to protect capital investment that supports the portfolio management process. That is, where underperforming programmes and projects are stopped prematurely where they are no longer viable (costs), desirable (benefits) or achievable (risks) so remaining funds can be directed towards other priorities.

## 5.3 PRAXIS FRAMEWORK

Consistent with Better Business Cases, the publicly available and community-driven Praxis Framework advises organisations to select programmes and projects based on the rigorous testing of business cases for their ability to deliver benefits that are consistent with the organization's strategic objectives. Investment appraisal is therefore primarily based on the relationship between cost and benefit against a high level of confidence. The remaining processes of categorise, prioritise and balance are designed to help maintain a viable structured portfolio across the organisation.

The guidance also highlights that the potential for optimism bias is greatest when the benefits are difficult to quantify and assumptions have to be made about their present value. The value of intangible benefits may be quantified by applying a series of assumptions. It also advises that investment appraisals should not be overly dependent on non-financial benefits, as anything can be justified through subjective views of value. Hence why cost-benefit analysis quantifies in monetary terms as many of the costs and measurable benefits of an initiative as possible to determine whether the benefits exceed the costs and whether the investment is justified at all. While valuing cashable financial benefits is relatively straightforward, the value of non-cashable efficiency savings depends on the use of the time saving, and not the cost of time.



### 5.3.1 SENSITIVITY ANALYSIS

Fundamental to the investment appraisal process is sensitivity analysis. Sensitivity analysis is a modelling and risk assessment procedure in which changes are made to significant variables in order to determine the effect of these changes on the planned outcome. It is used to test the vulnerability of options against future uncertainties and to test the robustness of the ranking of the options in terms of assumptions. However, spurious accuracy should be avoided to consider how conclusions may alter, given the likely range of values that key variables may take. Sensitivity analysis may not change the preferred way forward. However, if small changes in the assumptions alter the ranking, particularly in the portfolio management process, it is an indication that the investment process should proceed cautiously. This means that a more detailed analysis and testing of the costs, benefits and risks of some of the options should be considered.

Figure 4 below shows the integrated investment management processes that best protect capital investment and minimises optimism bias.

Estimates included in business cases should be empirically based using data from past projects or projects undertaken by other organisations and independently assessed.

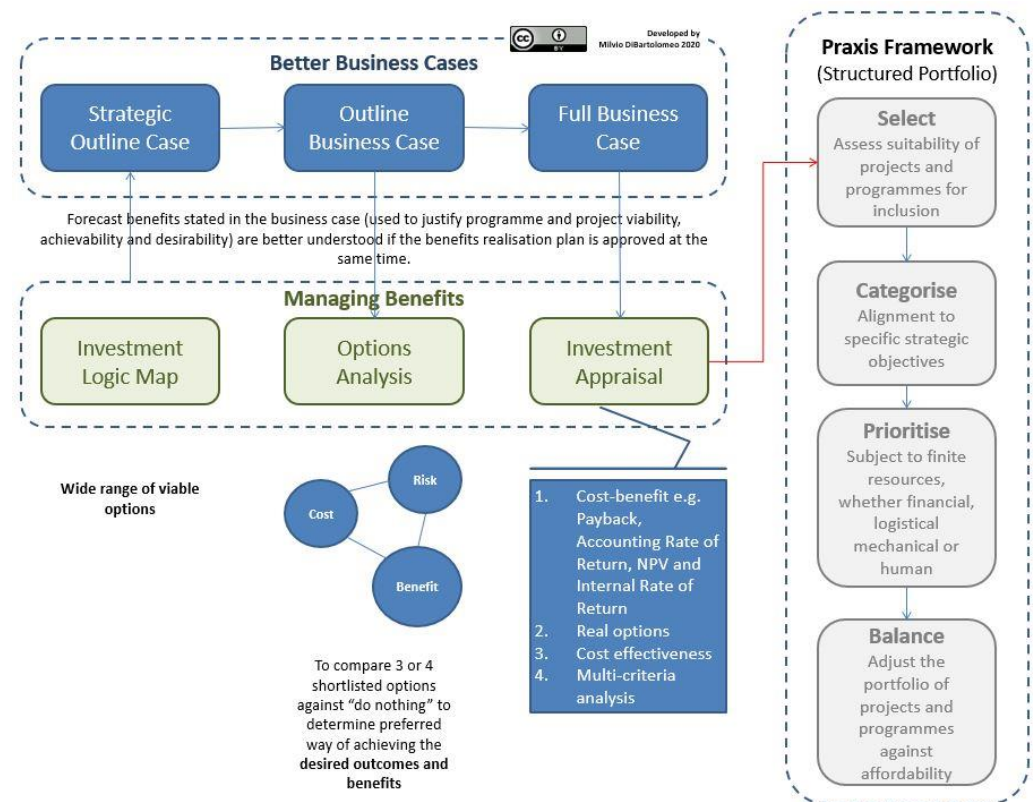


Figure 4: Integrated investment management process using APMG-International's industry leading methodologies

## 6. TECHNIQUES TO ADJUST FOR OPTIMISM BIAS

Project optimism bias is a common cognitive bias which can unintentionally advantage a preferred option. This can occur where a long list of viable and/or potentially more affordable alternatives to best redress the business problem have not been identified and fully analysed in terms of costs, benefits and risk. Below are some simple but effective techniques that can either be used standalone or in combination to minimise optimism bias prior to full capital investment. They are:

## 6.1 REFERENCE CLASS FORECASTING

Reference class forecasting - otherwise known as comparison class forecasting - is a simple to use method to adjust for optimism bias. It was developed by Daniel Kahneman and Amos Tversky in 1979 as a means to predict the potential costs and timescales of projects by looking at similar past situations and their outcomes. Reference class forecasting does not try to forecast the specific uncertain events that will affect a particular project, but instead places the project in a statistical distribution of outcomes from a reference class of completed projects. Where a particular project type has not been undertaken before, it's important to ensure that the cost and benefit assumptions and data used are reasonable by comparing them with actual data from similar, recently completed projects.

Likewise, Better Business Cases also recommends that estimates included in business cases should be empirically based using data from past projects or projects undertaken by other organisations. Where such data is not available, organisations are encouraged to actively collect it; particularly financial information in terms of total cost of ownership. So when adjusting for optimism bias, sponsoring organisations and the accountable officer should review all the contributory factors that have the potential to lead to cost and time overruns since those involved in the development of the business case are naturally over-optimistic.

Sponsoring organisations and the accountable officer should therefore allow an adjustment on the basis of actual cost overruns in a reference class of completed projects comparable to the project seeking capital funding. Naturally, people will always try to game the system by adjusting their forecasts to take this into account, particularly forecast benefits that form the underlying rationale for the investment. This is why adjustments made in the business case ought to be independently reviewed using Office of Government Commerce (OGC) Gateway Reviews or similar approaches prior to an investment decision and afterward by internal audit to ensure any recommendations are actioned. The benefit of a gateway review comes from the timely implementation of the prioritised recommendations, particularly those related to the business case in terms of costs, risks and benefits.

## 6.2 DATA TRUST

Typically data repositories regarding project information about performance, HR, finance and procurement are often fragmented, siloed and stored on separate platforms. It becomes difficult for this disconnected data set to serve the organisation as a single point of evidence-based truth particularly for reference class forecasting. Martin Paver from Big Data advises that sponsoring organisations should strive for interconnected network of data and systems that can be mined for predictive insights. By pooling data, sponsoring organisations and the accountable officer can develop capabilities that predict risks, provide greater forecasting certainty, and challenge optimism bias that improve their confidence in projects prior to full capital investment. This enables organisations to truly learn from previous experiences from one project to the next.

One of the biggest challenges for most organisations is that data is often not readily available to those who need it. To realise the potential benefits of data, organisations should employ data scientists who can predict the future based on past patterns and data analysts to curate meaningful insights from that data. Simply, a data scientist will estimate the unknown, whilst a data analyst looks at the known from new perspectives.

Business cases should be empirically based on reference class forecasting or simply financial data from past projects or projects undertaken by other organisations to determine likely costs within a data range.



As a result, organisations need trustworthy and independent data stewardship known as data trusts. Organisations need to establish different approaches to deciding who should have access to data, for what purposes and to whose benefit, and make it easier for projects to adopt them. Data trusts could be one approach to data stewardship. The Open Data Institute reported that ordinarily an organisation that collects and holds data will automatically be the one to steward it. One or more organisations through non-disclosure agreements can permit a data trust to make decisions about how that data is used and shared. The data trust will make decisions about its use for an agreed purpose while taking all relevant stakeholder interests into account.

## 6.3 DATA RANGE

Any certainty and confidence in the estimated total cost of ownership prior to full investment cannot be achieved unless project scope is fully agreed and defined. Scope explains the 'what' in terms of project coverage and is driven by business needs, service requirements and the scale of organisational change required to realise the forecast benefits and to improve service capabilities. Examples include coverage in terms of business functions, levels of service, geography, user base and other parts of the business. A cost estimate is an assessment or approximation of the likely costs of a project with an indication as to the degree of accuracy, usually +/- percent. As such, early cost estimates should be presented as a range and never as a point estimate.

To acknowledge uncertainty in forecasting, sponsoring organisations and the accountable officer should insist the business case include optimistic, pessimistic and most likely scenarios to provide informed estimates that adjust for optimism bias. This estimate can be determined by using the project evaluation and review formula to calculate the [optimistic outcome] + [pessimistic outcome] + [four times the most likely outcome] divided by six. The use of data ranges should take account of all risks; reflect costs under different scenarios and show clear red lines when it becomes unaffordable, particularly where a plausible funding source or amount has not been secured and committed yet in principle.

## 6.4 CONFIDENCE LEVEL

The degree of cost accuracy is often denoted by a P10, P50 or P80 that refers to the – level of confidence – regarding the probability of the cost estimate not being exceeded. It does not indicate a quantum of cost or proximity to the actual cost realised. That is, P80 is not a cost +/- 20% but instead it is an indicative total cost of ownership estimate that will not exceed 80% of the timescale for the project which is why having sufficient contingency in place is so important for the sponsoring organisation.

As such, the Australian Government Department of Finance advises that to reach P100, all project risks would need to be identified and monetised at their estimated cost, leading to an impractically large contingency allowance or require an excessive time to successfully deliver the project.

If there is a risk threat that the project is likely to cost more than 50% than the allocated budget, does it still represent value for money to the sponsoring organisation?

Conversely, if the parametric estimate (as shown in Figure 5 is \$1000 with P15 confidence) and this was all that was allowed for with no contingency allowance, then the total cost of ownership will be exceeded in almost every circumstance. Subsequently, active risk management and informed investment decision requires a consistent confidence level applied to all projects regardless of type.

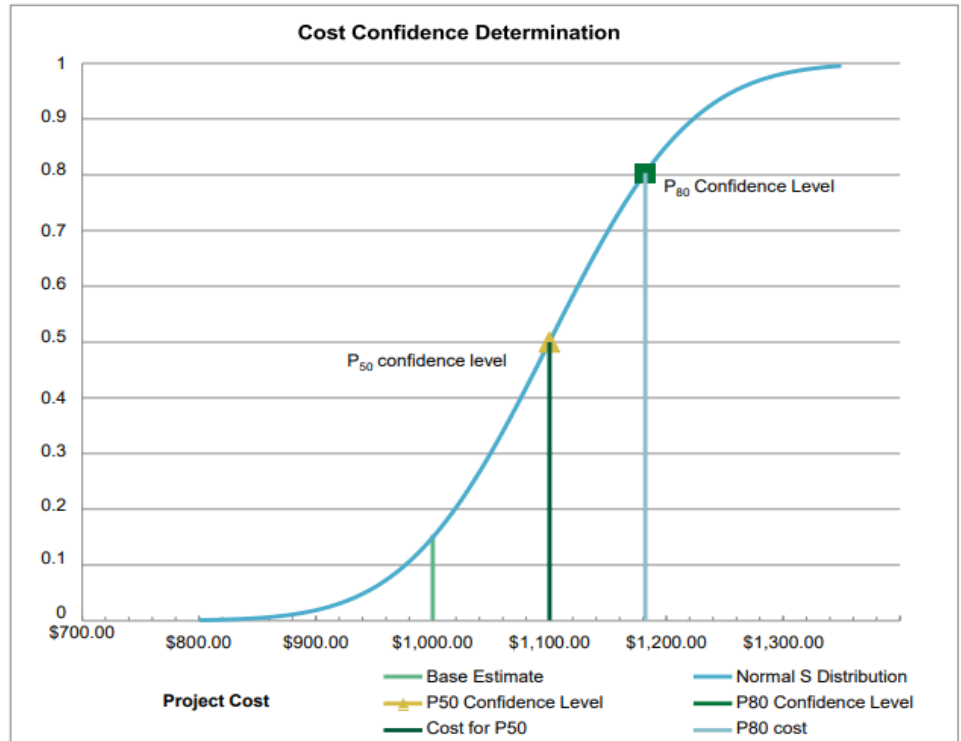


Figure 5: Australian Government, Department of Finance, Defining P50 and P80 manual.

Monitoring of project costs, risks and benefits during and after implementation is necessary for management, control and transparent accountability.

## 6.5 CONTROL POINTS

HM Treasury's the Green Book – Central Government Guidance on Appraisal and Evaluation advises that monitoring of costs, risks and benefits during and after implementation is necessary for management, control and transparent accountability. Longer running programmes and projects over sequential financial years should maintain regular monitoring of original estimates against actuals at the end of each management stage or key decision point. This is vital to managing the delivery of benefit realisation and cost control, providing empirical information that supports reference class forecasting.

In 2002, Mike Cross in "Why government IT projects go wrong" advocated that programmes and projects should be divided into a series of distinct phases or stages respectively. This is to ensure achievement of phase or stage goals with sufficient control points in place to inform continued capital investment decision-making about how best to proceed. That is, either to continue, discontinue or vary the scope for implementation against return on investment and impact to benefits realisation.

Where uncertainty remains, breaking work into manageable phases or stages makes sense as 'short dives' invariably offers more control. While 'deep dives' reduces the time burden on the sponsoring organisation and the accountable officer, but only where the practice of manage-by-exception is in use.



Optimism bias and associated risks with uncertainty comes at a cost to any organisation in any industry or sector.

Having shorter distinct phases or stages allows us to take heed of where we are now (the “baseline”), where we want to be (the “desired target state”) and determine how best to get there with a flexible plan. Hence why planning to the horizon or to what you can see is so important. By having firm start and end dates for shorter phases and stages, it enables programmes and projects to pause, reflect and improve - when subject to independent oversight and scrutiny and where prioritised recommendations are promptly implemented particularly in terms of optimism bias estimates.

### 6.5.1 REVIEWS

Control points should be supported by independent and objective reviews that include the United Kingdom’s Office of Government Commerce (OGC) Gateway Reviews™ or similar approaches to inform continued capital investment decision making by the sponsoring organisation and the accountable officer. Each Gateway Review, when undertaken sequentially, should reveal pertinent performance information, particularly the actual costs to date against the original estimates in the business case for time, costs and benefits. Where a deviation exists, prior to full investment, consideration should be made to adjust the contingency by the deviation to account for any cost overruns during delivery. OGC Gateway Reviews are not a substitute for a rigorous portfolio governance framework that efficaciously manages an organisation’s key processes, particularly investment appraisal and business case management (including benefits realisation). As such, other review techniques ought to be employed to overcome optimism bias. These include:

- ❑ **Project Validation Review** – is an independent review to support the initiation of any form of project or programme. It is particularly valuable as the review provides organisations early on in the strategy planning process with assurance on how well the practical service delivery issues will be redressed in preparing for change through project delivery.
- ❑ **Pre-Mortem** – is a facilitated risk workshop undertaken at the start of the initiative. Simply, the project team and key stakeholders imagine that the project has failed, and not realised the forecast benefits that underpin the investment rationale. As the potential causes of failures are explored, this technique can be an extremely effective way of mitigating optimism bias and the planning fallacy.
- ❑ **Post Implementation Review** – is conducted after completing a project. Its purpose is to evaluate whether project objectives were met, to determine how effectively the project was run, to learn lessons for the future, and to assess whether the organisation realised the forecast benefits and value for money.

## 7. SUMMARY

Optimism bias and associated risks with uncertainty comes at a cost to any organisation in any industry or sector. Any cost increases on projects means there is simply less money for other strategic priorities since money and time cannot be spent twice. Over-optimism persists where weaknesses in information are ignored and little effort is made to adopt industry leading guidance and techniques in order to develop robust estimates that protect capital investment. As the single point of accountability for project success, sponsoring organisations and the accountable officer ought to acknowledge that optimism bias in business cases exists and seek ways to adjust for it particularly in an era of austerity.

The gap between an estimate and actuals demonstrates the accuracy between prediction and the reality of the project costs, timescales, benefits and risks against complexities in delivery. As such, there needs to be a balance between optimism and realism between organisational objectives and project forecasts. While optimistic goals can motivate and improve the chances of success, reference class forecasting based on empirical data ought to be used to decide whether or not to make a capital commitment in the first place.

## 8. ABOUT THE AUTHOR



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Milvio DiBartolomeo has a proven track record of delivery in ICT project, programme and portfolio management in the Queensland public sector, Australia. He has worked on a number of transformational change initiatives across the entire programme and project lifecycle as a business and process analyst, software tester and project manager. He practices what he preaches having successfully implemented staged funding release by gated review technique to protect public sector investment and redesigned the project governance structure to minimise senior management time commitment for a Queensland Government department.

He also has extensive experience in a hub and spoke PMO model as a Portfolio Manager, Capability Support Manager and now as a Workforce Delivery Manager. With a lifelong passion for learning his credentials include a Bachelor of Commerce (Industrial Relations, Organisational Change and Human Resource Management), Better Business Cases, Managing Benefits, MoP, P3O, MSP, PRINCE2, PRINCE2 Agile, AgileSHIFT, ICAgile, ISTQB software testing and ITIL. He now shares his PPM knowledge as a freelance writer on several well-known PPM online platforms including on the Praxis Framework.

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