

# Stage

## Understand and explore

Clearly understand the business need, explore likely approaches and articulate potential benefits.

### Key better practice messages

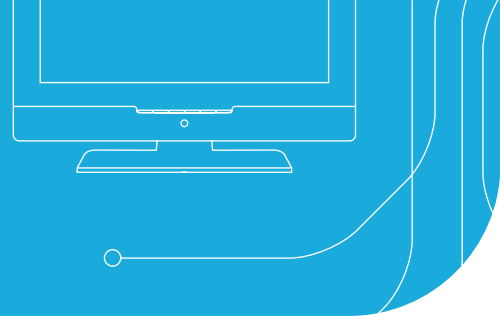
- Use evidence-based analysis
- Front load time and effort in investment planning
- Get the right people involved
- Make allowance for 'optimism bias'

### Overview

The goal for an ICT investment is to produce desired benefits by addressing a clear need. The investment life cycle starts with identifying the need for the investment.

Fundamentally, investors need to demonstrate that:

- the proposed investment is consistent with government policy and strategic objectives
- there is a need for the outputs that the proposed investment will produce
- the likely benefits of the investment will exceed the costs.



## Use evidence-based analysis



### Issues we have observed

One of the main reasons that ICT investments fail is that the basic rationale for the investment was either not understood or shared by all the parties with a stake in the outcome.

Sometimes investors themselves are unclear about what is driving the ICT investment decision or what benefits the investment can reasonably be expected to deliver.

Sometimes there is not enough communication between those who are proposing the investment and those who will have to work with it, if it goes ahead.

This situation ultimately has led to ICT investments that:

- are not linked to, or do not support, government policy objectives
- promise benefits that are unlikely to be achieved
- are not supported within the agency, or by key stakeholders
- experience cost and schedule blow-outs.

### Illustration

The government approved \$78 million over five years for a project based on a business case developed by the agency.

Some three years after the investment's initiation, senior management decided to confirm the validity of their investment by visiting comparable interstate and international agencies to review similar systems.

The visits confirmed that the initial estimates (of time, cost and benefits) in the original business case were significantly deficient and would require major revisions to project scope and estimated cost.

The final project funding allocation (\$171 million in 2002) greatly exceeded the final estimate of benefits to the state (\$100 million).



### Practical steps to take

#### Compare with similar experiences

When building the investment case, compare the proposed investment with similar national and international experiences in the public and private sectors.

Try to identify why others have succeeded, or failed, and the lessons learned.

#### Get the investment 'logic' right

An effective way to make sure that the proposed ICT investment will address the organisation's need is to build a logic map. This visual tool can help define a logical case for the investment and provide evidence as to whether the ICT investment will benefit the agency.

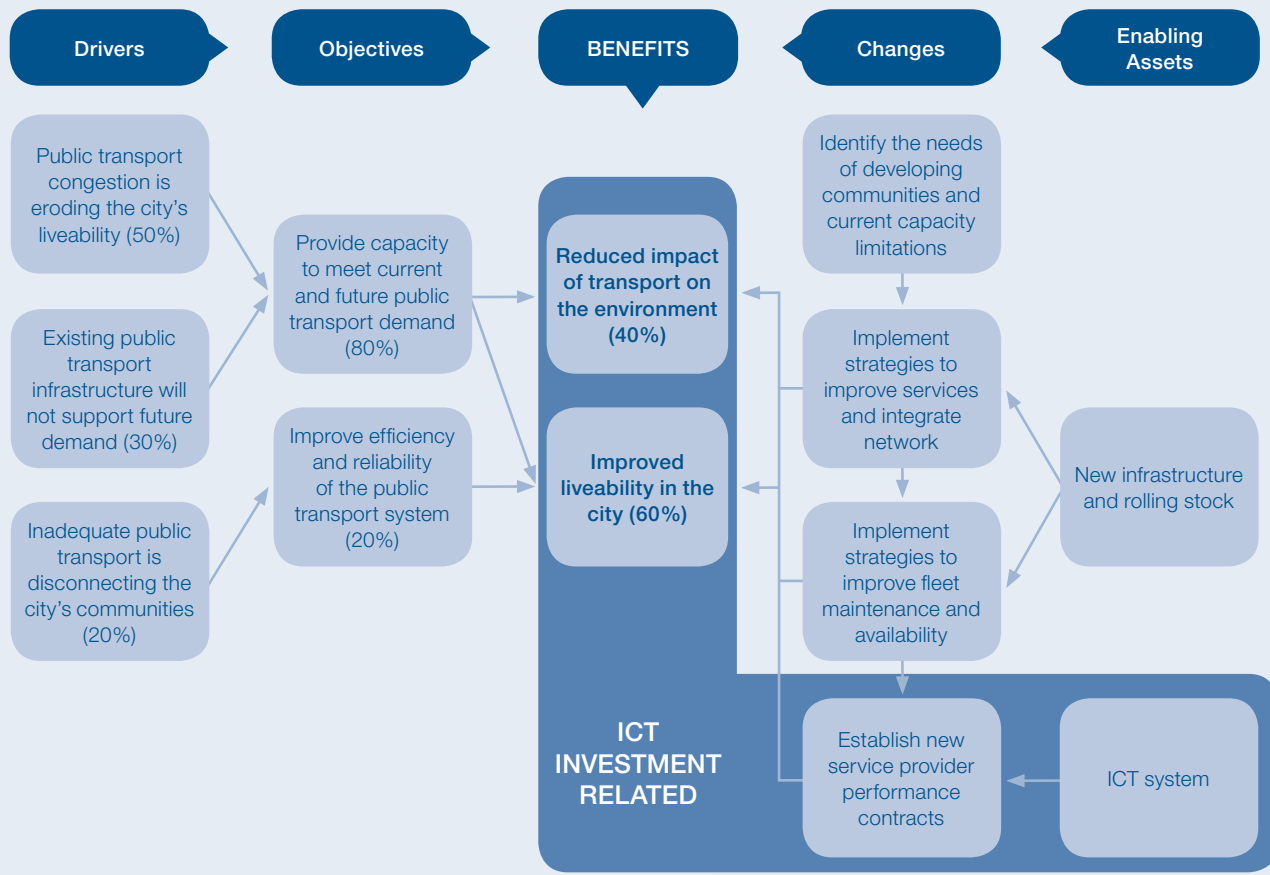
An investment logic map helps to identify:

- why the investment is required
- what benefits it expects to provide
- the business changes and enablers required to deliver anticipated benefits.

Figure 3 (overleaf) shows an example of an investment logic map.

**FIGURE 3: AN EXAMPLE INVESTMENT LOGIC MAP**

**PUBLIC TRANSPORT INITIATIVE (FICTIONAL)**  
**<ORGANISATION NAME>**  
**INVESTMENT LOGIC MAP**



**Key Performance Indicators**

- Benefit 1: Reduced impact of transport on the environment (40%)**  
KPI 1: increased share of trips taken on public transport vs. road
- Benefit 2: Improve the liveability in the city (60%)**  
KPI 1: Increase in the percentage of public transport services that arrive on time  
KPI 2: Increase in the frequency of services

**Note** (percentage) indicates relative importance of drivers, objectives or benefits to this investment

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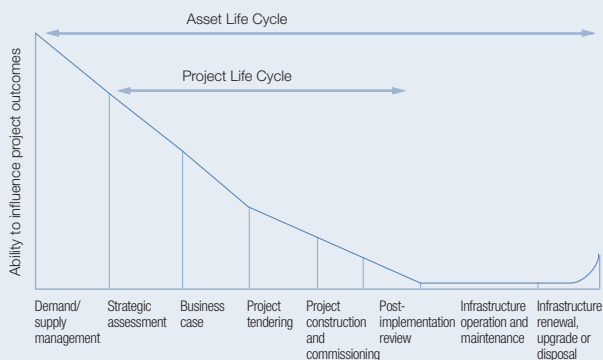
## Front load time and effort in investment planning

### Issues we have observed

The greatest opportunity for investors to influence project outcomes and costs is in the early stages of an investment's life cycle (see Figure 4 below).

Cutting corners on analysis of proposed benefits and of potential implementation issues, can put successful implementation at risk 'down the track', leading to decisions being made 'on the run', occasionally resulting in inaccuracy and a lack of transparency and accountability.

### FIGURE 4: INFLUENCING PROJECT OUTCOMES BY STAGE



Source: Department of Treasury and Finance Business Case Guidelines, 2006.

Often investors do not commit enough time up-front to build a robust case for their investment, and consequently miss a 'golden' opportunity at a critical time.

Failing to commit the necessary time and effort to clearly define the logic early in the investment life cycle can lead to significant differences between planned and actual time, cost, and capability outcomes.

### Illustration

The investment's success was highly dependent on adequate ICT infrastructure being in place in partner agencies. The initial project budget made minimal provision to address infrastructure deficiencies that were evident at the program's outset.

Considerably more effort could have been put into early planning for infrastructure development.

The failure to do this contributed to implementation problems and delays that damaged the confidence of partner agency staff in the investment.

### Practical steps to take

#### Do an early 'reality check'

Use an investment logic map and an investment concept brief to help to clarify the investment's purpose and intent, as well as to 'reality check' any early assumptions.

Make a realistic assessment of the likelihood of success, given the implementing agency's existing commitments, priorities, capabilities, and capacity.

## Get the right people involved

### Issues we have observed

Often important stakeholders or partners are not involved in the key investment decisions. This can result in investments being made without the support or commitment of those that have the ability to affect the success or failure of the investment.

This issue is compounded when ICT-enabled business transformation programs are 'owned' and driven by the ICT function in an agency. Experience shows that this leads to:

- poor business accountability, acceptance and sponsorship
- resourcing and prioritisation of activities focused on ICT deliverables rather than business deliverables, such as process design, governance, organisational change and training.

### Illustration

The investment was undertaken without adequate consultation or understanding of the change required, resulting in little buy-in or ownership of the project from the departments, and even from some staff within the ICT unit.

The implementation of the new system resulted in significant resistance from staff and users, resulting in delays and ongoing operational issues.

### Practical steps to take

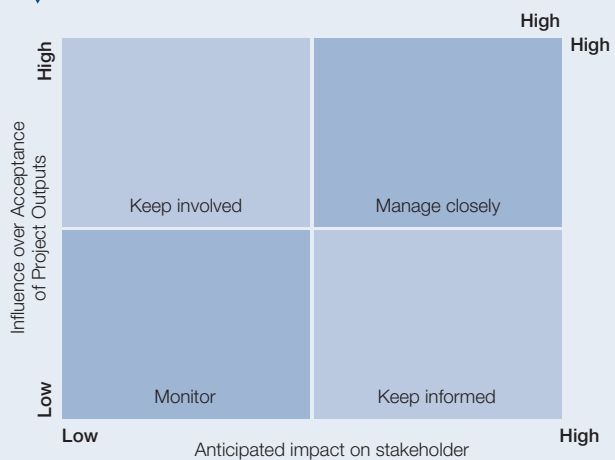
#### Map key stakeholders

Use a stakeholder mapping tool to identify all interested parties who could be affected by the investment.

Engaging key stakeholders is critical in investments across multiple agencies, and in large-scale change investments aimed at transforming the current way of doing business.

Without the support of key stakeholders, a proposed investment might not get the necessary resources or commitment to deliver the benefits from the investment.

**FIGURE 5: EXAMPLE OF A STAKEHOLDER MAPPING TEMPLATE**



Source: National E-Health Transition Authority



### Engage early

Involve the people that the investment will affect, and those who have the authority to influence its acceptance, when defining the ICT investment.

If these people are not involved at this stage the proposed benefits can be perceived as lacking legitimacy or as not being able to meet the identified need.

### Identify and clarify roles and responsibilities

Use a responsible, accountable, consulted and informed (RACI) matrix to describe and clarify roles and responsibilities. The tool is useful to describe:

- who should be involved
- where their involvement should be, eg, at steering group level or on the project team
- ensure that you have the right composition for your partnership or project group
- ensure everyone knows and understands the role they have within the group.

The RACI matrix can help describe the roles and responsibilities over the life of the investment. These are:

- responsible—refers to the person who has the responsibility to initiate action to ensure that decision is carried out
- accountable—refers to the person or people who can approve or veto decisions
- consulted—refers to the person or people who must be consulted or engaged in a meaningful way specifically to influence outcomes
- informed—refers to the person or people who must be informed about actions, activities or decisions but cannot influence outcomes.

Figure 6 shows an example RACI matrix.

**FIGURE 6: AN EXAMPLE RACI MATRIX**

Responsible for	Councillors (Member e-Champion)	Executives (Senior Responsible Owner)	Programme Managers (e-Gov Programme Manager)	Service Managers (Business Case Sponsor)	IT Managers (Project Manager)	Business Improvement Managers (Project Teams)	Business Analysts (Project Team)	Finance Managers	Procurement Managers (Project Team)
1.1 Fit with Programs, Strategies & Plans	R	A	A	R	R	R	R	C	C
1.2 Strategic Value	C	R	A	R	R	A	R	I	I
1.3 Organisation, Communications & Process	C	R	A	R	R	A	R	R	R
1.4 Strategic Business Case	I	A	R	R	R	R	R	C	C

Source: The Improvement & Development Agency (IDeA), UK, 2007

## Allow for 'optimism bias'

### Issues we have observed

Recent audits have identified that 'optimism bias' is a problem in ICT investment in the Victorian public sector. Investors have a tendency to:

- be over optimistic about timeframes
- overestimate the benefits to be delivered
- underestimate the costs and complexity of implementation.

Timeframe slippages or cost overruns can arise because an overly optimistic view was formed early in the investment's life about the practicalities and logistics of the implementation.

Investors succumbing to optimism bias often fail to fully assess:

- the capability of their agency or partner agencies to deliver complex projects
- the agency's ability to absorb change—including the financial viability of participating agencies
- technology or innovation risks, often arising from a solution that had neither been proven nor accepted elsewhere
- readiness and capability of the market to participate in delivering the investment.

'When pessimistic opinions are suppressed, while optimistic ones are rewarded, an organisation's ability to think critically is undermined.'

*Delusions of success, How Optimism Undermines Executives' Decisions,*  
*Harvard Business Review, 2003*

### Illustration

A UK study shows that ICT investments are at greater risk of optimism bias and associated cost overruns than other types of infrastructure investments.

Project type	Optimism bias (%)
Stations and terminal buildings (Non-standard buildings)	4 – 51
IT system development schemes used in transport (Equipment/development)	10 – 200

*Source: Mott MacDonald, Review of Large Public Procurement, p 32*



## Practical steps to take

### Use 'reference class modelling'

A reference class model<sup>4</sup> allows the investor to measure the investment's potential outcomes with those of similar, past projects—to produce more accurate predictions.

#### How to use reference class modelling

1. Select a set of past projects to serve as your reference class.
2. Assess the distribution of outcomes. Identify the average and extremes in the reference class project outcomes.
3. Predict your project's position in the distribution. Intuitively estimate where your project would fall in the reference class's distribution.
4. Assess your prediction's reliability. Counteract your biased prediction from step 3. Based on how well your past predictions matched actual outcomes, estimate the correlation between your intuitive prediction and the actual outcome.
5. Correct your intuitive estimate. Adjust your intuitive prediction based on your analysis.

Source: *Delusions of success: How optimism undermines executives' decisions*.

Harvard Business Review, 2003.

### Make explicit any adjustments for optimism bias

Make explicit adjustments to cater for potential optimism bias, such as:

- increasing the estimated costs by allowing sufficient contingency
- decreasing the impact of the estimated benefits
- delaying the predicted date of delivery.

### Seek independent external advice and assurance

Seek expert assurance and validation from subject matter experts early in the project life cycle. Significant investments might also require a formal Gateway Review – Gate 1 Strategic Assessment.

## Further references

### DTF guidance

Further Gateway information can be obtained from <http://www.gatewayreview.dtf.vic.gov.au/>

- Gate 1, Strategic Assessment, Gateway Initiative, Gateway Review Process.
- Investment Management Guidelines—Benefits Management Framework, April 2007.

Investment Management information can be obtained from <http://www.dtf.vic.gov.au/investmentmanagement>.

- Investment Management—Problem Definition 3.0 June 2008.

Life Cycle Guidance information can be obtained from <http://www.lifecycleguidance.dtf.vic.gov.au>

- Investment Life Cycle Guidelines—Strategic Assessment, July 2008.
- Gateway Initiative, Business Case Development Guidelines, December 2006.
- Investment Life Cycle Guidelines—Business case, July 2008.

### Other guidance

- HM Treasury, Review of Large Public Procurement in the UK, report prepared by Mott MacDonald, HM Treasury, UK, 2000.
- Flyvbjerg B, Skamris Holm M, Buhl S, Underestimating Costs in Public Works Projects, APA 2002;68(3):279–295.

<sup>4</sup> Flyvbjerg, Bent, (2006). 'From Nobel Prize to Project Management: Getting Risks Right.' Project Management Journal, vol. 37, no. 3, pp. 5–15