Planning Construction Procurement

A guide to matching capability to complexity
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About this guide

Purpose

This guide provides New Zealand public sector agencies (‘agencies’) who are responsible for delivering government construction projects with a structured approach for matching the capabilities of key stakeholders to the complexity of the project environment.

This guide assumes that an agency has developed a business case that indicates either new construction work is needed, or construction work involving refurbishment of an existing facility. This guide describes what the New Zealand Ministry of Business, Innovation and Employment (MBIE) considers good practice, when the agency approaches development of a procurement strategy for such a construction project.

This guide is intended to be used by those who may be less familiar with the construction sector embarking on delivering a major construction project. It provides a set of practical tools that an agency can use to assess a project’s complexity and to identify and address any gaps in an agency’s capability to deliver or any gaps that may exist in market capability. These tools should be used at the earliest possible stages of planning a project, to ensure that any decisions around buying in services to address gaps are an integral part of developing a procurement strategy.

This guide does not substitute for professional advice. Rather, it helps inform agencies around some key issues to address when they develop a procurement strategy for a construction project. If an agency requires further information on procurement of construction projects, further advice can be obtained from MBIE by contacting procurement@mbie.govt.nz

Related documentation

This document supplements the MBIE Guide to Mastering Procurement, which provides guidance around the eight stage procurement lifecycle.

This guide, Planning Construction Procurement – A guide to matching capability to complexity, is part of a series developed by MBIE to support agencies in using good practice when planning construction procurement. This guide can help to support the planning phase of a project.

See the guide Planning Construction Procurement – An overview to the guides, for details of the current suite of guides, how they relate to the eight stage procurement lifecycle and links to relevant government policy.

How this guide was developed

MBIE developed this guide, Planning Construction Procurement – A guide to matching capability to complexity, in consultation with agency and industry users. It is published on the website www.procurement.govt.nz
When to use this guide

Whether this guide will benefit your project depends on a number of factors around:

- your organisation’s past performance and capability in project delivery
- any uncertainty that may exist around key aspects of your project.

The diagram below should help in deciding the best way forward for your project.
How this guide is structured

This guide is structured as follows:

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<th>Section</th>
<th>Provides information and guidance on...</th>
</tr>
</thead>
</table>
| 1       | An introduction to assessing project complexity and capability:  
  - Why understanding project complexity and capability is important  
  - The stages of assessing project complexity and capability  
  - Roles and responsibilities. |
| 2 – 4   | How to assess project complexity and capability – the three stages in detail:  
  - Assess project complexity  
  - Assess project capability requirements  
  - Develop capability enhancement plans. |
| 5       | Specific Excel tools to help with assessing complexity and capability:  
  | **Use the...** | **To...** |
  | Delivery Environment Complexity Analytic (DECA) | identify challenges, complexities and risks to project delivery. |
  | Sponsor capability assessment tool | rate the capability of each on a range of characteristics so that this can be mapped against the complexity of the project to identify gaps. |
  | Market capability assessment tool |  
  | Client capability assessment tool |  
  | Market capability assessment tool |  |
| 6       | Links to the documents used in developing this guide, which are considered to represent good practice in construction procurement. |
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1. Getting started

Overview

The development and execution of a successful project requires the capability of the key stakeholders involved in the delivery of a project to be matched to the complexity of the project environment. Early understanding of this dynamic, and its implications, gives a project a greater chance of success.

This guide provides a structured process for agencies involved in delivery of capital projects to establish what they need to do, to align delivery capability with project complexity. The process is not prescriptive but helps to ensure the right questions are asked at the right time. It achieves this by taking a structured approach, assessing the capability of the key stakeholders involved in delivering a project together with the complexity of the environment in which the project is to be delivered. Through this analysis, areas of alignment and misalignment can be identified and addressed to help achieve a successful project.

What does ‘capability’ mean?

**Definition**

**Capability** is the ability of an agency and the market to organise appropriately for the effective and efficient delivery of a project. Most barriers to effective practice are rooted in systemic issues, not individuals, hence this term refers to the agency involved, and not the individuals.

Steps to matching capability to complexity

Typically there are three steps to assessing complexity and capability:

1. Assess project complexity.
2. Assess project capability.
3. Develop capability enhancement plans.

Although this process is shown as sequential, the first two steps can be done in any order and/or in parallel. These steps may also be repeated as the project progresses, circumstances change and more information becomes known.
UNDEUTAKING A COMPLEXITY AND CAPABILITY ASSESSMENT HELPS TO:

- Link the project and the organisation's key strategic priorities, including agreed measures of success.
- Facilitate effective engagement with key stakeholders.
- Apply the right skills and a proven approach to project management and risk management.
- Break development and implementation into manageable steps.
- Evaluate proposals on long term value for money (and delivery of benefits), rather than by initial price.
- Ensure there is senior level of understanding between the organisation and the supply industry.
- Form an integrated and effective project team between clients, the supplier team and the supply chain.

Roles and responsibilities of key stakeholders

Successful project delivery requires that an organisation look at a project from a number of key stakeholder perspectives:

- The **Sponsor** owns the investment and overall business change, and is responsible for securing funding and securing the desired outcomes.
- The **Client** is responsible for translating the requirements of the Sponsor, and delivering the project.
- The **Asset Manager** is responsible for operating and maintaining the asset.

Each of these roles represents an organisational, system wide responsibility. They are intended to be broader than a specific individual.

One or more of these organisational roles can come from within the same organisation. Where this is the case, it is important to recognise the need to clearly establish these functional roles.

The following table details the responsibilities of each of the key stakeholders.

<table>
<thead>
<tr>
<th>Role</th>
<th>Responsibility</th>
</tr>
</thead>
</table>
| Sponsor       | • Own the business case  
                • Specify requirements to the client, and in most cases secure funding  
                • Ensure the strategic alignment of the project and achievement of optimum whole-of-life value  
                • Owner of the investment and overall business change  
                • Approve procurement strategy. |
| Client        | • Fulfil requirements and deliver benefits  
                • Translate requirements from the sponsor and be accountable for delivering outcomes  
                • Select the most appropriate supplier/s to meet project objectives  
                • Manage relationships with suppliers in order to maximise delivered value. |
| Asset manager | Manage day-to-day operations and maintenance of the asset.  
                 Note:  
                 • May be a part of the sponsor or agency, or a separate entity  
                 • The operator of the assets may also be a separate entity from the maintainer of the assets. |
2. Assess project complexity

Purpose

The purpose of this phase is to undertake an internal and external assessment of the procurement project to identify potential risks, consequences and opportunities. This assessment consolidates existing knowledge about the following twelve key influencers of project success or failure:

- Strategic importance.
- Stakeholders/influencers.
- Requirements and benefit articulation.
- Stability of overall context.
- Financial impact and value for money.
- Execution complexity (including technology).
- Interfaces/relationships.
- Range of disciplines and skills.
- Dependencies.
- Extent of change.
- Organisational capability – performance to date.
- Interconnectedness.

Lack of understanding of the context in which a project is being created and delivered is a significant contributory factor to project failure. Understanding the wider project environment is especially important where the proposed project is more complex or on a larger scale than normal, or is being delivered in a novel way.

As well as feeding into the complexity-capability gap analysis, completion of the Delivery Environment Complexity Analytic (DECA) generates a profile that can be used by the sponsor and client to sanity check risk and readiness at various points in the procurement lifecycle. It also helps improve team understanding of what they will need to deal with in the project. The results of this assessment, combined with capability assessments, then feed into development of a robust delivery and enhancement plan tailored for the project.

References and tools

Delivery Environment Complexity Analytic (DECA)

MBIE Guide: Constructive Market Engagement
Guidance

Outlined following is guidance to assist with assessing project complexity:

- Scan the environment for good practice methodologies and case studies. Identify key learnings.
- Identify and map organisational challenges and opportunities to understand the size and shape of the project challenge.
- Use the Delivery Environment Complexity Analytic (DECA) tool to rate the project environment against the twelve influencing factors.

There are many ways to assess complexity. This can be done individually, as a team, or using workshops and interviews. It is important to get varied opinions and then validate and moderate results.

- Conduct market sounding to identify interest and capacity. The MBIE Guide Constructive Market Engagement provides guidance on how to undertake market engagement.
- Using all the information you have collected; make an overall assessment of project complexity (high, medium, low).

**COMPLEXITY HIGH, MEDIUM OR LOW?**

A judgment needs to be made as to whether overall complexity is high, medium or low as different factors will carry more weight in some projects than others. For example, five highs, three mediums and four lows may look like a fairly even spread across the factors but averaging these out to give an overall medium complexity would give too little weight to the high factors when analysing the complexity-capability gap later on.
3. **Assess project capability requirements**

**Purpose**

The purpose of this phase is to assess the capability of the sponsor, asset manager, client and market to identify the following:

<table>
<thead>
<tr>
<th>For the...</th>
<th>Identity...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sponsor</td>
<td>if capability exists to keep the project viable and aligned to the strategic objectives of the organisation.</td>
</tr>
<tr>
<td>Asset manager</td>
<td>key operational constraints and/or requirements that will need to be addressed in the project.</td>
</tr>
<tr>
<td>Client</td>
<td>if capability exists to navigate the range of potential delivery models and delivering the complexity of the project.</td>
</tr>
<tr>
<td>Market</td>
<td>if capability and appetite exists to deliver the project. If capability lacking, identify what development may be required.</td>
</tr>
</tbody>
</table>

**WHAT DOES Capability MEAN?**

The ability of organisations and the market to organise appropriately for the effective and efficient delivery of a project. Most barriers to effective practice are rooted in systemic issues, not individuals, hence this term refers to the organisation involved, and not the individuals.

**References and tools**

- Sponsor capability assessment tool
- Asset manager capability assessment tool
- Client capability assessment tool
- Market capability assessment tool
Guidance

Outlined following is guidance to assist with assessing project capability:

- Identify who should and how to complete assessments.

  There are many ways to assess capability. This can be done individually, as a team, or using workshops and interviews. It is important to get varied opinions and validate and moderate results.

- Communicate the project scope and the results of the complexity assessment (DECA) to the people taking part in the capability assessments. Request the following tools are used to make an informed capability assessment:
  - Sponsor capability assessment tool
  - Asset manager capability assessment tool
  - Client capability assessment tool
  - Market capability assessment tool

Each of the assessments provides levels of observable characteristics that represent the organisational and market capability as it applies to the project (assessed as red, green and blue).

When undertaking an assessment, consider both the characteristics that are currently observable and those that are needed. This should be based on current understanding of what will be required for successful project initiation and delivery. The differences between current and needed characteristics inform thinking about how to narrow the gaps in capability. The assessment characteristics have been shaped by recognised good practice and are drawn from practical experience of assessment of project failure.

These three levels of characteristics (red, green and blue) should not be seen as a progressive scale. An organisation can demonstrate a mix of all three at any one time.

- Use the ‘Capability assessment quick reference’ below to reflect upon each role capability assessment and the subsequent implications on the project. Consider alignment of the various roles. Capability misalignment within or between organisations can be a barrier to effective working relationships and certain capability combinations may not promote efficient practices.

### CAPABILITY ASSESSMENT QUICK REFERENCE

<table>
<thead>
<tr>
<th>If the assessment result is largely...</th>
<th>This indicates that the...</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Red</strong></td>
<td>Sponsor...</td>
<td>Asset manager...</td>
</tr>
<tr>
<td></td>
<td>• may provide insufficient direction and strategic guidance.</td>
<td>• may demonstrate fragmented asset ownership.</td>
</tr>
<tr>
<td></td>
<td>• may not show ownership of benefits.</td>
<td>• may be subject to conflicting sponsor/client priorities.</td>
</tr>
<tr>
<td></td>
<td>• may be subject to conflicting sponsor/client priorities.</td>
<td>• may not be able to show linkage to strategic goals.</td>
</tr>
</tbody>
</table>
### Capability Assessment Quick Reference

<table>
<thead>
<tr>
<th>If the assessment result is largely...</th>
<th>This indicates that the...</th>
<th>Sponsor...</th>
<th>Asset manager...</th>
<th>Client...</th>
<th>Market...</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Green</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• provides direction and policy guidance</td>
<td></td>
<td>• provides a clear line of sight to strategic goals and policy.</td>
<td>• is organised and coherent.</td>
<td>• has sufficient capacity and capability to support the project’s needs, or demonstrates viable plans to enhance any shortfall.</td>
</tr>
<tr>
<td></td>
<td>• demonstrates active stakeholder management.</td>
<td></td>
<td>• demonstrates clear responsibility for assets.</td>
<td>• is likely to provide direction and policy guidance.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• informs and works with the client to manage strategic risks.</td>
<td></td>
<td>• takes a strategic approach to risk management.</td>
<td>• demonstrates repeatable control methodology and evaluation but tends to focus on objectives rather than outcomes.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• processes are evaluated but not improved.</td>
<td></td>
</tr>
<tr>
<td><strong>Blue</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• invests in strategic planning, assured governance structures and processes.</td>
<td></td>
<td>• invests in strategic planning, assured governance structures and processes.</td>
<td>• is capable of specifying requirements to external.</td>
<td>• is mature yet innovative and is likely to deliver efficiencies in addition to meeting the project’s needs.</td>
</tr>
<tr>
<td></td>
<td>• undertakes structured evaluation of requirements and sets demanding but realistic efficiency targets.</td>
<td></td>
<td>• undertakes structured evaluation of requirements and sets demanding but realistic efficiency targets.</td>
<td>• participates and managing the delivery outcomes.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• actively seeks out good practice and incorporates into policy/strategy.</td>
<td></td>
<td>• actively seeks out good practice and incorporates into policy/strategy.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Reflect on and consider the implications that the overall assessments may have on the project:

<table>
<thead>
<tr>
<th>If...</th>
<th>Indicates...</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Red</strong></td>
<td>a failing system. Any individual red characteristic will hold an organisation back regardless of other good practice. Either needs to be addressed or allowances made for the consequences.</td>
</tr>
<tr>
<td><strong>Green</strong></td>
<td>a system that is performing acceptably. The system may be appropriately governed but not be fully optimised</td>
</tr>
<tr>
<td><strong>Blue</strong></td>
<td>an effective and efficient system that has been optimised. Not all projects will require systems that have blue characteristics to succeed.</td>
</tr>
</tbody>
</table>
• Reflect upon on both the ‘current’ and ‘needed’ capabilities for successful delivery. This should inform your thinking about how to narrow the gaps in capability.

• Organise a workshop with key stakeholders to discuss and agree:
  ○ the sponsor, asset manager, client and market capability assessment (if not done independently previously)
  ○ a desired set of procurement principles and requirements
  ○ any critical issues and implications highlighted from assessments
  ○ any gaps in capability with subsequent mitigation actions
  ○ an initial review of delivery routes.
4. Develop capability enhancement plan

Purpose

The purpose of this phase is to analyse the gap between complexity and capability gap, and develop enhancement plans.

Complexity-gap analysis is a simple way of mapping the results of the complexity and capability assessments to identify where gaps exist, to inform where further work is needed to reduce complexity and/or enhance capability. Closing gaps creates an environment for success at the earliest stages of delivery.

Guidance

Outlined following is guidance to assist with developing enhancement plans:

- Review the results of the previous assessments:
  - Delivery Environment Complexity Analytic (DECA)
  - Sponsor capability assessment
  - Asset manager capability assessment
  - Client capability assessment
  - Market capability assessment.

- Mark on a horizontal axis (complexity), the result of the DECA.

This example:
The project has been assessed as high complexity. The capability assessments of Sponsor, Client, Market and Asset Manager need to be blue, to match the complexity of the project. Capability has been assessed as green for the Sponsor and red for the Client, Market and Asset Manager. Red indicates a failing system, so capability must be addressed in these areas.

The Sponsor has been assessed as being capable of delivering a project of medium complexity. Either the project complexity should be reduced accordingly, or enhancement plans put in place to move the Sponsor’s capability assessment from green to blue.
• Plot on the vertical axis (capability), in red, the results of each completed capability assessment for:
  ○ Sponsor
  ○ Asset manager
  ○ Client
  ○ Market.

Take the lowest value as the one to plot. For instance, if the characteristics are mostly green with a few blue and only one red, the capability will be red – unless a ‘quick win’ can be identified that will immediately lift the capability up to the green zone of the graph.

The minimum needed capability has to be green, since red signifies a failing system.

• Plot on the vertical access the capability, in blue, that is needed for success for each role:
  ○ Sponsor
  ○ Asset manager
  ○ Client
  ○ Market.

• Organise a workshop with key stakeholders to discuss and agree all assessments.

• Take a holistic review of the project complexity and capability assessments. Outputs from the gap analysis may show a variety of findings.

There are many ways to undertake a gap analysis. These can be done independently, but we recommend this analysis is part of a workshop to ensure implications are discussed and challenged. Depending on the complexity of the project, it may be beneficial to obtain a peer assessment (sponsor assessing client and vice versa) and or an independent external assessment of both complexity and capability.

• Review the project complexity results. Specifically consider how to address and mitigate the assessment characteristics highlighted as red.

• For each of the roles go back and assess results from each capability assessment. Discuss and challenge the assessment implications. Specifically consider how to address and mitigate the assessment characteristics highlighted as red, in order to close the capability gap.

• Identify issues/opportunities relating to the gaps that require an enhancement plan. Some enhancements will be quick wins that have little impact on other aspects of the planned project approach. However, other enhancements may be more far reaching and require further diagnosis. Typically these will relate to reducing the complexity, enhancing capability or identifying a different approach.

• Consider the possibilities for enhancements – this may include one or more of the following:
  ○ Re-scope the project to meet current capability.
  ○ Outsource services to enhance current capability.
  ○ Invest in developing capability – training, improving systems and processes.
  ○ Look to collaborate with other agencies who have experience in delivering similar projects. MBIE may be able to help you identify these.
5. Tools

- Delivery Environment Complexity Analytic (DECA)
- Sponsor capability assessment tool
- Asset manager capability assessment tool
- Client capability assessment tool
- Market capability assessment tool
6. Further guidance

<table>
<thead>
<tr>
<th>Creator</th>
<th>Released</th>
<th>Guidance document</th>
<th>Link</th>
</tr>
</thead>
</table>