

## 9 Quality Management

The purpose of quality management in projects is to ensure that the project outputs are delivered fit-for-purpose. If outputs are not fit-for-purpose, there is every likelihood that planned project outcomes will not be realised, or realised to a much lesser extent. It can be achieved by developing quality criteria for the outputs themselves and by ensuring that all project management processes are conducted in a quality manner.

Quality management in a project increases certainty and reduces the risk of project failure. It involves a process for the management of changes, problems, issues and incidents that emerge during the production of the outputs. The management of this process may vary from project to project.

This section of the *Tasmanian Government Project Management Guidelines* includes:

- Planning to achieve quality results - the purpose of quality management in a project
- Quality strategy - including a description
- Quality Management Plan - including its components
- Quality improvement - including implementation

### 9.1 Planning to Achieve Quality Results

The purpose of quality management in projects is to ensure that the project outputs are delivered fit-for-purpose. It is achieved by planning the required level of quality for the project, including determining what criteria will be used to judge whether outputs are fit-for-purpose. It is generally accepted that it is a lot more expensive to rectify a defect or fault in a project output at the end of the process than it would have been had the problem been identified during the development process, despite the cost of ensuring the quality along the way.

Quality management increases certainty and reduces the risk of project failure. It can also provide opportunities for continuous improvement of outputs as they are being produced. Every project must have a *Quality Management Plan*, or a formal framework, to ensure that project outputs are fit-for-purpose.

The Project Sponsor/Steering Committee is responsible for determining the level of quality assurance that is needed. It is essential that a Project Manager and Team clearly understand the requisite quality requirements when preparing or reviewing project estimates, including estimates of time, cost, resources and work requirements. All projects must include adequate provision for quality assurance activities to meet these requirements. The results of the planning process may be captured in the *Quality Strategy* and *Quality Management Plan*, which can be separate documents or form part of other documents, such as the *Project Business Plan* (small projects) or the *Project Execution Plan* (large and/or more complex projects).

## 9.2 Quality Strategy

For large and/or complex projects, a separate *Quality Strategy* should be developed from which the *Quality Management Plan* is derived. The *Quality Strategy* should include:

- Critical outputs - project outputs that need to be delivered fit-for-purpose, and the criteria that determine their suitability
- Processes - activities in the work plan that must be undertaken correctly
- Quality issues faced in both the development of the outputs and application of the project processes
- Relevant standards that should be applied
- How these standards will be satisfied

## 9.3 Quality Management Plan

For large and/or complex projects, a separate *Quality Management Plan* should be developed. In the case of smaller, less complex projects, quality management planning can be included in the *Project Business Plan*. The *Quality Management Plan* should include the following components, which are described in more detail below:

- Quality philosophy
- Relevant methodologies and standards to be applied to both the development of the outputs and the management of the project processes
- Integration of projects within a program or sub-projects within a project
- Monitoring and reporting procedures
- Change, problem, risk and issue management
- Output review and acceptance procedures
- Documentation and record keeping
- Responsibilities of Key Stakeholders, with regard to the *Quality Management Plan*

### 9.3.1 Quality Philosophy

The quality philosophy should reflect the overall intentions and approach to be applied with regard to quality throughout the project. Where there is an existing Agency-level approach to quality, the quality philosophy for the project should reflect and build on the organisation's philosophy. For example, the outlined approach may include reference to partnerships between Key Stakeholders in the project and how they will contribute to project quality.

### 9.3.2 Methodologies and Standards

The relevant methodologies, standards and guidelines should be listed, with individual sections identified as appropriate, which may include:

- Department of Treasury and Finance policies and guidelines, available at [www.treasury.tas.gov.au](http://www.treasury.tas.gov.au)
- Records management, web publishing, information security, privacy and other whole-of-government information technology policies and guidelines, available on this website
- Tasmanian Government Project Management Framework, available on this website
- Output development methodology, such as IT or construction industry methodologies
- Standards, such as AS/NZ 4360:2004 Risk Management

### 9.3.3 Project/Program Integration

Where there are programs of projects, or large and/or complex projects, possibly divided into sub-projects, it is important to define the interdependency management processes to be applied. In other words, how will critically related activities be monitored and managed. According to *AS ISO 10006-2003 Quality Management Systems Guidelines for Quality Management in Projects*, they may include:

- Project initiation and project plan development - evaluating customer and other stakeholder requirements, preparing a project plan and initiating other processes
- Interaction management - managing the interaction during the project
- Project change management and control - anticipating change and managing it across all project processes
- Closure - closing processes and obtaining feedback

### Interlinked Projects

A series of interlinked projects is less risky than one larger one, for several reasons:

- Dividing the change initiatives into smaller areas of action reduces complexity
- It is easier to produce identifiable outputs and outcomes from small projects, which can be used to feed into later projects, ie even if the full objectives of the change initiative are not met, identifiable achievements are met
- It can be easier to respond to changing or unanticipated circumstances, as projects lifecycles are much shorter and new or emerging issues can be pursued through the planning stages of future projects
- It allows for substantial learning, which is integral to many change initiatives, but is not always well supported

One possible risk of this approach is that those people involved with a series of projects may lose sight of the broader objectives of the change, or simply not achieve them. Sometimes, major change initiatives are translated into single projects. It should be pointed out, however, that the alternative of structuring as one large project has a

very poor record of success. Large, ongoing projects commonly do not achieve their intended objectives.<sup>8</sup> Project Managers should be aware that this approach is likely to involve substantial problems, and projects are extremely unlikely to be delivered on time and within budget.

Carefully coordinating the series of projects, either by linking them through an overarching project, or carefully coordinating them with strategic planning processes, can mitigate this risk. Related projects may be coordinated by organising them as sub-projects in a larger project. This linking is suitable when the objectives and tasks involved with each sub-project are relatively well understood, but is less suitable with projects involving substantial innovation, negotiation or complex issues that are not greatly understood.

Alternatively, the projects may be viewed as products of a continued process of strategic planning, which is recognised to be an emergent process. This approach is more suitable for projects involving innovation, negotiation and complexity that cannot be adequately anticipated up-front. The strategic planning process should include Key Stakeholders involved with the projects and be a carefully managed, ongoing activity that reviews past progress, as well as future directions. If strategic planning is viewed as a one-off or periodic exercise for Senior Managers, or focuses only on longer-term time horizons, there can be little relationship between strategic planning and project management processes.

The latter approach, focusing on the close relationship between strategic planning processes and projects, can result in the more effective implementation of planned change initiatives. However, strategic planning processes are outside the scope of project management. If these processes are non-existent, or not effectively in place, those project participants involved in planning the change initiatives might find it easier to obtain commitment (ie funding and resources) if they can define set deliverables, timeframes and activities. In this case, carefully coordinating a series of projects or sub-projects would be more appropriate for managing emergent or unanticipated issues. As with many project management decisions, an adequate appreciation of the project context is crucial.

### 9.3.4 Monitoring and reporting

This topic is covered in *Section 10: Status Reporting*.

### 9.3.5 Management of Change

This section is not aimed at addressing organisational change management (refer to *Section 4: Organisational Change Management - Outcome/Benefits Realisation Planning*), which should be addressed through an *Outcome/Benefits Realisation Plan*. Management of change in this context refers to managing changes to:

- Project scope, where the term ‘scope’ covers objectives, Target Outcomes, outputs (including their fitness-for-purpose), stakeholders, the work to be done, budget and human resources, as defined in the ITO Model
- Project processes being used in the project
- Methodologies and standards adopted for the project

---

<sup>8</sup> Orr, Ken (2004) *Pushing the envelope: managing very large projects*. Arlington, MA: Cutter Consortium, 2004

## Planned, Emergent and Unanticipated Changes

No matter how well a project is planned, there are likely to be unforeseen circumstances or issues that simply cannot be determined up-front. Types of change can be divided into two major categories - planned and unplanned. Unplanned change can be subdivided further into emergent and unanticipated, based primarily on awareness and control of the changing circumstances:

- Planned - change that is planned and, basically, implemented as anticipated
- Unplanned
  - Emergent - a proactive response to unforeseen circumstances (for example, additional or conflicting requirements may become apparent and are responded to; alternatively, circumstances may change)
  - Unanticipated - change that is unplanned and unforeseen (for example, people may use implemented technology in a way that was not intended)

Unplanned change is likely to happen, no matter the competency and preparation of the Project Manager. Governments change or are restructured. New technologies develop and old ones become redundant. People's opinions or viewpoints change. Changes that involve negotiation or substantial learning (either organisationally or individually) tend to involve a great deal of emergent or unanticipated change. The outcomes of learning or negotiation can be anticipated, but not wholly planned, as they tend to emerge over time.

Unplanned change does not have to be unmanaged. Emergent and unanticipated issues can be addressed, either within the scope of a single project, or by translating a major initiative for change (a vision for change) into a number of interlinked projects, rather than one monolithic project.

Signs that there is a need to consider carefully the management of emergent or unanticipated issues include:

- Difficulties in determining project requirements in depth
- Those project participants affected see it as a major issue (so indicating a need for major negotiation and/or learning)
- A high degree of technical or other types of innovation
- A rapidly changing or vague project context

In practice, dealing with such issues within the scope of a project involves:

- Anticipating and planning for possible changes through risk analysis contingency plans
- Keeping track of emerging or unanticipated issues through issues management procedures
- Bringing issues, which could have a major impact on the nature or substance of the project, to the project Steering Committee so they can re-evaluate the project or make adjustments
- Using an iterative process of change within the scope of a single project. An example of such an approach for information systems development projects is Rapid Application Development (RAD) - RAD is highly recommended by some international consulting groups for projects involving innovation or organisational changes, such as data warehousing

In practice, it involves recognition of, and planning for, desired outcomes/benefits on a large-scale, strategic level without committing to a particular set of implementation tactics (including the number, nature or scope of projects down the track).

(Refer to Thomsett, Rob (2000) *Radical Project Management*. Upper Saddle River, NJ: Prentice Hall)

### **9.3.6 Problem management**

A problem is a potential defect with an output. It may be real or perceived, but both types of problems need to be managed.

This section may not be applicable to all projects, and in some cases problem management may be addressed in the *Project Execution Plan* or separately in Acceptance Testing Plans, *Quality Management Plans* etc. Regardless of where problem management is documented, it should describe the process for recording, monitoring, updating, and closing problems. As a result of a problem being identified, it may be necessary for a request for change to be made. A reference should be included to direct the reader to the process for project change control.

### **9.3.7 Risk management**

This topic is covered in *Section 6: Risk Management*.

### **9.3.8 Issue management**

This topic is covered in *Section 7: Issues Management*.

### **9.3.9 Output Review and acceptance procedures**

This section should include a description of the approach to:

- Progressive reviews or appraisals to be conducted throughout the project. These reviews are undertaken progressively, as quality cannot be built in at the end of a project. These reviews should be identified and included in the project schedule, and may include the use of a Probity Auditor, or other external consultants with the relevant 'technical' experience, to provide advice or perform a review of outputs or their components.

(Refer to *Section 8: Resource Management*)

- The Business Owner(s) should conduct final review and acceptance before the outputs are endorsed by the Steering Committee.
- Project Phase Review - to provide an opportunity to evaluate the success of the phase and capture the lessons learnt. This review should involve a range of Key Stakeholders. Phase reviews should be identified and included in the project schedule.

### **9.3.10 Documentation and record keeping**

This topic is covered in *Section 8: Resource Management*.

### 9.3.11 Responsibilities of Key Stakeholders

The successful implementation of the *Quality Management Plan* is dependent on a commitment to quality by the Steering Committee, Project Sponsor, Business Owner(s), Project Manager, Project Team Leaders and Team members. The Key Stakeholders and their responsibilities need to be identified in relation to the *Quality Management Plan*.

## 9.4 Quality Improvement

When quality management is being effectively undertaken in a project, there will usually be areas identified for improvement. These identified improvements (changes) are undertaken through the management of change processes.

(Refer to *Section 9.3.5: Management of Change*)

By building in regular reviews of both output development processes and project processes, quality improvement can be carried out throughout the life of the project. Those projects employing quality consultants, for advice on both output quality and/or project management quality, must ensure that provision is made, through both the project governance processes and within the quality plan, to action accepted recommendations.

Quality Improvement in project management within an Agency/organisation can be assisted further through end-of-project and post-project reviews that help to capture lessons learnt. It has proven more successful when the Agency/organisation has a corporate approach to Quality Improvement.

(Refer to *Section 11: Evaluation*)