

## 2 Planning and Scoping

A clear definition and statement of the areas of impact and boundaries of a project should be established, no matter how small the project. A project should be achievable within a relatively fixed timeframe and resource constraints, and the scope of a project should take these factors into consideration. This process of planning and scoping a project is also covered through actions surrounding the creation of initial planning documents.

It should be noted that it is not a static process, and that the scope of a project must be re-examined many times over the life of the project, particularly where a great deal of change is involved. The key is to obtain clear sign-off where scope changes are required during the life of the project.

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

- From outcomes to inputs - the ITO Model - the relationship between inputs, outputs and outcomes/benefits, including a definition of project scope
- Input-Transform-Outcome (ITO) Model diagram
- Documentation - what will be produced
- Planning and managing project activities
- Tips from Project Managers

Project initiatives may originate directly from Government policy, such as *Tasmania Together*, or from an Agency's corporate and Business Unit planning processes, which in turn are dependent on Government policy. Other new initiatives may be identified outside these processes due to changes in Government policy or other external effects.

Projects are usually justified in terms of corporate objectives and should be closely aligned to them. This alignment is explored through initial scoping and planning documents surrounding discussions and review.

The early stages of the project can be the most crucial for later project success. If the project is unfeasibly defined and scoped, and not properly linked with the organisational goals and objectives of the Agency, it will probably not be completed successfully. Considerable time should be allowed in the INITIATION Phase of the project life for initial planning and scoping activities, as often it is the most neglected *Key Element*, due to pressure just to 'get on with doing the project'. This pressure should be resisted vigorously.

### 2.1 From Outcomes to Inputs - the ITO Model

It is imperative initially to define a project in terms of the outputs and outcomes/benefits the project should achieve. It helps to link directly the actual outputs of the project (be they a computer system, procedures, policies or whatever) and project activities with the organisational goals and directions of the Agency.

John Smyrk's Input-Transform-Outcome (ITO) model is an effective tool for doing the initial project scoping.

A project uses inputs in the form of budget and resources. The Project Manager normally manages the process to deliver agreed project outputs in the form of services or products. Customers, through utilisation, transform the project outputs into the desired project outcomes/benefits.

The following Input-Transform-Outcome (ITO) Model diagram illustrates the way the work/components in a project are undertaken - from left to right.

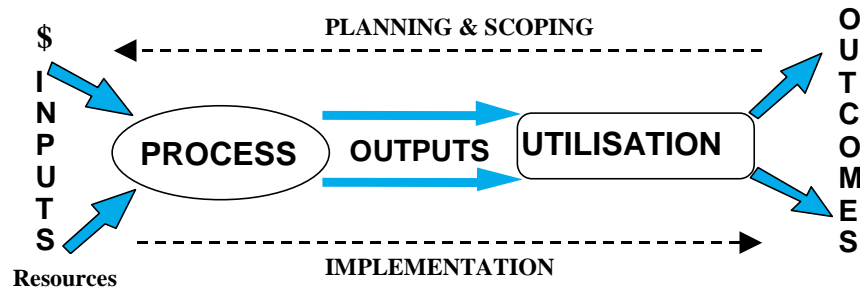


Figure 3: John Smyrk's Input-Transform-Outcome (ITO) Model diagram

However, in initially scoping a project, each component of the ITO Model is considered from right to left. In simple terms, it means that identification takes place in the following sequence:

- The outcomes/benefits and other long-term changes that are sought from undertaking a project (OUTCOMES)
- Project Customers who will use the outputs to generate the outcomes/benefits (UTILISATION)
- Products and services that the Customers need to use in order to generate the outcomes/benefits (OUTPUTS)
- Work that is required to produce the outputs (PROCESS)
- Resources (both human and financial) that are required to undertake the work to produce the outputs (INPUTS)

## Scope

These five areas listed above form the scope of the project. By defining each of these areas, the scope of the project will be determined. Project Scope is defined as a clear statement of the areas of impact and boundaries of the project.

The ITO model is a method of defining and scoping a project, providing greater confidence that the work undertaken will lead to the achievement of the originally intended outcomes/benefits.

An important distinction between outputs and outcomes in this model is that outputs are controllable by the Project Manager, while outcomes are usually not controllable (although they can and should be influenced). These outputs and outcomes are not to be confused with the outcomes and outputs identified in Agency/organisational budgets, although they should have a direct relationship. The project outcomes and outputs described here will have been specifically identified for the project.

Valuable advice for Project Managers, seeking endorsement or approval from their Project Steering Committee for a change of scope and/or delivery time for outputs, is to ensure that a scan for all political statements made by the Government, in relation to the project, is conducted. This scan will demonstrate to the Steering Committee that its decision will in no way conflict with, or cause embarrassment to, the Government.

## Outcomes

Outcomes are the benefits or dis-benefits that will be achieved from the utilisation of the outputs delivered by the project. Wherever possible they should be defined in measurable terms, quantitatively rather than qualitatively.

(Refer to the *Project Management Fact Sheet: Language Matters*)

Dis-benefits arise from undesirable outcomes that flow automatically from the project. Dis-benefits must be taken into account when valuing the project from the perspective of those stakeholders who will be impacted by the dis-benefits.

## Target Outcomes

A number of outcomes/benefits should be selected as the Target Outcomes for the project. These outcomes/benefits comprise performance information against which the project will be assessed, including:

<i>Target Outcome:</i>	The measurable benefits that are sought from undertaking a project. <i>(eg Improved access to quality project resources specifically designed for small projects for Tasmanian Government project managers and participants)</i>
<i>Performance Indicator:</i>	The measure that will be used to indicate the level of achievement of the outcome(s) <i>(eg Increase in the number of quality project resources specifically designed for small projects for Tasmanian Government project managers and participants)</i>
<i>Measure:</i>	The actual mechanism for measuring the level of the performance indicator <i>(eg Difference between the number of quality project resources specifically designed for small projects prior to the commencement of, and following closure of, the Year of the Small Project (YSP))</i>
<i>Baseline:</i>	The current level of the performance indicator <i>(eg 1 quality project resource specifically designed for small project has been developed prior to the commencement of YSP)</i>
<i>Target Level:</i>	The targeted level of performance <i>(eg 8 quality project resources specifically designed for small project developed through YSP)</i>
<i>Target Date:</i>	The date by when the target levels are to be achieved <i>(eg 27 February 2004)</i>
<i>Accountability:</i>	Who is accountable for the achievement of the targeted outcome(s) and reports on the progress towards the target? <i>(eg Manager IAPPU, is accountable for improved access to quality project resources specifically designed for small projects for Tasmanian Government project managers and participants. 6 monthly Status Reports will be presented to the IASC for 2 years following YSP closure.)</i>

*N.B. Examples have been taken from the Year of the Small Project Business Plan*

The identification of the outcomes becomes integral to the initiation of any *Outcome/Benefits Realisation Plan* developed, to plan for the management of the changes brought about by the project, and arrangements for ongoing measurement of achievement against outcomes/benefits once the project is formally closed.

(Refer to *Section 4: Organisational Change Management*)

John Smyrk suggests the use of a Customer Map to assist in identifying Target Outcomes and outputs.

Number #			A	B
	Name of	OUTCOMES	Name of Outcome A	Name of Outcome B
	<b>OUTPUTS</b>			
1	Name of Output		Name(s) of customer(s) who will utilise the output on the left to generate the outcome at the top	Name(s) of customer(s) who will utilise the output on the left to generate the outcome at the top
2				

*Table 3: John Smyrk's example Customer Map*

It should be noted that usually there is not a direct one-on-one relationship between the outputs and outcomes, but the sum of the outputs, through their utilisation, should link directly to the outcomes.

## Outputs

Outputs are the new or revised products or services delivered by the project to the Business Owner(s) to manage on behalf of the Project Customers. They are usually expressed at a high-level, and can be broken down into various components or deliverables. In determining the project outputs, fitness-for-purpose or quality criteria should also be determined. In other words, what criteria will be used to test whether the outputs meet the needs of the Project Customers, and will in turn enable outcomes/benefits to be realised.

Outputs may be produced, and outcomes/benefits achieved, at earlier stages in the project rather than just in its closing stages. The arrows in the ITO model represent causality, rather than a strict chronological sequence. *Figure 4* uses the *Tasmanian Government Project Management Guidelines* as an example to illustrate the difference between project outputs and outcomes/benefits.

## Project Management Guidelines

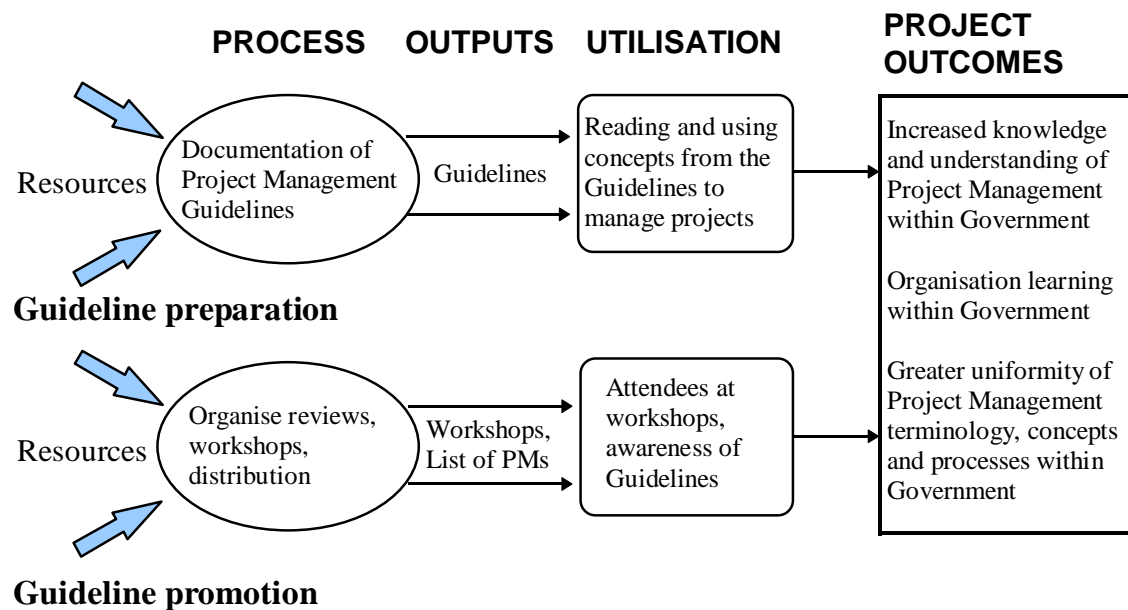


Figure 4: The Tasmanian Government Project Management Guidelines development using the ITO Model

## 2.2 Documentation

Once the scope has been defined and agreed on, the particulars can be documented, initially at a high-level in the *Business Case* or *Project Proposal*, and after approval to proceed with the project, at a more detailed level in the *Project Business Plan*.

(Refer to the *Project Management Fact Sheets: Developing a Business Case* and *Developing a Project Business Plan*)

In the case of small projects, obviously the level of detail will be less.

(Refer to the *Managing Small Projects Resource Kit*)

Once documented, sign-off by the Project Sponsor/Steering Committee to the *Project Business Plan* should be obtained so that a formal agreement exists as to the scope of the project. This formal agreement assists in avoiding project 'scope creep' - a commonly used term to describe the risk of stakeholders attempting to add extras, such as outputs or outcomes/benefits, during the course of the project.

If additions occur, the scoping of the project should be revisited in order to show clearly the effect these 'extras' will have on the resources, time, cost and quality of the project. Other reasons for revisiting project scope include changes to the business environment in which the project is operating, availability of new technologies, legislative changes etc. In every case, agreement and sign-off to planned changes to project scope must be obtained from the Project Sponsor/Steering Committee.

Scoping can be an iterative process depending on the nature of the project, but major changes to scope must be documented clearly and signed-off by the Project Sponsor and Steering Committee.

Cutter observes that the initial scope of a very large project, with a major ICT component, is never right, as one cannot set the project scope correctly until the basic

requirements and general design are known.<sup>1</sup> However, it does not prevent broad scoping and documentation from occurring at the level of determining the Target Outcomes, the Business Owner(s) and high-level outputs.

## 2.3 Planning and Managing Project Activities

John Smyrk refers to a two-layered management model for a project. One is the **Control Layer**, or ‘above the line’, the other is the **Work Layer**, or ‘below the line’. It is a useful distinction for the Project Manager as it provides the distinction between the management of the project, ie the methodology, and the management of the work of the project required to produce the outputs. John Smyrk argues that the Project Manager should be spending up to 15% of their time on ‘above the line’ activities if the project is to be managed in a quality manner, in order to achieve its stated outcomes/benefits.

Once the project has been properly scoped, it becomes easier to identify the major activities required to produce each of the outputs. It is useful to break a larger project down further into phases, which is a major section of work in a project that delivers outputs, but not outcomes/benefits. Large projects that may take several years to complete should be scoped in stages, with each stage producing outputs for utilisation, allowing for some outcomes/benefits to be generated.

Activities, tasks, timeframes and milestones then can be identified for each phase, linked to the delivery of the outputs. Milestones are significant scheduled events that act as progress markers in the life of a project. The breaking down of work into related tasks is called the **Work Breakdown Structure**, sometimes described as an **Activity Decomposition Chart**.

The result of this initial planning is called the **Project Development Schedule**. The high-level results of this initial planning will be documented in the *Project Business Plan*, under the Project Development section, which gives an indication of the major project phases, milestones and target dates.

More detailed planning of major project phases, activities, milestones, tasks and the resources allocated to each task can either be documented in the *Project Execution Plan* (in the case of large and/or complex projects), or through the use of scheduling tools, such as Microsoft Project<sup>®</sup> or other similar tools, that enable the Project Manager to track progress towards the delivery of each output against identified milestones.

(Refer to the *Project Management Template: Project Execution Plan*)

Each output is detailed, in turn, with its associated activities, tasks, milestones and timeframes. The interdependencies of the work required to achieve each of the major milestones are also identified.

In estimating timeframes the **Critical Path Method (CPM)** is often used. The **Critical Path** is the chain of activities that links the start to the finish of the project, and for which any delay will cause the project to be delayed by the same amount of time. Project Managers, who need to shorten the duration of their project, work on the critical path tasks and add resources and change predecessor relationships to shorten their critical path tasks.

(Refer to the *Project Management Fact Sheet: Project Estimation and Project Management Proformas: Milestone History Monitor and Work Breakdown Structure*)

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<sup>1</sup> Orr, Ken (2004) *Pushing the envelope: managing very large projects*. Arlington, MA: Cutter Consortium, 2004

Another planning and budgeting method that may be employed in large and/or complex projects is **Rolling Wave Planning**. This approach to planning involves delaying spending time on in-depth analysis of future tasks until that level of detail is needed for the project planning activity. The rolling wave Gantt chart shows near tasks in detail, distant tasks at a high-level only and lists those tasks to be left for later discussion.

Small to medium-sized projects often use the *Small Project Business Plan* as the management document, supported by keeping day-to-day project plans, such as Gantt Charts, Timeframes and Task Lists etc. Whatever planning tool is selected, it should enable the identification of major milestones with tracking and progress reporting against them.

Many tools exist to support Project Scheduling activities. Information about some that are available can be accessed from

[www.projectmanagement.tas.gov.au/about/other\\_links.htm](http://www.projectmanagement.tas.gov.au/about/other_links.htm).

## 2.4 Tips from Project Managers

Practising Tasmanian State Service Project Managers have made the following comments:

- Scoping activities precede any other project management activities.
- For scoping to occur adequately, there needs to be a full analysis of stakeholders and all stakeholders must be adequately involved.
- With projects that are initiated by edict, active stakeholder involvement is still necessary (though there is a need to facilitate an appreciation of constraints).
- Express the scope in ways that people understand and appreciate.
- Make sure the important stakeholders sign-off on the scope of the project.
- Be aware of related projects, developments and standards early.
- Carefully define what is in and outside the scope.
- Beware of scope creep.
- Change initiatives do not necessarily have to be translated into single projects. They may be achieved through a series of interlinked projects.
- Ensure that project activities align with the scope. Be aware that some people may be operating with differing agendas that have not been formally defined in the scope.
- Continually monitor the scope and project actions in relation to it. There may be a need to redefine the scope or bring the project back on track.