HM Government

Government Functional Standard

GovS 002: Project delivery - portfolio, programme and project management

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This standard is part of a set of operational standards which set the expectations regarding how government is managed. Standards may include both mandatory and advisory elements. The following conventions are used to denote the intention:

Term	Intention
shall	denotes a requirement: a mandatory element.
should	denotes a recommendation: an advisory element.
may	denotes approval.
might	denotes a possibility.
can	denotes both capability and possibility.
is/are	denotes a description

References are shown in square brackets [] and listed in **Annex A.**

The meaning of words is as defined in the Shorter Oxford English Dictionary, except where defined in the Glossary in **Annex B**.

It is assumed that legal and regulatory requirements shall always be met.

Produced by Infrastructure and Projects Authority

Alternative format versions of this report are available on request from [author's contact details].

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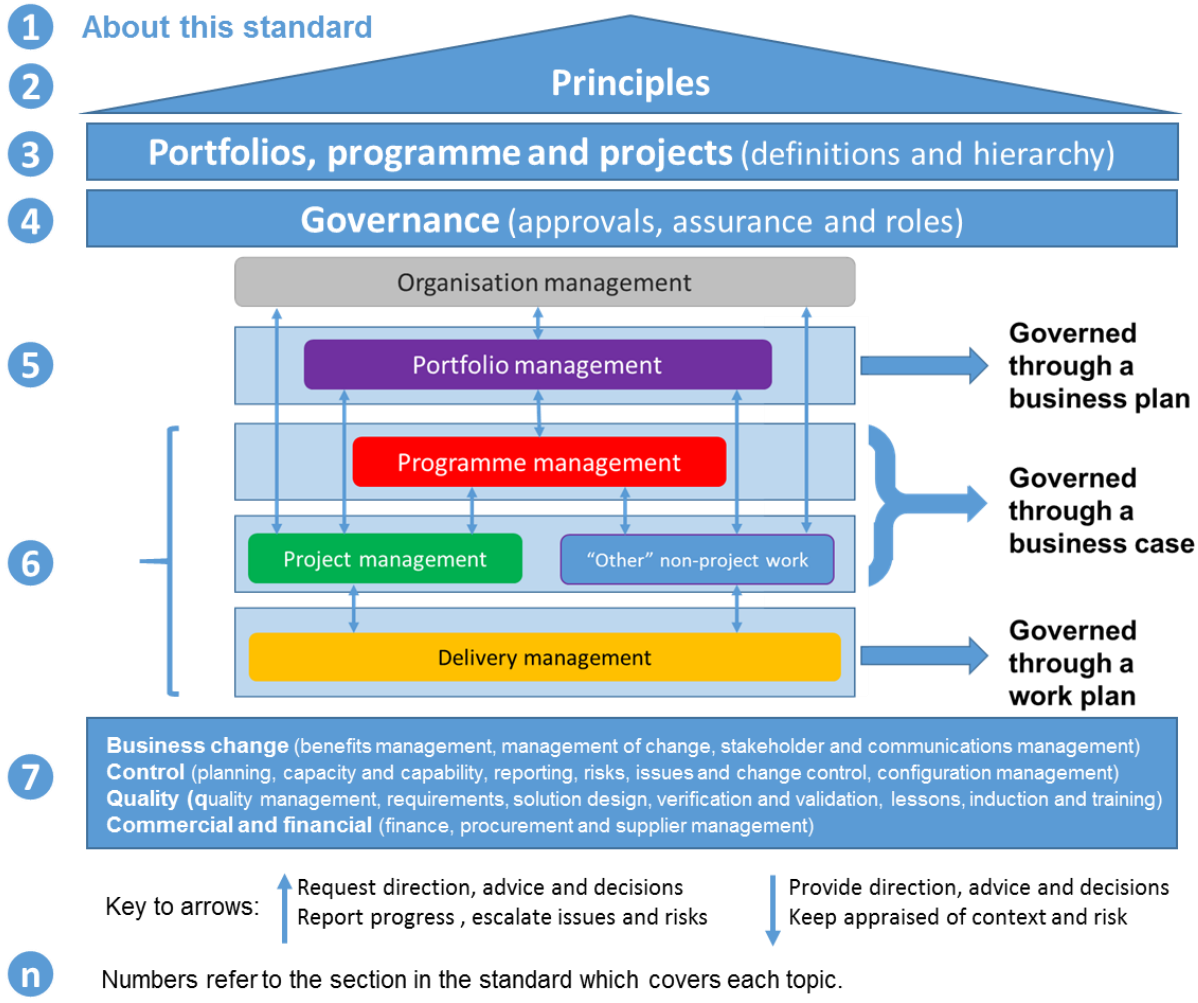

Figure 1 Structure and scope of this standard.

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1 About this government functional standard

1.1 Purpose of this standard

The purpose of this government standard is to set expectations for the direction and management of portfolios, programmes and projects ensuring value for money and the successful, timely and cost effective delivery of government policy and business objectives.

This standard provides direction and guidance for:

- permanent secretaries, directors general, chief executive officers of arm's length bodies and suppliers, ensuring an environment exists which promotes delivery success and integrates with their other activities;
- senior responsible owners, ensuring the breadth of practices required for successful delivery are used;
- owners of departmental methodologies, developing processes and techniques which are consistent in scope across government;
- assurance and audit bodies, for testing best practice;
- programme and project offices, managers and their teams introducing the practices.

1.2 Scope of this standard

This standard applies to all government portfolios, programmes and projects:

- in all departments and arm's length bodies;
- ranging from those listed in the Government Major Project Portfolio (GMPP) through to those at local business level;
- whether for digital, infrastructure, transformation, service delivery, military capability, property, regulatory compliance or other purposes;
- regardless of delivery methodology or technique used.

The structure of the standard is shown in Figure 1.

1.3 Government functional standards references

This standard should be used in conjunction with other government functional standards when appropriate, including:

- commercial operating standards;
- financial standards;
- digital service standards.

2 Principles

At all times, those directing and managing portfolios, programmes and projects shall ensure:

1. delivery objectives are aligned to government policy and organisational objectives;
2. continuing business justification to confirm benefits can be realised and risks managed within the organisation's risk appetite, and that unjustified work is terminated;
3. governance, management frameworks and controls are proportionate and appropriate to the work and the level of prevailing risk;
4. accountabilities and responsibilities are defined, mutually consistent and traceable across all levels of management;
5. experience and lessons are captured, shared and used to promote future performance improvement;
6. work is appropriately defined, planned, monitored and controlled, and quality actively managed to maximise the likelihood of success. Defined working methodologies are tailored for use accordingly;
7. outcomes and enabling outputs will meet the need and be validated by stakeholders;
8. work is undertaken in multi-disciplinary teams and is assigned to people who have the required capability and capacity;
9. the transition of capabilities to operations is planned and programme or project closure managed, with ongoing operational responsibilities agreed and accepted.

3 Portfolio, programme and project management

Portfolio, programme and project management is an integrated way of meeting the government's ambitions, driving better decisions and increasing the likelihood of successful outcomes. Collectively, portfolio, programme and project management are referred to in government as "**project delivery"**.

A portfolio comprises part or all of an organisation's investment required to achieve its objectives. Governed through its portfolio (or business) plan, a portfolio comprises **work components**, such as other portfolios, programmes, projects, other work and work packages.

A programme is a temporary, flexible organisation created to co-ordinate, direct and oversee the implementation of a set of projects and other work components, to deliver outcomes and benefits related to a set of strategic objectives. Programmes can be undertaken in one or more tranches (phases), each of which is structured around distinct step changes in capability and benefit realisation.

A project is a temporary management environment, undertaken in stages, created for the purpose of delivering one or more business products or outcomes. A project might be standalone within a portfolio or part of a programme. **Other work** might include:

- support services (see 4.4.6), solution architecture, finance and HR;
- ongoing improvement initiatives not run as projects, but using a defined approach, such as agile delivered platform based upgrades (see **Annex E**), six sigma and LEAN;
- service delivery, business as usual operations.

A work package is a set of information relevant to the creation of one or more deliverables or outputs. It comprises a description of the outputs required, work plan and details of any constraints.

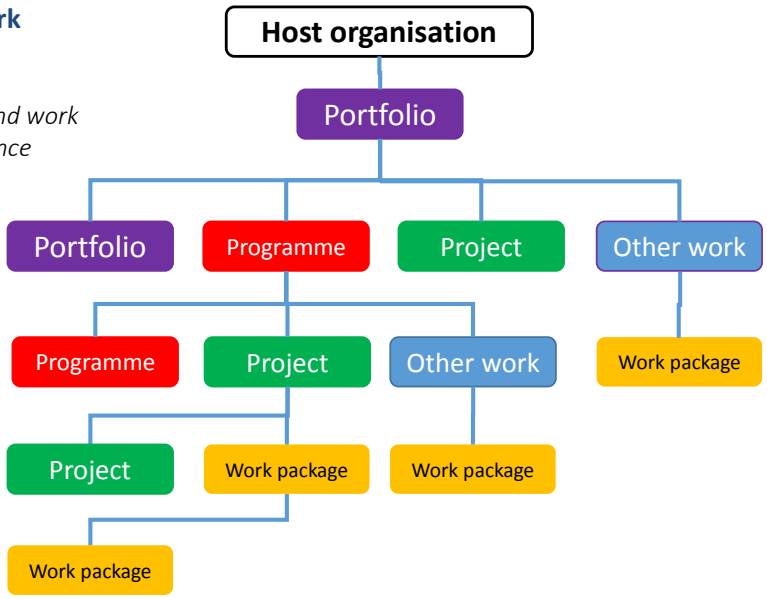
Figure 2 shows the hierarchical relationship between work components, with each higher level component comprising the sum of all connected lower level components.

Work components may cross organisational and departmental boundaries.

Note: the use of the terms 'project' and 'programme' varies across government and is not always indicative of the formal definitions in this standard. The distinction is important when designing a programme or project governance and management framework.

Figure 2 Example of a hierarchy of work components

Note: stages can represent agile releases and work packages might represent sprints. Governance



4 Governance

4.1 Governance framework

Governance comprises authorising, directing, empowering and overseeing management. The governance of portfolios, programmes and projects should be an integrated part of the organisation's overall governance.

A governance framework shall be:

- established which complies with government and departmental policies and directives and with this standard;
- referenced from the respective Accounting Officer System Statement [17].

The governance framework should include the authority limits, decision making roles and rules, degree of autonomy, assurance needs, reporting structure, accountabilities and responsibilities together with the appropriate management frameworks (see sections 5.2 and 6.2).

Programmes or projects meeting one or more of the following characteristics should be referred to the HM Treasury team spending team for inclusion on the Government Major Project Portfolio:

- above the delegated authority limit for the organisation;
- could create pressures leading to a breach in departmental expenditure limits, administration cost limits, or estimates provision;
- would entail contractual commitments to significant levels of spending in future years for which plans have not been set;
- could set a potentially expensive precedent;
- is novel and contentious; or could cause significant repercussions, posing risks to the public sector;
- requires primary legislation or where HM Treasury consent is a statutory requirement.

Programmes and projects not meeting the above criteria may be added to the Government Major Project Portfolio with the agreement of IPA and HM Treasury spending team.

Programmes and projects should have a defined and integrated plan for undertaking assurance and approvals which should be developed with the initiation documentation, regularly reviewed, updated and maintained until closure.

For government major projects, this shall be in the form of an Integrated Assurance and Approval Plan (IAAP), which shall be validated by HM Treasury and IPA; HM Treasury will not normally approve a programme or project without a validated IAAP.

Government major projects shall be reported through the Government Major Projects Portfolio (GMPP); see section 7.2.3.

Note: see: Treasury approval process [14]; guide to integrated assurance and approvals [12]; Treasury assurance frameworks [16].

4.2 Assurance

Assurance is the systematic set of actions necessary to provide confidence to senior leaders and stakeholders that work is controlled, on track to deliver and aligned with policy or the department's strategy.

Organisations should have a defined and consistent approach to assurance (e.g. Integrated Assurance Strategy (IAS)) as part of their assurance framework [16].

Note; see Assurance frameworks for more on three lines of defence [16].

Assurance should be undertaken on at least three levels, such as:

- **1st line:** carried out by the operational management that own and manage risk to ensure appropriate standards are being used;
- **2nd line:** undertaken by those, who have no first line responsibilities, to ensure first line of defence is properly designed, in place, and operating as intended;
- **3rd line:** carried out by internal audit, to provide senior management with an objective opinion on the effectiveness of governance, risk management, and internal controls, including the effectiveness of the first and second lines of defence.

Assurance reviews shall be scheduled prior to significant decisions (such as approval gates) to provide decision makers with an assessment of the status and outlook for the work. For

government major projects, these assurance reviews shall be undertaken by the IPA. The time lapse between assurance reviews should not be scheduled to exceed one year.

Programme reviews should be planned to minimise the impact on the programme team and reviewers (e.g. by combining project and programme reviews as shown in Figure 3), whilst remaining rigorous.

Note: IPA's Assurance tool kit provides guidance for undertaking assurance reviews [3].

4.3 Approvals and authorisation – decision making

Decisions should be made in a timely manner by evaluating alternative choices against agreed criteria. Stakeholders and subject matter experts should be consulted. Decisions might relate to:

- approving strategy;
- initiating a programme or project;
- starting a new project stage (e.g. decision point/gate, see 6.3, life cycle) or a new programme tranche;
- suspending or terminating work;
- selecting suppliers;
- deciding options for further study;
- selecting the solution;
- approving plans and baselines.

Decision may be conditional, with responsibility for fulfilling such conditions defined. Decisions should be:

- holistic, taking account of the external context, whole life of outputs (such as in life service, disposal) and negative impacts;
- phased to take into account risk (see 6.3, life cycle)
- communicated to the relevant stakeholders.

A programme or project shall be governed through a business case. If a project is part of a programme, its business case may be included within the programme's business case. A business case should demonstrate strategic, economic, commercial, financial and management justification [5].

The business case should be developed over a number of phases and should be updated to reflect changes and reviewed prior to every gate or decision point to justify continuing the work.

The Accounting Officer shall approve government major projects prior to submission to HM Treasury for approval [14]. Accounting Officer approval shall be supported by an Accounting Officer Assessment for the outline business case and, when advised by the senior responsible owner, for any subsequent, materially changed business cases [18].

Note: Guidance on investment appraisal, business cases and evaluation is provided in the HMT's Green Book [5].

4.4 Roles and responsibilities

Roles and responsibilities for those working within a portfolio, programme, project or other work component shall be defined. This includes, but is not limited to, who each is responsible to and what activities, outputs or outcomes they are responsible for.

Note: guidance on roles and responsibilities is provided in AXELOS' guides [Annex A 21-28]

Note: the Project Delivery Capability Framework [13] includes the professional standards for a range of project management roles operating at different levels.

4.4.1 Accounting officer

The senior official in a central government organisation is accountable to Parliament and the public of high standards of probity in the management of public funds, including for projects. The equivalent senior leaders of other public sector organisations are expected to perform a similar role.

Note: the Accounting Officer or, in an arm's length body , the CEO, is generally the Permanent Secretary. See Managing Public Money [1], Cabinet Office Controls [2], Assurance framework [16], Accounting Officer System Statements [17] and Accounting officer assessments [18].

4.4.2 Portfolio director

The portfolio director is accountable to a defined higher authority for the direction and governance of the portfolio, ensuring it realises the required benefits at an acceptable level of risk. The portfolio director provides leadership

and direction and owns the portfolio strategy and plan.

NOTE: the higher authority depends on the context and might be the Accounting Officer, a departmental, ALB or executive board or a portfolio board.

Note: see Annex C for more detail on this role.

4.4.3 Portfolio manager

The portfolio manager is accountable to the portfolio director for managing a portfolio as a whole, ensuring its work components are sufficient to meet the objectives, including monitoring spend against budget and benefits realisation. The portfolio manager coordinates the effective and efficient operation of portfolio management and ensures the flow of information to decision makers.

Note: see Annex C for more detail on this role.

4.4.4 Senior responsible owner (SRO)

The senior responsible owner is ultimately accountable for ensuring a programme or project meets its objectives, delivers the required outcomes and realises the required benefits. The senior responsible owner owns the business case and is accountable for all aspects of governance (see section 4).

The senior responsible owner of a government major project is accountable to Parliament. For other projects it shall be clear who (which sponsoring group) the senior responsible owner is accountable to.

Note: IPA's SRO briefing note provides relevant documentation for SROs on assurance [4].

Note: see Annex C for more detail on this role.

4.4.5 Programme/project manager

The programme/project manager is accountable to the senior responsible owner for establishing the governance framework and for the day-to-day management of a programme/project, to deliver the desired outcomes and products, and realise the required benefits.

Note: the title of a programme/project manager can reflect the seniority of the person, such as "project director" or "programme director" or the type of work being undertaken, such as in agile delivery.

Note: see Annex C for more detail on this role.

4.4.6 Portfolio, programme and project support office manager

The management team should be supported in the effective and efficient undertaking of their roles. Services provided might include value-added delivery support, such as defining processes and methodologies, undertaking analysis, operating aspects of governance, consulting and undertaking delegated responsibilities, as well as administrative functions. Support might be provided by single or multiple physical or virtual structures, i.e. offices (permanent and/or temporary), which might be centralised or distributed.

Note: the title of these roles may be chosen to reflect the scope and seniority, such as PMO Director, PMO Manager, Head of PMO or P3O® Director

Note: see Annex C for an example for a programme or project office manager role.

4.4.7 Other management and team roles

Other management and team roles should be defined to suit the needs of the work required, for example those managing the development of specialist outputs. Examples include roles relating to agile delivery, service and operations management, business change, communications and various engineering disciplines.

Note: see Annex C for an example for a work package or team manager.

5 Portfolio management

5.1 The purpose of portfolio management

Portfolio management is a coordinated collection of practices and decisions that together enable the most effective balance of organisational change and business as usual, whilst remaining within a specified funding envelope. Portfolio management should be an integral part of an organisation's business planning and control activities.

The portfolio director and manager should:

- ensure investment is aligned to government policy and departmental strategy;
- maximise benefits realised by the portfolio as a whole;
- balance the portfolio to cover short and long term objectives;
- ensure risks across the portfolio are within the organisation's risk appetite;
- optimise the organisation's capability and capacity to ensure the portfolio can be delivered;
- ensure those impacted by the portfolio's outcomes are able to take on the changes;
- optimise the use of funds and resources, bearing in mind the associated risks.

5.2 Portfolio management framework

A portfolio management framework, defining how a portfolio is to be directed and managed, shall be defined and communicated to appropriate stakeholders. The portfolio management framework should include:

- authority and decision making roles and processes, including, but not limited to, governance (see section 4), identification and submission of potential work components, categorisation, prioritisation and initiation of new work, allocation of resources and funds, and issue resolution;
- roles and accountabilities, processes, methods, techniques, guidance, templates and tools;
- the types of work component to be included in the portfolio, together with criteria to identify them;
- criteria and techniques for categorizing and selecting the portfolio's work components;
- the planning horizons to be used and how often the plan should be reviewed;
- a reporting framework.

The portfolio management framework should align to and work with:

- the organisation's governance framework and decision making authorities;
- other organisational processes and practices, such as those for strategy and policy development, business planning, finance, performance reporting, capability and capacity management, enterprise risk management, and communications.

A record of the portfolio's work components should be kept up-to-date, including, for each work component: component type; responsible persons; status (for example: proposed, in progress, suspended, terminated, completed); the position in the portfolio hierarchy; significant interdependencies between components under different senior responsible owners; an indicator denoting whether the component is required to be reported as part of the Government Major Projects Portfolio. Additional data may be included for management, analysis and reporting purposes.

Note: the portfolio management framework can be tailored from Management of Portfolios [Annex A, 24].Further guidance is in ISO 21504 [Annex A, 33].

Note: Portfolio management responsibilities may be assigned as each department sees fit. For example, integrated with business planning; managed as a set of sub-portfolios. The organisation group undertaking portfolio management might provide other services, such as those provided by a programme management office (see 4.4.7), including, methods, advice, resourcing, tools support

5.3 Portfolio management practices

5.3.1 Portfolio definition and planning

The portfolio, as a whole, should be planned, as defined in the management framework, to meet

the purpose listed in section 5.1. When planning the portfolio:

- government policy, strategic objectives, context and priorities should be understood, together with the current status of the portfolio and its work components. Strategy might be developed top down, from policy, or might emerge from operational experience;
- potential new work components should be categorised and evaluated, based on their degree of strategic fit, expected benefits, efficient use of funds and risk. The views of stakeholders should be understood and considered;
- work components should be prioritised and selected, based on the results of the evaluation, taking into account the performance of existing work components;
- each work component should be traceable to government policy or departmental objectives;
- the plan should be collated with interdependencies identified between components within and outside the portfolio;
- once approved, the portfolio plan should be baselined and any changes approved by the appropriate authority.

5.3.2 Validating portfolio objectives and strategy

The portfolio's objectives and strategy should be periodically reviewed to ensure:

- they are still current and affordable;
- the right programmes, projects and other work are being undertaken.

If not validated, corrective action should be taken to amend the portfolio's strategy and objectives or adjust the portfolio's work components.

5.3.3 Monitoring and analysing portfolio delivery

The portfolio, as a whole, should be monitored and analysed with respect to:

- outcomes, and benefits realisation;
- adherence to cost and schedule constraints;
- delivery of primary outputs;
- availability of finance;
- current capacity and capability constraints in the organisation and supply chain;
- current level of portfolio risk, including those related to interdependencies;
- reaction of impacted parties and other stakeholders.

Stakeholders should be monitored and engaged, with new stakeholders identified and existing stakeholders revaluated.

New risks and issues should be identified and existing ones managed. Action should be taken to keep the portfolio on plan and reflect any constraints. Existing work components might be identified for amendment, rescheduling or termination. Corrective and preventative actions might trigger the need for new work components, scope changes or termination of work.

5.3.4 Portfolio performance reporting

Portfolio performance should be reported against the portfolio plan, including, but not limited to, financials, benefits, milestones and risk. Additional analysis and commentary might be needed to explain variances. Reporting should reflect both achievement to date and a forecast for future performance.

5.3.5 Approving the start of work components

New work components should be identified, defined and approved (in compliance with an approved approval process, see 4.3 on decision making) to start when indicated in the plan or as required by organisational priorities. Before being initiated, the portfolio manager should confirm the aims given in 5.1 are met, an impact assessment of financial, resource or technical capability is available and that the programme/project does not conflict with or duplicate other work. See section 6.4 on identifying and initiating a programme or project.

Note: when approving the start of a work component, the problem or opportunity needs to be known, even though the solution and implementation approach might not be known.

6 Programme and project management

6.1 The purpose of programme and project management

Programme and project management are structured frameworks for defining and undertaking change within an organisation. They provide a framework for implementing business strategies and initiatives to enable government to achieve benefits of strategic importance. Programme and project management includes the planning, delegating, monitoring and control of all aspects of a programme or project and the motivation of those involved to achieve the defined objectives within the constraints of time, cost, quality, scope, benefits and risk.

6.2 Programme and project management framework

A programme and project management framework, defining how a programme or project is to be directed and managed, shall be defined and communicated. The management framework should include:

- authority and decision making roles and rules relating to the programme and its constituent components, including, but not limited to, governance tiers, initiation of new work, prioritisation, assignment of resources and funds, and issue resolution;
- roles and accountabilities, processes, methods, techniques, guidance, templates and tools to be used to undertake the practices in sections 6 and 7 of this standard.

The management framework should align to and work with:

- the portfolio governance framework
- other organisational processes and practices, such as those for, finance, human resource management, performance reporting, capability and capacity management, risk management, and communications.

Note: the management framework can be tailored from the AXELOS best practice guides [Annex A, 21 to 28], departmental methodologies or, for major projects, may be specially developed.

6.3 Life cycles

The life cycle is a phased structure for governing work and underpins the delivery plan, from start to finish. The life cycle should be defined and should include approval gates/decision points and assurance reviews.

A programme may be phased in one or more **tranches** and might cover the whole life of a product, service or system (see Figure 3).

A project shall comprise stages, each of which shall be preceded by a **gate** (decision point) to approve the start of the next stage and commit resources and funding. The project lifecycle should be defined to suit the circumstances. The number of gates and stages, types of assurance review and form of the business case should be chosen to ensure governance is appropriate to the circumstances, with simpler projects having fewer stages (minimum of two) and more risky projects having more stages. See Figure 4 and **Annex D**.

The following shall be defined for each gate:

- criteria for a “go” decision;
- the decision maker(s);
- who should be consulted;
- the type of assurance review required prior to the decision. See 4.2.

Criteria should include, but not be limited to the following:

- work aligns with policy and strategy and is still needed;
- the business case is acceptable;
- risks have been identified and are acceptable or can be mitigated;
- the solution is (or likely to be) acceptable;
- there are funds and resources to complete the work and support any outcomes;
- there is a plan for the next stage and outline plan for the remainder of the work.

A gate decision might result in approval to proceed, a request for work to be revised, or deferral or termination of the project.
Model project life cycles may be developed for undertaking particular types of project.

*Note: **Annex D** includes a detailed example project lifecycle. **Annex E** includes an agile delivery example.*

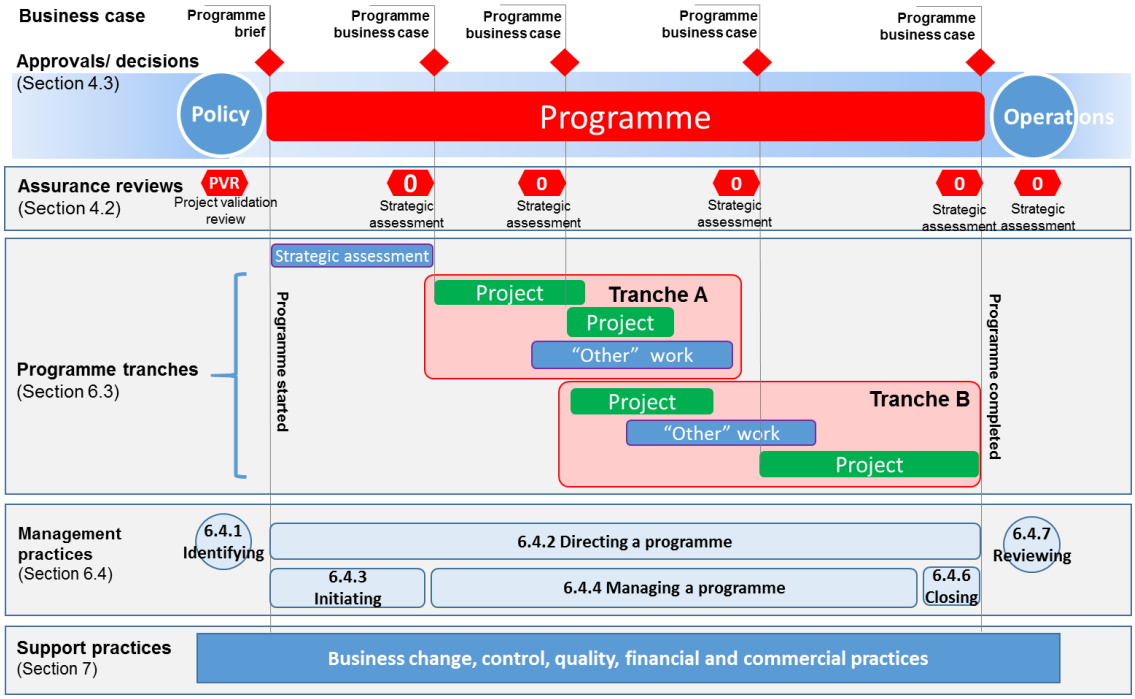


Figure 3 Example programme lifecycle, showing tranches, decisions and assurance reviews from section 4 and their relationship to the practices in sections 6 and 7

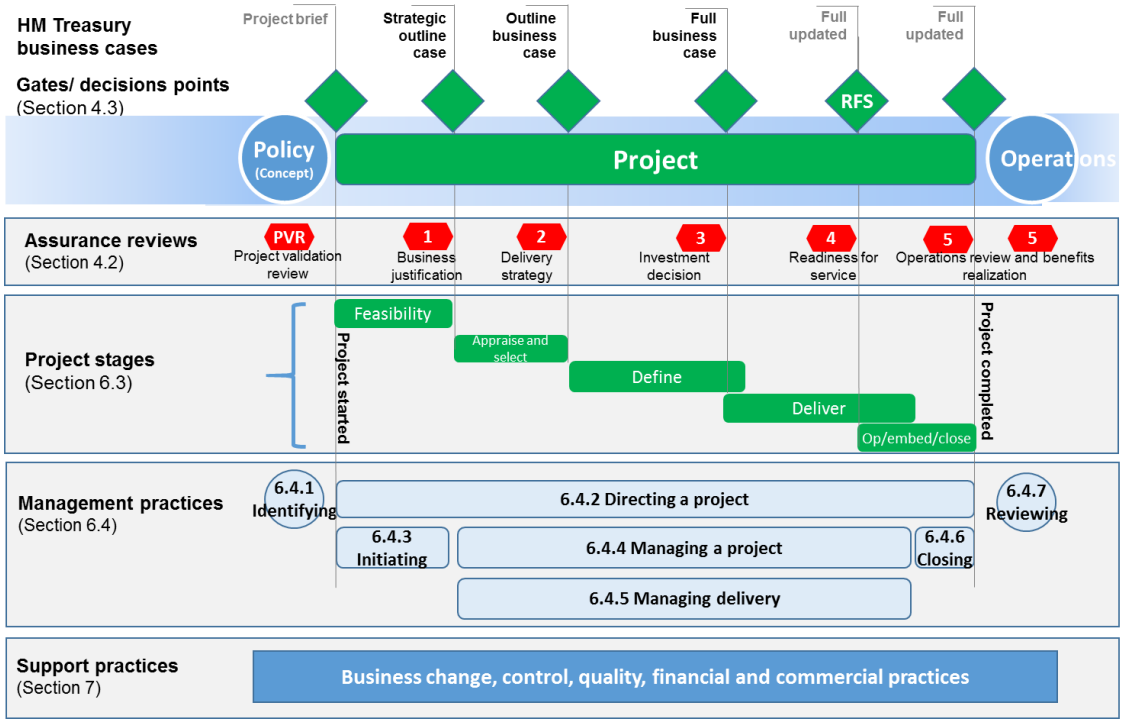


Figure 4 Example project lifecycle with stages, gates and assurance reviews from section 4 and their relationship to the practices in sections 6 and 7

Note: phases for a project are typically called stages (PRINCE2® [22]). Stages may reflect the .approach taken e.g. developed using an agile approach, such as discovery, alpha, beta (private); beta (public) or in "waterfall", such as analysis, design, development, testing, implementation

6.4 Programme and project management practices

6.4.1 Identifying - policy

Identifying a programme or project ensures that the policy or other objective for undertaking the work is defined and likely to be realistic before a team is mobilised and funds and resources committed.

The senior responsible owner shall be appointed. Potential team members and subject matter experts should be identified and be involved with policy formulation to ensure deliverability.

Before approving a programme or project:

- the vision and justification for the programme or project, together with any strategic assumptions, should be documented in a programme or project brief;
- policy and decision makers shall seek advice from experienced professionals on achievability and risks;
- the appropriate assurance review shall have been conducted (see section 4.2). In the case of a new policy or business change initiative which is likely to result in a government major project, the review should be a Project Validation Review or equivalent.

Policy and objectives may develop and change as the work progresses.

6.4.2 Directing

Directing a programme or project ensures continuing strategic fit and relevant in the prevailing business context.

The senior responsible owner shall ensure the solution fulfils government policy and/or meets the needs of the business and represents value for money.

The senior responsible owner shall provide direction and make decisions regarding the future of the programme or project, taking into account changes to the overall political, social, environmental, technological context and prevailing risk. This should include ensuring the programme or project remains justifiable and assurance reviews and approvals (such as at gates and at closure) are undertaken at the right time and corrective and preventative actions taken, if needed.

The senior responsible owner should refer decisions above their delegated authority to the appropriate decision makers, in accordance with the governance framework (see section 4.3).

Note: see also section 4.4.4, role of senior responsible owner.

6.4.3 Initiating

Initiating ensures a programme or project is set up, defined and planned, and that the team is mobilised and understands what is required.

The senior responsible owner shall confirm a real policy or business need is being addressed, communicate the vision and objectives, together with strategic assumptions, and set criteria for measuring success.

The programme or project manager should mobilise the team and facilities required to undertake the work and define the management framework to be used (see 6.2). The team should understand the requirement, assumptions, constraints and risk potential, and should investigate different solutions, delivery approaches and implementation options.
A plan for the work shall be developed, including approaches to be used for specialist work, taking into account lessons learned from previous, relevant work (see 7.2.1). The initial justification for the project shall be documented in a strategic outline case or programme business case (or equivalent).

Note: "Initiating" ensures the programme or project is started in a controlled way. The choice of solution might require a discovery stage (agile) or number of investigative stages to be undertaken. See 6.3 life cycle.

6.4.4 Managing

The programme or project manager should ensure the right team (including suppliers) and facilities are in place.

New tranches, stages or work should be planned and reviewed prior to approval (see section 6.3).

Work packages should be initiated and monitored against the plan or product backlog, risks mitigated, issues addressed and changes controlled. Lessons should be continually captured and managed (see sections 7.2).

Outputs should be developed ready for use (see section 7.3) and stakeholders' views should continue to be addressed ensuring any business changes are embedded new ways of working such that the desired outcomes are achieved (see section 7.1).

Commercial and financial aspects should be addressed (see section 7.4).

The continuing justification for the programme or project shall be monitored and business case updated, if appropriate (see section 4.3) in a controlled way (see 7.2.5).

6.4.5 Managing delivery

Managing delivery ensures work to develop the outputs and outcomes is under control:

- work should be defined, planned, managed in work packages or sprints (see section 7.2.1);
- risks, issues, change requests and stakeholders' views should be addressed;
- suppliers should be managed (see section 7.4);
- lessons should be continually captured and managed (see section 7.2);
- outputs should be developed using methodologies and techniques which are proportionate and appropriate and the quality verified (see section 7.3).

6.4.6 Closing

A programme or project shall be closed in a controlled way. Closure of a project can happen when a project is completed as planned or terminated prematurely:

- delivery of outputs and achievement of outcomes to date should be confirmed;
- responsibilities for on-going risks, issues, actions and benefit tracking should be handed over to, and accepted by, the appropriate business authority;
- documentation and information should be securely archived (see 7.2.7);
- the team and any temporary facilities should be demobilised.

The programme or project manager, with the team and key stakeholders, shall undertake a closure review, which should include an assessment of performance against the plan and the extent to which objectives are being met.

New lessons should be captured and analysed together with those identified during the work, significant learnings should be captured and shared (see section 7.3.6).

Plans for post-closure reviews should be agreed by the senior responsible owner (see section 4.2).
Stakeholders shall be informed about closure.

Note: termination might occur because the project is no longer needed or viable, or because the risks associated with it have become unacceptably high.

6.4.7 Reviewing outcomes

Reviewing outcomes determines the degree of the programme or project's success. The senior responsible owner should ensure a review is undertaken to assess of the extent to which benefits realisation and operational performance have met, and are likely to continue to meet, the objectives and expectations stated in the business case. Lessons should be captured and communicated.

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7 Practices which support project delivery

This section includes management practices which should be undertaken throughout delivery. These practices are the responsibility of the relevant manager, for example, portfolio manager for a portfolio, project manager for a project or team manager for a work package and may be delegated to a portfolio, programme or project support office manager (see section 4.4, roles). All support practices should be managed and monitored (see 6.4.4) using a defined approach that is improved through use.

Note: guidance can be found in the AXELOS guides [21-28], In addition, the APM and PMI bodies of knowledge [36-40] and British and international standards [29-35] can be referred to.

7.1 Benefits and change

Business and change support practices ensure successful project delivery through engagement with stakeholders and users and the embedding of the required business change or new service in the business. Business change aspects shall be addressed and planned from the start of the programme or project and addressed throughout the life cycle.

7.1.1 Benefits management

Benefits management ensures benefits are realised in practice. The relevant stakeholders' expectations regarding the benefits to be realised should be understood by the team developing the solution. Benefits should be identified, analysed, defined, planned and tracked. Benefits should be assessed for a number of options before a solution is chosen and included in an optimised business case, in which potentially conflicting pressures, such as performance, scope, time, risk, cost, benefits are balanced. Responsibility for forecasting and monitoring each benefit should be assigned to a benefit owner. Benefits should be reassessed throughout the duration of the work as new benefits might emerge as the work progresses and expectations might change. Benefits trigger points should be included in plans. Once triggered, actual benefits realisation should be tracked against the plan.

There should be two-way traceability between benefits, outcome, solution, outputs, requirements and objectives (see Figure 5).

Note benefits mapping might be used to demonstrate traceability.

7.1.2 Management of change

The purpose of managing change is to prepare, equip and support organisations and individuals (e.g. users, citizens) to change their approach and, where appropriate, behaviours. All programmes and projects should have a vision and blueprint for the future state, assess the current state of the target groups, use appropriate techniques to design and manage the required changes, continually assess the readiness of the target groups to accept the changes and track progress towards achieving the future state. Milestones, representing the achievement of outcomes, should be included in the plan. Once a transformed operating approach has been implemented, it should be monitored to ensure behaviours and practices do not revert.

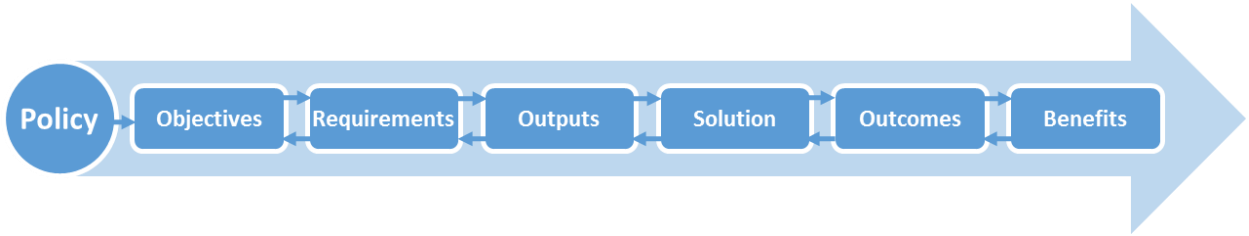


Figure 5 Example of benefits mapping, showing traceability from policy to benefits

7.1.3 Stakeholder engagement

Stakeholder engagement ensures the needs and concerns of stakeholders are addressed sufficiently to enable the objectives to be met. A stakeholder is any individual, group or organisation that can affect, be affected by, or perceive itself to be affected by an initiative (programme, project, activity).

Stakeholders should be identified and their interests and expectations understood. A plan should be developed defining how to engage them in a co-ordinated and appropriate way. The engagement plan should be implemented, monitored and updated to reflect newly emerging stakeholders and changes in the position of existing stakeholders. Stakeholder attitudes should be assessed, updated and validated throughout the work.

Note: depending on the stakeholders, engagement might done in a number of ways, including face to face contact, meetings, or through collaborative working approaches, such as agile.

7.1.4 Communications

Communications ensure interactions with the stakeholders are effective and likely to contribute to the successful delivery of the work.

Communications should be designed and coordinated to ensure the right messages are addressed to the right audience, at the right time and in a way which is acceptable to the recipients. Communications should be planned to match the stakeholders' needs and include feedback mechanisms and effectiveness measures. The impact of communications should be assessed and, where appropriate, responded to. The communications plan should be adjusted if needed, to achieve successful change.

Note: depending on the stakeholders, engagement might be through press releases/news channels, adverts, posters, social media, web sites, leaflets.

7.2 Control

Control support practices ensure work is planned and corrective and preventative actions taken to ensure delivery follows the baselined plan.

Work shall be defined, planned, monitored and controlled. Managers of work components should be set permissible tolerances within which no escalation is required to the next level of management. Tolerance levels might cover, but not be limited to scope, performance, time, cost, quality, benefit and risk.

7.2.1 Planning

Planning ensures the outputs and outcomes are likely to be delivered within the defined constraints (including scope, performance, time, cost, resources, risk) to achieve objectives and realise the required benefits. Planning should be a collaborative activity, where possible involving team members advising on planning their work. Estimates should be justifiable through evidence or experience such as reference class forecasting, consensus or experience from previous work.

The plan should be based on a hierarchy showing each work component's place in the hierarchy (see Figure 2). There should be single point accountability for every component and activity. Plans should be viewable at different levels of the hierarchy and show the level of detail appropriate to the needs of those viewing the plan. Depending on the level of the plan (portfolio, programme, project or work package), a plan might include forecasts of benefits (if applicable), milestones, activities, schedule, cost and resources, with associated assumptions, constraints, critical paths(s) and risk. Dependencies between activities and other work components (such as programmes and projects) should be defined. The plan should include, and allow for assurance and decision making activities (see sections 4 and 6.3).

Note: a plan might be included in a single document or information source or distributed across a number of sources.

Planning might be iterative and progressive through the life cycle of a work component, with more detail for the immediate future than for more distant work. Scope might be refined and clarified as work progresses to develop a plan which can be delivered at an acceptable level of risk. A plan may include an indication of the

current level of certainty by, for example, using ranges or confidence indicators.

Once approved, plans shall be baselined and progress regularly monitored and analysed. Forecasts should take into account progress to date and prevailing assumptions and risks. Plans should be updated, especially prior to significant decision points, such as project gates. Any changes to a baseline plan outside agreed tolerances shall be undertaken in a controlled way (see 7.2.5).

7.2.2 Resource, capacity and capability management

Resource, capacity and capability management balances the supply and demand for appropriate resources (such as people, equipment, material and facilities) to be deployed when needed. Resources might be sourced from within government, by recruiting or from the supply chain.

A comprehensive view of future resource needs should be developed and maintained, with possible shortfalls identified and addressed. Resources should be acquired or developed to meet the planned needs; if insufficient resources are available, work should be re-planned to reflect such constraints. Business continuity measures should be in place in the event of the loss of critical resources.
See 7.4.2.

Note: "appropriate resources" means, for materials, equipment and facilities, the required quantity with the right specification. For people it means, the right skills, competences and expertise to undertake the work; see [13].

7.2.3 Reporting

Reporting ensures the management team(s) and interested parties are aware of the current status and outlook, particularly with respect to the likelihood of achieving the objectives.

A reporting framework should be designed to meet the needs of the identified report recipients in a timely manner. A report should highlight progress to date, whether the current work scope is likely to be completed to plan, prevailing risks and issues and any decisions or direction required. Appropriate milestones and performance indicators, should be included in the report. Performance indicators should reflect the delivery method used (e.g. backlog for agile delivery).

Each report should state the period or date the report is related to and the date on which the report was published, or if live, created. The form of a report should be appropriate and proportionate to the work being reported on (e.g. Gantt, slippage, visibility chart, burn-down) and the roles being reported to.

Government major projects shall be reported annually, with quarterly updates in a format defined by IPA and in accordance with the Government's transparency policy [15].

Note: reporting applies to information flowing within and between portfolio, programme, project and work package teams. Information flow with wider stakeholders is dealt with in "7.1.4 Communications"

7.2.4 Risk and issue management

Risk and issue management ensures objectives are more likely to be achieved, bearing in mind uncertainty, unexpected events and threats or opportunities from undertaking the work, using the solution and from the external environment.

A risk is an uncertainty of outcome (positive or negative).

An issue is a relevant event that has happened, was not planned and requires management action. It could be a problem, benefit, query, concern, change request or a risk that has occurred.

Risks and issues should be:

- identified, assigned an owner and evaluated, taking into account when the risk might be triggered (proximity);
- responded to by accepting the risk or through mitigating actions to eliminate, reduce or avoid consequences or reduce the possibility of occurrence;
- residual risks, if any, should be identified and addressed;
- monitored to resolution and closed when no longer valid;
- reviewed to ensure any implemented risk controls are still effective.

Risks should be managed as individual risks and collectively. Contingency may be retained at an appropriate level in the work hierarchy and authorised, if needed.

Overall risk should be managed within the organisation's risk appetite and tolerance.

Risks might be related to:

- the chance of an event occurring and its potential consequences;
- an unknown variable for which assumptions need to be made (for example number of users, inflation) which should be understood, articulated in the business case and, where possible, quantified using cost-benefit analysis.

The circumstances under which work will no longer be viable or solution relevant should be determined, using techniques, such as simulation, contingent scenarios and sensitivity analysis.

Risks and issues which an owner cannot resolve should be escalated or reassigned as necessary. The work component hierarchy (see Figure 2) can be used as a basis for escalating or reassigning risks. Risk owners might be outside the formal hierarchy but should be responsible to a person in the work component's management structure.

Note; guidance on risk management can be found in the Orange Book [6] and management of risk in government [7].

7.2.5 Change control

Change control ensures only beneficial or necessary changes to the baseline are implemented. Changes might originate from any stakeholder, including policy makers, executive management, end users, suppliers or team members. Alternatively, a change might result from a risk or issue which cannot be resolved. Criteria should be defined to:

- define what aspects of the work should be change controlled;
- direct which individuals or groups have the authority to approve changes (see section 4.3).

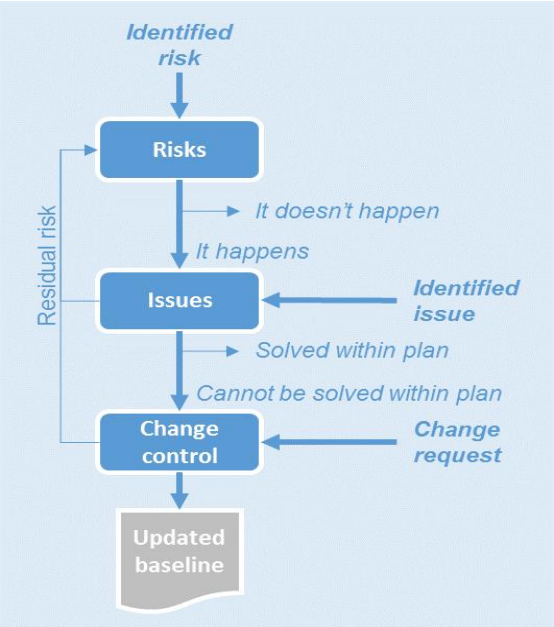


Figure 6 Relationship between risks, issues and changes.

Change requests should be recorded, identified and defined. The impact of a change should be assessed in terms of impact on the business case, objectives, benefits, scope, resources, time, cost, quality and risk. An implementation plan should be developed, prior to receiving approval to implement the change. The decision should be communicated to all interested parties. Once the change has been incorporated into the baselined plan and affected information updated, the change request should be closed.

Changes to systems/groups of interrelated deliverables (products) should be controlled through configuration management.

7.2.6 Configuration management

Configuration management is the term used to describe a group of products or items that work together to deliver a solution, service or system, whether produced internally or by a supplier.

Configuration management ensures the different parts of a solution work together, are identified in terms of status and version and that the composition of higher level groupings of those deliverables are compatible and known at all times. Configuration management should include:

- planning the scope of and managing configuration, including configuration baseline control;
- configuration status accounting and reporting to ensure those requiring this information are informed;
- verifying the accuracy of the configuration records (configuration audit).

Note: the deliverables placed under configuration management include those produced by suppliers and internally, and tools used during the design, development or manufacturing of a solution.

Note: this practice is essential in most engineering or technical solutions, but can be applied to non-technical elements such as processes, operating manuals and instructions. Different sectors might have different names, such as parts or asset management.

7.2.7 Information management

Information management ensures all necessary information (physical or electronic) is available and reliable for undertaking work and making decisions.

The information which needs to be managed should be defined. This might include information relating to the solution and its development, plans, progress assessments, reviews and audits, contracts, reports and communications. Information should be recorded on receipt, validated as correct, securely stored, distributed and retrievable by those who need it. Business continuity measures should be in place in the event of a disruptive incident.

New information sets, such as documents, should be reviewed, approved, version controlled and, when no longer required, withdrawn and archived. The status, security classification and provenance of information should be clear. Information should be retained to meet statutory and contractual requirements. Configuration management might be required to ensure the integrity of groups of related information.

Note: information management can include web content management, document management, records management, digital asset management, learning management and content systems.

Note: for advice on information handling see [8 – 10]

7.3 Quality

Quality support practices determine the degree to which the features and inherent or assigned characteristics of an output or solution (whether product, person, process, service and/or system) meet expectations or stated needs, requirements and specification.

Quality shall be actively managed to maximise the likelihood of success. The methodology or process for undertaking work should be defined and appropriate to the outputs. People should be trained, briefed and competent to undertake the work assigned to them.

Note as well as the AXELOS best practice guides, standards and bodies of knowledge, guidance on requirements, design, verification and validation can be found in CMMI-DEV [40] and ISO 15288 [35].

7.3.1 Quality management

Quality management ensures outputs are fit for purpose to achieve the objectives. The management framework should include:

- quality assurance to provide confidence that outputs will match their defined quality criteria;
- quality control to monitor specific results to determine compliance with the specified designs and identify ways to eliminate causes of unsatisfactory performance.

Note: the quality of the solution is dependent on the choice of appropriate design and development methodologies; different approaches are appropriate in different circumstances, for example an iterative, agile delivery approach for digital service [11]

7.3.2 User needs and requirements

Managing requirements ensures the needs of stakeholders are understood and considered throughout the development of the solution.

Requirements should be refined, elaborated (for example, as agile epics and user stories) and evolve with the design until a solution is defined and viable product agreed. Multiple iterations might be needed to fully understand the requirements.

A common understanding of the outcomes for all phases of the solution's life cycle (including development, in-life and disposal) should be

agreed between those requesting the work and those undertaking the work. This should include any relevant statutory, regulatory or other constraints. The requirements should be determined for those affected by the development and use of the outputs and subsequent outcomes, such as the public, end users, operational and maintenance staff, developers, constructors and manufacturers. Requirements should be uniquely identifiable, current, mutually consistent, understandable, unambiguous, prioritised and validated. There should be two way traceability between the requirements and the elements of the design. Changes to requirements should be controlled; changes should be aligned to the vision and goals of the work component.

7.3.3 Solution design

Design ensures the outputs meet the requirements and will achieve the desired outcomes and benefits and represents value for money. Design might be sequential, incremental, iterative or agile.

Solution design might evolve as requirements are elaborated and design progresses. The solution design (or blueprint) should include all outputs needed to achieve the desired outcomes, including, but not limited to, people, software, equipment, operations and maintenance products, manufacturing, security, information, organisation design, supply chain, performance characteristics and desired behaviours. The solution should be defined sufficiently to enable its parts to be verified as correct. There should be two way traceability between the design elements and the plan.

The design team should consider a range of solutions (design approaches, design concepts, or preliminary designs) that potentially satisfy the requirements and recommend a solution to be implemented.

For complicated and complex solutions, the entire solution should be considered with progressive decomposition into its constituent elements, including those undertaken and implemented by suppliers. Interactions between elements and the operating environment should be known and taken into account.

7.3.4 Solution development and integration

Solution development and integration ensures that the solution is built in a defined way such that all elements comprising the solution work together within the operating environment.

Working methods and processes should be defined together with how different elements of the designed solution are integrated and work as a whole. A strategy should be developed defining the approach to be taken for sequencing, delivery and integration of the elements of the solution, including any special environments or facilities required.

7.3.5 Verification against design and validation against need

Verification checks the correctness of a solution (or part of a solution) to confirm that it matches the specified design. It should be aimed at detecting faults or failures.

Validation ensures the right problem is being addressed and the solution is likely to meet the requirements when “operating” in its intended environment. Validation should be applied to the solution or a significant part of it and should be aimed at demonstrating stakeholder satisfaction.

Verification and validation should be continuous throughout the life cycle and may be iterative in nature with solution, design and requirements evolving as work progresses. The methods used for specialist work should include appropriate approaches and planned activities for both verification and validation.

Note; methodologies for verification and validation might include, but are not limited to: prototyping, simulation, inspection, show and tell, analysis, demonstration, test, trials or pilots and sampling.

7.3.6 Learning from experience

Learning from experience avoids repeating the same mistakes and helps spread improved practices to benefit current and future work.

At the start of the work, those involved and key stakeholders should identify and apply relevant lessons from previous experience when planning

the work. Throughout the life cycle, lessons should be continually captured, evaluated and action should be taken to mitigate delivery risk and facilitate continual improvement of the final outputs and services. Organisation leaders, (including ALBs) and owners of standards, processes, methods, guidance, tools and training, should update their knowledge sources and communicate learning as appropriate.

7.3.7 Programme and project specific team induction and training

Induction and training ensures team members are working effectively as soon as practical through being briefed on the context of the programme or project and its operational procedures. Induction should include, but not be limited to, ensuring the necessary facilities are made available, a briefing on the work, the role being undertaken, necessary processes to be followed and training required and granting appropriate security access. Training should include, but not limited to, defining a training strategy, analysing training needs, defining, developing and maintaining briefings/courses, planning, delivering and monitoring training events.

7.4 Commercial and financial

Commercial and financial support practices ensure the government's policies on commercial and financial management shall be complied with and managers should be provided the necessary information to undertake their roles.

7.4.1 Finance

Financial management ensures the efficient and effective management of money (funds) to accomplish the objectives of the organisation.

The level of funding needed should be determined, in the short and long term for the portfolio, programme or project including any subsequent in-life or running costs. Sources of funding should be secured. The management framework should be defined, including, financial accountabilities, levels of delegation, approvals and monitoring. Financial reports should be reliable and provided to decision makers and to managers of work components in a timely manner.

The Government financial operating standards relating to financial control and appraisal should be complied with.

7.4.2 Procurement

Procurement ensures products or services bought as part of resourcing the work or developing the outputs are of the appropriate quality, represent value for money and can be delivered within an acceptable level of risk.

Appropriate contract strategy and procurement packages should be determined, suppliers selected against defined criteria and the contract(s) formally agreed. Contracts should be designed to reflect the type and method of delivery and reliability of the supply chain. The scope of contracts should include all necessary documentation and tools required for the operation of the service or product.

The Government commercial operating standards relating to procurement should be complied with.

7.4.3 Contract management

Contract management ensures any products or services bought as part of resourcing the work or developing the outputs are of the required quality and delivered when needed.

The management team should comply with the contractual obligations (as customer), including payments to suppliers. Supplier performance and quality should be monitored and accepted after verification against the contractual requirements.

The Government commercial operating standards relating to contract management should be complied with.

A. References

ID	Description
	Government references
1	HM Treasury (2015), Managing Public Money
2	Cabinet Office (2017), Cabinet Office controls. *Note: the guidance on spending controls helps government departments to reduce wasteful expenditure and help reduce the fiscal deficit.*
3	Infrastructure and Projects Authority, Assurance Tool Kit. *Note: a set of guidance covers the integrated assurance toolkit for Gateway reviews (1 to 5), integrated approval and assurance plans, risk potential.*
4	Cabinet Office, SRO briefing note: relevant documentation. *Note: a set of guidance for SROs for when projects are going through assurance reviews for the Infrastructure and Projects Authority.*
5	HM Treasury (2016),The Green Book: Appraisal and Evaluation in Central Government. *Note: HM Treasury guidance for public sector bodies on how to appraise proposals before committing funds to a policy, programme or project.*
6	HM Treasury (2013) The Orange Book Management of Risk - Principles and Concepts
7	Cabinet Office (2017), Management of Risk in Government: framework
8	HMG Information Assurance Standards
9	Cabinet Office, National Security and Intelligence, and Government Security Profession (2014), Security Policy Framework
10	A guide to Information Assurance and Data Handling
11	Government Digital Service Standards. *Note: a set of information comprising the Digital Service Standard, Service Manual (Guidance on how to research, design and build services that meet the Digital Service Standard) and Technology Code of Practice (The standard you need to meet to get approval to spend money on technology or a service)*
12	Cabinet Office (2011) A guide to implementing integrated assurance and approvals
13	Cabinet Office (2017), Project Delivery Capability Framework
14	HM Treasury (2016), Treasury Approvals Process for Programmes and Projects *Note: HM Treasury guidance for the Treasury Approval Point (TAP) process and arrangements for the scrutiny and approval of major project and programme spending outside Delegated Authority Limits (DAL) set by the Treasury.*
15	Transparency policy on the Government's Major Projects Portfolio (GMPP) and guidance for departments on exemptions
16	HM Treasury (2012), Assurance Frameworks
17	HM Treasury (2017), Accounting Officer System Statements
18	HM Treasury (2017), Making an Accounting Officer Assessment
	19 – 20 not used
	AXELOS Best Practice publications – see footnote 1

ID	Description
21	Managing Successful Projects with PRINCE2; Sixth edition:2017
22	Directing Successful Projects with PRINCE2; First edition:
23	Management of Successful Programmes (MSP®); Fourth edition:20111
24	Management of Portfolios; First edition:2011
25	Management of Risk; Third edition:2010
26	Portfolio, Programme and Project Offices; Second edition:2014
27	Portfolio, Programme, and Project Management Maturity Model (P3M3)
28	PRINCE2 Agile; First edition:2015
	British and international standards – see footnote 2
29	BS6079 Part 1:2010 Principles and guidelines for the management of projects
30	BS6079 Part 2:2000 Project management Part 2: Vocabulary
31	BS ISO 21500:2012 Guidance on project management
32	ISO 21503:2017 Guidance on programme management
33	BS ISO 21504:2015 Project, programme and portfolio management — Guidance on portfolio management
34	ISO 21505:2017 Project, programme and portfolio management — Guidance on governance
35	BS ISO/IEC/IEEE 15288:2015 Systems and software engineering — System life cycle processes
	Professional organisations – see footnote 3
36	APM Body of Knowledge, 6th edition (covers portfolio, programme and project management)
37	A Guide to Project Management Body of Knowledge, 5th edition, PMI, 2013
38	The Standard for Programme Management — Third Edition, PMI, 2013
39	The Standard for Portfolio Management — Third Edition, PMI, 2013
40	CMMI® for Development, Version 1.3, SEI,

Note 1: AXELOS is a company part owned by the UK government which took on the management of the best practice guides from the former Office of Government Commerce within the Cabinet Office. The guides are available by subscription or individual purchase. These guides comprise the recommended methods for government project delivery.

Note 2: British and international standards contain supplementary information and are available

Note 3: the Association for Project Management (APM) is the UK's chartered professional organisation; the Project Management Institute (PMI) is based in the USA and has chapters in the UK. Their references are free on-line to members or by individual purchase. The Software Engineering Institute is a federally funded research and development centre sponsored by the US Department of Defense. Its CMMI materials are free to download.

B. Glossary

For definitions of portfolio, programme, project, other work and work package see section 3.
For role definitions see section 4.4 and **Annex C**.

Term	Definition
assurance	Assurance is the systematic set of actions necessary to provide confidence that work is controlled, on track to deliver and that it is aligned with policy or the department's objectives. *Adapted from AXELOS Common Glossary.*
baseline	A measurement, calculation, or location used as a basis for comparison. In a project delivery context baselines typically apply to plans and to sets of data relating to the solution (such as requirements baseline, design baseline). *Adapted from AXELOS Common Glossary.*
blueprint	The blueprint is a model of the future organization, its working practices and processes, the information it requires and the technology that supports its operations. *From Managing Successful Programmes.*
business case	The justification for an organizational activity (strategic, programme, project or operational) which typically contains, benefits, outcomes, timescales, costs and risks against which continuing viability is tested. *Adapted from AXELOS Common Glossary.*
gate	A decision point, carried out as part of formal governance, at significant points in the lifecycle to ensure that the decision to invest as stated in an agreed business case and plans is, and remains, valid. *Adapted from AXELOS Common Glossary.*
governance	Governance defines relationships and the distribution of rights and responsibilities among those who work with and in the organisation. It determines the rules and procedures through which the organisation's objectives are set, and provides the means of attaining those objectives and monitoring performance. Importantly, it defines where accountability lies throughout the organisation. *From Corporate governance in central Government departments: Code of good practice. HMT, Cabinet Office, 2011.*
Government Major Projects Portfolio (GMPP)	The portfolio of the Government's largest, complex, innovative, risky and ambitious projects that have been agreed by the IPA, HMT and departments and are delivering the government's main policy initiatives. *From Cabinet Office Controls Glossary.*
integrated assurance and approval plan (IAAP)	The planning, coordination and provision of assurance activities and approval points throughout the "policy to delivery" lifecycle, proportionate to levels of project cost and risk. *From Treasury approvals process for programmes and projects.*
integrated assurance strategy (IAS)	The integrated assurance strategy sets the strategic requirements for assurance provision to ensure agreed and consistent standards across an organisation's portfolio of major projects. *From Treasury approvals process for programmes and projects.*
issue	A relevant event that has happened, was not planned and requires management action. It could be a problem, benefit, query, concern, change request or risk that has occurred. *From AXELOS Common Glossary.*
life cycle	The life cycle provides a phased structure for governing the work and underpinning the delivery plan, from start to finish. Lifecycles can be applied to a portfolio, service, product, system, programme or project

Term	Definition
management framework	The agreed management practices adopted by an organization (or part of an organisation). Such as portfolio management framework, programme or project management framework. *Adapted from AXELOS Common Glossary*
major project	A central government funded project or programme that requires HM Treasury approval during its life, as set out in Delegated Authority letters, or is otherwise of special interest to the government. A government major project is listed in the **Government Major Project Portfolio** (GMPP). *From Which MPA Assurance Review? Cabinet Office, 2012.*
outcome	The result of change, normally affecting real-world behaviour or circumstances. Outcomes are desired when a change is conceived. Outcomes are achieved as a result of the activities undertaken to effect the change; they are the manifestation of part or all of the new state conceived in the blueprint. *From AXELOS Common Glossary.*
output	A specialist product (the tangible or intangible artefact) that is produced, constructed or created as a result of a planned activity and handed over to a user(s).
portfolio management	Portfolio management is a coordinated collection of strategic practices and decisions that together enable the most effective balance of organizational change and business as usual. *Adapted from AXELOS Common Glossary.*
portfolio strategy	A collection of top-level strategic information that provides total clarity to all stakeholders regarding the content and long-term objectives of the portfolio. *From AXELOS Common Glossary.*
project delivery	Collectively, portfolio, programme and project management are referred to in government as “project delivery”.
quality	The degree to which the features and inherent or assigned characteristics of a product, person, process, service and/or system bear on its ability to show that it meets expectations or stated needs, requirements or specification. *From AXELOS Common Glossary.*
quality assurance	The planned systematic process that will be used to provide confidence that outputs will match their defined quality criteria. *From AXELOS Common Glossary.*
quality control	The process of monitoring specific project results to determine whether they comply with relevant standards and of identifying ways to eliminate causes of unsatisfactory performance. *From AXELOS Common Glossary.*
risk	Uncertainty of outcome (whether positive opportunity or negative threat). It is the combination of the chance of an event and its consequences. *From Management of Risk (M_o_R®).*
risk appetite	The amount of risk the organization, or subset of it, is willing to accept. *From Management of Risk (M_o_R®).*
risk tolerance	The threshold levels of risk exposure that, with appropriate approvals, can be exceeded, but which when exceeded will trigger some form of response (e.g. reporting the situation to senior management for action). *From Management of Risk (M_o_R®).*

Term	Definition
sponsoring group	The driving force behind a programme, which provides the investment decision and top-level endorsement for the rationale and objectives of the programme. *From AXELOS Common Glossary.*
stakeholder	Any individual, group or organization that can affect or be affected by, or perceive itself to be affected by an initiative (programme, project, activity, risk). *From AXELOS Common Glossary.*
termination	Termination is the premature closure of a work component because it is no longer needed or viable, or because the risks associated with it have become unacceptably high.
tolerance	The permissible deviation above and below a plan's target for time and cost without escalating the deviation to the next level of management. There can also be tolerance levels for quality, scope, benefit and risk. Tolerance is applied at project, stage and team levels. *Adapted from AXELOS Common Glossary.*
tranche	A programme management term describing a group of projects structured around distinct step changes in capability and benefit delivery. *From AXELOS Common Glossary.*
transformation	A distinct change to the way an organization conducts all or part of its business. *From Managing Successful Programmes.*
two way traceability	The ability to trace both forward and backward. (for example, from requirement to an element(s) of the solution and from the solution element back to requirement(s)) It can also be applied in other areas, such as to output-outcome-benefits mapping, and solution-plan mapping.
validation	An activity that ensures a solution (or part of) meets the needs of the business. Validation ensures that business requirements are met even though these might have changed since the original design. *Adapted from AXELOS Common Glossary.*
verification	An activity that ensures that a solution (or part of) is complete, accurate, reliable and matches its design specification. *Adapted from AXELOS Common Glossary.*
work component	A defined and managed part of a portfolio, such as a lower level portfolio, programme, project, other related work or work package.

C. Example roles and responsibilities

Portfolio director

The portfolio director is accountable to a defined higher authority for the direction and governance of the portfolio, ensuring the realisation of the required benefits at an acceptable level of risk. He or she is accountable for owning the portfolio strategy and plan and should provide clear leadership and direction through its life and, in particular:

- gain relevant management board approval for the portfolio strategy and delivery plan;
- promote a culture focussed on cross-organisation, collaborative working which acts in the interests of the organisation as a whole;
- ensure the portfolio evolves to reflect changes in the socio-political environment, policy, strategic objectives, business priorities and emergent risks;
- funds and resources are allocated where needed and capacity and capability are sufficient to meet the needs;
- ensure portfolio management practices are defined, maintained and kept up to date;
- secure the investment to implement portfolio management and its support systems, tools and environment.

Note: the role may be supplemented by or supported by a portfolio direction group or investment committee, which the portfolio director might chair. Individual aspects of the role might be assigned to different line managers.

Note: guidance on portfolio management can be found in Management of Portfolio [24].

Portfolio manager

The portfolio manager is accountable to the portfolio director for managing a portfolio as a whole, ensuring that its work components are sufficient to meet the objectives. Responsibilities include monitoring spend against budget, benefits realisation, business change and risk. The portfolio manager coordinates the effective and efficient operation of the portfolio management and ensures the flow of information to decision makers and, in particular:

- drafts the portfolio strategy and plan in support of the organisation's business plan;
- identifies constraints to the portfolio's delivery plan;
- prepares the regular portfolio reports for stakeholders and decision makers;
- ensures work component business cases are created on a consistent and reliable basis across the portfolio, using the same assumptions;
- ensures investment appraisals are undertaken;
- ensures dependencies between components in the portfolio are identified and managed;
- leads the development and roll-out for stakeholder management and communications;
- keeps the portfolio management framework up to date, identifying and implementing improvements.

Note: the role may be supported by a portfolio progress group or delivery committee, which the portfolio manager may chair. Individual aspects of the role might be assigned to different line managers.

Note: guidance on portfolio management can be found in Management of Portfolios (MoP® [24].

Senior responsible owner (SRO)

The senior responsible owner is ultimately accountable for ensuring a programme or project meets its objectives, delivers the projected outcomes and realises the required benefits. He/she is the owner of the business case and accountable for all aspects of governance. Responsibilities include, but are not limited to:

- defining and communicating the vision and business objectives in line with policy;
- ensuring a real business need is being addressed;
- assuring ongoing viability;
- engaging key stakeholders;
- providing the team with leadership, decisions and direction;
- ensuring the delivered solution meets the needs of the business.

It shall be clear who the senior responsible owner is accountable to.

Note: the role should be supported by a programme board which the SRO should chair.

Note: the SRO may appoint a project sponsor to act on their behalf with respect to a sub-programme, project or other work within a programme.

Note: for programmes or projects not in the GMPP, the SRO might be called a "sponsor" or "executive" and might be accountable to a defined sponsoring group instead of Parliament.

Note: guidance on the SRO role can be found in PRINCE2® and Managing Successful Programmes(MSP®) [22 and 23].

Programme/project manager/director
The programme/project manager is accountable to the senior responsible owner for establishing the governance framework and for the day-to-day management of a programme/project, to deliver the desired outcomes and products and realise the required benefits including, but not limited to:

- ensuring the solution (blueprint) is designed and preparing the business case and plans;
- defining the approach, accountabilities, work scope and targets for the team;
- monitoring, forecasting and reporting overall progress against the plan;
- resolving risks and issues and controlling change;
- delivering the required outputs and outcomes;
- monitoring and managing supplier performance;
- engaging and communicating with stakeholders.

Note: guidance on the programme/project manager role can be found in PRINCE2® and Managing Successful Programmes [21 and 23].

Programme/project support office manager
The management team should be supported in the effective and efficient undertaking of their roles. Support might be provided by single or multiple physical or virtual structures, i.e. offices (permanent and/or temporary), which might be centralised or distributed. Services provided might include value-added delivery support as well as administrative functions such as*:*

- providing support to the management practices in sections 5 and 6 of this standard;
- providing specialist services on the support practices in section 7 of this standard;
- undertaking independent reviews and audits;
- developing, procuring, selecting and managing management support tools and systems;
- consolidating and analysing reporting;
- monitoring resource usage across the organisation;
- providing consulting and coaching and advising sponsors and managers;
- maintaining standards for recruitment and development of project management staff;
- providing training and assessment.

Note: often referred to as a programme management office or PMO.

Note: guidance on designing and operating support services can be found in Portfolio, Programme and Project Offices [26].

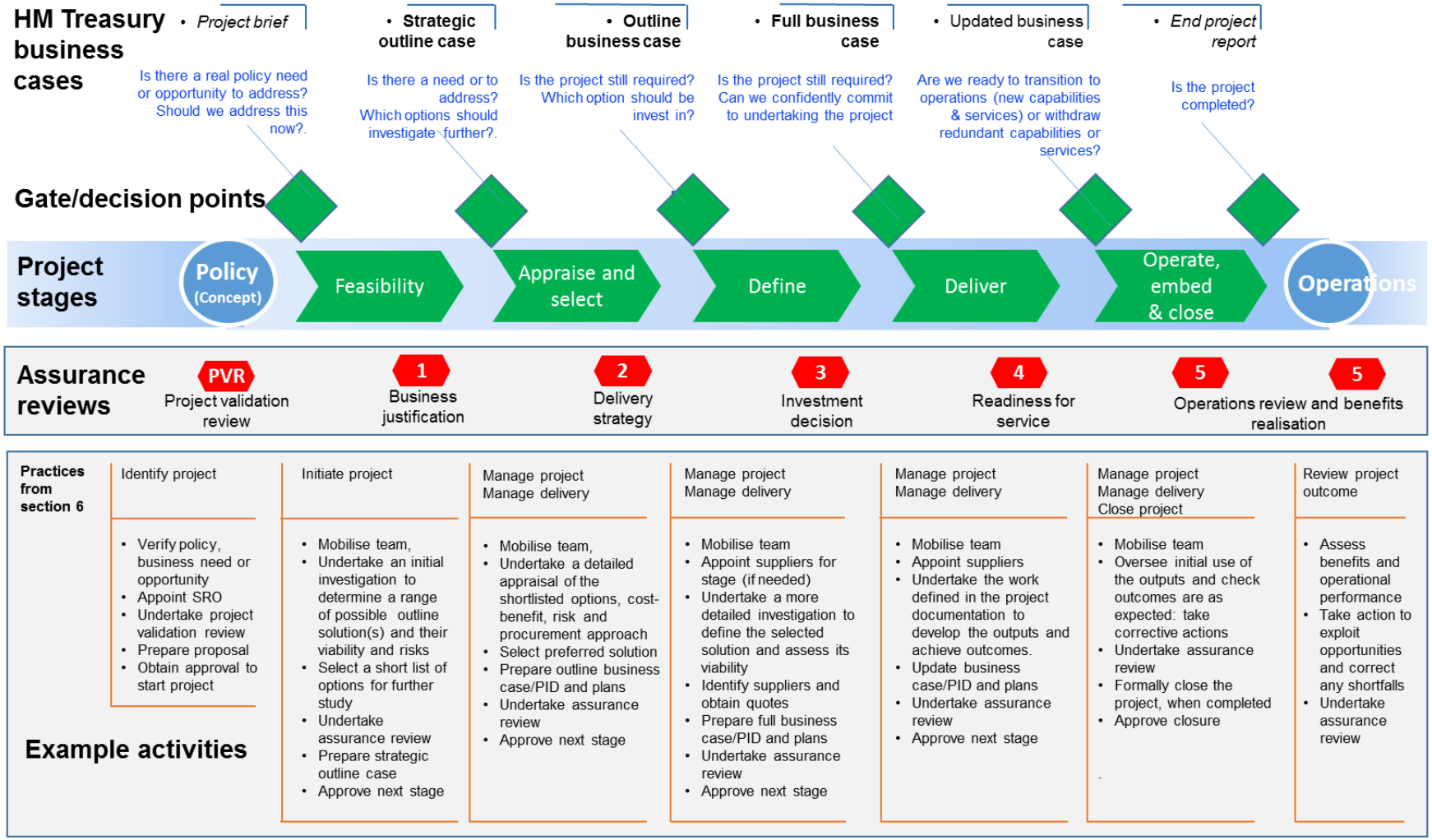
Manager of a work package/team manager
The manager of a work package is accountable to the project manager (or higher level team manager) for those products and outcomes allocated to them (as defined in a work package) to an appropriate quality, timescale and at an acceptable cost. This includes, but is not limited to:

- ensuring work packages are completed to the required quality, on time and to budget;
- contributing to and review significant management documentation;
- planning, monitoring, forecasting and reporting overall progress against the plan;
- managing the resolution of risks and issues, escalating any they cannot deal with;
- controlling changes to their work scope, highlighting any requiring approval.

Note: guidance on the team manager role can be found in PRINCE2® [21].

D. Example project lifecycle

This diagram shows an example lifecycle for a government major project, with the stages, assurance reviews, gates and business cases indicated at the appropriate points. The project lifecycle should be tailored to suit the particular circumstances.

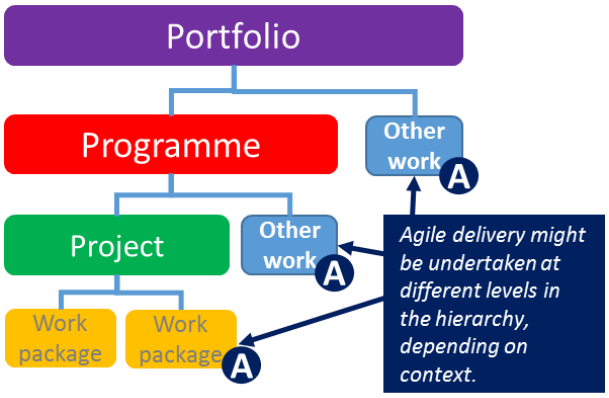


E. Agile delivery and this standard

This Project Delivery Standard defines a number of practices needed for successful outcomes. It defines the "**why**" and the "**what**" for each, but does not define "**how**" work is to be undertaken.

Agile is an umbrella term for a range of "methodologies" and advocates agile behaviours together with "**how**" to undertake the work. Agile delivery is required when developing government digital services but is applicable in other situations, not only software development, where the approach originated.

The context in which agile delivery is used is important as it influences governance. Agile delivery might be undertaken as a work package within a project (which might itself be part of a programme), or as part of live running in business as usual within a programme or portfolio. This is why this standard has "other work" defined as a work component; not everything needs to be managed as a "project". The governance for the agile work, its interface with other work and how it is to be carried out, should be defined and covered under a business case when it is part of a programme or project; work undertaken using agile delivery still has to be justified and funded. Appropriate assurance, reporting systems, governance should be established. Roles need to be defined, with the senior responsible owner still ultimately accountable, but actual roles used for delivery will match agile roles, depending on the agile methodology used and the context in which it is done.



The project delivery standard requires a staged approach to projects but does not define what those stages should be. In a project where the work is predominantly agile, project stages of discovery, alpha, beta, live and retirement meet that requirement and align with section 6.3 and the lifecycle in **Annex D**.

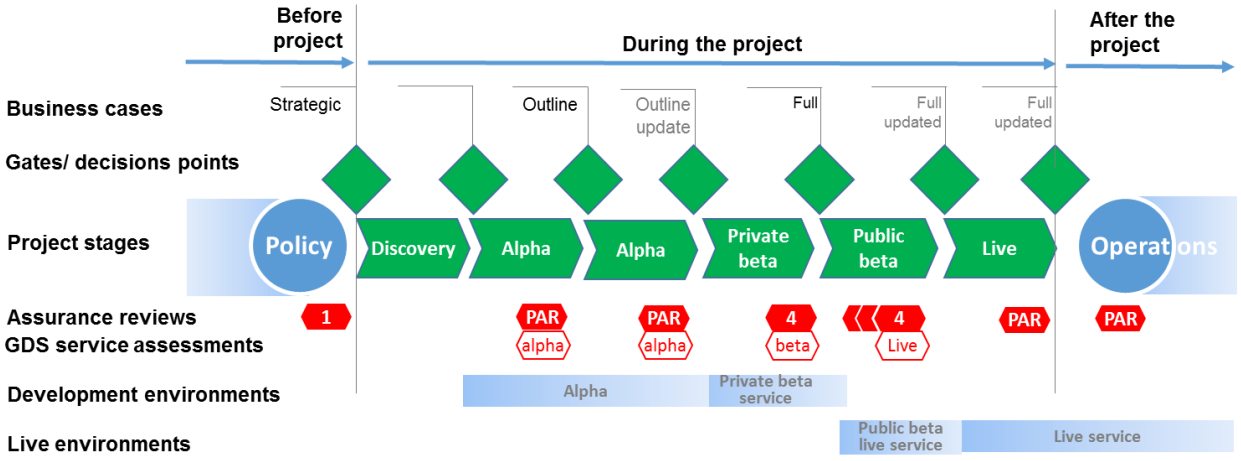


Figure E1. Example lifecycle for a project which uses agile as the primary delivery methodology.

Note: the number and types of business case, assurance reviews and project stages might differ from project to project to reflect the context, nature and complexity of the work.