



Managing Successful Projects with PRINCE2®



PeopleCert

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Managing Successful Projects with PRINCE2®



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Foreword

The world today is more complex and uncertain than ever before. Organizations face the challenge of changing and improving their services, products, and operations to survive and compete. Projects are a means by which organizations can rise to this challenge.

PRINCE2® is the globally recognized project management method, built upon years of experience and industry best practice, from which all organizations can benefit. It has been tried and tested by private, public, and third-sector organizations to successfully deliver new products and services, and to bring about transformational change.

This guidance shows practitioners how the PRINCE2 principles, practices, and processes, in addition to people, are the foundation of effective project management. It explains how the method can be adapted and tailored to fit any context, regardless of the project's purpose, scale, type, organization, geography, or culture.

The five integrated elements of PRINCE2 are also extremely relevant for anyone interested in developing essential project management skills, whatever their role.

The global adoption of PRINCE2 provides a universal language that unites project teams with stakeholders across different sectors, organizations, and national boundaries.

PRINCE2 creates the conditions crucial for project success by fostering a common understanding of why a project is being delivered, defining all roles and responsibilities within the project team, and communicating the benefits to be realized to everyone involved. It also helps organizations control and manage all of these aspects more effectively.

We are confident that PRINCE2 7 will equip current and aspiring project managers with the foundations to successfully lead and manage any and all projects.

Preface

Since its first launch in 1996, each iteration of PRINCE2 has provided a universal project management method. It has reflected project management practice of the time; it has also pushed the boundaries of best practice. For example, the 2009 version introduced, among other things, the principle of learning from experience based on a ‘pull’ rather than ‘push’ approach. This edition is no different; the method has been updated to reflect how project management has evolved over the past six or so years, as it also seeks to push the boundaries of best practice through the introduction of new aspects of project management.

It was apparent from research and consultation that there was a need to include how projects address sustainability issues, use data analytics and digital technology, and ensure the ‘people’ aspects of project management is handled with as much care as the process aspects. These are no longer an optional add-on to the method, or even ‘nice to have’; these are now fully integrated into the method. There can be a tendency when updating guidance to simply add new material to the existing content, resulting in more rather than better guidance. Instead, the decision was made to go back to basics and challenge every aspect of PRINCE2, ensuring that its inclusion was required and contributed to the guidance being fit for purpose currently and for years to come.

The research and consultation also gave a strong message: that the core PRINCE2 method was still valid and relevant, but it could be improved to better express this core method. The task was to transform the way that PRINCE2 is explained, retaining all that makes the method invaluable, and introducing its new aspects. The essence of what a project is remains the same; it is temporary, it is product-focused, and there should always be an ongoing business justification.

This edition has been designed with the following philosophy:

- to ensure that PRINCE2 remains adaptable and flexible, and can be used for all types of projects in a wide range of organizations and environments
- to provide guidance that retains and strengthens all the aspects of PRINCE2 that remain valid, while adding new complementary content in a way that maintains and builds on the integrity of the integrated framework
- to not replicate guidance that is provided in other methods such as Managing Successful Programmes (MSP) and Management of Risk (M_o_R 4), but instead to offer additional value to anyone involved in a project
- to emphasize how PRINCE2 is designed to be applied and tailored appropriately according to the project environment and the project requirements
- to enable project teams to recognize the many ways that outputs can be delivered, including iterative (agile), linear, and hybrid approaches.

I would like to take this opportunity to thank the team I have worked with closely over the past months: John Edmonds and his colleagues at PeopleCert, PRINCE2 examiners, numerous reviewers, and my team of authors, notably Tanja Van Den Akker, Brad Bigelow, Jo Lucas, Henny Portman, Richard Rose, Marisa Silva, and Sue Taylor. Finally, it only remains for me to wish you, the readers, every success with delivering successful change through the use of PRINCE2 in project management.

Andy Murray

Acknowledgements

PeopleCert is grateful to everyone who has contributed to the development of this guidance and in particular would like to thank the following people.

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Andy is a respected author, having worked with HM Treasury, Cabinet Office, the Association for Project Management (APM), and PeopleCert to develop best practice guidance on their behalf. Publications include PRINCE2, P3M3, Routemap, and the Governance of Co-Owned Projects. He is the Chair of the APM's Governance Special Interest Group and is leading on the Project Data Analytics Task Force.

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Sue is an accredited trainer for PeopleCert and other frameworks including PRINCE2, MSP, MoP, P3O, Agile project management and change management, and an accredited P3M3 consultant and Gateway reviewer.

Sue was a member of the authoring teams for Managing Successful Projects with PRINCE2 in 2009, Managing Successful Programmes (MSP) in 2020, and was part of the reference and review groups for the 2011 P3O and 2017 PRINCE2 refreshes. She was previously the chief examiner for P3O on behalf of AXELOS.

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Contents summary

This official book ('the book') provides the definitive explanation of PRINCE2. PeopleCert examinations relating to PRINCE2 are based on this official book.

Managing Successful Projects with PRINCE2 comprises:

- Chapter 1 Introduction
- Chapter 2 Principles
- Chapter 3 People
- Chapter 4 Introduction to PRINCE2 practices
- Chapter 5 Business case
- Chapter 6 Organizing
- Chapter 7 Plans
- Chapter 8 Quality
- Chapter 9 Risk
- Chapter 10 Issues
- Chapter 11 Progress
- Chapter 12 Introduction to PRINCE2 processes
- Chapter 13 Starting up a project
- Chapter 14 Directing a project
- Chapter 15 Initiating a project
- Chapter 16 Controlling a stage
- Chapter 17 Managing product delivery
- Chapter 18 Managing a stage boundary
- Chapter 19 Closing a project
- Appendices and glossary

Conventions used in the official book

Processes, activities, practices, principles, and management documents will always be referred to using the same key words or phrases, and are not otherwise distinguished, as they should be evident from their context.

Examples are highlighted in tinted boxes.

Abbreviations and acronyms have largely been avoided, and the few that are used are given in full at their first mention and listed below:

- ESG: Environment, Social and Governance
- UN: The United Nations
- SDG: Sustainable Development Goals.



CHAPTER 1

INTRODUCTION



CHAPTER 1

INTRODUCTION

1.1 Introduction

PRINCE2 is one of the most widely used methods for managing projects in the world. It is a structured project management method that uses the experience gained from thousands of projects, as well as contributions from countless project sponsors, project managers, project teams, academics, trainers, and consultants.

PRINCE2 has been designed to be adaptable so that it can be applied to any project, regardless of the project's purpose, scale, type, organization, geography, or culture. This is achieved by:

- separating the management of the project from the specialist development activities, such as design or construction, allowing any specialist activities to be integrated into a controlled environment for the project
- focusing on what needs to be done to manage the project, rather than prescribing how work is done
- requiring that the method is established specifically for the needs and context of the project by the way it is applied and tailored.

1.1.1 Purpose of this book

This book is intended for anyone involved in a project that uses PRINCE2, is considering using PRINCE2, or is looking to develop their project management skills. It is designed for the following roles:

- entry-level project management personnel wishing to learn about project management generally and the PRINCE2 method in particular
- experienced project management professionals
- anyone undertaking a PRINCE2 role on a project, such as a project executive
- PRINCE2 project managers who need a detailed reference source
- project office managers who have adopted the method for their organization or are intending to do so and require a source of information
- agile practitioners who wish to use PRINCE2 to establish appropriate project controls for their work
- any personnel desiring to develop essential project management skills to improve their effectiveness.

The official book aims to address some questions frequently asked by those directly involved in project management or in support or other related roles. These questions include:

- What is expected of me, and what should I expect from others on the project?
- What project decisions am I expected to make?
- What information do I need to supply, and what information should I receive?
- What should I do if things do not go to plan?
- Who should I look to for support or for direction?
- How can we apply and tailor the use of PRINCE2 for our project?

It is not intended (or possible) for PRINCE2 to cover every aspect of project management. There are two broad topics that are deliberately considered to be outside the scope of PRINCE2: specialist aspects of project work and detailed project management techniques.

1.1.1 Specialist aspects of project work

PRINCE2's strength is its flexibility and the fact that it is not specific to a particular industry, type of project, commercial model, project lifecycle, delivery method, product development, or engineering practice. PRINCE2 regards these as specialist aspects of the project work and provides a means for them to be fully integrated into the management approaches to be used by the project.

1.1.2 Detailed project management techniques

There are many proven project management techniques that can be used in support of the PRINCE2 method. For example, release planning, user stories, Kanban, timeboxing, retrospectives, critical path analysis, and earned value management. This book highlights various techniques that support the PRINCE2 practices, but they are not documented in detail in this book as they are already described and maintained elsewhere in various bodies of knowledge.

Techniques are only described in detail if PRINCE2 specifically recommends that particular approach, or the approach is unique to PRINCE2, such as PRINCE2's planning technique. Alternative (yet equivalent) techniques can be substituted, or additional techniques included if the chosen techniques are explained in the project initiation documentation.

1.2 Structure of the official book

PRINCE2 is a project management method composed of five integrated elements: principles, people, practices, processes, and the project context (figure 1.1).

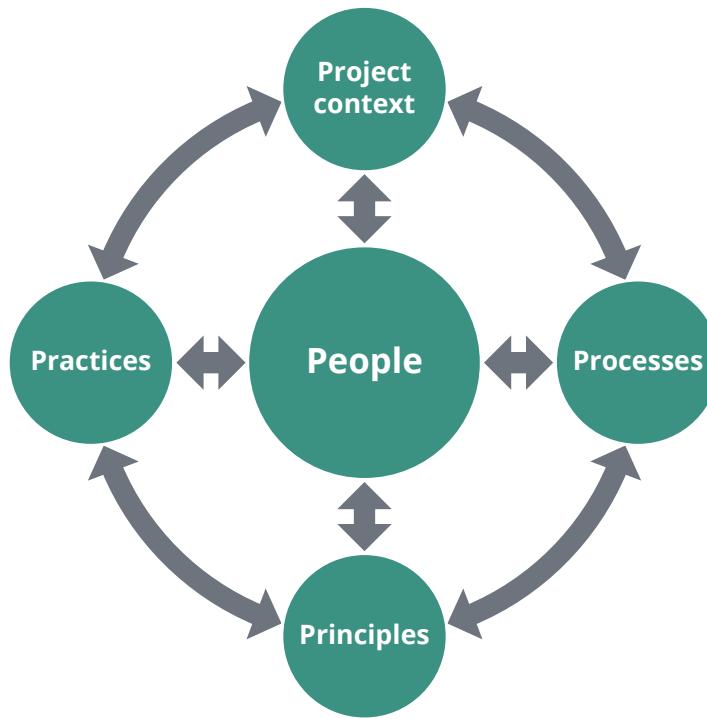


Figure 1.1 The five integrated elements of PRINCE2

The structure of this book is based on these five integrated elements:

- **PRINCE2 principles** The principles are the guiding obligations that determine whether the project is genuinely being managed using PRINCE2. There are seven principles, and unless all of them are applied, it is not a PRINCE2 project. The PRINCE2 principles are explained in Chapter 2.
- **People** Projects need people, mainly those working on the project and those affected by the project. An understanding of the needs, capabilities, and motivations of the people involved and the relationships between them is crucial to how the project is established and managed. How people are put at the centre of the method is described in Chapter 3.
- **PRINCE2 practices** The practices describe essential aspects of project management that must be applied consistently and throughout the project lifecycle. The seven practices explain the specific treatment required of that aspect of project management for the PRINCE2 processes to be effective and why they are necessary. The PRINCE2 practices are covered in Chapters 4 to 11.
- **PRINCE2 processes** The seven processes describe the entire project lifecycle, from activities before getting started, through the stages of project delivery, and to the final act of project closure. Each process has checklists of recommended activities and related responsibilities. The PRINCE2 processes are provided in Chapters 12 to 19.
- **The project context** The principles, practices, and processes are applied by the people involved to ensure that the method is fit for the project context. How PRINCE2 can be applied to common contexts is outlined in section 1.4.

Appendix A provides a summary of management products (such as the business case) used in the practices and processes. Appendix B provides a summary of PRINCE2 roles. The glossary summarizes the PRINCE2 defined terms that are used throughout the official book. Throughout this official book, we refer to the organization that commissions the project as the 'business'.



Key message

The five integrated elements of the PRINCE2 method are designed to work together. The practices ensure that the principles are continually applied during the processes in a way that is specific to the project context and consider the relationships and requirements of people within the project team and those outside the project team.

1.3 What is a project?

A key challenge that organizations face is balancing two competing needs, which are:

- maintaining current business operations, also known as business as usual (such as maintaining profitability, service quality, customer relationships, brand loyalty, productivity, and market confidence)
- improving or transforming business operations to survive and compete in the future, also known as business change (for example, anticipating and deciding how change can be introduced to the greatest effect).

As the pace of change accelerates (whether technological, business, social, or regulatory), and the need to adapt becomes more evident, the focus of management attention is inevitably moving to achieve a balance between business as usual and business change. Projects are a means by which we introduce change, and although many of the skills required are the same, there are some crucial differences between managing business as usual and managing project work.



Definition: Project

A temporary organization that is created for the purpose of delivering one or more business products according to an agreed business case.

There are five characteristics of a project that distinguish it from business as usual:

- **Change** Projects are the means by which we introduce change.
- **Temporary** Projects are temporary in nature. When the desired change has been implemented, business as usual resumes (in its new form), and the need for the project is removed. As projects are temporary, they should therefore have a defined start and a defined end.
- **Cross-functional** A project involves a team of people with different skills working together on a temporary basis to introduce a change that will impact others outside the team. Projects often work across the usual functional divisions within an organization and sometimes span different organizations. This frequently causes stresses and strains both within and between organizations (for example, between customers and suppliers). Each has a different perspective and motivation for getting involved in the project.

- **Unique** Every project is unique. An organization may undertake many similar projects and establish a familiar, proven pattern of project activity, but each one will differ in a certain way. This can mean a different team, customer, supplier, product, location, or timeframe. All these factors combine to make every project unique.
- **Uncertainty** The characteristics already listed will introduce threats and opportunities over and above those typically encountered within business as usual. Projects are riskier than any operational aspects of an organization.

Projects vary greatly. For example, an organization might undertake an IT project to improve the systems required to manage its business. Another organization might undertake a clinical research project to bring a new drug to market, and another organization might be building a new facility. Furthermore, the environment within which the project is being managed may influence how it is started, delivered, assured, and closed. There may be factors external to the project itself, such as organizational standards, the maturity of the organization, and regulatory frameworks and factors specific to the individual project, such as the industry sector and the geographical locations. PRINCE2 is designed to work for all types of projects in any project environment.

1.4 What is project management?



Definition: Project management

Project management is the application of methods, tools, techniques, and competencies to enable the project to meet its objectives.

The five characteristics of a project (1.3) can result in some typical challenges such as:

- ambiguity regarding who is responsible for what aspects of the project, leading to confusion and a lack of accountability
- ambiguity or conflict regarding what the project will deliver, costs, and when
- unrealistic expectations regarding what the project will deliver, costs, and when
- unavailability of resources or reassigning resources to business as usual activities over project work
- difficulty in estimating effort, durations, and costs for project work
- uncontrolled change (sometimes referred to as scope creep)
- difficulty keeping the project management team and stakeholders informed, engaged, and motivated during the project lifecycle.

The purpose of project management is to address these challenges by reducing and managing ambiguity. This is achieved by uniting the involved parties to clarify objectives and working practices. The aim is to control the specialist work needed to create the products required of the project. Project management involves the planning, delegating, monitoring, and control of all aspects of the project and the motivation of those involved to achieve the project objectives within expected performance targets.



Definition: Performance target

The project's performance target sets the expected success level against which the management of the project will be judged. PRINCE2 includes performance targets for benefits, cost, time, quality, scope, sustainability, and risk.

PRINCE2 includes seven aspects of project performance to be managed. These are:

- **Benefits** Those involved in the project need to be able to answer the question: why are we doing this, and who are we doing it for? The project management team must have a clear understanding of the purpose of the project and what needs to be achieved to justify its investment.
- **Costs** As the project develops, there will be many factors that can affect the cost budget available or that may lead to (potential) underspend or overspend against the cost budget. The project has to be affordable.
- **Time** When will the project start, when will the key products be delivered, and when will the project finish?
- **Quality** Finishing on time and within budget is not much consolation if the result of the project is not as specified or does not work. What is delivered by the project must be fit for purpose.
- **Scope** What will the project deliver? There must be agreement on the project's scope, otherwise the various parties involved may make different assumptions about what is included or excluded. The project management team should not deliver beyond the scope, as this is a common source of delays, overspend, and uncontrolled change (sometimes referred to as scope creep).
- **Sustainability** All projects have an impact on their environment, and project management teams need to know the sustainability performance targets for the project work and for the products required of the project.
- **Risk** All projects involve risk. But exactly how much risk is the business prepared to take? Without a shared understanding of the business' risk appetite, the project management team may be too risk-averse or take more risks than the business is prepared to accept.

Priorities can be established by agreeing on the project's performance targets. For example, an urgent project may place more importance on time than on other performance targets, such as costs. PRINCE2 helps with setting such priorities by allowing a range to be specified for each performance target in the form of tolerances (see section 2.4). Some performance targets may have a narrow tolerance, yet others may have a broader tolerance. The agreement of performance targets and their tolerances is a prerequisite for exploring options and determining the project approach.

All seven project performance targets and their tolerances are used throughout the PRINCE2 method as the basis for control.

1.5 The project context

PRINCE2 has been designed so it can work within any context including organizational and commercial context, delivery method, sustainability requirements, and project scale. These common contexts are described throughout this book to illustrate how PRINCE2 can be applied or tailored.

1.5.1 Organizational context

The PRINCE2 method does not assume any specific organizational context. There may be users who specify the desired outputs (referred to as products in PRINCE2), suppliers who will provide the resources and expertise to deliver the products, and business decision-makers who will ensure that the project investment can be justified and remains justified through the project lifecycle. The PRINCE2 method does not require any specific organizational relationships between the users, suppliers, and business decision-makers for the project. The users, suppliers, and business decision-makers may all come from the same organization, or they may be in separate organizations with commercial agreements between them.

Within the PRINCE2 method, the business decision-makers come from the organization that commissions the project. The decision-making will be made within the context of the business strategy, objectives, and policies of the organization.



Definitions

Business The organization that provides the project mandate and the structure within which the project is governed. Any use of the term 'business' within this book specifically refers to this organization.

User The organization that will use the project products to enable it to gain the expected benefits. They may be internal or external to the business organization.

Supplier The organization that provides the expertise, people, and resources required to deliver the products required by the project. They may be internal or external to the business organization.

Customer Where there is a commercial relationship between the business and the supplier, the business is regarded as the customer.

The project may be part of a programme or portfolio structure, or it may be a standalone project reporting to the business unit's management structure, as illustrated in figure 1.2.

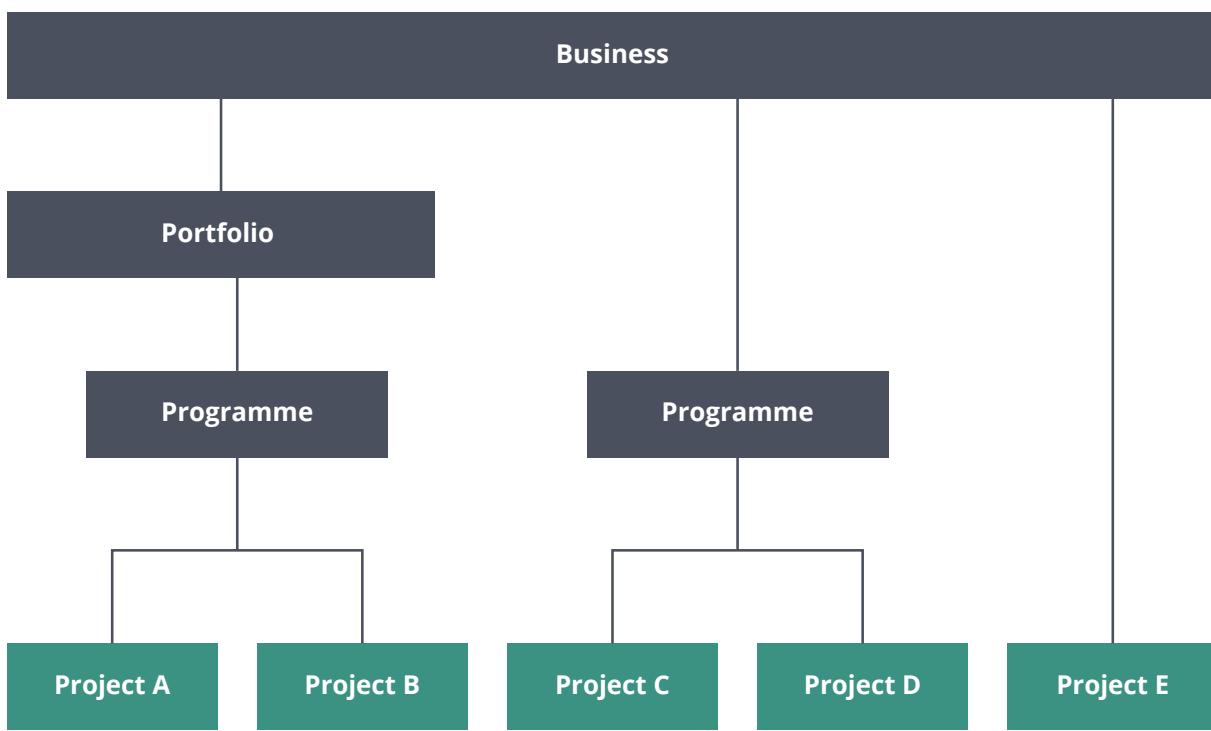


Figure 1.2 Various project contexts

Further guidance on programme management and portfolio management can be found in the companion guides *Managing Successful Programmes* and *Management of Portfolios*.

The business is also responsible for realizing any benefits after the completion of the project (see section 5.3.1.4).

1.5.2 Commercial context

The business may have entered into a commercial relationship with a supplier to deliver products that fulfil the needs of the users as defined in the project's business case. The organization delivering the project (the supplier) will do so to satisfy a particular need identified by the business (the customer).

The business may divide the work into one or more elements, some of which may require suppliers to deliver. Other elements may be delivered by the business itself, for example, an internal department such as IT or facilities. For a supplier, the work to be delivered could be the subject of a legally binding contract, resulting from the procurement process. To deliver this work, the supplier might procure subcontractors itself, further dividing its work into additional elements.

In a commercial environment, there may be hierarchies of commercial relationships between suppliers. Rather than a simple customer-supplier relationship involving two organizations, projects might involve multiple organizations covered by multiple contracts. There may be a single customer with a prime contractor, or there may be several customers and several supplier organizations, each of which may have its own business reasons for undertaking the project.

The contract between the parties describes how the customer(s) and supplier(s) will collaborate to deliver the project. The rights and duties covered by the agreement will need to be reflected in how the project is managed.

In this book, the term 'customer' is only used where there is a commercial relationship between the business and the supplier.

1.5.3 Delivery method

The delivery method is the way in which the work of the project is to be delivered. The project may rely on one or more delivery methods to create the required products. Typical delivery methods include:

- **Linear-sequential approach** Each of the delivery steps to create the products occurs in sequence, and the product is made available during or at the end of the project (for example, in a construction project where requirements gathering and design occur before construction starts).
- **Iterative-incremental approach** This approach is often, but not exclusively, used for product development, where requirements gathering, design, development and/or coding, and testing occur iteratively throughout the lifecycle of the project. This approach is often referred to as an agile approach.
- **Hybrid approach** Some elements of the project use a linear-sequential approach, and other elements use an iterative-incremental approach. For example, a linear-sequential approach can be used for the development of the infrastructure for a service. Then, an iterative-incremental approach can be used for the development of the customer service portal for users to access the service.

PRINCE2 provides the controlled environment for specialist delivery methods. It does not assume or require any specific delivery method. Any approach can be used through the separation of the management of the project and specialist work to produce the project products. Detailed and complementary guidance on working on iterative-incremental projects using PRINCE2 can be found in the PRINCE2 Agile official book.

1.5.4 Sustainability context

The business is likely to have sustainability objectives and commitments that the project needs to adhere or contribute to, which will inform the project's objectives and how it is established and managed. PRINCE2 addresses sustainability requirements by including sustainability as one of the seven performance targets used to manage the project. Sustainability is also included in the method through the roles (sustainability responsibilities), documentation (such as plans and reports), practices (such as business case), and processes (such as activities to confirm sustainability requirements).

In everyday usage of the term, sustainability is often synonymous with the environment, but sustainability can mean different things to different organizations. For some, it may relate to the environmental impact of the project work, while for others it may relate to the whole life cost of the products delivered by the project and their resilience in operations. Some projects may have sustainability as their very purpose, such as the installation of solar panels.

Unless otherwise specified, this book uses sustainability to mean one, some, or all of the 17 sustainable development goals defined by the United Nations.

SUSTAINABLE DEVELOPMENT GOALS



Figure 1.3 UN sustainable development goals

1.5.5 Scale

The PRINCE2 method is flexible, so it can be simplified for small or simple projects or expanded for large or complex projects to ensure thoroughness.

The perceived scale of a project is relative to the organization. What is considered a small project in a large multinational enterprise could be bigger than what is considered a large project in a small organization. It is usually more helpful to think of projects in terms of simple rather than small and complex rather than large. Generally, it is a case of how the business perceives the risk and the importance of the project, relative to its business as usual operations.

PRINCE2 can be tailored to the scale of the project via the:

- governance arrangements between the business layer, the project board, the project manager, and the teams
- choice of which project roles are appointed to individuals from the user, business, and supplier organizations (for example, combining roles in simple projects and dividing roles in complex projects)
- formality and level of detail of project documentation (in PRINCE2 these are referred to as management products)
- formality of the project controls (for example, frequency of reporting and reviewing)
- selection and integration of the management approaches, such as a commercial management or change management approach
- number of stages and work packages the project is divided into
- setting of the project performance targets and their tolerances.

1.6 Features and benefits of PRINCE2

As PRINCE2 is flexible and based on proven principles, organizations adopting the method as a standard can substantially improve their organizational capability and maturity across multiple areas of business activity, such as business change, construction, IT, mergers and acquisitions, research, and product development.

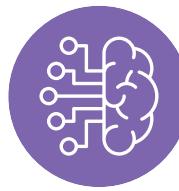
In addition to being an established method and qualification used worldwide, PRINCE2 has the following benefits:

- **Proven** based on established and proven practice and governance for project management
- **Universal** can be applied to any project, of any scale, and easily implemented alongside specialist, industry-specific models (such as engineering models or development lifecycles)
- **Flexible** can be tailored to meet the specific needs of the organizations involved
- **Common language and concepts** widely recognized and provides a common vocabulary for all participants, which encourages consistency and the ability to reuse project assets, facilitate staff mobility, and reduce the impact of personnel changes or handovers
- **Outcome-focused** ensures that project participants focus on the viability of the project in relation to its business case objectives, rather than simply seeing the completion of the project as an end in itself, which ensures that stakeholders (including sponsors and resource providers) are properly represented in planning and decision-making
- **Increased organizational maturity** promotes learning from project experience and continual improvement in organizations
- **Part of an integrated suite of methods** designed to work with other PeopleCert guides on programme management, portfolio management and risk management.

1.7 Example scenarios

There are four example scenarios used throughout this guide, which demonstrate how the PRINCE2 method can be applied to a wide range of projects. A short summary of each scenario is provided below. Some of the scenarios feature projects at an early stage in their development, whereas others are partway through the project lifecycle. The following icons represent each of the scenarios that appear throughout the guide.

Scenario 1: Data Knowledge



Data Knowledge is a company with the mission of leveraging the power of big data through advanced data analytics solutions. By analysing the wants, needs, desires, and frustrations of social media users, Data Knowledge can transform raw and unstructured data into reliable predictions that enable organizations to utilize consumer behaviours and insights.

However, they have not been as effective in using data to their own advantage, now that the company has over 300 staff. In fact, the head of the data science division raised concerns in the last senior leadership team meeting. The concerns were regarding the lack of visibility of who is working on what projects, poor capacity planning, and claims of an overworked team with low morale due to the constant juggling of commitments and firefighting issues.

As a way of addressing this, the data science division has been authorized to start a project to develop a time-recording solution and a set of reports on project and task assignments along with resource utilization and capacity planning. The reports are expected to offer interactive and real-time insights that can enable data-driven decisions around the utilization and planning of resources.

Data Knowledge has a defined framework for the management of projects. This is expected to be a simple business change project, taking no more than three months in the current financial year to complete.

Since Data Knowledge has in-house data analysis and app development capabilities as well as clear requirements for this project, the project will be led by the head of data science. They will work with the development division in an iterative and incremental approach. This is to ensure that the solution can be deployed quickly to several new projects and enhanced during its roll-out to the rest of the business.

The high-level project plan is as follows:

Stage 1 (initiation)

- product backlog
- minimum viable product definition

Stage 2

- timebox 1
 - prototype of time-recording application
 - mock-up of resource management reports
- timebox 2
 - first release of time-recording application and reports (must-have features)
 - pilot
- timebox 3
 - enhancements following pilot
- timebox 4
 - demonstration
 - roll-out

Scenario continues

Stage 3

- product backlog (following roll-out)
- closure.

The main output from the project is to be a time-recording application and set of resource management reports available to all business units.

Scenario 2: Louistown City Council

Louistown is a historical town which is home to over 40,000 residents and attracts over 20,000 visitors per year. The city council has been criticized for the lack of investment and modernization of the town centre.



They have recently decided to improve the vibrancy of the area and offer increased opportunities for business by approving the funds for the 'Louistown is Open for Business' (LOB) portfolio. This is an ambitious portfolio of projects covering the next five-year plan cycle.

A new shopping centre, provisionally named 'LouisShopping', is seen as a key project within this portfolio. This is a complex infrastructure project due to the:

- location of the building and historical nature of the surrounding buildings
- requirement for the design to be consistent with the environment while offering modern facilities supported by the latest technology
- need to include underground parking space
- importance of minimizing disruption to residents and businesses during the construction works
- recent award of 'green town' status to Louistown, and the sustainability requirements this will impose on the development.

Due to the nature of the work, in which just the construction element is likely to span over two financial years, the council has approved the strategic business case, the initial high-level project plan and has appointed BuildyBrick as the main contractor. They have established a requirement for a traditional delivery method in line with their standard approach to projects. The general view is that this project is long overdue, and the council would like 'LouisShopping' to be open to the public by the end of financial year three.

The project has just completed the initiation stage and commenced the first delivery stage (stage 2). The high-level project plan is as follows:

Stage 1 (initiation)

- strategic business case and high-level project plan approval
- appoint contractor

Stage 2

- design

Stage 3

- site preparation
- utilities and systems
- construction

Stage 4

- testing
- inspections

Stage 5

- demobilization.

The main output from the project is a shopping centre constructed and ready to open to the public.

Scenario 3: Findef



Findef was formed eight years ago with the promise to revolutionize how businesses identify fraudsters, to protect the reputation of businesses, and to minimize financial risks. The company experienced substantial growth in the first few years, transforming from a niche small-medium-enterprise (SME) to one of the leading fintech firms in the field of financial fraud, working with the world's largest banks and merchants. In the last 18 months, Findef's growth has stagnated. This factor, coupled with the arrival of new competitors, is creating discomfort among some investors.

In response, the leadership board recently approved the development of a suite of three innovative cybersecurity products that will transform the market in financial risk management. Additionally, the leadership board agreed that Findef will change its commercial and operating models to exploit the new products to their full potential. The company will now deal directly with the end user rather than through banks and merchants.

The FindefTwo programme has been established to oversee both the business transformation and the development of the new products. As the programme requires fresh investment, the board has established an investment committee that funds and oversees the programme.

The project for the product development will use a hybrid approach of linear-sequential for the overarching design and deployment of the product set and iterative-incremental for the development of each product. The project also includes upskilling Findef's DevOps team in a new development platform. To mitigate some risks, the project includes procuring advisors and a marketing agency that could validate assumptions and share their product experience with the company.

The project is at the beginning of stage 3. The high-level project plan for the product development project is as follows:

Stage 1 (initiation)

- business case, project initiation documentation

Stage 2 (high-level design)

- request for proposals (advisor, marketing agency, training), contract awards
- product design (product family architecture)

Stage 3 (detailed design)

- product design: product 1
- early market testing
- DevOps upskilling

Stage 4 (MVP product 1)

- iterative-incremental development and soft launch of product 1 to minimum viable product (MVP)
- product design: product 2, product design: product 3

Stage 5 (MVP products 2 and 3)

- product 1 ready for full launch
- iterative-incremental development and soft launch of products 2 and 3 to minimum viable products (MVP)

Stage 6 (first launch)

- transfer product 1 to BAU support
- product 2 ready for full launch, product 3 ready for full launch

Stage 7 (second launch)

- transfer product 2 to BAU support, transfer product 3 to BAU support
- closure.

The main output from the project will be three products ready for full launch and transferred to BAU for operations and maintenance.



Scenario 4: NowByou

NowByou is a not-for-profit organization that works with local communities to eliminate discrimination of any kind and help advance the international human rights system through local and targeted interventions.

NowByou forms, chairs, and equips networking and support groups, where anyone who has experienced discrimination can share their experiences and thoughts in a safe and empowering space. Additionally, NowByou is one of the few non-governmental organizations (NGOs) in the country that works directly with police forces to co-develop campaigns that encourage the reporting of discriminatory incidents to authorities.

Recent research has shown that discrimination against marginalized groups, particularly the homeless and refugees, is growing at a concerning rate. The increase in discrimination has led NowByou to believe that a new six-month campaign is required to address this issue.

They have decided to run the campaign as a project, aiming to both raise awareness of this type of discrimination and reinforce their own brand recognition (as NowByou is highly dependent on the goodwill of donors and financial aid from partners).

The project management maturity of the organization is very low, with no standardized processes or templates in place. For that reason, NowByou has contacted a professional project manager with a track record of successful delivery in the not-for-profit sector who will be responsible for:

- developing the initial project management documentation
- advising and coaching the NowByou director of campaigns, who is sponsoring the project
- mentoring the staff member who will be appointed as project manager
- advise the project team how to use a variety of media (tv, press, and social networks) for this, and other future projects.

There is a high-level view of the project, but this is to be confirmed, as pre-project discussions are still occurring:

Stage 1 (initiation)

- business case
- project initiation documentation

Stage 2

- campaign high-level requirements gathering
- options analysis

Stage 3

- implementation of chosen option(s)
- closure.

The main output from the project will be a delivered multi-channel campaign.



CHAPTER 2

PRINCIPLES



CHAPTER 2

PRINCIPLES



Definition: PRINCE2 principles

The PRINCE2 principles are the guiding obligations that determine whether the project is genuinely being managed using PRINCE2 and ensure effective application and tailoring of PRINCE2 to any project.

PRINCE2 is suitable for every project, regardless of type, size, complexity, importance, level of risk, or delivery method (linear-sequential, iterative-incremental, or hybrid). Moreover, it can be used for all types of organizations, whether commercial, governmental, non-profit, or not-for-profit. Additionally, it is applicable for projects anywhere in the world, with its ability to incorporate country-specific regulations, business models, and cultures.

To enable PRINCE2 to be used for such a wide range of projects, the method is flexible in how it can be used for any given project. Rather than prescribing what to do to align the method to the specific project, PRINCE2 offers guidance through principles. These principles enable the project management team to decide how PRINCE2 will be used on their project.

The seven PRINCE2 principles are:

- ensure continued business justification
- learn from experience
- define roles, responsibilities, and relationships
- manage by stages
- manage by exception
- focus on products
- tailor to suit the project.

How the method is applied and tailored depends on the nature of the project and factors internal and external to the business as shown in figure 2.1.

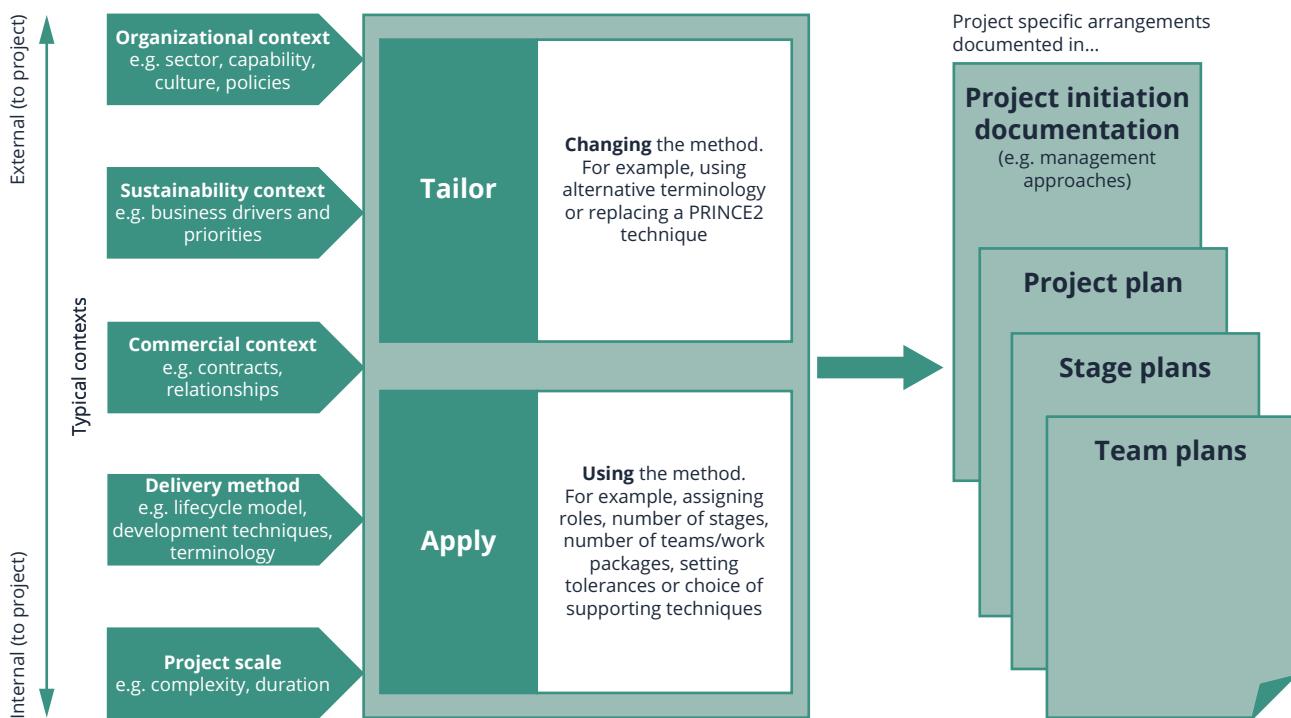


Figure 2.1 How to apply and tailor PRINCE2 to a project

The seven principles offer flexibility, as they provide guidance on how the integrated elements of the method can be applied and tailored to find the best fit for the project and its context while keeping the integrity of the method. So long as the principles are followed, PRINCE2 is being used effectively.

2.1 Ensure continued business justification



Key message

A PRINCE2 project has business justification sufficient to warrant investment to initiate the project and ongoing investment through to successful completion. If it does not, it should be stopped.

There must be a justifiable reason for starting a project, and the justification must remain valid and be revalidated throughout the lifecycle of the project. The business justification drives decision-making to ensure the project remains aligned with the benefits sought and contributes to business objectives.

Organizations that lack rigour in business justification may find that projects proceed even when there are few real benefits or when a project has only tentative associations with the business strategy. Poor alignment with business strategy can also result in organizations having a portfolio of projects that have inconsistent or duplicated objectives.

Compulsory projects, such as those driven by legislation or regulation, still require justification for the chosen approach to ensure it represents the best value for money. All parties involved in the project will need a balance between expected benefits, costs, and risks for them to have business justification for their involvement.

The business justification for a project may change; therefore, it is important that what the project is delivering remains consistent with the evolving justification. If continuing with the project can no longer be justified, then it should be stopped and end in a controlled way. Cancelling a project in these circumstances is a positive contribution to the business as the project's funds and resources can be reinvested in other more worthwhile projects.

After the project is completed, the project should be reviewed to evaluate if the benefits have materialized sufficiently to warrant the final investment and what lessons can be learned from the project.

Below are some examples of the application of the 'ensure business justification' principle.

For a commercial project with one or more customers and suppliers, each party will need to have a clear business justification to undertake the project and to continue with it. The customer may want to enhance market share by introducing a new product. The supplier's business justification might include non-financial benefits, such as gaining an impressive customer reference for promotional purposes or building experience in applying new technologies.

For a co-owned project, such as a governmental project to jointly develop a new IT system across a number of agencies, if the business justification is lost for one or more parties, those parties should consider ending their participation in the project. In this case, the consequences of ending or withdrawing participation in the project, such as contractual obligations, will inform the decision and any approach to prematurely close the project. Throughout the project, each investing party will need to keep monitoring their own business justification to ensure that the project is still worthwhile for them.

2.2 Learn from experience



Key message

A PRINCE2 project team actively seeks, records, and implements improvements as a result of relevant lessons learned from prior projects and throughout the life of the project. It applies them in future projects and shares them for others to apply.

A common characteristic of projects is that they include an element of uniqueness. This makes projects challenging as the temporary team may not have experience of a project quite like the one being undertaken.

To overcome these challenges, project teams need to find ways to learn from the experience of others and from the experience gained from the project as it develops.

Learning from experience occurs throughout the lifecycle of the project:

- **When starting a project** Previous or similar projects should be reviewed to see if lessons could be applied. If the project is a 'first' for the people within the business or if there is any content which is new or novel, then it is even more important to learn from others. This could include projects delivered by people or organizations external to the business to identify relevant lessons.
- **As the project progresses** The project team should continue to learn. Lessons should be included in relevant reports and reviews and included at the end of each stage. The goal is to seek opportunities to implement improvements during the life of the project. The retrospective technique is an example of gathering lessons in agile approach.
- **As the project closes** The project team should share the insights gained during the project.

The foundation for learning is data and the ability to gain insights from it. Projects should be clear about what data is required, how it will be analysed so that insights can be gained and applied, and what will happen to the data during the project and when the project closes.

Project teams need to consider how to effectively share lessons with all those involved in the project, as people may have different learning needs and preferences. Some may learn best by observing, whereas others do so by experimenting.

It is important to learn from both mistakes and successes to continuously improve and innovate. It is the responsibility of everyone involved with the project to identify lessons rather than wait for someone else to do so. Lessons that are not used to improve the project, or future projects, are only 'lessons identified' and not actually 'lessons learned'.

Below are some examples of applying the 'learn from experience' principle.

In a smaller project with one co-located team, 'lessons learned' can be discussed on a regular basis in team meetings. Learning in this case happens on the job, potentially on a daily basis.

In a large and complex project, the learning process will involve many project team members who could be spread across multiple teams and locations. This large-scale approach will make it harder to ensure everyone has access to the same learning experience.

Learning in larger projects may require more advanced communication, such as explanatory videos, presentation kits for project team managers, or tailored workshops in subgroups. Such projects may benefit from field trips, pilots, simulations, or go-live rehearsals as a source of learning too.

2.3 Define roles, responsibilities, and relationships



Key message

A PRINCE2 project has defined and agreed roles and responsibilities within an organization structure that engages the business, user, and supplier stakeholder interests. Moreover, a PRINCE2 project management team initiates and builds relationships with and between internal and external stakeholders.

Projects need people. It is important that the right people are involved, and they know what is expected of them and what they may expect from others in the project. Successful projects require an understanding of the relationships with and between stakeholders and ongoing activities to strengthen them. This is why 'People' is one of the five integrated elements of PRINCE2.

Stakeholders can be individuals or groups within or external to the business. Stakeholders within the business could be a work council, sustainability board, diversity board, owners, department leaders, or other project teams; stakeholders outside the business could be trade unions, customers, suppliers, communities, interest groups, banks, or the media.

All projects have the following primary stakeholders: the business, users, and suppliers (see section 1.5.1). All three stakeholder interests need to be represented effectively in the project management team; this is reflected in the design of a PRINCE2 project board (see section 6.2.1).

Defining roles and responsibilities is particularly challenging as projects are cross-functional, may involve more than one organization, often have a mix of full and part-time resources, and may be spread across multiple locations. The management structures of the parties involved in the project are likely to be varied, with different priorities, objectives, and interests to protect. The day-to-day line management structures of the business may not be designed for, or suited to, project work.

The assignment of roles to individuals throughout the life of the project and their responsibilities must be clear, unambiguous, and accepted. To be successful, projects must have an explicit project management team structure consisting of defined and agreed roles and responsibilities for the people involved in the project. Moreover, the projects must have an understanding of the relationships and a means for effective communication between them.

The goal is to clearly articulate roles and responsibilities to provide a clear, coherent structure that all stakeholders understand and is suitable to enable effective project delivery performance against the project performance targets.

Below are some examples of applying the 'define roles, responsibilities, and relationships' principle.

If the project is part of a programme, then some of the project responsibilities may be held by people in the programme management team. In this case, the programme's business change manager (BCM) may undertake the project executive or senior user role on the project board to help align the project with the programme. The programme management office (PMO) could provide project support, or the programme's design authority could be given decision-making responsibility for authorizing changes at the project level. Agreements need to be made about who accepts which project role and the authority

and responsibility they each have. The goal is to enhance consistency and coherence between the project and the programme.

The nature of the project will determine the number of stakeholders and the amount of change it creates for each of them. A project with a small number of stakeholders and a high degree of impact will have a very focused approach to engaging with them, perhaps on an individual and personal basis. A project with a large number of stakeholders and a wide range of impacts may have to use multiple approaches with a mix of personalized engagement and more general engagement through surveys and broadcast channels (such as emails).

For projects that have development teams using agile development methods, the PRINCE2 team manager role may be held collectively by the development team.

2.4 Manage by exception



Key message

A PRINCE2 project establishes limits of delegated authority by defining tolerances for performance against its plans.



Definition: Tolerance

The permissible deviation above and below the plan's target for benefits, cost, time, quality, scope, sustainability, and risk without needing to escalate the deviation to the next level of management. Tolerance is applied at project, stage, and team levels.

PRINCE2 enables appropriate governance by defining distinct responsibilities for directing, managing, and delivering the project and clearly defining accountability at each level.

Accountability is established by:

- delegating authority from one management level to the next by setting tolerances against the seven aspects of performance (benefits, cost, time, quality, scope, sustainability, and risk) for the respective level (project, stage, team)
- establishing controls so if tolerances are forecast to be exceeded, they are flagged as being an exception and immediately escalated to the next management level for a decision on how to proceed
- establishing an assurance mechanism so that each management level can be confident that the exception controls are effective.

The seven aspects of a plan's performance requiring tolerances to be defined are:

- **Benefits** The degree to which it is permissible to underdeliver or overdeliver benefits; for example, the business case for a sales improvement project modelled with a plus or minus two percent range of increased income generation.
- **Costs** The degree of permissible overspend or underspend against an agreed budget (both person-hours and financial).
- **Time** The degree to which it is permitted to deliver earlier or later than an agreed target completion date compared to the project plan, stage plan, or work package description.
- **Quality** How much something can vary from agreed acceptance criteria; for example, a project to produce a new sports watch might have a target that the watch should work underwater to a depth of 50 metres with a permissible tolerance of plus or minus five metres.
- **Scope** Permissible variation of the plan's products; for example, a project requiring delivery of all the must-have mandatory requirements but permitted to deliver only 60 percent or more of its should-have and could-have requirements.
- **Sustainability** The degree to which the project product or project activities required to deliver the project can vary from sustainability targets; for example, a new production line that operates within five percent of an emissions target and was delivered using around 70 percent of workforce coming from the local community.
- **Risk** Limits on the plan's aggregated risks; for example, a tolerance that the cost of aggregated threats must remain less than 10 percent of the agreed budget and that the cost of any single threat must be no more than five percent of the budget.

The implementation of 'manage by exception' provides for efficient use of senior management time as it reduces senior managers' time burden without removing their control. This ensures that decisions are made at the right level in the organization. The goal is to alert the next management level in the project as early as possible that the work will move outside of agreed tolerances, and a decision is needed on if and how to proceed. The decision-maker can decide to accept the deviation and its consequences or act to remove or reduce it.

A project using an iterative-incremental delivery method with defined timeboxes will typically fix time and cost and vary in scope. In this case, time and cost will have much tighter tolerances set than the scope.

An example of applying the 'manage by exception' principle is that the use of tolerances will differ depending on the project's context, such as a project with a commercial arrangement between customer and supplier where the tolerances will be reflected in the contract. In this example, if the project manager learns that procured materials will be delivered late and the issue cannot be resolved within the tolerances, the project manager will need to alert the project board quickly. The contract may define any cost remedies available between the customer and supplier, but there may be consequences for the project's stakeholders caused by the delay. In this case, the project board will need to decide what actions to take and provide direction to the project manager. By reviewing the tolerances at the end of every stage, the project is able to adapt and modify the next stage activities to reflect a changing operating environment.

2.5 Manage by stages



Key message

A PRINCE2 project is planned, monitored, and controlled on a stage-by-stage basis.



Definition: Stage

The section of a project that the project manager is managing on behalf of the project board at any one time.

The focus on managing by stages ensures that the project is properly initiated before work starts on delivery of the project's outputs. Every PRINCE2 project should have at least two stages: an initiation stage and one further stage. Many projects benefit from having more than two stages.

Advantages of managing by stages are:

- It enables adaptability to changes in the project or business context.
- It provides review and decision points, giving the project board opportunities to assess the project's viability at defined intervals rather than let it continue in an uncontrolled manner.
- It provides the ability to ensure that key decisions are made prior to the detailed work needed to implement them.
- It allows clarification of what the impact will be of an identified external influence, such as the organizational budget setting process or the finalizing of legislation.
- It facilitates the principle of manage by exception by delegating authority to the project manager at each stage.

The choice of appropriate stages for a project will depend on a number of factors (see 7.2.3), including:

- minimizing risk exposure through the project lifecycle
- the size and complexity of the project (shorter stages offer more control, whereas longer stages reduce the effort for senior management)
- any significant decisions and control points required during the project's lifecycle; these will often be linked to key investment, business, or technical decisions
- sector or business policies and standards.

The project board authorizes one stage of the project at a time and delegates the authority for day-to-day control of the stage, within agreed tolerances, to the project manager. As long as the stage is forecast to remain within tolerance, the project manager is authorized to make adjustments as required. The project board only authorizes the next stage if there is sufficient business justification and funds to

continue. If the project no longer has a valid business case, the project board will determine whether and how to recover the project or prematurely end it.

An example of applying the ‘manage by stages’ principle is when teams work in ‘sprints’ or ‘timeboxes’ while operating incrementally and iteratively to realize the agreed features and user stories. PRINCE2 can be tailored to work with sprints and user stories instead of work packages and product descriptions. The project manager will define how many sprints are required for each stage. In this way, the project is consistent with the principle of manage by stages.

2.6 Focus on products



Key message

A PRINCE2 project focuses on the definition and delivery of products, in particular their user quality expectations and requirements.



Definition: Product

An input or output, whether tangible or intangible, that can be described in advance, created, and tested. PRINCE2 includes four types of products:

- **Management products** Are often documents or information needed to support the management of the project, such as a business case or a plan.
- **Specialist products** Are the products that are needed by the user to realize the benefits required of the project.
- **The project product** Describes the total output from the project as defined in the project product description (see section 7.3.2.1).
- **External products** Are products developed or provided outside of the project’s control but which the project is dependent on, for example, the publication of a new standard.

Specialist products will be referred to throughout the book as simply ‘products’, except when a distinction is needed between management and specialist products.

The term ‘project products’ refers to the specialist and management products created during the project.

Projects that focus on what the project needs to produce are more likely to be efficient and avoid waste than projects that focus primarily on the work activity. This is because the purpose of a project is to fulfil stakeholder expectations in accordance with the business justification. Therefore, there must be a common understanding of the products required and the user quality expectations for them.

The purpose of a project can be interpreted in many different ways, unless there is an explicit understanding of the products to be produced and the criteria against which they will be individually

approved. PRINCE2 requires projects to be output-oriented rather than work-oriented. PRINCE2 calls these outputs 'products'.

This focus on products:

- ensures that the project only performs work that directly contributes to the delivery of a product (that is, the project does no more work than it needs to deliver its agreed products)
- helps manage uncontrolled change ('scope creep') by ensuring that all changes are agreed in terms of how they will impact the project products and the business case for the project
- reduces the risk of user dissatisfaction and acceptance disputes by agreeing (at the start of the project) what will be produced by the project
- assists a pause or closure of the project. Agreement can be more easily met to pause or close a project after certain products are completed. It also allows easier and controlled resumption of the project.

An output-oriented project is one that agrees and defines the project product prior to undertaking the activities required to produce it. The set of agreed products defines the scope of a project and provides the basis for planning and control.

A PRINCE2 project uses product descriptions that provide the means to determine effort estimates, resource requirements, dependencies, and activity schedules. The focus on products supports almost every aspect of PRINCE2: planning, responsibilities, progress reporting, quality, change control, acceptance, and risk management.

Below are examples of applying the 'focus on products' principle.

In a small simple project, such as publishing a new management book, a single project product description might suffice. This description will determine, among others features, how many chapters will be required, the desired total number of pages, the language, and the number of graphics in colour versus black and white. Product descriptions for projects using an iterative-incremental delivery method, such as agile, may be in the form of requirements, features, epics, and user stories.

For larger and more complex projects, the project product description will be divided into sub-products and then further subdivided to a level of detail to understand how each product will be sourced, developed, and approved. The further the products are subdivided, the harder it will be for the project board to be able to decide whether product descriptions are correct. This is because the content becomes more technical and will require specialist knowledge to understand. In this case, it is important that the supplier has the expertise to define the right products at each level, and the business establishes project assurance with the knowledge necessary to assure that the product meets the specification.

2.7 Tailor to suit the project



Key message

PRINCE2 is applied and tailored to suit the project environment, size, complexity, importance, delivery method, team capability, and level of risk.

PRINCE2's value is that it is a universal project management method that can be applied to take account of the project's context, scale or size, delivery method, stakeholder landscape, complexity, importance, team capability, and level of risk. Furthermore, it can be used for any project type, geography, or culture. It can be used on any project because the method is designed to be applied and tailored to suit each project's specific needs and context.

The purpose of tailoring is to ensure that:

- the project management method used is appropriate to the project (for example, aligning the method with the business processes that may govern and support the project, such as human resources, finance, and procurement)
- project controls are appropriate to the project's scale, complexity, importance, delivery method, team capability, and risk (for example, the frequency and formality of reports and reviews).

Tailoring requires the project board and the project manager to make proactive choices and decisions on how PRINCE2 will be applied. It may also involve adjusting the terminology to match terms used by the organizations involved or replacing some of the PRINCE2 techniques (such as the risk management technique) with alternative procedures such as those already used by the business or supplier(s).

When tailoring PRINCE2, it is important to remember that effective project management requires information (but not necessarily documents) and decisions (but not necessarily meetings).

If PRINCE2 is not tailored, it is unlikely that the project management effort and management approaches would be appropriate for the needs of the project. This can lead to inattentive project management at one extreme, where PRINCE2 is followed without question, or 'heroic' project management at the other extreme, where PRINCE2 is not really followed at all.

The project manager is responsible for tailoring and will make recommendations having consulted relevant lessons and standards. The project board is accountable and needs to approve the recommendations at the end of the initiation stage and every time there is a proposed change to the management approaches.

How PRINCE2 will be applied and tailored for the particular project is captured in the project initiation documentation. This ensures that all those involved in the project understand how PRINCE2 is to be used and how to carry out their responsibilities. Care should be taken that the proposed tailoring is consistent with PRINCE2's seven principles and that the resultant method retains its integrity.

An example of applying the 'tailor to the suit the project' principle is where the project has a commercial customer-supplier relationship. The project may need to align the project management processes, practices, and documentation to two or more quality systems, one from the customer and one from the supplier. For example, a supplier may wish to use their in-house product development framework based on an iterative-incremental delivery method using agile management approaches. To avoid potential confusion, the project manager might propose to:

- map and define terminology between PRINCE2 and the supplier's agile management approaches
- add the project team roles of 'customer subject matter expert' and 'supplier subject matter expert' to the agile team, representing the customer and the supplier respectively
- add a coach to guide the teams in working effectively in the combination of PRINCE2 and the supplier's in-house agile method
- collaborate and communicate according to agile ways of working, such as a daily stand-up and support agile reporting tools, such as information radiators
- define project procedures, such as working with sprints or work packages, product descriptions, or user stories, and how to use these in the project.



CHAPTER 3

PEOPLE



CHAPTER 3

PEOPLE

3.1 Context



Key message

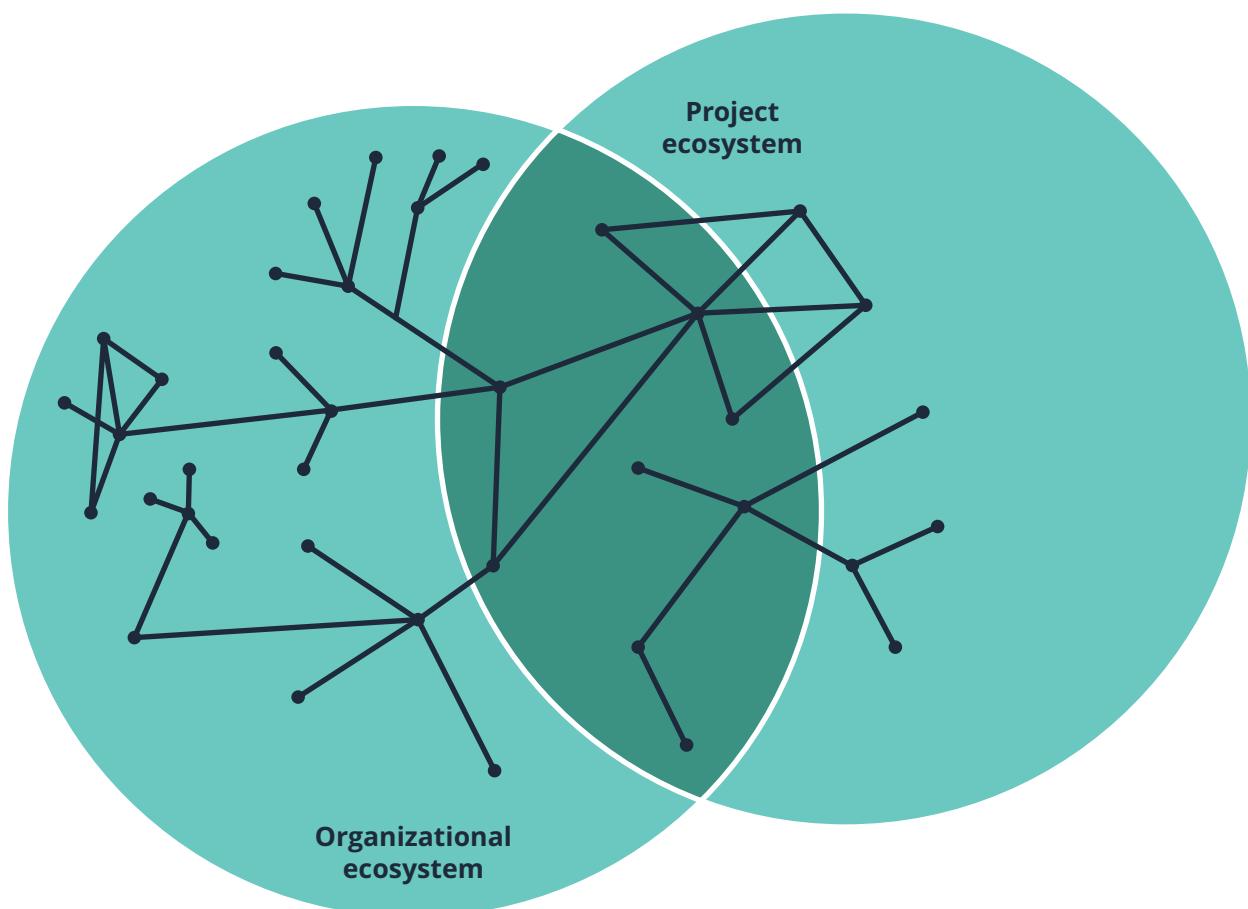
The purpose of a project is to deliver change, which will affect people in their business as usual (BAU) activities, routines, and responsibilities. How well the change is implemented, and therefore how well the project performs, depends on the capabilities of the project team, the strength of the relationships between them, and the people impacted by the change.

In PRINCE2, 'people' covers those who are working on a project and the relationships between them, as well as those impacted by a project.

Organizations are a complex ecosystem of fluctuating relationships. Projects change organizations, regardless of whether or not it is their primary purpose. The success of a project will depend on how well the project establishes strong relationships with the organizations that support its delivery, as well as how it fits into the organizational ecosystem to deliver the change.

Projects combine a unique set of people from across the business, user, and supplier communities for a limited period of time. To successfully deliver the project, all levels of leadership must establish a project culture that motivates people.

Decisions should be made close to where the relevant knowledge resides. They should be escalated only if there is a need to consider the impact on other parts of the project ecosystem, the organizational ecosystem, or to manage wider political implications.



- People or groups
- Relationships

Figure 3.1 Organizational and project ecosystems



Definitions

Organizational ecosystem The internal elements of an organization (including staff, board, owners, and other stakeholders) together with the organization's external relationships such as customers, partners, suppliers, regulators, and competitors.

Project ecosystem Those elements of the business involved in or directly impacted by the project and the associated users and suppliers.

Scenario: making decisions at the best level



Findef has established four layers of governance to oversee programme delivery, address issues, and ensure that decisions are made at the appropriate level. This model is underpinned by the principle of management by exception, where each governance body operates within designated levels of authority. This principle is the heart of empowering people to self-organize and stay in control with the appropriate level of governance.

Operational day-to-day matters in the life of the individual projects, such as the approval of stage gates, scope changes, or selection of suppliers, are covered at the local level as a key responsibility of the project board.

A programme board has also been established to oversee the progress and health of the FindefTwo programme, with the authority to make decisions at the programme level (such as agreeing the programme and project tolerances and signing off the completion of each tranche, including deliverables).

Should there be a need for additional change to investment over 20 percent of the original programme budget, the investment committee is required to be involved in the decision and retain ultimate authority over the programme finances.

Finally, strategic decisions must be escalated to the leadership board, who are at the top of Findef hierarchy. Strategic decisions include: entering the end-user market rather than focusing solely on business-to-business (B2B), using a new technology, or introducing a new DevOps department in the corporate structure, which demand a higher-level focus, including mitigation of business and reputational risks.

3.2 Leading successful change

3.2.1 Projects require change management

All projects result in a change in how people, organizations, and systems operate the current state to a future target state that incorporates the use of the project products. Effective leadership is required to deliver this change.



Definition: Change management

Change management is the means by which an organization transitions from the current state to the target state.

The current and target states can be captured and described as a set of routines, responsibilities, relationships, cultures, and capabilities.

Identifying which areas of the organization will be impacted by the project as it transitions from the current state to the target state describes the change the project will deliver. For some projects, there may be interim states the business will transition through, and these can also be described.

PRINCE2 addresses change by creating and maintaining a change management approach for the project. In determining the level of detail to capture in the change management approach, it is worth considering:

- what decisions the change management approach is supporting the project team to make
- the skills and capabilities required during and after the transition from current to target state
- which areas of the organizational ecosystem are likely to be impacted by the project
- the key relationships to be considered
- the evolving culture
- how best to transition; for example, through learning or upskilling, transitioning knowledge from the project team, or recruiting new people into the business.

Management product: Change management approach

The change management approach is part of the project initiation documentation.

Purpose

To establish the target organizational state required for the project to meet its objectives together with the means by which the business will shift from the current state and through any interim states.

High-level content

Scope what changes will be delivered by the project; any exclusions

Change states description of current, interim, target states

State characteristics for each state, highlighting those that are changing: for example, routines, practices, process, culture, responsibilities, structure, capabilities

Enabling activities before transition, during transition, after transition; for example, consultation, trials, training, and helpline

Resources for the enabling activities

Responsibilities for the enabling activities

Supporting tools and techniques for the enabling activities; for example, modelling

Standards any standards that apply to change management activities

References for any associated documents or products.

3.2.2 Stakeholders

Projects will impact people from across the organizational ecosystem. Therefore, a project will need to involve those with a formal role in the project team and key people either impacted by or critical to the success of the project (who may not hold a formal role). These people are the stakeholders in the project and will cover the full spectrum of users, suppliers, and the business. Stakeholders can be external to both the project team and the business.



Definition: Stakeholder

Any individual, group, or organization that can affect or be affected by (or perceives itself to be affected by) the project.

A strong understanding of the relationships between the project and the organizational ecosystem, and the ability to identify key stakeholders at the interface between the two is fundamental to leading successful change.

These stakeholders are the key influencers, who may be the following:

- senior executives
- those found in the user, supplier, or wider operational communities within the organization undertaking day-to-day tasks and decision-making
- those who can be identified by considering the bottlenecks where information, knowledge, and money flow across interfaces (for example, document controllers, technical experts, and commercial managers); and by speaking to people in the areas impacted by the project to find out who holds the knowledge in their area and is best informed on how things will practically work
- those who can shape the perception of the majority within the project ecosystem
 - these are the people, through their network, who can have the greatest influence on the adoption of the project products and the realization of project benefits
 - taking time to understand their perspectives on the project and any constraints they have will help improve project delivery
- the people the project management team needs to work closest with to ensure the success of the project.

Stakeholders at the interface with the project may change over time as the project evolves and relationships develop.

The way in which a project is established should support relationship building across interfaces. This can be established through regular meetings and working groups that build a shared understanding of different perspectives, the project data, and knowledge agreed on by stakeholders.

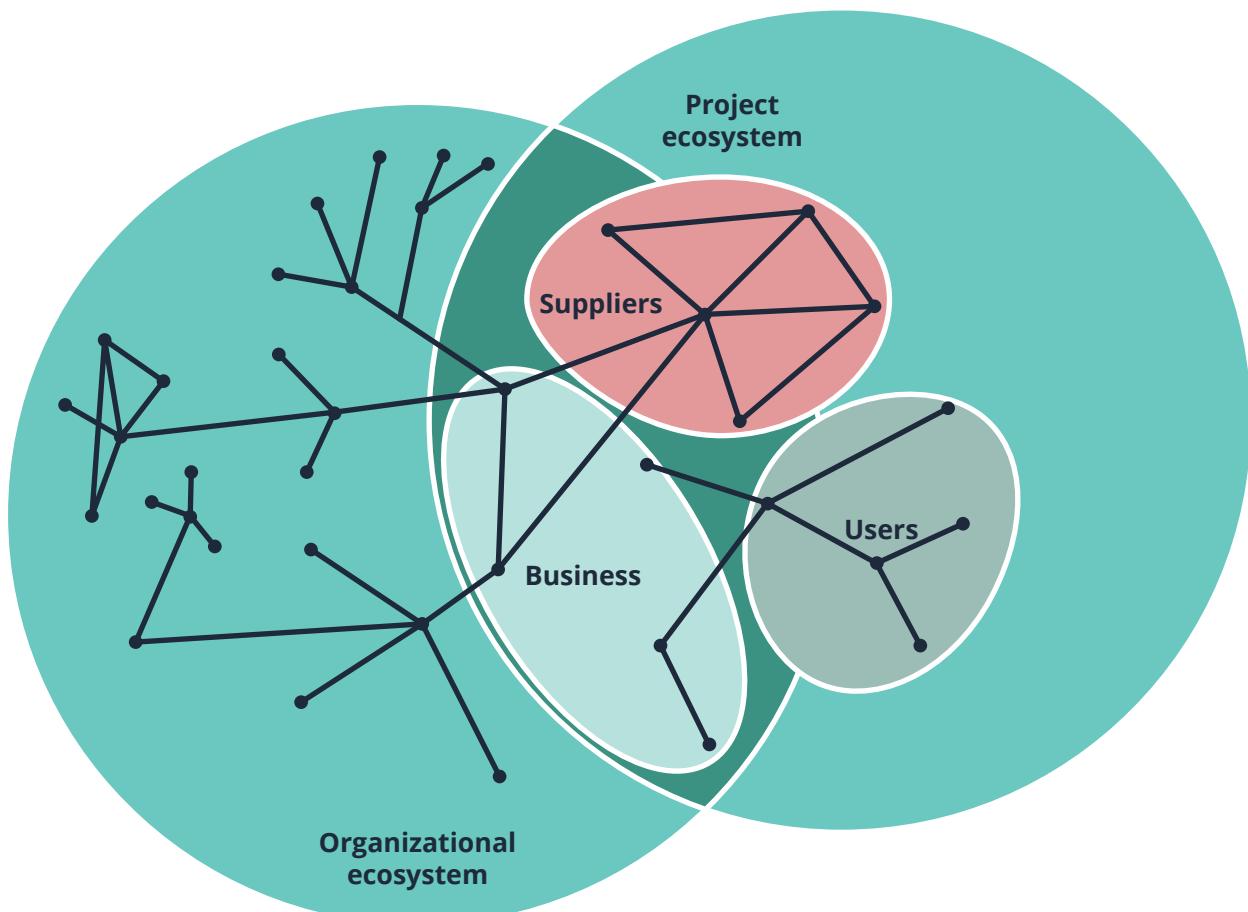


Figure 3.2 The three project interests

In figure 3.2 the size of the bubbles can vary. For example, for some projects the majority of the users may sit in the organizational ecosystem. For some projects all the suppliers could fall within the project ecosystem as they are uniquely engaged for the specific project and have no other relationships with the business. Understanding where the business, supplier and user interests sit in each of the ecosystems helps in deciding how they will be represented on the project and how they will be engaged.

3.2.3 Culture

Projects often combine people from different parts of the organizational ecosystem, where different working cultures may exist. A project team may need to establish a project culture that is distinct from the business but in such a way that it remains aligned with the wider organizational ecosystem.

A shared understanding of the project developed with key influencers must be captured as part of the project brief. This shared understanding of the project combines with an understanding of the external legal and regulatory obligations and relevant business commitments (such as sustainability targets) to provide a guide for multi-layered decision-making.

Based on the shared understanding developed with the key influencers, it is possible to establish ways of working to ensure all impacted areas of the organizational ecosystem are appropriately involved in the project as it progresses. The ways of working are captured in the management approaches for the project. Gaining a shared understanding is also enabled through who is assigned to project roles (see Chapter 6), including decision-makers on the project board who represent business, user, and supplier interests.

The project management team structure and the quality and planning practices in PRINCE2 ensure that users are represented or involved in defining, developing, quality control of products, and consulted in the decision-making process.

The shared understanding enables aligned behaviours and sets the culture for the project.



Definition: Culture

Culture is the set of shared attitudes, values, goals, and ways of working that characterize a group of people.

At the start of a project, the project culture tends to reflect the organization's culture. However, a distinct project culture may emerge as it evolves. It is important that the formal ways of working evolve to reflect the emerging project culture and support alignment with the wider organizational ecosystem that the project needs to interact with.

As the project progresses, key influencers on a project may change, as do the key relationships. It is important to ensure that the shared understanding of the project remains valid and supports the project's evolving culture. Project teams should check the shared understanding at the end of each stage of the project and whenever there is a change in key influencers.

Defined ways of working should remain aligned with how people are actually working. Persistent non-compliance with project processes is often a leading indicator that the agreed ways of working have become unaligned with the emerging project culture. Although it is tempting to assume that non-compliance is because of poor behaviours, there could be an underlying disconnect that is worth exploring. The ways of working should evolve to remain aligned with the desired project culture and with the wider organizational ecosystem which the project interacts with.

Scenario: embedding shared understanding/users inside and outside organization



The idea of project management as a discipline is completely new to NowByou. As a result, the professional project manager who was contracted to produce the initial project documentation and mentor the future project management team is experiencing some initial challenges, including introducing NowByou to new terminology and practices. The contracted project manager decided to work with the culture of the NowByou by demonstrating the need for a shared understanding among staff and users outside the organization, such as donors and suppliers.

To do so, she formed a community of practice, 'the project club', intended to gather everyone on a regular basis and co-create the future project toolkit using the currently available artefacts and aligning to industry best practice wherever possible. For example, the 'campaign brief' is now the 'project brief', which is the template that has the same branding and layout as before but updated to also cover project management fundamentals, such as project governance or defined milestones. When the toolkit is finalized, the project manager plans to run a series of internal roadshows aimed at bringing to life and embedding the new concepts.

3.3 Leading successful teams



Definitions

Collaboration People from across the project ecosystem working together to achieve the project's objectives.

Co-creation A specific form of collaboration involving users and key influencers in the design of products and agreed ways of working to ensure they are adopted by the project and organizational ecosystems.

Leadership Motivating people to achieve a project's objectives. On projects, this is best done through collaboration across the project ecosystem, persuading, influencing, and co-creating with a focus on managing key relationships and seeking regular feedback to ensure team members remain aligned to the project's objectives and agree to joint ways of working.

Management Instructing the execution of tasks in line with agreed ways of working. Co-creating ways of working with project team members (and stakeholders) significantly improves people's willingness to be managed in line with them.

Projects are delivered by people in a temporary team, typically working across organizational boundaries. As a result, the people assigned to work on projects often have multiple reporting lines. This reporting line can be to a part of the organization that has allocated the person to the project for a limited duration. This can also be to a supplier's organization where external people provide project skills and capabilities. Sometimes people with specific skills and capabilities are assigned across multiple projects or are assigned to a project on a part-time basis. This creates reporting lines to multiple people.

To successfully lead a project team, it is important to be aware of the following:

- Although a project manager has formal authority within the tolerances set by the project board, the actual power structure that emerges in a project does not always reflect what has been formally agreed.
- Due to the temporary nature of projects and the multiple reporting lines of people working on the project, project managers often rely on their ability to influence and motivate people through aligned interests and relational skills in addition to establishing the shared purpose of the project.
- PRINCE2 defines roles that might not align with a person's job title.
- Team members often have competing priorities for their time and attention, which may at times conflict with the needs of the project.
- It is not unusual for members of the project team to be more senior than the project manager, potentially causing hierarchical tension.
- Some motivational factors may be outside of a project manager's remit. For example, remuneration and career progression of project team members.

These factors mean project teams require a different style of management and leadership than that used for established business teams, as it can be more challenging for a temporary leader or manager to exercise their authority.

3.3.1 Leading across organizational boundaries

In addition to those people formally assigned to a project, there are people within the business who are affected by the project, but do not work within the defined project team. They often have a role to play, for example directly contributing to the project through activities such as defining, assuring, and accepting products into the business. They may indirectly contribute by undertaking activities within their area of the business to accommodate or derive benefit from the project, such as upskilling staff, changing ways of working, or integrating new products into their area of the organization.

When these activities are outside of the defined project scope, it is important to ensure that there is a clear understanding of the dependencies on such activities, who is responsible for undertaking them, and how they will be funded and monitored. If this type of work is not managed carefully, projects can be delayed or fail to achieve their benefits.

Leading people beyond a project's direct authority (often across organizational boundaries) requires a degree of cultural intelligence. Cultural intelligence is the capability to relate and work across cultures within the organizational ecosystem. Successfully working across cultures requires:

- teams to adapt and find ways to successfully interface with each other
- setting clear project boundaries within which people can flex
- establishing the right conditions for people to succeed
- awareness of and means to consider the many different perspectives that may exist in the project (such awareness is often referred to as emotional intelligence)
- awareness of the constraints people work within, including different pulls on their time and attention.

3.3.2 Building effective teams

An effective team will require a diverse set of capabilities, competencies, and perspectives that match the requirements of the project.

Ideally, organizations would select the people needed to fulfil each of the required roles, but this is often not possible. It is important to understand the competencies and capabilities of the people recruited or assigned to a project, and ensure any gaps are identified and mitigations established to cover them, such as upskilling or shifting responsibilities for certain tasks to more appropriate people. Even when people technically have the same capabilities and competencies, they are likely to perform the same role differently. Sometimes, the same person may perform differently depending on who they are working with.

As temporary organizations, project teams may not have worked together before and may need to quickly discover how to work together effectively. It can help accelerate team building by using structured exercises that focus on building not only self-awareness and self-management but also an understanding of other's perspectives. This can build trust and find compatible ways of working.

Roles and responsibilities should reflect the capability, authority, and availability of the individual undertaking the work and should be considered through the lens of their key relationships. They should be reviewed in the event of any shifts in these key relationships and updated accordingly.

An integral part of building an effective team is that team members feel accepted, respected, and able to express diverse viewpoints without fear of negative consequences. All members of a project team are responsible for creating this psychological safety for each other through their day-to-day interactions and by caring for each other's wellbeing. Team members may also need space to experiment, inspect, adapt, self-organize, and adjust their ways of working.

PRINCE2 supports building effective teams through the:

- **Project plan** This explains the team's goals to create a clear sense of purpose and provides an ability to answer questions from stakeholders.
- **Project management team structure and the role descriptions** These explain the structure of the team and their associated roles, responsibilities, and relationships to support developing key relationships and identifying any coaching or training needs (such as influencing skills and how to handle resistance to the change).
- **Communication management approach** This explains how team members will actively engage with and support each other and how relationships will be developed between different groups within the wider project ecosystem.
- **Project initiation documentation** This explains the agreed ways of working, empowering the team to remain focused on delivering the project outcomes.
- **Product based planning** This approach places great emphasis on getting agreement on what will meet user needs (product description) and also clarifying the dependencies and sequencing of key outputs (products).

3.3.3 Bringing the team together

Whether projects are delivered virtually, in person, or through a hybrid approach, the way in which people work with each other needs to be carefully considered, both to optimize the use of people's time and to build social cohesion. Social cohesion is developed by:

- people meeting in a purposeful way on a regular basis and building trust across organizational or project silos
- considering how key relationships will be developed and maintained over the length of the project to build resilience for when inevitable hurdles are encountered
- considering the benefits of co-locating an office-based project team to facilitate the organic relationship building that occurs during non-structured activities (such as conversations over the desk partition, in the communal kitchen, in corridors between meetings, shared lunches, and social events).

When teams are virtual, located at a distance from each other, or hybrid, building social cohesion may need additional activities such as:

- syncing co-location days for key people and teams with a focus on building key relationships
- allowing time for less structured conversations online
- holding 'away days' for virtual teams
- using virtual collaboration tools to enhance effectiveness and efficiency of virtual ways of working
- providing opportunities or incentives for people to meet and socialize face-to-face.

Scenario: bringing the team together/social cohesion

Everyone involved in the new product development (part of the FindefTwo programme) has been under pressure to deliver the second stage of the project. This is because the programme board wants to complete the high-level design before the next quarterly leadership board meeting.



Although the team managed to deliver on time, this was not without issues. It was found that working across multiple time zones and in virtual teams exhausted individuals, resulting in low team morale.

The project manager is aware of this, and before the detailed design starts for product 1, decides to bring the team together for a 'pause and reflect' day. This is a full day of team building activities that offer an opportunity to share lessons, re-energize for the upcoming stage, and build social cohesion within the team.

To ensure that the unity of the team is not lost after the 'pause and reflect' day, certain changes have been agreed. There will be regular project update webinars at different times of day to allow those in different time zones to attend. There will also be a 'virtual coffee time' in the internal social network platform, giving members of the team an opportunity to interact with each other informally.

3.4 Communication

Whether it is the primary function of the project or a by-product, projects create change in organizations. As such, projects are often subject to high levels of scrutiny and open to misconceptions regarding their purpose and impact. Without a clear approach to communications, this can lead to unnecessary barriers in implementing any changes, as people seek to protect the current situation or to limit the perceived negative impact of the project.

PRINCE2 addresses communication in a communication management approach.

Management product: Communication management approach

The communication management approach is part of the project initiation documentation.

Purpose

To define and describe the means and frequency of communication with and receiving feedback from across the project ecosystem, supporting alignment and shaping of the project. It facilitates engagement with stakeholders through the establishment of a controlled and bidirectional flow of information.

High-level content

Scope describes what communication will be managed by the project

Stakeholder analysis identification and analysis of those impacted by the outcome of a project or by the process of delivering the project and those who have the influence to impact the success or failure of the project

Box continues

Communications schedule and procedure(s) for each stakeholder group: purpose, frequency, channels/format, messaging, and so on

Responsibilities for the communication activities

Resources for the communications activities; for example, public affairs or internal communications

Supporting tools and techniques for the communication activities; for example, communications platforms or tools for analytics or automation

Standards any standards that apply to communication activities; for example, public engagement standards and ethical standards

References for any associated documents or products.

A communication management approach is equally about listening as it is about broadcasting. It seeks to understand the perceptions and concerns within the project ecosystem so they can be addressed before they become more significant risks. This also allows messaging to be tailored to the concerns and interests of different groups within the project ecosystem and the wider organizational ecosystem.

Generic messaging is rarely effective, as people obtain information from a variety of channels. Identifying and working with key influencers from the user, supplier, and business stakeholder groups helps to accommodate different perspectives. This ensures strong feedback loops and the ability to tailor messaging for each of these groups.

Given the number of communication channels and how interconnected the digital landscape is, attempting to control the messaging on a project can be challenging. This can be made more manageable by ensuring that key influencers help shape messaging and support communications.

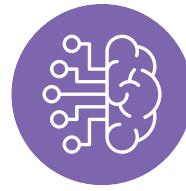
Most communication within organizations occurs outside of formal channels. Therefore, it is best to accept this and provide information in multiple formats that people can share easily and provide multiple pathways for people to give feedback.

How project teams communicate will also depend on whether they are co-located, remote, or hybrid:

- **Co-located teams** Information tends to be shared organically through both formal and informal networks. The focus is on:
 - providing information in multiple formats which can be easily shared through these networks
 - monitoring whether information is flowing freely throughout the project ecosystem
 - identifying any team members or groups who are disconnected and working to reconnect them.
- **Remote teams** A more deliberate and structured approach is required to ensure information is flowing through the project ecosystem. The focus is on:
 - building in time to allow for unstructured listening and sharing of information
 - seeking clarity on how information is flowing through the project ecosystem and providing information in appropriate formats to facilitate this
 - identifying key relationships and agreeing how they will build both structured and unstructured time together.
- **Hybrid teams** Hybrid teams' means of communication must ensure the project does not develop separate groups who are more involved or less involved because of their location.

Scenario: two team leaders meeting for coffee

Data Knowledge's iterative approach for the development of a new time-recording solution allows for early feedback to be incorporated. It made the data science team leader and the development team leader realize that they needed to be aligned. They agreed to meet for a coffee every two weeks for a general catch-up in a local park, as they usually met virtually. The company provided coffee vouchers at a central coffee shop, encouraging people to accompany each other for coffee whenever they are in town.



On one occasion, the data science team leader was unsure of the level of detail to be captured in the solution and related reports. Specifically, they had to decide if it would be sufficient to record how many hours per project each resource carries out, or if it would also be useful to have that information at the task-level.

On one hand, reporting at the task level would give assurance to project managers that the team is allocating their time to priority tasks; on the other hand, reporting at this low level would be a significant cultural change and the staff could be uncomfortable with such level of scrutiny.

The two team leaders exchanged ideas over coffee and agreed that reporting at the task-level would be too much. A decision was easily reached to report time at the project level only.

The communication management approach is likely to evolve as the project evolves and becomes more defined. For complex projects with a wide impact, it can be useful to develop the project with a smaller group of key influencers in what is sometimes referred to as a 'quiet phase'.

A 'quiet phase' will keep wider communications to a minimum until the project is better defined and minimize the spread of misinformation or rumours (this is especially important when a project is politically sensitive and may be of interest to the general public).

It is insufficient to rely solely on periodic reporting to determine how a project is progressing. Reporting can be subject to bias as people might subconsciously manipulate information based on what is considered acceptable, expected, or desirable.

An open and transparent environment can reduce the level of bias. However, it is important to have additional pathways to obtain feedback in the project, such as building strong relationships with key influencers and monitoring the health of key relationships within the project ecosystem.

Pockets of resistance to the project are a useful indicator of where communications should be focused. In taking the time to listen to the concerns raised, misconceptions can be identified, and issues can be addressed.

Scenario: concept of quiet phase

It is no surprise that LouisShopping is likely to cause some disruption to residents and businesses during the construction works. To minimize the risk of incorrect information being shared and rumours spreading, the project team has decided to contain wider communications to a minimum until the project is defined. Following this, BuildyBrick established a full communication strategy.



For that purpose, the project team has invited key influencers from the local neighbourhood to join a monthly communication planning meeting. Together, these selected influencers will suggest ideas and work closely with the project team on the communication messages, formats, and vehicles to use when the time comes to communicate a clear message to the local community.

3.5 People are central to the method

This chapter explains three people-focused activities: leading successful change, leading successful teams, and communication.

These are not standalone activities as they influence all aspects of project management. As illustrated in figure 3.3, leading successful change, leading successful teams, and communication are central to the PRINCE2 method.

PRINCE2 is a project management method composed of five integrated elements: principles, people, practices, processes, and the project context. The following sections explain how the principles, practices, and processes address the people factors explained in this chapter.

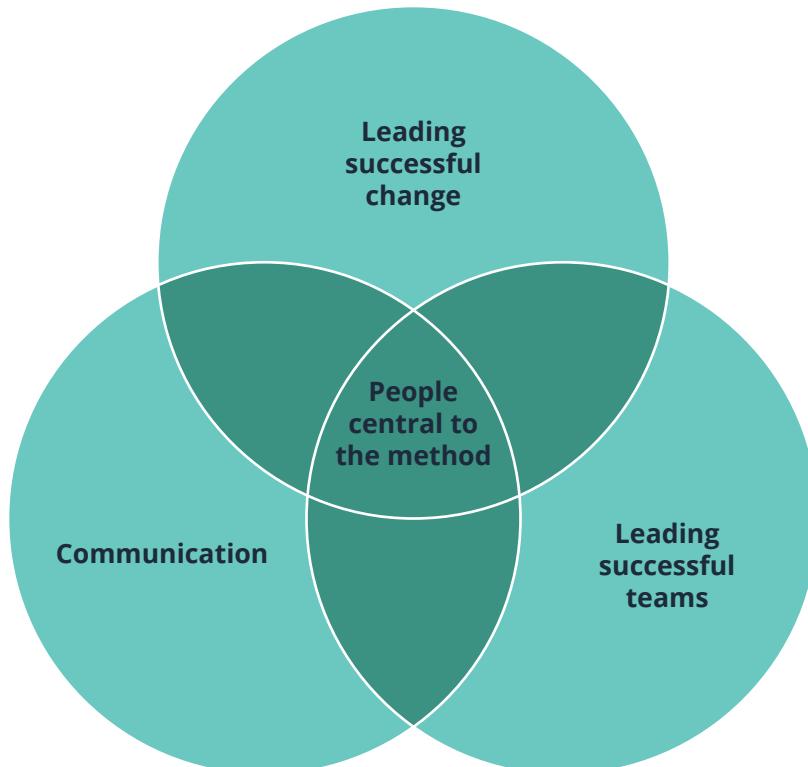


Figure 3.3 People central to the method

3.5.1 People and PRINCE2 principles

PRINCE2 is based on seven principles, one of which is that all PRINCE2 projects must define roles, responsibilities, and relationships. This ensures people factors are continually addressed throughout the project's lifecycle.

People factors permeate the other principles as illustrated below.

Ensure continued business justification

- Organizations are fundamentally a collection of people interacting with each other around the core purposes of that organization. The business justification for a project needs to satisfy all three project interests: user, business, and supplier. Defining a project that aligns all of these interests can take time and effort. Therefore, it is important to consider the dynamics of the key relationships relating to these interests, as they impact how agreement is reached and determine whether the project continues to be valid. Moreover, it is crucial to recognize that what is considered justification may change when roles change.
- Business justification can be perception-based, so the communication management approach is a key enabler to ensure ongoing perceived business justification by managing key relationships and showcasing progress to demonstrate value.

Learn from experience

- There is significant value in learning from visible knowledge, such as business books and captured learning, but there is valuable knowledge hidden within a project ecosystem. This requires a collaborative environment that encourages knowledge sharing throughout the lifetime of a project. Knowledge sharing enables people to benefit from each other's experience.
- In particular, people factors such as behaviours, culture, and relationships are difficult to document and are best learned through social learning. For example, team members connecting and learning from people who have worked on an earlier stage or other projects with similar characteristics.

Manage by stages

- The stages of a project often mark a change in the influencers and any key relationships. They are good points to review how the project is planned to deliver, ensuring it remains aligned with how people interact with each other and the wider organizational ecosystem. Stage boundaries often mark a transition in the organizational design (see Chapter 6).
- Stage boundaries provide a more controlled way to review the skills needed for the next delivery stages and make changes, even to the Project Board. It is better to have the right people managing the project rather than people who are unable to effectively contribute.

Manage by exception

- Decisions should be made at the most local level where the knowledge needed to make and own those decisions resides. Decisions should be progressed through the levels when a decision has the potential to impact other areas of the project. Therefore, it requires different perspectives to be considered, or it will have a wider impact outside of the project boundaries.
- The extent of delegation is often dependent on the level of confidence and trust that exists in the key relationships and will adapt over the life of a project in response to the skills and capabilities of individuals. Improving confidence and trust improves the ability to manage by exception.

Focus on products

- Co-creating products, with agreed product descriptions, with the business, user, and supplier communities unites their different perspectives. This improves the development and adoption of the products into the business, reducing handover risks and ensuring that operational and maintenance issues are fully considered.

Tailor to suit the project context

- Tailoring supports the ability to adapt the PRINCE2 method to the people and organizations involved, rather than attempting to adapt them to the method.
- Tailoring is based on the level of capability or project management maturity, which will evolve over time as people gain a better understanding of PRINCE2 principles, practices, and processes.

Scenario: management by exception principle

The NowByou project team is formed of people with different backgrounds and levels of experience. Generally, they all share a drive to use their competencies to make the world a fairer place. Being new to NowByou, the contracted project manager mentoring the project team has asked team members to complete a competency self-assessment. The project manager has also initiated a series of individual conversations to become familiar with the team's competencies and experience, as well as their level of project management and campaign management knowledge.



It has become clear that the to-be appointed project manager, who is currently part of the donations team, is a skilled individual aware of their strengths and weaknesses. They are a fast learner who has demonstrated awareness of project management. Therefore, the contracted project manager is managing by exception, asking for decisions to be made without much supervision and to be notified of any deviations against tolerances.

By contrast, the campaign team manager is a specialist in campaigns but lacks planning and coordination skills. The contracted project manager has decided that a closer management style is needed, and the delegation level will be based on direct instructions, coaching and slowly granting more autonomy in the completion of project tasks.

3.5.2 People and PRINCE2 practices

PRINCE2 defines seven practices (see Chapter 4) that are essential aspects of project management that must be applied continually and in parallel throughout the life of the project. The 'organizing' practice explains how people organize within a temporary project management team. In this way, it ensures that the interests of the user, supplier, and business are represented in the project and establishes the design and development of the project organization.

People factors are represented in all the practices. For example, the development of the business case requires multi-layered perspectives from across the organizational ecosystem (business, user, and supplier communities). This is to provide clarity regarding the project's purpose and enable a common understanding to develop across the project team.

3.5.3 People and PRINCE2 processes

The PRINCE2 processes are organized into four layers: business, directing, managing, and delivering. People factors such as behaviours, culture, and relationships are included in the processes, explaining how people interface between the layers (see Chapter 12).



CHAPTER 4

INTRODUCTION TO

PRINCE2 PRACTICES

CHAPTER 4

INTRODUCTION TO PRINCE2 PRACTICES

4.1 The PRINCE2 practices



Definition: Practice

An aspect of project management that must be applied consistently and throughout the project lifecycle. The practices require specific treatment of that aspect of project management for the PRINCE2 processes to be effective.

The PRINCE2 practices describe aspects of project management that must be continually addressed as the project progresses through its lifecycle. For example, the business case for the project must be updated and revalidated throughout the project lifecycle as issues will occur, and risks need to be managed. The strength of PRINCE2 is the way in which the seven practices are integrated, both in how they link together and are used across all the PRINCE2 processes.

The PRINCE2 processes (see Chapters 12 to 19) address the progressive flow of the project (the lifecycle), describing actions relating to each of the practices when they are needed. In the following practices chapters (see Chapters 5 to 11) more detailed guidance is provided for those actions.

Table 4.1 The seven PRINCE2 practices

Practice	Description	Answers the question	Chapter
Business case	<p>The project starts with an idea that is considered to have potential value for the organization concerned. This practice addresses how the idea is developed into a viable investment proposition and how success is defined and verified.</p> <p>It provides the basis for how project management maintains the focus throughout the project on the project's benefits, purpose and alignment with the objectives and priorities of the business and other organizations involved.</p>	Why?	5
Organizing	<p>Project work needs to be directed by those accountable, delegated to those responsible to manage it, and allocated to those who will deliver the products required of the project.</p> <p>Projects are cross-functional, so the normal line management structures are not suitable.</p> <p>This practice describes the roles, responsibilities, and relationships in the temporary PRINCE2 project management team required to initiate and complete the project effectively. It describes how the business, user, and supplier interests are represented in project activities and decision-making.</p>	Who?	6

Practice	Description	Answers the question	Chapter
Plans	PRINCE2 projects are delivered in stages based on a series of approved plans. This practice complements the quality practice by describing how plans are designed and developed. In PRINCE2, the plans are matched to the needs of the people through the project management layers (directing, managing, and delivering), and they are the focus for communication and control throughout.	How? How much? When?	7
Quality	The initial project idea will only be understood as a broad outline. This practice explains how the outline is developed so all stakeholders understand the quality attributes of the products to be delivered and then how project management will ensure that these requirements are subsequently delivered.	What?	8
Risk	Due to the unique nature of projects, which use new and different products, suppliers, and/or procedures, there is more uncertainty which will result in more risk. This practice addresses how the project team manages uncertainty.	What if?	9
Issues	This practice describes how project management assesses and responds to issues that have a potential impact on any aspect of the project (including its objectives, plans, and products). Issues may be unanticipated general problems, requests for change, or instances of a product not meeting its specification.	What now?	10
Progress	This practice addresses the ongoing achievability of the plans. It explains the monitoring of performance and the escalation process if events do not go according to plan, through a mixture of event and time-based controls. Ultimately, this practice determines whether and how the project should proceed.	Where are we now? Where are we going? Should we carry on?	11

4.2 Applying the practices

It is expected that the PRINCE2 method will be applied and tailored to ensure it is fit for purpose for the project's context. This will include the way the PRINCE2 practices are applied. This may range from the business providing standards or prescriptive guidelines to allowing the project management team a large degree of freedom as to how they apply each practice to the project.

The PRINCE2 practices are designed to help the project management team apply and tailor the method, principally through a suite of management approaches (such as the benefits management approach). Each management approach defines the procedures, techniques, and standards to be applied and the responsibilities for that aspect of project management to be effective.

PRINCE2 does not prescribe how procedures, techniques, and standards should be documented, the level of detail required, or how they are published and shared. The level of detail could vary from a few paragraphs to a comprehensive instruction manual. The level and type of documentation is established by the Project Board who will consider what they need to manage and document their decisions within agreed business policies.

Contextual factors such as importance, risk, and urgency of the project will influence the level of control required, which will determine the degree of formality and frequency of monitoring, reviewing, reporting, and decision-making. The organizations involved and the relationship between them (for example, customer and supplier) will also influence the controls that will be established. Whether the project is part of a wider programme or portfolio will influence how the project management team interacts with the business and incorporates their management requirements. When applying the PRINCE2 practices, project management teams should also reflect any tailoring of the roles, processes, and terminology.

All seven practices should be applied in a project. However, they vary according to the scale, risk, the people and organizations involved, and the complexity or simplicity of the project concerned. This will always ensure that the method remains consistent with the seven PRINCE2 principles.

This book contains suggestions for how each practice can be applied to the project's context based on some common factors, such as a project in a programme or a project using an agile delivery method.

4.3 Management products

PRINCE2 management products describe the information that will be required to manage the project. This information can be maintained in a variety of ways, possibly as documents or part of a management information system. Appendix A contains suggested outlines of each PRINCE2 management product and further details about how the management products can be tailored.

There are two management products that are relevant to the majority of the PRINCE2 practices that are described in this chapter: the project initiation documentation and project log.

4.3.1 Project initiation documentation

The project initiation documentation comprises the package of information developed and compiled during initiation to gain authorization to proceed with the project. It provides the basis for its ongoing management. It contains a wide range of information that could be captured in separate documents or systems. Alternatively, all the information could be gathered to form a single reference document.

Management product: Project initiation documentation

Purpose

The project initiation documentation gives the direction and scope of the project and (along with the stage plan) forms the 'contract' between the project manager and the project board.

The three primary uses of the project initiation documentation are to:

- ensure that the project has a sound basis before asking the project board to make any major commitment to the project
- act as a base document against which the project board and project manager can assess progress, issues, and ongoing viability questions
- provide a single source of reference about the project so that people joining the 'temporary organization' can quickly and easily discover what the project is about and how it is being managed.

High-Level content

- **Project definition** explains what the project needs to achieve and should include: background context, project objectives and desired outcomes, project scope (inclusions and exclusions), constraints and assumptions, the user(s) and any other interested parties, and interfaces

Box continues

- **Project approach** defines the choice of solution and delivery method that will be used in the project to deliver the business option selected from the business case, considering the operational environment into which the solution must fit
- **Business case** describes the justification for the project and the selected business option based on estimated costs, risks, and benefits
- **Project management team structure** a chart showing who will be involved with the project
- **Role descriptions** describe the roles of those in the project management team
- **Management approaches** the procedures, techniques, and standards to be applied and the responsibilities for: change management, benefits management, commercial management, communication management, data management, issue management, quality management, risk management, and sustainability management
- **Project plan** describes how and when the project's objectives are to be achieved by showing the major products, activities, resources, and people required on the project; provides a baseline against which to monitor the project's progress
- **Tailoring of PRINCE2** a summary of how PRINCE2 is tailored for the project; for example, any changes of terminology.

The project initiation documentation is a living product in that it should always reflect the current status, plans, and controls of the project. Its component products will need to be updated and re-baselined, as necessary, at the end of each stage to reflect the current status of its constituent parts. The version of the project initiation documentation that was used to gain authorization for the project is preserved as the basis against which performance will later be assessed when closing the project.

The components of the project initiation documentation are described in more detail throughout the practice chapters (Chapters 5 to 11). However, at the end of every stage, each component of this documentation is reviewed for currency, and if required structured changes should be made. The baseline version is always preserved.

4.3.2 Project log

The project log maintains a live record of project activities and progress. The project log captures a wide range of project activities and progress information, such as issues and risks.

Management product: Project log

Purpose

The purpose of the project log is to capture the continually changing records of issues, lessons, products, quality, risk, and other formal/informal actions or events. The project log is dynamic in that it contains the current and historic record of project activities and progress.

High-level content

- Project logs and registers:
 - issue register

Box continues

- lessons log
- product register
- quality register
- risk register
- daily log of other information actions and events.
- Common data for each log entry:
 - unique identifier
 - date logged
 - logged by
 - date updated
 - status
 - classification (where needed)
 - details.

The project log may be a single document or, more commonly, a collection of separate logs. Each log/register within the project log is described in further detail throughout the practice chapters (Chapters 5 to 11).

4.4 Format of the practice chapters

Each practice chapter is structured as follows:

- purpose of the practice
- guidance for effective use and management of the practice
- techniques that support the practice
 - for each practice there are two types of techniques: those that are specific to PRINCE2 (for example, product-based planning) and additional techniques that are useful depending on project context. The additional techniques can be omitted or substituted without any need to change how PRINCE2 is applied. Omitting or substituting PRINCE2 techniques would require the method to be tailored
 - applying the practice
 - management products to support the practice
 - focus of key roles for the practice
 - key relationships with the PRINCE2 principles.



CHAPTER 5

BUSINESS CASE



CHAPTER 5

› BUSINESS CASE

5.1 Purpose



Key message

The purpose of the business case practice is to establish mechanisms to judge whether the project is (and remains) desirable, viable, and achievable as a means to support decision-making in its continued investment.

Organizations undertake projects to make measurable improvements in one or more aspects of their business. These measurable improvements are called benefits. In cases of compliance or regulatory projects, the benefits may be compared to the consequences of inaction.

PRINCE2 projects deliver outputs in the form of products which are used to facilitate changes in an organization or for organizations. These changes create capabilities that lead to outcomes. The outcomes allow the organization(s) to realize the benefits that are explained in the business case for the project. Outcomes that are perceived as negative by one or more stakeholders are called dis-benefits.

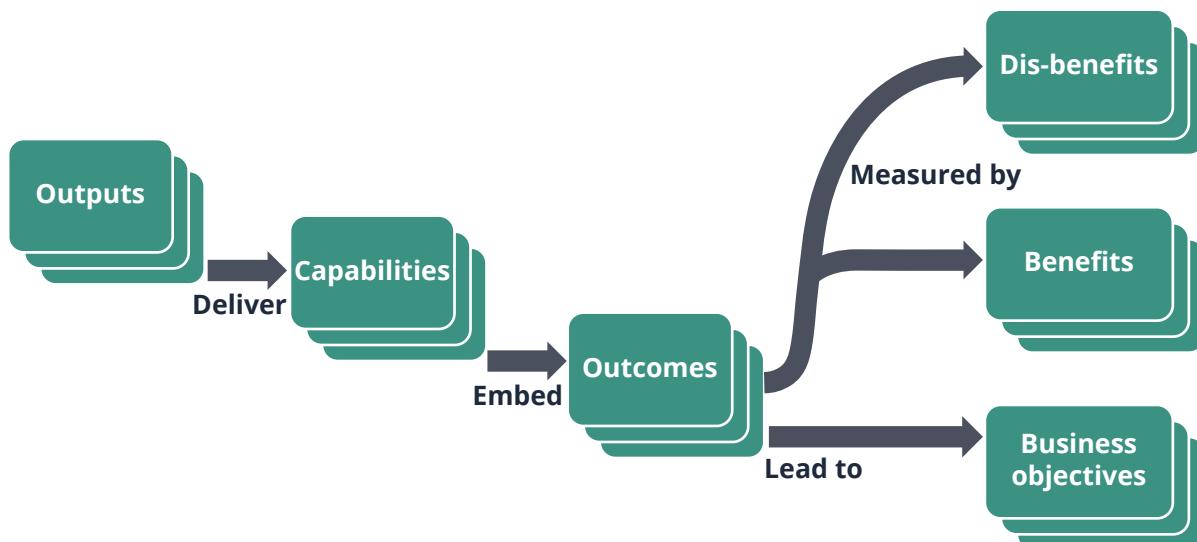


Figure 5.1 Relationship between outputs, outcomes, and benefits



Definitions

Output The tangible or intangible deliverable of an activity. In PRINCE2, outputs are the specialist products that will be used to enable change.

Capability The completed set of project outputs required to deliver an outcome.

Outcome The result of change, normally affecting real-world behaviour and circumstances. Changes are implemented to achieve outcomes, which are achieved as a result of the activities undertaken to facilitate the change.

Benefit The measurable improvement resulting from an outcome that is perceived as an advantage by the investing organization and contributes towards one or more business objectives.

Dis-benefit The measurable decline resulting from an outcome perceived as negative by the investing organization and which detracts from one or more business objectives.

Business objective The measurable outcomes that demonstrate progress in relation to the organization's strategy and to which the project should contribute.

All projects must have a business justification, usually documented in a business case. The business case establishes not only the reason for the project but also confirms whether the project is:

- desirable (the balance of costs, benefits, and risks)
- viable (able to deliver the products)
- achievable (whether use of the products is likely to result in envisaged outcomes and resulting benefits).

Business justification is not only about costs but also about understanding the value of a project. It is the perceived benefits or importance of the outcomes in proportion to the resources deployed to achieve them. Moreover, business justification is about selecting an approach that offers the best overall value.

It is a PRINCE2 principle that a project must ensure continued business justification. This requires that the business justification is established at the beginning of the project through the creation of a business case and then kept under regular review and updated in response to the decisions and events that might impact the desirability, viability, or achievability of the project. If the business justification ceases to be valid, the project should be stopped or changed.

Scenario: desirable, viable, but not achievable

Upon review of the outputs of stage 2 in the campaign project by NowByou (which included the campaign's high-level requirements gathering and options analysis) and in preparation for stage 3, the project manager met with the project board. This was to examine the project business case, as more information is now available.



The group concluded that the approach outlined can be delivered on time and is affordable. However, the (quality of the) communication vehicles proposed is deemed unlikely to reach the intended audience. For that reason, the project board has asked the project sponsor to redefine the project scope.

5.2 Guidance for effective business case management

5.2.1 Business case lifecycle

The business case is developed as an outline at the start of a project based on information provided in the project mandate. It needs to include sufficient information to enable the project board to confirm the business justification and authorize the project manager to initiate the project. PRINCE2 uses the term 'outline business case' for this initial justification. Other approaches may use terms such as 'strategic outline case'. The outline business case is documented in the project brief.

In most cases, the project costs, timescales, products, risks, and targets will not be sufficiently understood at this point to provide a robust justification of the entire project. Therefore, the outline business case will need further development and refinement. As the project is planned in more detail and information becomes clearer, the outline business case is developed into a more detailed business case. PRINCE2 uses the term 'full business case' to describe this enhanced business case. Other approaches may also use the terms 'detailed business case' or 'final business case'.

The evolution from the project mandate to the project brief and the (full) business case is shown in figure 5.2.

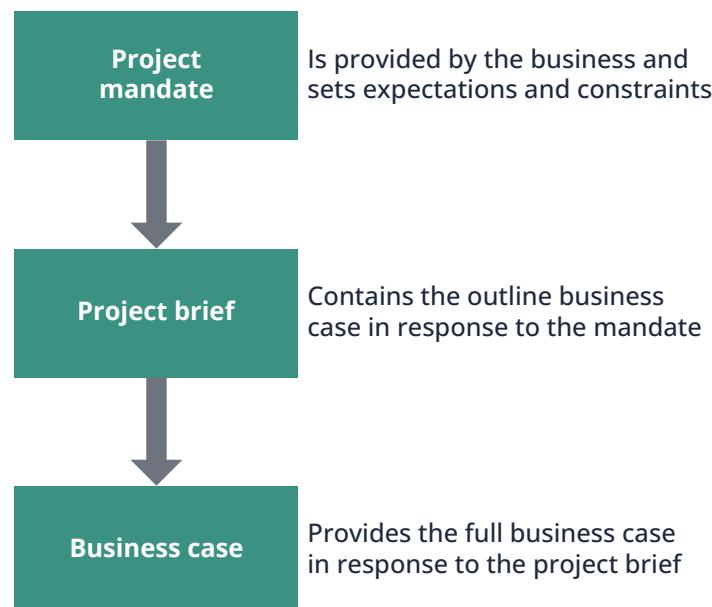


Figure 5.2 Evolution of the business case

The business case may also undergo further refinement as the project progresses across stages as actual costs are incurred, forecast benefits are potentially achieved, and information is further understood.



Scenario: business case lifecycle

Given the innovative nature of Findef's products, there is a recognized need for market testing, which has been planned for stage 3 in the life of the project. The early adopters' feedback will help Findef identify bugs and design flaws in the product, as well as indicate any potential marketing opportunities.

The project sponsor is aware that incorporating market feedback into the product decisions will enable rapid adoption when the minimum viable product is launched. However, this approach is not overly predictive of what can be expected as an acceptable list of features. This means that the original cost estimates presented in the business case are far from what would be needed to respond to the market's feedback. As a consequence, the project board now needs to return to the investment committee to request additional funding for the project.

5.2.2 Aligning products to business objectives and tolerances

The theory of the links between outputs, outcomes, and benefits is straightforward. However, putting theory into practice is often much more difficult. Many organizations will be able to identify projects that have produced products that were never fully used or organizational changes that were never fully embedded. For benefits to be realized, the outcomes must be achieved, which means that the outputs from the project are used as intended, new capability is defined, and barriers to the use of the new capability are identified.

A problem that commonly occurs is that projects are often successful from a delivery perspective but fail from an investment perspective. As the project's outcomes and benefits are often only realized after the project has closed, it is easy for project teams to become focused solely on creating products (the outputs). The link from the project's outputs to outcomes and benefits needs to be clearly identified and made visible to those involved in the project. Otherwise, there is a danger that the original purpose of the project can get lost, and the benefits will not be realized. Some products are enablers for other products to generate benefits.

Ultimately, the outcomes and benefits to be achieved from the project need to align with and contribute to the business objectives. These may include environmental, social and governance (ESG) goals set by the organization. The sustainability performance targets and tolerances for the project, documented in the business case, should reference and contribute to the ESG goals of the organization (see section 5.4.4 for more information on sustainability).

The benefits management approach that supports the business case includes the amount and timing of benefits forecast to be achieved by the project and additional guidance relating to the tolerance against these targets (such as a 10–15 percent increase in sales). Forecast benefits are checked through the project (at a minimum at the end of every stage), and if they fall outside of set tolerances, they should be escalated to the appropriate level for review and action. Ensuring benefits are measurable also ensures that they can be demonstrated. If the project includes benefits that cannot be measured, it is impossible to determine whether it has been a success or provided value for money.



Definitions

Benefits tolerance The permissible deviation in the benefit performance targets that is allowed before the deviation needs to be escalated to the next level of management. Benefits tolerance is documented in the business case.

Sustainability tolerance The permissible deviation in the sustainability performance targets that is allowed before the deviation needs to be escalated to the next level of management. Sustainability tolerance is documented in the business case.

5.2.3 Establishing business justification

All seven aspects of the project's performance targets (see 1.4) and their relationships with each other should be considered as part of assessing the business justification, but there will often be trade-offs between different performance aspects. For example, if in developing the project product description it is decided that higher quality targets are required, it is likely to impact the cost, time, or sustainability targets.

The business case considers options to achieve the required outcomes (PRINCE2 refers to these outcomes as the 'business options') and selects the option that gives the best balance between the different performance aspects. If a project cannot build a business case within the tolerances set for all seven performance aspects, then its justification may be questionable.

The business case should include not only the costs of developing the project product but also any changes to operational costs when the project concludes. Most organizations have policies that define how these costs should be considered in their business cases.

Dis-benefits are expected consequences of an activity, whereas a risk is uncertain and may never materialize. For example, a decision to merge two elements of an organization into a new site may have benefits (such as better joint working), costs (such as expanding one of the two sites), and dis-benefits (such as limited public transport options to the new site). Dis-benefits need to be valued and incorporated into the investment appraisal.

5.3 Techniques

5.3.1 PRINCE2 technique for business case management

PRINCE2 includes a four-step business case management technique (develop, check, maintain, confirm) as shown in figure 5.3. An alternative procedure can be used in its place if desired, for example, if the business has already developed a procedure specific to their organization. The use of an alternative procedure should be documented as part of the tailoring decisions in the project initiation documentation.

The business case is developed in outline and then in detail at the beginning of the project. It is reviewed and updated as it develops and evolves throughout the life of the project (see figure 5.2). It is checked by the project board at each key decision point (such as at stage boundaries) and confirmed throughout the period that benefits accrue.

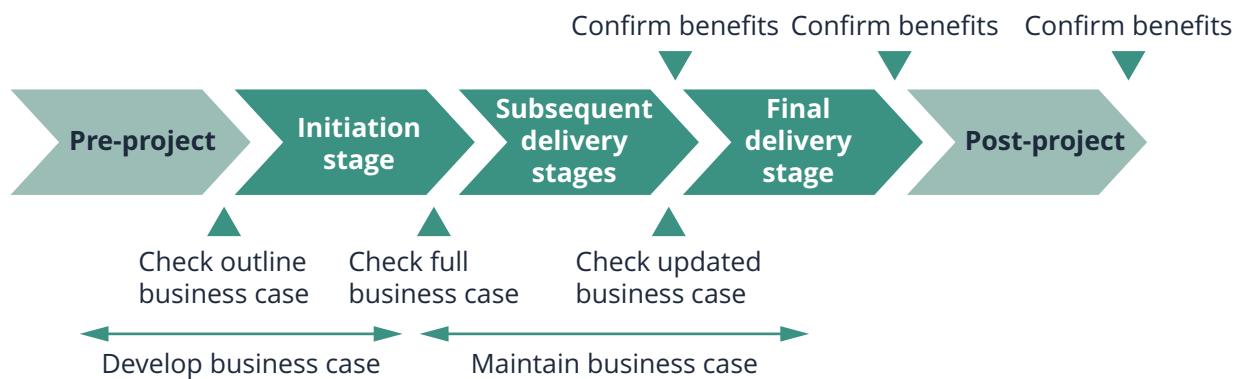


Figure 5.3 Business case through the project lifecycle

In figure 5.3 above:

- **develop** means to explore options and get the right information upon which investment appraisal decisions can be made
- **check** means to assess whether the project is (still) worthwhile
- **Maintain** means to keep the business case updated with actual progress and current forecasts (including forecast benefits)
- **confirm** means to assess whether the intended benefits have been (or will be) realized. Confirming benefits will mostly take place after the project has been closed, although benefits may be realized during the project when products are delivered and released iteratively.

5.3.1.1 Develop

The provision of a project mandate activates the process of starting up a project. The project mandate is then used as an input to develop the initial business justification for the project documented in the outline business case as part of the project brief. In the process of directing a project, the project brief is approved by the project board when authorizing the project initiation. The outline business case is refined into a full business case during the process of initiating a project. The project board approves this when authorizing the project.

There are three basic business options concerning any investment:

- do nothing differently
- do the minimum
- do more than the minimum.

The 'do nothing differently' option should always be the first option and act as the basis for quantifying the other options. The difference between do nothing differently, do the minimum, or do more than the minimum is the benefit that the investment will buy.

The analysis of each option provides the project board and the project's stakeholders with sufficient information to determine which option presents the best value for the organization. It answers the question: for this level of investment, are the expected benefits more desirable, viable, and achievable than the other available options? See 5.3.2.1 Investment Appraisal techniques for a summary of some of the ways in which options can be evaluated and compared.

During the early stages of a project, there may be a wide range of options under consideration, and subsequently, the number of options will be reduced so that they can be examined in more detail. It is important for all projects including those classified as 'must do' (such as regulatory projects) to explore different options and select the most appropriate. There may be different approaches available that must be evaluated in terms of their viability, desirability, and achievability.

Scenario: do nothing/minimum/something options appraisal



In the design of its campaign against discrimination, NowByou has identified the following options, whose analysis is outlined below:

Option	Advantages	Disadvantages
Do nothing: keep status quo	None	None
Do the minimum: use the current marketing vehicles (for example, social networks, website, and field work)	Capitalize on the already established forums and work with the police forces	No new investment but requires staff time to update and maintain the current platforms (up to \$2,000 expense) Limited reach, existing audience group only
Do more than the minimum: create a multi-marketing vehicle targeted campaign	Expand the reach of NowByou Establish new partnerships Build brand awareness Expand the donors base/funding streams	Requires additional funding (up to \$25,000 for campaign delivery; up to \$3,000 for staff time; up to \$8,000 for dedicated project manager)

Given the expected benefits and costs involved, creating a multi-marketing vehicle targeted campaign is the preferred option, as it generates attractive value for money in line with NowByou's mission.

5.3.1.2 Check

The business case for the chosen option should be continually assessed for desirability, viability, and achievability, as any new risks or changes might justify switching to another option.

The business case may undergo further refinement and will be updated across stages as project costs, timescale, products, and risks are further understood. Continued business justification drives all decision-making by ensuring that the business objectives and benefits being sought can continue to be realized. As a minimum, the project board should check the business case:

- at the end of the process of starting up a project to authorize project initiation
- at the end of the process of initiating a project to authorize the project
- at the end of each stage to authorize the next stage and the continuation of the project
- when assessing an exception plan to authorize the revised stage and continuation of the project.

The project manager will also check the business case:

- when assessing progress, risks, and issues to determine their impact on the business justification
- during the final stage, as part of closing a project, to assess the project's performance against requirements and the probability that the outcomes will provide the expected benefits
- when consulting with stakeholders to determine whether any goals have changed (such as whether any additional sustainability objectives have been established by the business).

There are many ways to check the expected benefits. For example, sensitivity analysis can be used to determine whether the business case is heavily dependent on a specific benefit. If it is, this may affect project planning, monitoring and control activities, and risk management, as steps would need to be taken to protect that specific benefit.

5.3.1.3 Maintain

At the end of each stage, the project manager updates the business case with the progress data (such as products delivered, projects costs, benefits realized) and the latest forecasted benefits and performance targets. It is important to maintain the business case with appropriate version control so that previous versions can be accessed for reference and comparison.

5.3.1.4 Confirm

The business will review the business case as part of a post-project benefits review to determine the project outcomes in realizing their benefits. They will also assess whether the intended benefits have been realized in practice. During the project, benefits reviews should be conducted at stage boundaries to confirm that any benefits forecast to be achieved during the project are on track to be realized.

As shown in figure 5.1 (see section 5.1), projects deliver outputs, and the use of those outputs will result in outcomes that provide benefits to the business. It is important that the project management team understands the benefits and outcomes the project should realize. Otherwise, it is unlikely to be able to develop the right outputs or build and sustain commitment to the changes during the project's lifespan.

The senior user, who is responsible for specifying the benefits from the project, is also accountable for confirming that the forecast benefits are realized. This may involve a commitment beyond the life of the project, as it is likely that many benefits will not be realized until after the project has closed. For this reason, it is usually advisable that the senior user comes from an area of the business impacted by the change. However, this poses a dilemma because when the project closes, the 'temporary organization' is disbanded along with the framework (and in particular the funding and resources) to perform any measurement activities.

The benefits management approach defines the management actions that will be established to ensure that the project's outcomes are achieved and to confirm that the project's benefits are realized. It is first created by the project manager in the 'initiating a project' process during the initiation stage and is submitted to the project board for approval when seeking project authorization. If the business is to manage or participate in the benefits reviews, the project board may need to seek its approval. The benefits management approach may be managed by the project or by the business and is likely to be managed beyond the life of the project.

Any benefits that can be measured during the life of a project should be confirmed by the senior user for formal reporting by the project manager in the end stage reports and end project report. When benefits can be reviewed during the life of the project, the benefits management approach should include appropriate mid-project benefits reviews. Any forecast benefits that are unrealized should be re-examined and their forecasts updated as part of the 'managing a stage boundary' process.

Post-project benefits reviews will involve the business holding the senior user accountable by asking for evidence of how the individual benefits allocated to them have been realized, with corrective actions taken to achieve benefits that have not been fully realized. The post-project benefits reviews will also review the performance of the project product in operational use and identify whether there have been any side effects (beneficial or adverse) that may provide useful lessons for other projects.

The project executive is responsible for ensuring that benefits reviews are planned and executed. For post-project measurement activities, the responsibility for benefits reviews transfers from the project executive to the business (specifically the senior user) when the project closes, as the reviews will need to be funded and resourced.

5.3.2 Supporting techniques

5.3.2.1 Investment appraisal

An investment appraisal compares the costs of developing, operating, and maintaining the project product with the value of the benefits over a period of time. The investment appraisal looks at the relationship between benefits, costs, and risks. It should cover both the project costs (both in producing the required products and the project management costs) and the ongoing operations and maintenance costs.

There are many investment appraisal techniques available to organizations that will often have preferences on which technique to adopt for specific projects. The selection of techniques may be influenced by the type of business (such as those that have to follow public sector accounting rules) or the organization's own standards.

Examples of investment appraisal techniques include the following:

- **Whole life costs** analysing the total cost of implementation and any incremental transitional, operational, and maintenance costs
- **Net benefits** analysing the total value of the benefits minus the cost of implementation, transition, and ongoing operation, calculated over a defined period
- **Return on investment (ROI)** profits or savings resulting from investments expressed as a percentage of the initial investment
- **Payback** a measure of time to remunerate the investment of cash and other resources
- **Net present value (NPV)** an amount of money that the investment will have earned by a particular point in time that considers the time value of money using a discount rate to determine discounted cash flows (For example, if the discount rate is six percent, the value of money halves approximately every 12 years. Therefore, if a project is forecasting a £500,000 benefit to materialize in year 12, then it is only worth £250,000 in today's money.)
- **Internal rate of return** a percentage that indicates the rate of return on investment when the NPV is zero
- **Options analysis** a comparison of the options by scoring each option against weighted assessment criteria to help identify a preferred option (Pairwise comparison can also be used to differentiate between options to establish the shortlist and preferred option.)
- **Sensitivity analysis** adjusting the input factors to model the point at which the output factors no longer justify the investment.
 - For example, a project might be worthwhile if it can be done in four months but ceases to be worthwhile if it was to take six months.
 - Business cases are based on uncertain forecasts. To identify how robust the business case is, it is useful to understand the relationship between input factors (such as project costs, timescale, quality, scope, and project risks) and output factors (such as operations and maintenance costs, business benefits, and business risks).

5.3.2.2 Multi-case model

Evaluating investments from different perspectives, rather than focusing solely on financial return, gives a rounded view of whether an investment is desirable, viable, and achievable. Examples of some different investment perspectives include:

- **Strategic perspective** understanding the drivers for change and demonstrating how the investment provides strategic fit
- **Economic perspective** identifying the option that delivers best value, including wider social, environmental, and sustainability considerations
- **Financial perspective** assessing affordability, funding, budgeting, and cashflow over the life of the project and project product
- **Implementation and commercial perspective** showing that the preferred option can be delivered by service providers and that robust arrangements are established for successful project delivery.

For an investment to be robust, it should be able to demonstrate that it satisfies all these perspectives. The business may have developed its own set of cases for developing business cases, such as an environmental case, and policies regarding their use.

5.3.2.3 Best, expected, and worst-case scenarios for benefits

When using iterative-incremental approach, such as agile, the scope of the project is typically flexible in order to embrace adaptability and to reassure the project will be completed in the fixed time and budget. Therefore, benefits should be expressed not as a target estimate but rather in the form of a range, relating to the amount of scope delivered.

One way to present the estimation of the benefits is to present different scenarios for the scope and the benefits in a business case, for example:

- best-case scenario describing benefits expected when all (must-, should-, and could-have) requirements are delivered
- expected-case scenario describing benefits expected when must-have and should-have requirements are delivered
- worst-case scenario describing benefits expected when only must-have requirements are delivered.

The worst-case scenario showing the lowest expectation of the amount of scope delivered should also show that the project is still viable.

5.4 Applying the practice

5.4.1 Organizational context

A project needs to align its approach to developing and maintaining the business case with wider business policies, standards, and approaches. These will often differ according to the type of organization, for example, those in the public sector compared to the private sector.

If the project is part of a programme, the programme will typically define the approach to business case development and provide an outline business case for the project. The project's business case will usually be aggregated into the overall programme business case, and its content is likely to be reduced.

It may only be composed of the details of the scope, budget and timescales, a list of benefits (and the benefits tolerance), sustainability targets (and sustainability tolerance), a statement of what the project contributes to the programme outcomes, and reasons for selecting the proposed option. The other justification aspects of the project business case should be in the programme business case.

Benefits will usually be defined, tracked, and managed by the programme management team, and the project's benefits management approach may be part of the programme's benefits realization plan.

5.4.2 Commercial context

Customers and suppliers will have their own business justifications for participating in the project and may need their own business cases. The customer needs to ensure that its project is viable, and the risks are acceptable, considering the suppliers chosen. A supplier would have to ensure that it will benefit from the work it undertakes on the project. In other words, that it would be worthwhile from the supplier's perspective.

Successful projects ensure these business cases are aligned and compatible recognizing that there may be elements of each business case that are private to each organization. It is the responsibility of the project executive to ensure compatibility through the alignment of the three project interests of the user, the business, and the supplier on the project board.

5.4.3 Delivery method

An iterative-incremental approach may require more information on the benefit tolerances, priorities, and timescales. Additionally, it may also need details of the extent and sequence of the scope to be delivered. Given the fixed cost and time, one way to present a business case is to show the best case, expected case, and worst case of the scope that can be used.

When creating a business case, it is important to understand how incremental delivery of a product and the value associated with it could impact the project's viability (positively or negatively) and also the ability to achieve the early realization of some benefits. If there is a high level of uncertainty, the business case should be developed, and the assumptions should be tested quickly.

When using an iterative-incremental delivery method such as agile, the understanding of what is to be delivered will increase throughout the project together with understanding the benefits. Thus, the business case would evolve much more during the lifecycle of the project than for a linear-sequential project. The business case may also be framed as having a worst-case scenario when only the "must have" requirements are delivered and an expected-case scenario when the "must haves" and "should haves" are delivered and a best-case scenario when the "could haves" are also delivered.

5.4.4 Sustainability

The United Nations defines 17 sustainability development goals to improve health and education, reduce inequality, and encourage economic growth while tackling climate change. Many organizations have signed up to align with these targets. Organizations may define specific business objectives related to improving sustainability, and specific organizational policies, targets, and frameworks to achieve their ESG commitments. It is important that the sustainability targets for the project align with the organization's broader objectives and any ESG targets it has defined.

If a project's primary purpose is to satisfy a sustainability objective, then using traditional methods of investment appraisal may not be effective when assessing its business justification. For example, a

project to build a flood defence barrier, where benefits may not be achieved for 20 or 30 years, may be difficult to justify using discounted cash flow methods, where the future value of money, and therefore benefits, is worth less than today. The approach to assessing business justification may need to be adapted for this type of project.

Scenario: sustainability as a trade-off in options appraisal



Louistown city council's pledge to net zero within the next 10 years means it has set a finite allowance of greenhouse gas emissions across all activities by year. Of this allowance, the LouisShopping project has been allocated a limit of 2.3 tons CO₂e. This requires the project to make trade-offs in options regarding design, delivery, and operations/maintenance. As part of the project design, the project board has requested the project team to complete an options analysis on what are the possible scenarios to meet sustainability standards and their implications.

The project team identified two key design decisions required and their trade-offs as follows.

Design decision	Option A	Option B
Indoor air quality and ventilation	Use enhanced mechanical ventilation. This can improve indoor air quality and increase the productivity of occupants in green buildings. However, it can lead to higher carbon emissions compared with other ventilation systems.	Use a balanced or fully ducted ventilation system. This is deemed the most effective solution for creating a clean and optimum environment for employees as it utilizes fully controlled and balanced ventilation. Although less utilized than mechanical ventilation, it produces less carbon emissions.
High-performance windows	Using large, double-glazed windows can improve sleep quality at night and consequently productivity at work, as well as increase heat gain. Double-glazed windows save energy and consequently, reduce carbon emissions.	Innovative water-filled windows that cool and reheat themselves, without needing an additional energy supply, can save up to 72 percent more energy than buildings fitted with traditional heating systems and double-glazed windows. However, this solution is not yet tested in a retail building context.

Based on the council's commitment to net zero, a decision was made to use a balanced ventilation system instead of an enhanced mechanical ventilation. The project board also agreed that water-filling windows, although producing better results regarding carbon emissions, would bring a high-level risk to the project. Hence, they decided to proceed with double-glazed, a common approach used in retail construction.

5.4.5 Scale

The format and detail of the business case needs to be adapted so that it is appropriate to the size and complexity of the project. For example, small, low value projects may merge the project brief and business case into one simple business case document. On the contrary, large or complex projects may require more detail in the business case, such as including a detailed environmental impact study for large-scale infrastructure projects.

5.5 Management products to support the practice

PRINCE2 includes 16 management products that are used to manage the project. The management products specific to the business case practice are described here.

Management product: Project brief

Purpose

The purpose of the project brief is to provide a full and firm foundation for the initiation of the project.

High-level content

Project definition explains what the project should achieve and should include:

- the background
- project objectives
- desired outcomes
- project scope and exclusions
- constraints and assumptions
- project tolerances
- users and any other known interested parties.

Outline business case reasons why the project is needed and the business option that is selected

Project product description includes user quality expectations and acceptance criteria

Project approach defines the approach to deliver the selected business option selected from the outline business case

Project management team structure and role descriptions who will work on the project, in what role, and with what scheme of delegation and reporting

References for any associated documents or products.

Management product: Business case

Purpose

The purpose of the business case is to document the business justification for undertaking a project, based on the estimated costs against the expected benefits to be gained and offset by any associated risks. It should outline how and when the expected benefits can be measured.

High-level content

Executive summary highlights the key points in the business case, which should include important benefits and the return on investment

Reasons defines the reasons for undertaking the project and explains how the project will enable the achievement of business objectives

Business options analysis and reasoned recommendation for the options including any assumptions upon which the options are based

Expected benefits and dis-benefits benefits and dis-benefits expressed in measurable terms against the situation as it exists prior to the project. The measures include benefits tolerances

Sustainability targets specific targets relating to sustainability that the project must meet. The targets include sustainability tolerances

Time the period over which the project will run and the period over which the benefits will be realized

Costs a summary of the project costs, the ongoing operations and maintenance costs, and their funding arrangements

Investment appraisal compares the aggregated benefits and dis-benefits with the project costs and ongoing incremental operations and maintenance costs in order to define the value of a project as an investment

Major risks a summary of the key threats and opportunities associated with the project, together with their likely impact and responses

References for any associated documents or products.

Management product: Benefits management approach

The benefits management approach is part of the project initiation documentation.

Purpose

The purpose of the benefits management approach is to define the benefits management actions and benefits reviews that will be established to ensure that the project's outcomes are achieved and to confirm that the project's benefits are realized.

Box continues

High-level content

Scope describes what benefits are to be managed and measured

Benefits realization procedures describes what management actions are required to ensure that the project's outcomes are achieved (This should include arrangements for benefits realization activities to be undertaken by the business layer after the project has closed. For example, preparing and handing over a benefits realization plan.)

Benefits measurement describes how to measure achievement of expected benefits, when they can be measured, and the baseline measures from which the improvements will be calculated

Benefits tolerance guidance Provides additional guidance to the benefits tolerance levels defined for the project in the business case

Product performance describes how the performance of the project product will be reviewed

Responsibilities defines the responsibilities for business case activities, including who is accountable for the expected benefits

Resources for the benefit management activities, for example, to undertake studies

Supporting tools and techniques for the benefit management activities, for example, use of a simulator

Standards any standards which apply to benefit measures

References for any associated documents or products.

Management product: Sustainability management approach

The sustainability management approach is part of the project initiation documentation.

Purpose

The purpose of the sustainability management approach is to define the actions, reviews, and controls that will be established to ensure that sustainability performance targets for the project are achieved.

High-level content

Scope describes what sustainability targets are to be managed and measured

Measurement describes how to measure achievement of sustainability targets, when they can be measured, and the baseline measures from which targets will be calculated

Responsibilities defines responsibilities for sustainability activities, including who is accountable for measuring the achievement of the sustainability targets

Resources for the sustainability management activities, for example, to undertake studies

Supporting tools and techniques for the sustainability management activities

Standards any standards which apply to sustainability management

References for any associated documents or products.

5.6 Focus of key roles for the practice

PRINCE2 defines seven key roles to manage a project. Their responsibilities specific to the business case practice are described here.

Table 5.1 Areas of focus for the key roles associated with the business case practice

Role	Responsibilities
Business layer	<ul style="list-style-type: none"> ● provide the project mandate and define any standards to which the business case needs to be developed ● hold the senior user(s) accountable for realizing the post-project benefits enabled by the project product ● be accountable for the benefits management approach (post-project) ● set project level benefits tolerance
Project executive	<ul style="list-style-type: none"> ● be accountable for the business case for the duration of the project ● approve the benefits management approach and sustainability management approach and be accountable for the duration of the project (unless being managed by the business) ● set stage level benefits tolerance ● oversee the development of a viable business case, ensuring the project is aligned with business objectives ● ensure the project remains desirable, viable, and achievable ● secure the funding for the project ● ensure the benefits specified by the senior user represent value for money, are aligned with business objectives, and can be realized ● ensure the delivery method and costs proposed by the senior supplier represent value for money
Senior user	<ul style="list-style-type: none"> ● be accountable for specifying the desired outcome and benefits upon which the business case is approved ● agree the benefits management approach and sustainability management approach ● be accountable for realizing benefits and ensure that the project produces products that deliver the desired outcomes and that those outcomes will generate the desired benefits ● confirm that the expected benefits (derived from the project's outcomes) are realized or are able to be realized ● provide statements of actual benefit achievements versus forecast benefits at benefits reviews
Senior supplier	<ul style="list-style-type: none"> ● be accountable for the supplier business case (if applicable) ● confirm that the products required can be delivered within the expected costs and are viable
Project manager	<ul style="list-style-type: none"> ● be responsible for development of the business case, benefits management approach, and sustainability management approach as delegated by the project executive ● review impact of issues and risks on the continued viability of the business case ● assess and update the business case, benefits management approach, and sustainability management approach at the end of each stage ● assess and report on project performance at project closure ● consult with stakeholders throughout the life of the project to check whether any goals have changed
Team manager	<ul style="list-style-type: none"> ● implement the benefits management procedures (if any) agreed in their work package description

Table continues

Role	Responsibilities
Project assurance	<ul style="list-style-type: none"> ● check that the project fits with the overall business objectives ● advise the project manager on the benefits management approach and sustainability management approach ● confirm to the project board that the benefits management approach and sustainability management approach are compliant with business policies ● check and monitor the business case against external events and project progress ● monitor project finance on behalf of the business ● monitor changes to the project plan to identify any impact on the needs of the business or the business case ● review the impact assessment of potential changes on the business case and project plan ● assure the project board on the implementation of the benefits management approach and sustainability management approach (such as whether the value-for-money solution is constantly reassessed)
Project support	<ul style="list-style-type: none"> ● maintain baseline and change control for business case, benefits management approach, and sustainability management approach ● advise the project manager of any proposed or actual changes to products that affect the business case

5.7 Key relationships with principles

The business case practice contributes to the adherence to PRINCE2 principles across the project lifecycle.

Table 5.2 Key relationship between the business case practice and PRINCE2 principles

Principle	Achieved by	Resulting in
Ensure continued business justification	creating and maintaining a business case for the project to assess whether it is (and remains) desirable, viable, and achievable	confidence that the investment is worthwhile
Learn from experience	using lessons to inform business justification	confidence that the business case is developed from previous experiences
Define roles, responsibilities, and relationships	clarifying the responsibilities for developing and maintaining the business case and benefits management throughout the project	clear understanding of expectations for business case and benefits management
Manage by stages	ensuring decisions made at stage boundaries are checked for business justification	confidence that the investment remains justified through the project
Manage by exception	measuring the impact of issues and risks to the business case and escalating when these are forecast to exceed tolerances	clear understanding of potential impacts on the business case to foster effective decision-making
Focus on products	ensuring that the products produced can lead to the required outcomes and benefits	project benefits that are achievable
Tailor to suit the project	ensuring that the formality and level of control for business case development, approval, and review are appropriate for the type, size, and complexity of the project	governance of the business case that is fit for purpose



CHAPTER 6

ORGANIZING



CHAPTER 6

ORGANIZING

6.1 Purpose



Key message

The purpose of the organizing practice is to define and establish the project's structure of accountability and responsibilities (the 'who').

Projects are complex ecosystems comprising an ever-changing web of relationships. For a project to succeed, it is essential to establish an effective project management team structure that supports navigating this complexity. For this reason, one of PRINCE2's principles is that projects must define roles, responsibilities, and relationships for the project within an organizational structure that engages with and represents the interests of business, user, and supplier communities.

To be flexible and meet the needs of different contexts, PRINCE2 defines a set of roles that need to be undertaken, together with the responsibilities of each of those roles. PRINCE2 does not define tasks to be allocated to people on a one-to-one basis. Roles can be shared or combined within certain constraints according to the project's needs, but responsibilities must always be allocated.



Definition: Role

The function assigned to a group or individual in a particular project. It is not the same as the position or job of a person outside of that project.

6.2 Guidance for effective organizing

6.2.1 The three project interests

There is likely to be a wide range of stakeholders with an interest in and an ability to have an impact on a project (such as government, regulators, and special interest groups). Nonetheless, the PRINCE2

method focuses on three principal categories of project stakeholders (business, user, and supplier) and includes them in the governance and management arrangements for the project.

Table 6.1 Description of the three project stakeholder groups

Stakeholder	Description
Business	Projects are created to meet a business need, which needs to be continuously justified as value for money throughout the lifetime of the project. PRINCE2 defines a project executive role to represent this viewpoint on the project.
User	The products of a project should provide benefits to a defined set of users who support both defining the requirements of the product and ensuring these requirements are met. Users can sit within the business as end users, be impacted by the project, or have a role in operating or maintaining the products. Users can also sit outside of the business as end users or be impacted by the outputs of the project. PRINCE2 defines a senior user role to represent user interests on the project.
Supplier	Projects require people with the necessary skills and knowledge to collaborate to deliver the products. These people may come from within the organization, or external suppliers may be used for their skills and knowledge. PRINCE2 defines a senior supplier role to represent supplier interest on the project.

Successful project management teams comprise people from across the business, user, and supplier communities. The PRINCE2 principle of manage by exception supports the day-to-day needs of managing a project, enabling multi-layered decision-making at the most local level where the knowledge and capacity resides.

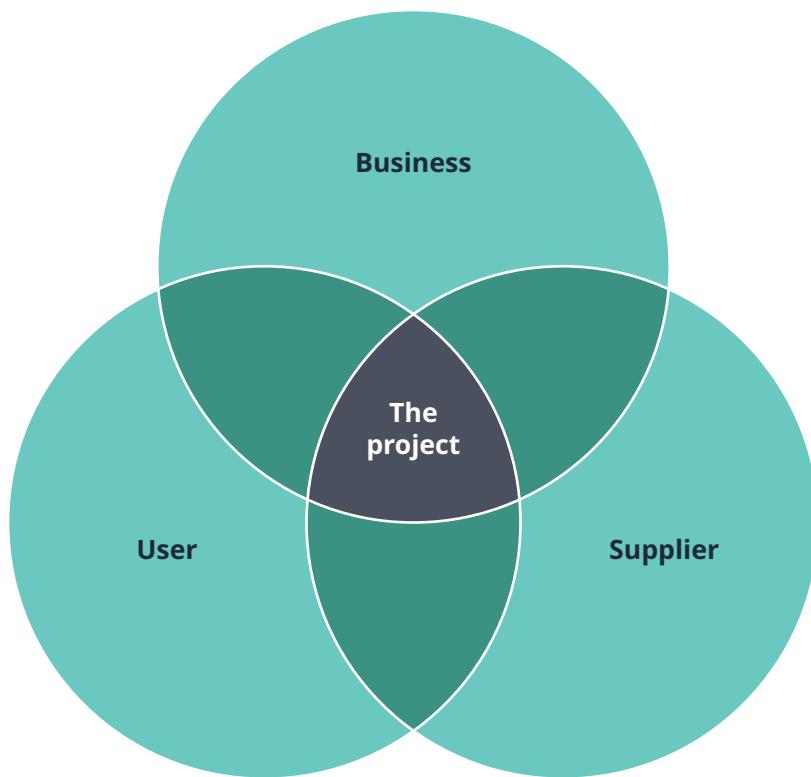


Figure 6.1 The three project stakeholder groups

The business, user, and supplier interests are brought together on the project board, which is accountable for the success of the project (see section 6.2.4.4).



Definition: Project board

Accountable to the business for the success of the project and has the authority to direct the project within the remit set by the business.

6.2.2 Organizational levels

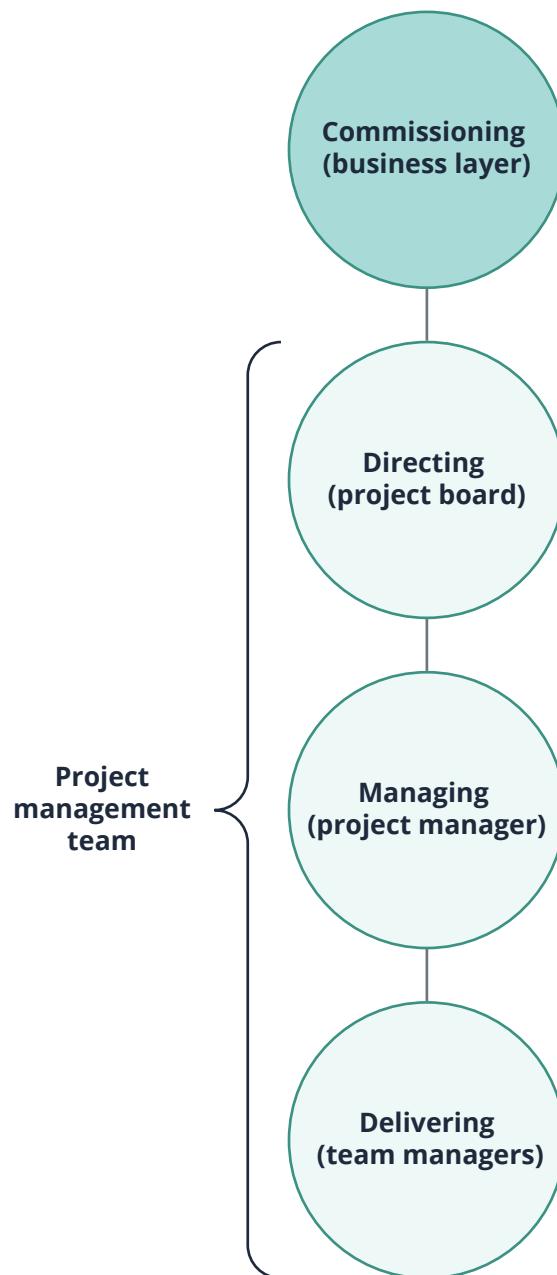


Figure 6.2 The four organizational layers

Table 6.2 Roles of the four organizational layers

Organizational level	Role
Commissioning (business layer)	The commissioning party within the business is responsible for providing the project mandate, identifying the executive, defining the project level tolerances within which the project board will work, and determining whether to authorize any potential breach of a project level tolerance.
Directing (project board)	The project board has representations from the business, user, and supplier communities and is accountable for the success of the project. It is also responsible for the overall direction and management of the project within the constraints established by the business layer. The project board authorizes the start and completion of each stage, including setting stage tolerances (such as people, timelines, resources, and sustainability targets). The project board is responsible for determining whether to authorize any deviation that breaches or is forecast to breach the agreed stage tolerances and for communicating with the business and other impacted stakeholders as agreed in the communication management approach.
Managing (project manager)	The project manager is responsible for the day-to-day management of the project within the constraints established by the project board. The project manager's primary responsibility is to manage the relationships within the project to ensure that the project produces the products in accordance with the strategic objectives and the agreed requirements (such as quality, sustainability, time, cost, scope, benefits, and risk performance goals).
Delivering (team managers)	Team managers and team members are responsible for the day-to-day management and decision-making for their element of the project within the constraints established by the project manager, co-creating where required with other team members from across the project ecosystem.

6.2.3 Project management team structure

The PRINCE2 method requires that certain roles (with associated responsibilities) are fulfilled on every project. As long as the responsibilities are fully allocated, the roles can be shared or combined, within certain limits, to align with the skills and capabilities of the project team and the project's needs.



Definitions

Project management team structure The project management team structure is composed of the project board, project manager, team managers, and project assurance and project support roles.

Project team PRINCE2 uses the term project team to cover all people required to allocate their time to the project.

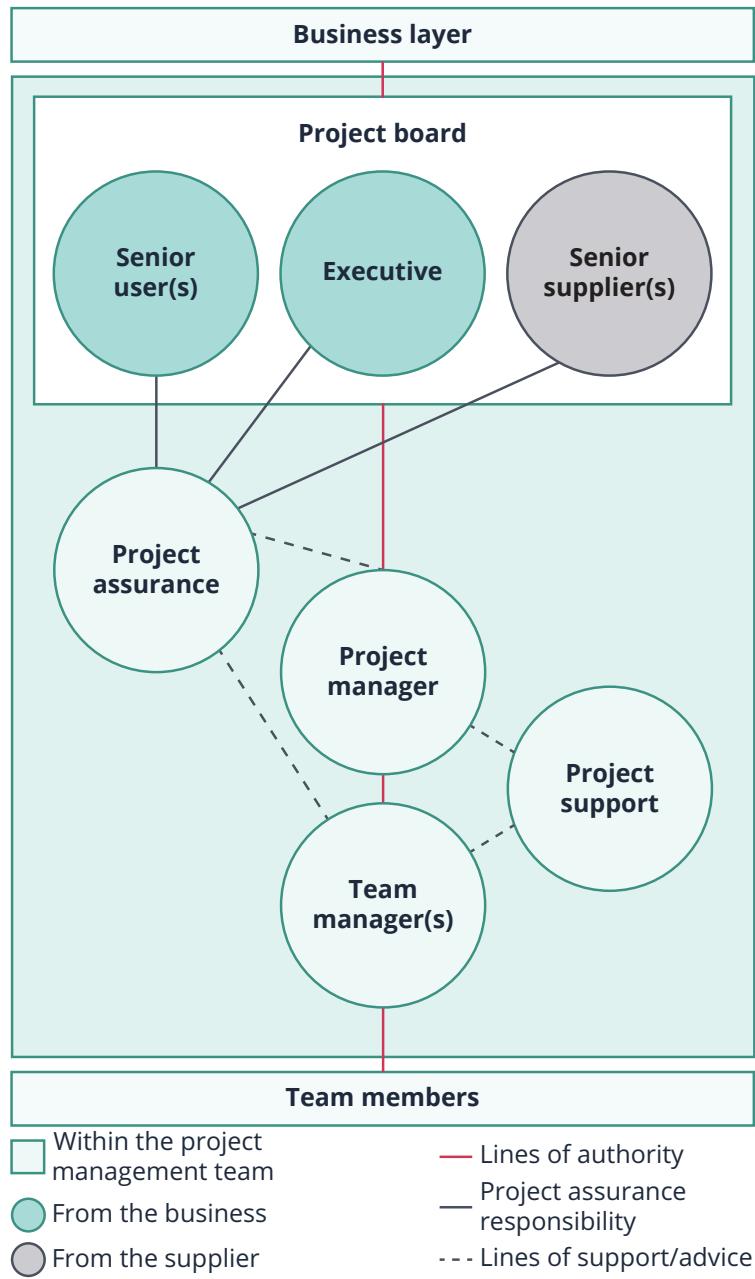


Figure 6.3 Project management team structure

6.2.4 PRINCE2 roles

This section provides an overview of each of the PRINCE2 roles.

Responsibilities for each role specific to each PRINCE2 practice are described in the practice chapters, for example section 5.6 describes role specific responsibilities relating to the business case practice.

Responsibilities for the process activities are also described for each of the processes in the form of a RACI table (responsible, accountable, consulted, informed), for example section 16.6 describes the responsibilities for the controlling a stage process.

Appendix B brings together the overview and all the responsibilities for each PRINCE2 role and provide the basis for role descriptions for use on a PRINCE2 project.

6.2.4.1 Project executive

The project executive is appointed by the business as the single point of accountability for the project and is ultimately accountable for the success of the project. This accountability cannot be delegated. The project executive secures funding for the project and is responsible for the business case and the continued business justification of the project. They are responsible for effectively governing the project in a way that is aligned to the business strategy, including ensuring longer-term thinking on topics such as environmental or social impacts.

There cannot be more than one project executive role, and the role cannot be combined with the project manager role. In organizations where there is a job-sharing scheme, there is still a one-to-one allocation of the business role (job) to the project role (project executive). However, additional arrangements may be needed to ensure there is clarity on how the single point of accountability will be maintained by the job holders who share the business role. The business' policies and guidance relating to job-sharing are likely to address such scenarios, and they should be reflected in the project executive's role description and the project initiation documentation.

6.2.4.2 Senior user

The senior user represents the user community and is accountable for the approach taken to capture user requirements and the specification of benefits aligned to the business case. The senior user is responsible for:

- ensuring the approach gains user buy-in to the project
- monitoring the products against the requirements in line with the business case
- demonstrating to the business that the forecasted benefits in the business case are on track to being realized
- controlling change to requirements and benefits, whether arising from the users, the business, or the project itself
- the successful handover and adoption of products into the business and continued realization of benefits after the project has closed.

The senior user must ensure sufficient ongoing commitment from people in the user community to support these activities, in particular where there is a longer-term commitment beyond the lifespan of the project, such as the realization of benefits.

Depending on the scale and complexity of the user community, more than one person may be required to represent the users, but this should be kept to a minimum.

6.2.4.3 Senior supplier

The senior supplier represents the supplier community that is involved in all aspects of delivering the project products. The senior supplier must ensure sufficient ongoing commitment of people and resources from the supplier organization(s) to support the project work. The senior supplier is accountable for the quality of the products delivered by the suppliers and for the technical integrity of the project.

In many cases, the senior supplier also represents the interests of those who will provide the maintenance services for the specialist products after closure of the project (for example, engineering maintenance and support).

Exceptions to this do occur, however (for example, when the maintenance services are provided by the business, such as an internal IT department, or are outsourced to a different supplier). In this instance the operations and maintenance interests are more likely to be represented by a senior user. The distinction is not really important; what matters is that operations, service and support interests are represented appropriately from the outset.

Depending on the scale and complexity of the supplier community, more than one person may be required to represent the suppliers, but this should be kept to a minimum.

6.2.4.4 Project board

All PRINCE2 projects must have a project board comprising the project executive, senior user, and senior supplier roles. On smaller and less complex projects, the role of the project executive can be combined with the role of the senior user or the senior supplier. It is not recommended to combine the senior user and senior supplier roles to avoid conflicts of interest in decision-making and ensure that the perspectives and interests of the user and supplier communities are adequately represented on the project.

The project board has authority and responsibility for the project within the project tolerances set by the business, often captured in a project mandate. They are responsible for creating the right environment for the project to succeed, including:

- having sufficient funding, people, and resources to deliver the project objectives
- establishing clear feedback loops to support adapting and evolving the project
- assuring all aspects of the project's performance and products independently of the project manager
- ensuring business strategy and objectives are reflected in the business case
- ensuring the project and its management approaches are aligned to the business' environmental, social, and governance (ESG) commitments
- setting stage tolerances to enable management by exception
- governing the project and determining the rules, constraints, shared values, and perspectives needed to guide decision-making at all levels
- establishing the tolerances and change budget to support effective decision-making
- focusing on the safety and well-being of the project team
- monitoring and supporting social cohesion within the project ecosystem
- managing relationships at the interface of the organizational ecosystem and project ecosystem.

An effective project board requires the right level of authority for the nature and scale of the project and credibility across the project ecosystem.

6.2.4.5 Project manager

The project manager has the authority to run the project on behalf of the project board within the agreed project tolerances and constraints. They are responsible for day-to-day management of a project, including:

- managing and, where appropriate, delegating the work to the team managers or team members
- setting the work package tolerances and constraints for the team managers and project support roles to work within

- ensuring decisions are being made in line with the project board guidance and tolerances
- managing relationships within the project ecosystem, including project assurance roles and the project board
- monitoring and supporting the safety and well-being of team members and the sustainability of the project approach.

Depending on the scale and complexity of the project and the skill and capacity of the project manager, the project manager may also perform the team manager and project support roles or delegate these directly to team members. The responsibility of the project manager as a single focus means the role should not be shared or combined with other roles.

In organizations where there is a job-sharing scheme, there is still a one-to-one allocation of the business role (job) to the project role (project manager). However, additional arrangements may be needed to ensure clarity on how the single point of accountability will be maintained by the job holders who share the business role. The business' policies and guidance relating to job-sharing are likely to address such scenarios. The policies should be reflected in the project manager's role description and the project initiation documentation

6.2.4.6 Team manager

Team managers are responsible for delivering the work allocated to them within the tolerances and constraints agreed with the project manager. The project manager allocates work to a team manager in the form of work package, in line with the commercial management approach. The team manager is responsible for:

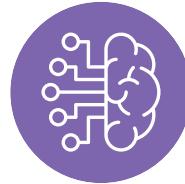
- delivering the products to the agreed specifications
- setting the tolerances and constraints for team members to work within
- ensuring any decisions their team needs to make is in line with the project manager's guidance and the tolerances
- managing relationships both within their team and any interfaces with other teams, the project manager, project assurance, and project support
- monitoring and supporting the safety and wellbeing of team members and the sustainability of the team's approach.

Scenario: role of the team manager and who this might be

Due to the specialist areas involved in the building of a shopping centre, the manager of the LouisShopping project has distributed the work by teams, where each team has been assigned a team manager reporting directly to the project manager. The principal electrical building services engineer and the maintenance plumber, both from BuildyBrick, have been assigned as team manager for the electricity and plumbing teams.



Scenario: role of the team manager in the self-organizing agile team



The software development team in the Data Knowledge project is an experienced agile team that values trust and self-organization. The team has agreed that the team manager role will be held collectively by the whole team. This means that all the areas of the team manager's responsibility will be the responsibilities of the whole team and each individual member of the team. These areas of responsibility include planning, monitoring and managing progress, managing issues and risks, obtaining acceptance, and handover of products. The team has also appointed one person, the single point of contact for the project manager, with whom the project manager will liaise and who will provide the project manager with all the information they need. All the agile team role names will remain the same. These team arrangements have been accepted by the project manager as an appropriate tailoring of the PRINCE2 method at the team level.

6.2.4.7 Project assurance

Project board members are accountable for the assurance of their respective areas of concern (business assurance, user assurance, supplier assurance). The project board is responsible for establishing how project assurance will be undertaken, ensuring clarity in the roles and responsibilities and how those appointed to assurance roles will interact with each other. Subject to who has the knowledge, skills, and capacity to support the project team, the assurance tasks can be undertaken by the board member themselves, appointed from the wider business, or selected from an external party. Project assurance roles cannot be assigned to the project manager, team manager, project team members, nor the project support. Where the project assurance roles are delegated, the respective project board member remains accountable.

6.2.4.8 Project support

Project support is responsible for providing services such as, administrative support, facilitating meetings and workshops, advice and guidance on the project tools, planning support, risk management, issue management, and change management.

Although the role is the responsibility of the project manager, it can be delegated to suppliers, individuals, or groups within the business or to other team members. This is dependent on the scale and complexity of the project and the skills, knowledge, and capacity of the project manager. Some organizations establish a project office to support the delivery of projects, which can fulfil this role (see *Portfolio, Programme and Project Offices P3O*).

Project support can help with integration across the project ecosystem, including gaining feedback to aid improvements to the ways of working, the evolving project direction, and building social cohesion.

Project support must be kept separate from project assurance roles to maintain the independence of assurance.

6.2.5 Work breakdown structure



Definition: Work breakdown structure

A hierarchy of all work to be done during a project that forms a link between the product breakdown structure and the work packages.

The work breakdown structure is a representation of the hierarchy of work to be done during a project, which is typically represented visually. The work breakdown structure creates a link between the work packages and the product breakdown structure (see Chapter 7), supporting the project manager in determining how to structure project teams and the boundaries between them.

The work breakdown structure is most useful when there are multiple work packages and particularly when there is a mix of internally staffed and externally supplied work packages. For the former, it makes clear the level of effort of internal staff, and for the latter, it is useful in creating a statement of the work required. However, for a very simple project, such as the delivery of just one work package with a small team, a work breakdown structure would not be required.

If a single work package is being used in the project, it is best that it does not include both internal and external team members. There is a fundamentally different character and set of relationships between an internal agreement and an external contract. Therefore, it is better to manage them separately.

6.3 Techniques

6.3.1 PRINCE2 technique for organizational design and development

A number of the areas mentioned in Chapter 3 (People) can be addressed by proactive organizational design and development, including culture, collaboration, relationships, and ultimately, effective project teams.

PRINCE2 includes a five-step organizational design and development technique shown in figure 6.4. An alternative procedure can be used instead, for example, if the business has already developed a procedure specific to their organization. The use of an alternative procedure should be documented as part of the tailoring decisions in the project initiation documentation.



Figure 6.4 PRINCE2 technique for organizational design and development

6.3.1.1 Understand the organizational ecosystem

Projects unite people from organizations that already have defined organizational structures and corporate governance requirements. An understanding of the organizational ecosystem is required to successfully design the project organization and determine how the project ecosystem will develop as a distinct entity from the organizational ecosystem.

As a temporary organization, the project approach needs to define how the project will interface and align with the organizational ecosystem where required. There should be clarity on who retains responsibility for issues such as:

- **People management** for example, performance management, rewards, advancement, and wellbeing
- **Governance** for example, which decisions are subject to corporate governance or governance pathways
- **Management approaches** such as policies, procedures, and ways of working
- **How and when** the transition of project team members on and off the project.

6.3.1.2 Design the project ecosystem

Project organizational design describes how to organize work and people to achieve the project's objectives. This includes:

- determining the effective structure of the team
- determining the people and resources needed
- implementing integrated working practices
- developing the project behaviours and culture.

The design occurs in response to the understanding of the needs of the project across each of its stages, the context it is working within, and the skills, capability, and capacity of the people required or assigned to the project.

Subject to the project's scale, complexity, project approach, and delivery method, the organizational structure may need to transition at different stages of the project, such as moving from a client-led design team to a supplier-led delivery team. Where possible, this should be identified and planned for during the initiation stage, establishing planned project management team structures at different stages. Consideration is needed regarding the people and resources needed to support the transition between these different structures and the impact of the changes on the project team.

The project organizational design is informed by the work breakdown structure and the commercial management approach. These will determine the number and size of teams, which organizations they come from, and the nature of any customer or supplier relationships required. The capabilities required of a project delivered by people entirely from within the business will be quite different from those required of a project mostly delivered by external suppliers.

The project executive, supported by the project manager, is responsible for the project organizational design. It should be documented in the project initiation documentation. Organizational design for projects requires expertise that is distinctly different from the business' organizational design due to the temporary and ever-evolving nature of projects. Subject to the scale and complexity of the project, the project executive may need to delegate this responsibility either within the organization, if they have this skillset, or to outsource the responsibility to a specialist supplier.



Scenario: different team structures at different stages of a project

With multiple new products being released by Findef soon, it is paramount that adequate team structures are established for the different stages of the project.

Now that the project is at the beginning of stage 3 (detailed design), with early market testing for product 1 and DevOps upskilling as key planned activities, new teams will need to be formed.

The marketing agency contracted to advise on market testing, as well as the training company awarded the training contract for the upskilling of the DevOps team, will now have an active role as suppliers. There will also be representation in the project board through the senior supplier role, who is responsible for managing the relationship with suppliers and conducting supplier assurance.

A change manager will also be appointed at this stage and is expected to work with the project management team to ensure that the change is effectively planned, managed, and embedded, in preparation for the soft launch of product 1 to MVP. As the products progress to full launch and transition to BAU support, representatives of operations will start to become more involved with the project. They will work with the change manager to enable a smooth transition and effective user adoption.

6.3.1.3 Develop the project ecosystem

Project organizational development concerns implementing the project organizational design and adapting and evolving it as the project progresses. The project ecosystem will need ongoing development in response to changing project needs, team members, and their emerging relationships, ensuring the project is set up to deliver its objectives and to continuously improve.

The development activities may include:

- onboarding people to the project, for example, a site visit, induction, or certification
- skills and capability assessments or audits of the project team
- training for the project team, such as on new methods or to address skills and capability gaps
- team building
- establishing and maintaining a specific project culture
- succession planning including recognizing that people may leave the project before completion
- offboarding to capture lessons.

The change management approach to deliver new capabilities to the organizational ecosystem (see Chapter 3) can also be used to deliver new capabilities to the project ecosystem, particularly, in the preparation of transition points, such as the appointment of a key supplier. Just as there are key influencers in the organizational ecosystem, there will also be key influencers in the project ecosystem that the project manager will need to consult and influence for the project capabilities to be successfully developed.

The project executive is responsible for project organizational development and is supported by the project manager. As with project organizational design, it is important to recognize that this requires people with specialist skills and resources with the appropriate capabilities.

6.3.1.4 Manage the ongoing changes to the project ecosystem

People require time to become familiar with the project and to gain the capability and develop the relationships to fulfil their roles. It is critical to have clear feedback loops established to determine whether there are any capability or capacity gaps or relational issues to address.

The project manager is responsible for making the best use of the people and resources available, enhancing capabilities where required. They do so by ensuring people's responsibilities are matched to their capability and capacity, sourcing additional skills and capabilities, or upskilling people through coaching and learning opportunities.

The capabilities required on a project will change over the project lifecycle, requiring the project manager to ensure the commercial management approach supports this, transitioning people onto and off the project as required, and enhancing capacity and capabilities. The project manager must also ensure that a robust change management procedure is established to ensure the impact on different areas of the project ecosystem are considered in decision-making. One way this can be done is to identify the new capabilities that the products will provide and review any barriers to getting this new capability embedded into business as usual activities. Clarifying these barriers early in the project lifecycle will highlight new project risks or issues and establish expectations on a realistic time frame for benefits realization.

A project stage is often defined by these transition points in the required capabilities. This is a good point to review the project management team structure and the associated roles and responsibilities, ensuring that the commercial management approach supports the proposed changes.

6.3.1.5 Transition the project into the organizational ecosystem

As with the start of a project, at the close of a project, it is important to understand the organizational ecosystem that the products of the project and any remaining project team members will be transitioning into. There are three key aspects the project board needs to consider as part of the transition:

- **Products** ensuring all products have been accepted into the business and that any ongoing activities associated with the products such as further developments, monitoring the benefits, operating, and maintaining the products are owned by appropriate areas of the business
- **People** ensuring any remaining project team members are successfully transitioned back into the business or are managed in line with the commercial arrangements for external suppliers
- **Learning** ensuring the most effective means for sharing lessons and using the knowledge gained, in undertaking project work, project team members may have acquired skills and capabilities that will likely benefit the wider business and organizations involved.

6.3.2 Supporting techniques

Other techniques that can be used on a PRINCE2 project include delivery models or a RACI matrix.

6.3.2.1 Delivery models

Where the capacity or capabilities required do not already exist in an organization, and there is no long term need to develop them, the project may choose to bring in external suppliers, either as additional people to support the project or outsourcing some or all of the product delivery. The business can make such decisions by describing how the project will secure the people and resources it needs in delivery models.



Definition: Delivery model

The organizational and commercial arrangements to be deployed to meet the project objectives given the project constraints and capabilities of the user, business, and supplier organizations. It is described in the commercial management approach and reflected in the project management team structure.

Delivery models can range from thin client models where most of the project work is undertaken by suppliers to thick client models where most of the work is undertaken by the business. In thin client models, not only is the work to develop the project products fulfilled by external suppliers, but also much of the work to manage the project is fulfilled by external suppliers too.

The delivery model will define which aspects of project management will be in-house or external. It will also include whether the work fulfilled by external suppliers will be contracted on a product or labour basis. The distinction is that contracting on a labour basis means the client generally remains responsible for the performance of their work, whereas on a product basis, the supplier remains responsible for their performance.

The project board, in consultation with the project manager, is responsible for determining the right balance between in-house and external suppliers and the commercial arrangements required between them. This is captured in the commercial management approach.

The choice of delivery model can also be impacted by how unique the project is to the business. For highly unique projects or where the project could become political, the project board may choose a model with a high level of organizational input to the assurance of the work. Whereas, for more standardized work or where the project board (as the governing body) does not have the technical capability or understanding to make informed decisions or appropriately challenge the project teams, a model utilizing the expertise of external suppliers to assure the work and support decision-making may be chosen. The delivery model should support risk being allocated to the part of the organizational ecosystem most capable of managing the risk.

Scenario: example of a delivery model

Since NowByou did not have professional project management capability in-house, a make-or-buy decision had to be made on how to deliver the new campaign against discrimination. Due to the limited funding available to NowByou, it relied mostly on donations, and this decision was severely constrained by the resources available.



Cost was a major driver to not hire a specialist project management provider such as a consulting company. Nonetheless, NowByou understands that professional project management is an enabler of successful campaigns and vital to its long-term strategy.

Subsequently, a managerial decision was made to contract a professional project manager to set the foundations for good practices at NowByou and whose responsibility is also to build the project management capabilities of internal staff. The other aspects of the project will be delivered internally, except for elements of consultation which will be undertaken by a number of voluntary organizations that NowByou collaborates with.

Table 6.3 Example delivery model

Work/skills	In-house or external	Product or labour (for external)	Notes
Project management	External	Labour	Professional project manager hired on a fixed-term contract. Contract includes skills transfer
Assurance	Internal	Not applicable	Risk and assurance committee
Consultation	Mixed	Product	In-house communications department supplemented by voluntary organizations to complete additional studies
Marketing communications	Internal	Not applicable	In-house communications department

6.3.2.2 RACI chart

Although PRINCE2 provides clarity on the roles, responsibilities, and relationships within the core project team, it can be useful to define the same for aspects of the wider project ecosystem using techniques such as a RACI chart. A RACI chart is a matrix of all the activities or decision-making authorities in the project that shows the people or roles involved. RACI stands for:

- **Responsible** one or more people who perform the task
- **Accountable** the single person who 'owns' the task
- **Consulted** the people whose input is required for the task
- **Informed** the people who are informed of progress or completion of the task.

As there are usually many different people involved in any task, and they have differing responsibilities, a RACI chart makes the relationships and the authorities explicit. The benefits of a RACI chart include:

- clarity of ownership
- clear responsibility for delivery
- stronger teamwork
- visual format that reduces confusion and ensures there are no gaps.

6.4 Applying the practice

6.4.1 Organizational context

Projects exists within a wider organizational context from being a one-off project delivered in-house within a functional structure to being part of a programme or portfolio of work delivered through multiple organizations working in project teams. A project that forms part of a programme may find that many of the change management activities referenced in Chapter 3 (people) will be co-ordinated and performed at the programme level and may be impacted by the programme structure and its various reporting requirements.

The programme and project management team structures and roles need to be integrated such that:

- there are clear lines of responsibility and accountability from top to bottom
- duplication is avoided

- reports and reviews are efficient, such as in projects within a programme that have common project board members who could align stage boundaries and meet collectively to conduct end stage assessments for all the projects as part of a programme review.

The integration of roles may involve the following:

- The programme manager may be the project executive for one or more of the projects.
- Within a programme, there may be multiple project boards, a single body directing several projects (effectively replacing multiple project boards), or a combination of the two.
- A business change manager from the programme may fulfil the project role of senior user (or have input into the appointment of the senior user) for one or more of the projects or be the project executive for one or more of the projects.
- A single programme office may take project support responsibilities for all projects.

6.4.2 Commercial context

Where projects require multiple organizations to work together, there is a need to consider how to bridge between the varied working practices and ways of governing across the organizations. There may be political aspects of the business to consider when defining the project's organizational structure. These will have an impact on the commercial management approach and issues such as how risk and reward is allocated, in particular, the track record of the business in delivering projects and competing interests on issues such as competition for the same people and resources.

There are numerous ways to structure the project management team roles in a commercial customer-supplier context. The aim is to ensure that both organizations establish and maintain sound business justification for their work and that their individual governance is respected.

Explored below are some commercial context considerations:

- The project manager needs to have a good understanding of their obligations under any contract with the supplier organization. The project manager will normally come from the customer organization. The supplier's staff may fulfil some of the team manager roles for the project, and they may even be called project managers in the supplier's organization. Clarity is required regarding differences in job title compared to the title of their project role.
- There may be projects where the project manager comes from the supplier's organization. The customer may choose to stay at a distance from the working level and expect the supplier to provide the management of the project. The customer is likely to increase the rigour in project assurance and indeed may choose to appoint one of its own staff to fulfil the role of project assurance.
- There may be a joint project board with representatives from the customer and all the suppliers that the customer has engaged. The project executive on this joint project board may be supplied by the customer, and the senior suppliers will represent each of the suppliers.
- The supplier may treat their work packages within the customer's project as a project within the supplier's organization. This may mean establishing a separate supplier project board. The relationship between any such boards and the customer's project board should be defined.
- If there are multiple suppliers, all of them may be represented on the project board as it provides a forum for them to integrate direction and decision-making. However, if there are more than three or four suppliers, then it will be typically more effective for the contracts manager responsible for the performance of all the supplier contracts to sit on the project board on their behalf. Or it may be appropriate to appoint a prime contractor. The decision on whether to include external suppliers on

- the project board may be more of a cultural one based on the customer's perception of the risk of divulging commercial or financial issues.
- During procurement, the project may need a temporary appointment from within the customer organization (such as from its procurement team) for the senior supplier role until a supplier has been appointed.

When the commercial management approach requires a significant change in the project team, it should detail how the commercial arrangements can support project team members through the transition points, such as fixed-term contracts aligned to stages.

Scenario: suppliers attending part of board meeting



The LouisShopping project is approaching a critical stage, where the design of the new shopping centre is to be defined and agreed. BuildyBrick, the main contractor, is responsible for presenting design options that enable the infrastructure to be consistent with the environment. This is while also offering modern facilities supported by the latest technology.

To allow the project board to ask questions about BuildyBrick's design proposals and receive complete and prompt responses and advice directly from the supplier, who retains technical expertise, the project manager has requested a permanent board arrangement. Representatives of BuildyBrick attend the first part of every meeting. This is where a status update on design and delivery is presented, whereas the other part of the meeting is focused on matters related to the internal business case.

6.4.3 Delivery method

When a project is deploying a specific delivery method, the project manager will need to understand:

- How will the roles prescribed by the delivery method align to PRINCE2 roles? In some cases, a simple change of terminology and minor amendments to the role description will suffice. For example, iterative-incremental product development techniques often include the role of product owner, which could be aligned to the senior user role. In other cases, distinct roles may need to be added to the project management team structure along with agreement on how they relate to the PRINCE2 roles.
- How will the project manager liaise with teams when they are using different delivery methods from each other (such as a hybrid of linear-sequential and iterative-incremental)?
- If self-organizing delivery teams are used, how do they relate to the team manager role? Would the team manager role be held by a scrum master, held collectively by team members, or the responsibilities of team manager would be split between team members, product owner, and scrum master?

The use of management by exception is essential to enable the PRINCE2 method and iterative-incremental techniques to work together in the most effective way. This empowers the project management team and enables it to self-organize within clearly defined boundaries. (More details about how to combine PRINCE2 with iterative-incremental techniques can be found in *PRINCE2 Agile*.)

6.4.4 Sustainability

The project executive is responsible for ensuring that the project remains aligned with the business objectives. This typically includes targets for environmental, social, and governance (ESG) objectives, the UN's sustainable development goals (SDG), net zero, waste reduction targets, reuse of materials, the decommissioning approach, and so on.

Projects are often the vehicle for driving forward an organization's sustainability targets, whether that is their primary focus or as a by-product of how they are delivered. To support this, there should be clear accountability for sustainability targets across the project ecosystem captured in the business case, the requirement setting, and people's role descriptions. The organization of the project impacts its ability to deliver sustainably. The project approach should empower team members to deliver sustainably, embedding sustainability considerations into all decision-making and ensuring a diversity of perspectives to challenge the way things have always been done.

The project management team structure and role descriptions should define responsibilities for delivering the sustainability targets, including how they will be managed once the project is concluded. The commercial management approach should ensure that the way products are ethically procured, and the performance measures applied enables meeting sustainability targets.

Scenario: representation on the project board

Sustainability concerns are not just about the environment but also manifest on how organizations manage the impact of their projects on local communities.

Because NowByou is targeting the homeless and refugees as two key groups covered by the new campaign, the NGO wants to put their words into action. It has invited two local organizations close to its headquarters to be actively involved in the campaign and have a seat on the project board with the role of senior user.

These two organizations will help the project team to understand the impact on the local community and that their interests are being taken into consideration. They will also ensure that the decisions being made offer a sustainable outcome that could last beyond the campaign.



6.4.5 Scale

On a large, complex project, the project management team structure could include breaking the PRINCE2 roles into multiple appointments. For example, several senior users or senior suppliers could be appointed. However, it is good practice to keep the size of the project board as small as possible, while still representing all business, user, and supplier interests. On smaller, simpler projects, people working on the project may be assigned multiple roles, so long as the separation from the project manager to the project executive and project assurance is observed.

Another aspect of large, complex projects is that there is often a need for the project board to delegate authority to approve requests for change or off-specification, so they are not overwhelmed with requests or experience slow progress in responding to them.

The project board may choose to establish a change authority, distinct from the project manager, which reports to the project board. The delegation to the change authority should be aligned to the agreed project tolerances and support decision-making and ownership at the most local level, where the

knowledge and capacity to make those decisions reside. The use and composition of a change authority is documented in the issue management approach.

The project board is responsible for ensuring clarity as to who is authorized to make decisions within what tolerances. These authorities should be established during the initiation stage and captured within role descriptions and the relevant management approach. Delegated authorities should be reviewed at each stage and whenever a project tolerance or authorized person changes. (See Chapter 10 for more information on change control and issue management.)

6.5 Management products to support the practice

PRINCE2 includes 16 management products that are used to manage the project. The management products specific to the organizing practice are described here.

Management product: Commercial management approach

The commercial management approach is part of the project initiation documentation.

Purpose

The purpose of the commercial management approach is to describe the procedures, techniques, and standards to be applied and the responsibilities for effective commercial management.

This covers the approach to secure, service, and maintain all commercial agreements required for the project to be a success. This may include activities such as market engagement, procurement, and contract management.

High-level content

Scope description of the commercial relationships required; for example, if any user agreements are needed, what supplier contracts are needed

Delivery model description of delivery model for the project work (for example, elements of the work breakdown structure to be delivered by external suppliers)

Resources for market engagement, procurement, and contract management activities

Responsibilities defines the responsibilities for market engagement, procurement, and contract management activities

Supporting tools and techniques for example, tender systems or contract management systems to be used

Standards any standards that apply to market engagement, procurement, or contract management (for example, commercial or procurement policies, use of existing procurement frameworks)

References for any associated documents or products.

Management product: Project management team structure

The project management team structure is part of the project initiation documentation.

Purpose

The purpose of the project management team structure is to define who is involved in the project, their relationships, and how they will work together. It may also include a description of relevant key personnel outside the project team.

High-level content

Project structure a chart showing the structure of the team and their reporting lines

Summary of authority and responsibilities governance arrangements, possibly in matrix form, showing levels of management, the decisions they are authorized to make, who holds them accountable, and who assures them

Working practices arrangements for co-location or arrangements for remote teams

Supporting information other key personnel, relationships.

Management product: Role descriptions

The role descriptions are part of the project initiation documentation.

Purpose

The purpose of role descriptions is to describe the roles of those in the project management team and their specific responsibilities.

High-level content

Role name of role

Authority what the role has authority to approve

Responsibilities list of responsibilities assigned to the role

Accountable to who the role reports to

Supporting information whether the role is part-time or full-time, whether the role is combined with any other role.

6.6 Focus of key roles for the practice

PRINCE2 defines seven key roles to manage a project. Their responsibilities specific to the organizing practice are described here.

Table 6.4 Areas of focus for the key roles associated with the organizing practice

Role	Responsibilities
Business layer	<ul style="list-style-type: none"> ● appoint the project executive and (possibly) the project manager ● provide the communications standards required by the business ● provide information to the project as defined in the communication management approach
Project executive	<ul style="list-style-type: none"> ● appoint the project manager (if not done by the business) ● work with the project manager to confirm the organizational design for the project and approve the project management team structure ● confirm appointments to the project management team ● approve the commercial management approach, the communication management approach, and the change management approach ● review and confirm the project approach and the choice of delivery model and ensure they are compatible with the business' ESG objectives
Senior user	<ul style="list-style-type: none"> ● ensure appropriate level of involvement of people from the user community ● agree the commercial management approach, the communication management approach, and the change management approach ● contribute to stakeholder analysis ● advise on the people aspects of the user community, for example, who the key influencers are
Senior supplier	<ul style="list-style-type: none"> ● ensure appropriate level of involvement of people from the supplier community ● agree the commercial management approach (if appropriate), the communication management approach, and the change management approach ● advise on the people aspects of the supplier teams, for example, specific health, safety, and wellbeing requirements
Project manager	<ul style="list-style-type: none"> ● prepare and update the commercial management approach, the communication management approach, and the change management approach ● design, review and update the project management team structure and work breakdown structure ● prepare role descriptions ● establish and maintain a healthy project ecosystem and ensure the wellbeing of the project management team
Team manager	<ul style="list-style-type: none"> ● manage team members ● ensure wellbeing of their team ● advise on choice of team members for their part in the project ● implement the communication management procedures, change management procedures and commercial management procedures agreed in their work package description
Project assurance	<ul style="list-style-type: none"> ● advise the project manager on the selection of project team members ● advise the project manager on the communication management approach, change management approach, and commercial management approach ● confirm to the project board that the communication management approach, change management approach, and commercial management approach are compliant with business policies ● assure the project board on the implementation of the communication management approach, change management approach, and commercial management approach (such as the proper conduct of the commercial management procedures)
Project support	<ul style="list-style-type: none"> ● provide assistance with onboarding and offboarding ● provide assistance with stakeholder analysis ● provide assistance with communication management activities ● provide assistance with change management activities ● provide assistance with commercial management activities

6.7 Key relationships with principles

The organizing practice contributes to the adherence to PRINCE2 principles across the project lifecycle.

Table 6.5 Key relationships between the organizing practice and PRINCE2 principles

Principle	Achieved by	Resulting in
Ensure continued business justification	assigning someone from the business to the project executive role who represents the business viewpoint and has sufficient authority and availability to fulfil the role and be accountable for the project	the project is able to adapt to changing business needs appropriate decisions are made that align with the business case
Learn from experience	using lessons to inform the project management team structure, work breakdown structure, and a healthy project ecosystem	the right people are in the right roles at the right time to deliver the project
Define roles, responsibilities, and relationships	developing an explicit project management team structure that ensures everyone involved is fully aware of their responsibilities and relationships	there is no duplication of or gap in responsibilities; there are positive relationships across the project ecosystem and between the project and those impacted by the project
Manage by stages	assessing, and where necessary, adapting the project management team structure, role descriptions, commercial management approach, communication management approach, and change management approach at stage boundaries	the project can evolve with changing needs, and appropriate sets of skills and abilities are deployed at each stage of the project
Manage by exception	empowering those best placed to make decisions to do so at the appropriate point	there is facilitation of effective and timely decision-making, increased accountability, and ownership of actions and decisions
Focus on products	ensuring those who will use the project product are represented on the project management team, and there is an understanding of the change management required for their successful deployment	products are more readily accepted by users and brought into operational use, delivering expected benefits
Tailor to suit the project	creating a project management team that is appropriate to the needs of the project and the capability of the organizations and people involved	an effective team structure is created that is appropriately sized and has the necessary responsibilities, skills, and capabilities required to deliver the project



CHAPTER 7

PLANS



CHAPTER 7

PLANS

7.1 Purpose



Key message

The purpose of the plans practice is to facilitate communication and control by defining the products to be delivered (the 'what') and the means to deliver them (the 'who', the 'how', the 'where', and estimates of the 'when' and for 'how much') to satisfy the project business case (the 'why').

7.1.1 Plans enable understanding and communication

Plans integrate three perspectives:

- the user's expectations of the products to be delivered and the benefits to be realized
- the project management team's assessment of the most effective approach to meet these expectations
- the business support for the project, including the commitment of funding, people, and resources.



Definition: Plan

A proposal that outlines the what, where, when, how, and who of the project as a whole (or a subset of its activities). In PRINCE2, there are the following types of plan: project plan, stage plan, team plan, and exception plan.

The development of a plan enables the project management team to assess and understand:

- **The why** the user's driving requirements and the benefits they expect to realize
- **The what** the products to be delivered and their associated acceptance criteria and quality specifications
- **The how** the delivery method and any constraints

- **The when** the sequence and estimated duration of delivery activities
- **The where** the locations and facilities involved in delivery and acceptance
- **The who** the required skills and responsibilities of the project team and how they will be organized
- **The how much** the estimated cost of the agreed products and the associated delivery and management activities.

Additionally, it will enable the project management team to assess and understand:

- **Any risks** that may be encountered in the course of delivery
- **Any issues** that affect the accuracy or realism of the plan.

An approved and baselined plan enables communication between the project management team and its stakeholders and within the members of the project team.

7.1.2 Plans enable control

Plans provide the backbone of the information required to manage a project. When approved, a plan provides a baseline against which progress can be measured and issues assessed. Without a plan, there is no point of reference against which scope, benefits, quality, risks, issues, and progress can be monitored and controlled.

An approved and baselined project plan represents the agreed scope of the project. A stage plan represents the scope of a stage, and a team plan, where used, represents the scope of work allocated to a specific team. A clear understanding of what is and what is not within the approved project scope is essential to avoid uncontrolled changes, which is often referred to as scope creep.



Definition: Scope

The sum of the product, delivery, and management activities represented by an approved plan and its product descriptions and work package descriptions.

7.2 Guidance for effective planning

PRINCE2 provides a comprehensive approach to planning and a flexible set of plans. Planning considers all phases of the project lifecycle and all products and activities that occur within the project. Planning takes place continuously as all issues must be considered in terms of impact upon the plan.

7.2.1 Planning horizon

Plans are always based on estimates. Estimates can become increasingly uncertain because of the length of a project, the type of products or delivery model, or how complex or dynamic the project environment is. For this reason, planning activities and plans should only cover a time period whereby it is possible to plan with reasonable confidence. This time period is called the planning horizon.

The planning horizon will impact the level of detail which can be planned. If the project plan has a long planning horizon it will be a high level plan; the stage plan has a shorter planning horizon and is a more detailed plan.

In a shorter planning horizon, more detail can be planned.

Plans that extend beyond the planning horizon incorporate uncertainties that introduce their own risks to the project. For example, a plan that details what the day-by-day activities of team members will be a year or more in the future will almost certainly be inaccurate.

The PRINCE2 principle of manage by stages addresses the need to keep plans within reasonable planning horizons. For this reason, a PRINCE2 project has:

- a project plan as a high-level description of how and when the project's objectives are to be achieved and show the major products, activities, and required people and resources (It provides a baseline against which to monitor progress throughout the life of the project.)
- a stage plan for the current stage as a detailed document, based on more precise estimates that are achievable within the planning horizon.

Scenario: illustrating a sensible planning horizon

As a complex infrastructure project where the work is performed consecutively and multiple dependencies must be managed, it is fundamental that appropriate planning is available for the implementation of the LouisShopping project.



However, the project spans three financial years and is just starting the design stage. Hence, it would not be realistic to attempt the development of a detailed plan to show what each team member is doing for the next two years, as it will likely become inaccurate within a short time span.

Therefore, a sensible and effective approach to project planning would be to combine planning horizons and levels of detail. This would be achieved by producing an outline plan for the next two years remaining in the project (long-term) while building a detailed plan for the current design stage (short-term). Additionally, as a commercial firm is to be selected through a tendering exercise, the stage plans for construction stages will require collaboration between the Louistown city council and the supplier. This will only be finalized following the contract award.

Scenario: scope uncertainty and short planning horizon

Due to high uncertainty of the scope of the Findef project and the iterative-incremental approach for the development of each product, the project manager suggested that the duration of the individual stages of the project would not exceed 1 month. At the end of each stage, the project manager and the project board will have an opportunity to redefine the scope, plan the next stage in detail, and if needed, redirect the project to achieve as much value out of the products and requirements delivered as possible. Also, each stage after initiation and design stages (1-3) will deliver a ready-to-use increment of the project product.



7.2.2 Levels of plans

All PRINCE2 plans have the same fundamental structure. What differs is the purpose, scope, and level of details. For example, a project plan, which covers the full project lifecycle, is less detailed than a stage plan that only covers a single stage. Whatever the type of plan, it should provide sufficient information for the project management team to be confident that it represents a realistic assessment of the products to be delivered and the work required to deliver them.

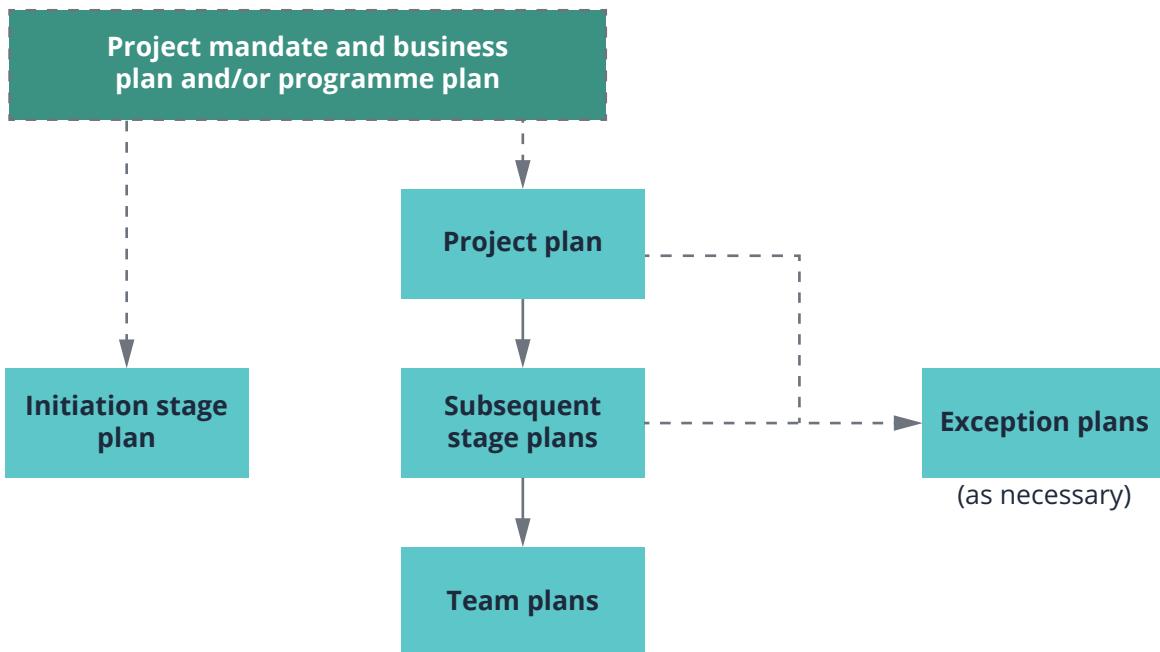


Figure 7.1 Relationship between PRINCE2 plans

7.2.2.1 Project plan



Definition: Project plan

A high-level plan showing the major products of the project and when, how, and at what cost they will be delivered.

The purpose of the project plan is to provide confidence to the project board that the project will fulfil its business case. The project plan also informs the project management team that they have a viable approach to deliver the required products within the approved resources and tolerances.

The project plan should identify the number of stages and details of the stage boundaries, as well as proposed work packages into which the product delivery activities will be organized. These work packages typically represent the top level of the project's work breakdown structure. The project plan should state whether each work package will be delivered sequentially or in an iterative-incremental manner. In an iterative-incremental project, some work packages may be detailed in a subsequent stage plan, but their general purpose and scope should be stated in the project plan.

The project plan is created during the process of initiating the project and baselined upon its approval by the project board. In the process of managing a stage boundary, any necessary changes to the project plan should be approved by the project board and reflected in an updated and baselined project plan.

7.2.2.2 Stage plan



Definition: Stage plan

A detailed plan used as the basis for project management control throughout a stage.

A stage plan is prepared for each stage. The stage plan is similar to the project plan in structure, but each element is divided to the level of detail required for day-to-day control by the project manager.

The information provided in a stage plan should be traceable back to the project plan. An indicator that a project is at risk of scope creep is when activities or products in a stage plan cannot be linked to a high-level element of the project plan. A product breakdown structure for the stage, showing the products in scope and their relationships, should be included in each stage plan.

A work breakdown structure for the stage, identifying the major activities to be performed during the stage and the people and resources involved in each of these activities, should also be included in each stage plan.

The stage plan for initiating a project is created during the process of starting up a project. Subsequent stage plans are prepared near the end of the current stage. This approach allows a stage plan to:

- be produced close to the time when the planned activities will occur
- exist for a much shorter duration than the project plan, accommodating the planning horizon
- be produced with the knowledge of the performance of earlier stages.

Scenario: use of specialist involvement in stage plan creation



Findef's lack of experience working with end users rather than through banks and merchants make the new product development project risky. To mitigate this risk, a marketing agency that are specialists in market research, branding, and development have been contracted by Findef to assist in the design and early market testing of each new product, providing close monitoring from conception to launch. To ensure that the estimates and timescales are realistic and that common risks are considered, based on previous similar projects, each stage plan is developed with the involvement of specialists from the marketing agency.

7.2.2.3 Team plan



Definition: Team plan

A plan used as the basis for organizing and controlling the work of a team when executing a work package. Team plans are optional in PRINCE2.

A team plan is produced by a team manager to facilitate the execution of one or more work packages. The need for these plans is determined by the size and complexity of the project and the nature of the resources involved. A team plan can be useful when the team is a temporary organization with staff from different parts of an organization.

7.2.2.4 Exception plan



Definition: Exception plan

A plan that follows an exception report and explains how the project will respond to the exception within the stage.

When a project or stage exceeds (or is anticipated to exceed) an agreed tolerance, a project manager will raise an exception report to the project board. If the project board decides to address the exception within the stage, the project management team will prepare an exception plan that covers how directed actions will be performed.

Subject to the magnitude of the exception plan's impact, the exception plan may simply be limited to remediation actions such as more frequent inspections in response to a quality exception. If resolution of the exception requires actions beyond the scope of the current stage, those actions must be addressed through a change to the project plan.

Exception plans are not required for team plans used to manage the delivery of work packages.

7.2.3 Stages

The goal of the project plan is to give the project board and the project manager confidence in proceeding with delivery.

PRINCE2 structures the management of the project on a stage-by-stage basis. Combined with the focus on products principle, managing by stages helps the project management team to plan and deliver what is required when it is required.

Determining how to divide the project into stages is a matter of balancing:

- the delivery method (iterative-incremental or linear-sequential)
- the sequence of delivery activities
- the type of people and resources involved
- the number and timing of key decision points
- the amount of risk the project can manage
- how far ahead in the project it is sensible to plan.

7.2.3.1 The number of stages

The number of stages can vary, based on the nature of the products and the necessary delivery activities. A greater number of stages increases the degree of control, but every stage boundary requires effort to manage. Therefore, there is a trade-off between the degree of control and the level of management overhead on the project.

For a simple project with a small number of well-understood products and mature delivery method, only two stages may be required. These are an initiation stage to prepare the project initiation documentation and a single delivery stage.

For a larger project with a complex set of products and a mix of delivery methods, multiple delivery stages, each with their own products and stage boundaries, will be required. This approach allows the project management team to refine its estimates in each stage plan and the project board to confirm that the project is continuing to satisfy its business justification.

For an iterative-incremental project, the project plan may provide multiple delivery stages in which the quality and acceptance criteria are refined in parallel with development of the required products through the use of a product backlog.

Some projects may need to align stage boundaries with external events. For example, in organizations with an annual budget cycle, there may be a requirement to provide an accounting of what the project has delivered and also what is in progress as it stands at the end of the budget year prior to authorization of the next portion of the project budget.

7.2.3.2 The length of stages

Determining the appropriate length of a stage is a matter of assessing the following:

- **The level of complexity** If the number and dependencies among delivery activities is high, a shorter stage may help avoid encountering exceptions to the approved tolerances.
- **The level of risk** Stages are useful in providing control over high-risk projects. Stage breaks can be inserted at key points where risks to the project can be reviewed before major commitment of resources.
- **The planning horizon** If there is significant uncertainty in the estimates of resources or of the duration of activities, a shorter stage can allow these estimates to be refined in the next stage plan.
- **Appropriate decision points** Stage boundaries should be aligned with critical decisions to be made by the project board (such as whether and how to continue after delivery of a prototype) or business layer decisions or events (such as a business planning cycle).
- **Alignment with programme activities** Programmes may be organized around groups of projects structured around distinct changes in capability and delivery tranches. The programme may require the project to align the end of a stage with the end of a programme tranche.

The length of stages does not have to be uniform throughout the project. The design or prototyping stages for a new system, for example, may be much shorter than the build stage.

7.2.3.3 Stages and work packages

PRINCE2 stages do not overlap. Instead, they partition the project by introducing stop-go decision points. By not overlapping, they enable the project management team and project board to review progress and assess whether the project has continued business justification and therefore should proceed to the next stage. The stages also enable the project management team and project board to maintain alignment with the business case through the plans for the subsequent stage and the decisions taken at stage boundaries.

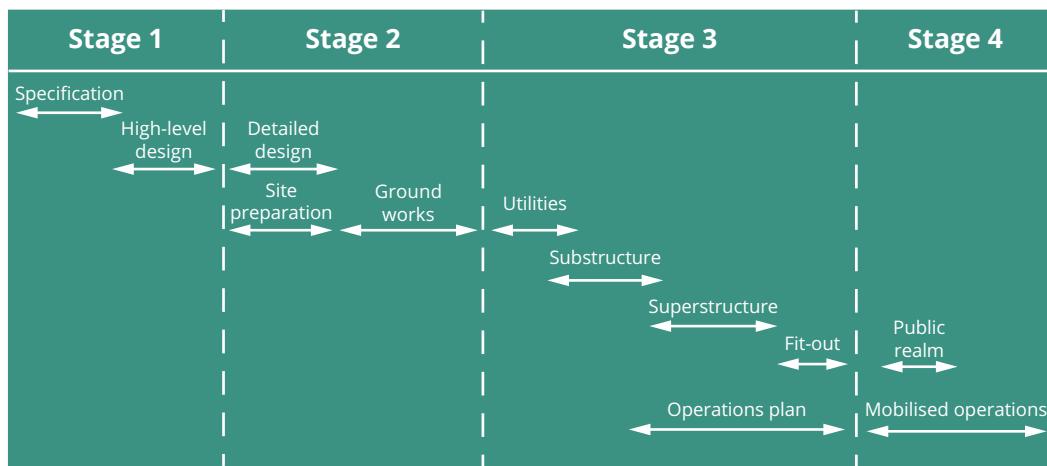


Figure 7.2 Illustration of stages and work packages

Project work may be organized into logical groups of work packages, depending on the delivery method being used, the set of specialist skills required, or the relationships of the organizations involved. Such logical groupings of activity may run in parallel and overlap. It is a good practice to avoid having work packages that span a stage boundary, as decisions taken at stage boundaries could lead to repeated work or waste relating to work in progress. Where work packages span a stage boundary, such as work packages involving procurement of long lead items, their status will need to be reviewed as part of the process of managing a stage boundary.

7.2.4 Tolerances in planning

Many projects are driven by various constraints, such as schedules and resources. For example, a project that must be completed by a certain date would be considered a schedule-driven project. On the other hand, a project that must be delivered without any resources beyond those authorized in the project initiation documentation would be considered a resource-driven project. A crucial element of effective planning is understanding which constraints take precedence, to select which approaches to use, and the appropriate tolerances for control.

PRINCE2 includes tolerances for benefits, time, cost, quality, scope, risks, and sustainability to manage such constraints at each level of the plan. The PRINCE2 technique for planning helps the project management team to set tolerances that balance the need for the project board to maintain effective control. At the same time, it enables the project manager or team manager to achieve efficient delivery.



Definition: Time tolerance

The permissible deviation in a plan's time that is allowed before the deviation needs to be escalated to the next level of management.

The plan for a schedule-driven project will have a narrow time tolerance, possibly set to zero, indicating that any delays would put the project at risk of failure.



Definition: Cost tolerance

The permissible deviation in a plan's cost that is allowed before it needs to be escalated to the next level of management.

The plan for a project that must be delivered within a fixed budget will have a narrow cost tolerance, possibly set to zero, indicating that there is no room for an increase in cost.



Definition: Scope tolerance

The permissible deviation in a plan's scope that is allowed before it needs to be escalated to the next level of management.

The plan for a project delivering a product that is new to an organization might specify some level of tolerance for initial support and user training after acceptance. This is to ensure a smooth transition to the new business as usual.

How wide or narrow each tolerance is set for each level of plan improves the understanding of which constraints take precedence and how they should be incorporated into a plan.

Scenario: tolerances changing from stage to stage

As project delivery progresses, more certainty about estimates is gained. Accordingly, the tolerances agreed for each stage of the project should reflect that progression. In the initiation stage, when the LouisShopping project started, the project board agreed to a tolerance of +/- 40 percent for the initial estimates of time and cost presented to be refined following the development of the project plan by BuildyBrick. Now that the initiation stage has been completed and the knowledge gained from this stage returned to the project, the project board has applied a +/- 20 percent tolerance range to the starting design stage.



7.2.5 Product-based planning



Definition: Product-based planning

The PRINCE2 technique leads to a plan based on the creation and delivery of the required products.

Focus on products is a principle of PRINCE2. This means that planning in PRINCE2 focuses on identifying the required products first and then determining the most effective way to deliver them. Users tend to care most about the outputs they expect from a project, so a focus on products helps the project management team avoid activities that do not contribute in a substantive way to the required outputs.

The focus on products also helps the project manager know where to start when developing plans. When the products required from the project are understood, it becomes easier to determine the project approach, the necessary people and resources, realistic timelines, and the likely risks and issues.

By clearly and consistently identifying and documenting the products to be produced by the plan and the interdependencies between them, product-based planning reduces the risk of scope being neglected or overlooked. It also helps establish agreement on one aspect crucial to ensuring project success, which is a clear definition of what is and what is not within the project's scope.

Product-based planning simplifies the identification of the work packages and the sequencing of these work packages. This advantage continues into subordinate plans, such as stage plans and team plans. Finally, if the project encounters exceptions, product-based planning helps exception plans focus on resolving the exception with minimal impact on cost and schedule.

7.3 Techniques

7.3.1 PRINCE2 technique for planning

PRINCE2 includes a planning technique based on product-based planning shown in figure 7.3. An alternative planning procedure can be used in its place if desired, for example, if the business has already developed a procedure specific to their organization. The use of an alternative procedure should be documented as part of the tailoring decisions in the project initiation documentation.

Product-based planning takes the definition and analysis of the required products as the starting point for planning and deriving any supporting elements of the plan from these product descriptions, such as the work breakdown structure, estimates, and project schedule.

The planning technique is not strictly sequential. For example, scheduling and estimating are often interdependent and performed in a collaborative manner. On the other hand, the preparation of the budget is usually more efficient when the product descriptions, work package descriptions, and schedule are relatively mature.

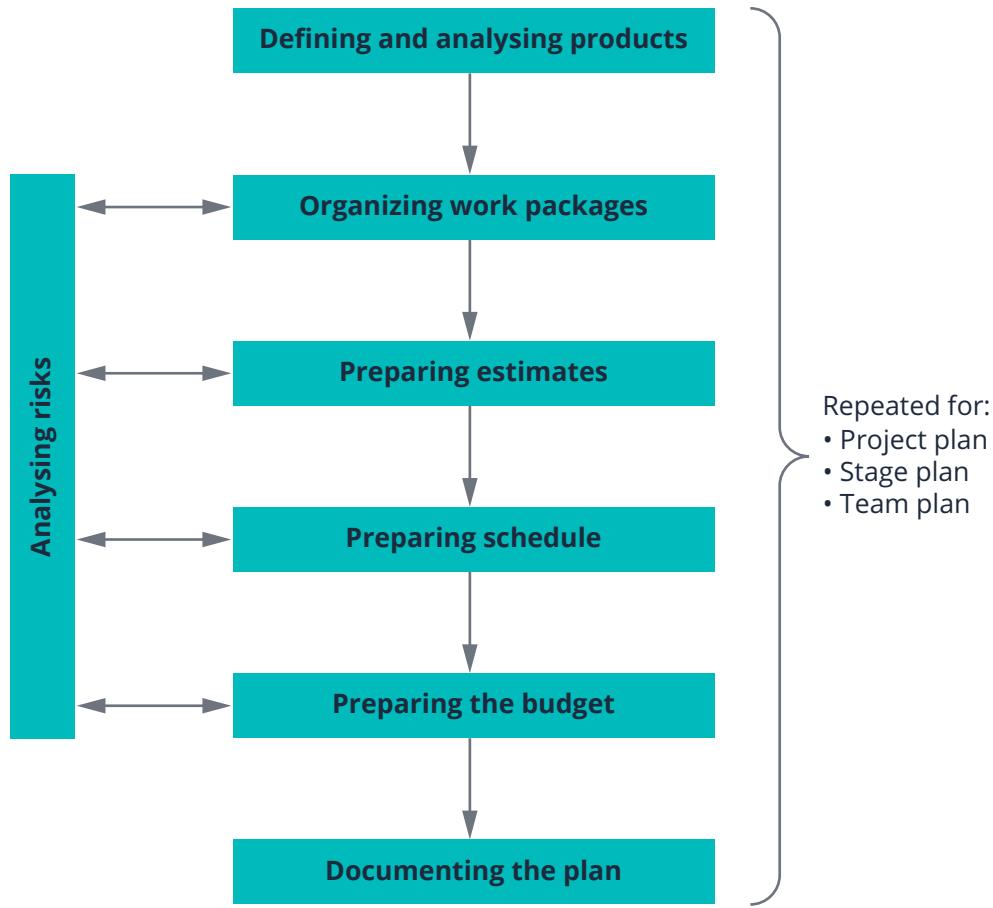


Figure 7.3 The PRINCE2 planning technique

The technique for preparing a plan covers all types of plan: the project plan, stage plans, team plans, and exception plans. The project management team or team manager should focus on the products associated with each plan and determine the necessary activities and resources, prepare a realistic schedule, and analyse the associated risks.

Stage plans and team plans are more limited in scope than the project plan but may be more detailed. For example, the schedule in a project plan may represent the project's timeline at the month or week level. Yet, a stage plan may detail the work to be performed at the level of days. In the same way, a project plan may identify required people by skillset, yet a team manager may identify these people by name in a team plan.

In preparing subordinate plans, the project management team or team manager must ensure not to introduce requirements or activities that cannot be traced back to the approved project plan. This is because it is a common means by which uncontrolled changes in scope, known as scope creep, are introduced.

7.3.2 Defining and analysing the products

Defining and analysing products comprises four steps as illustrated in figure 7.4.

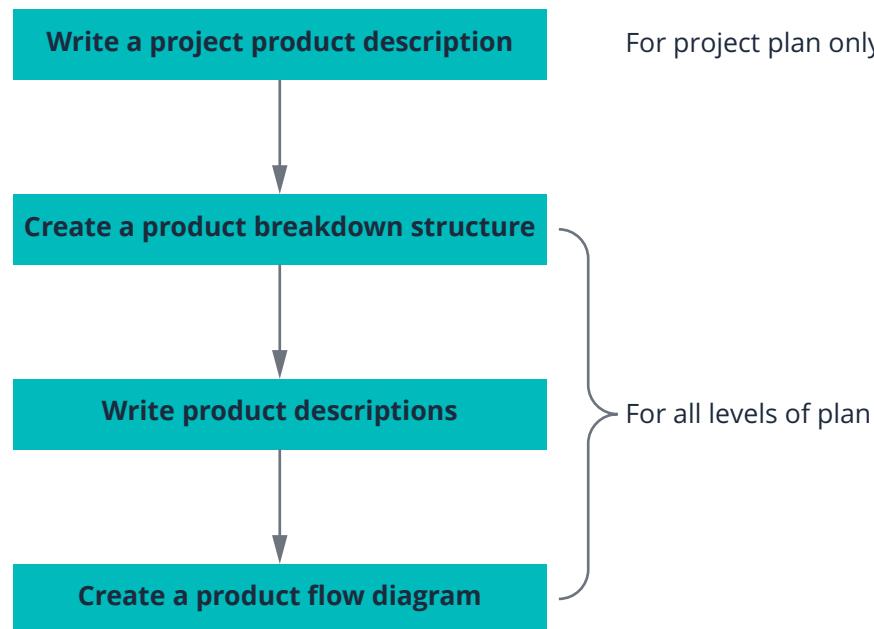


Figure 7.4 Defining and analysing products

7.3.2.1 Writing the project product description

The project requirements are defined and analysed in two progressive levels of detail.

In the process of starting up a project, the major products or outcomes, along with key quality requirements, are documented in the project product description. The aim of this step is to confirm that all the major products needed to achieve the user's expected outcomes are identified. It is important to assess and confirm that no necessary products have been missed, and no unnecessary products have been included.



Definition: Project product description

A description of the project's major products or outcomes, including the user's quality expectations, together with the acceptance criteria and acceptance methods for the project.

It is recommended that high-level acceptance criteria be stated in objectively measurable terms. However, this may not always be feasible. Therefore, a set of descriptive statements may be used as long as the project brief clearly indicates that these statements will be translated into more precise criteria as part of developing the product descriptions. This is important not only for reaching a common understanding between the project manager and project board but also to enable an effective set of quality tolerances to be established.

Alternative solutions and project approaches may be considered to ensure the approach and products most likely to satisfy the business case are included in the project scope. They are likely to be described in high-level detail only.

7.3.2.2 Creating a product breakdown structure



Definition: Product breakdown structure

A hierarchy of all the products to be produced during a plan.

A product breakdown structure is useful for describing the products to be delivered and their essential components. Each product is divided into its component elements in a hierarchical manner, and the requirements for those elements are collected.

As an example, in the Louistown City Council project the major product is the shopping mall and its surrounding pathways, plaza, and gardens. The shopping mall can be further divided into the enabling works, the mall, the mall tenants, and operational readiness. The product breakdown structure can also show external products which the project is dependent on. In this case, this is the connections to the shopping mall comprising the revised public transport routes and timetable, and the park and ride scheme.

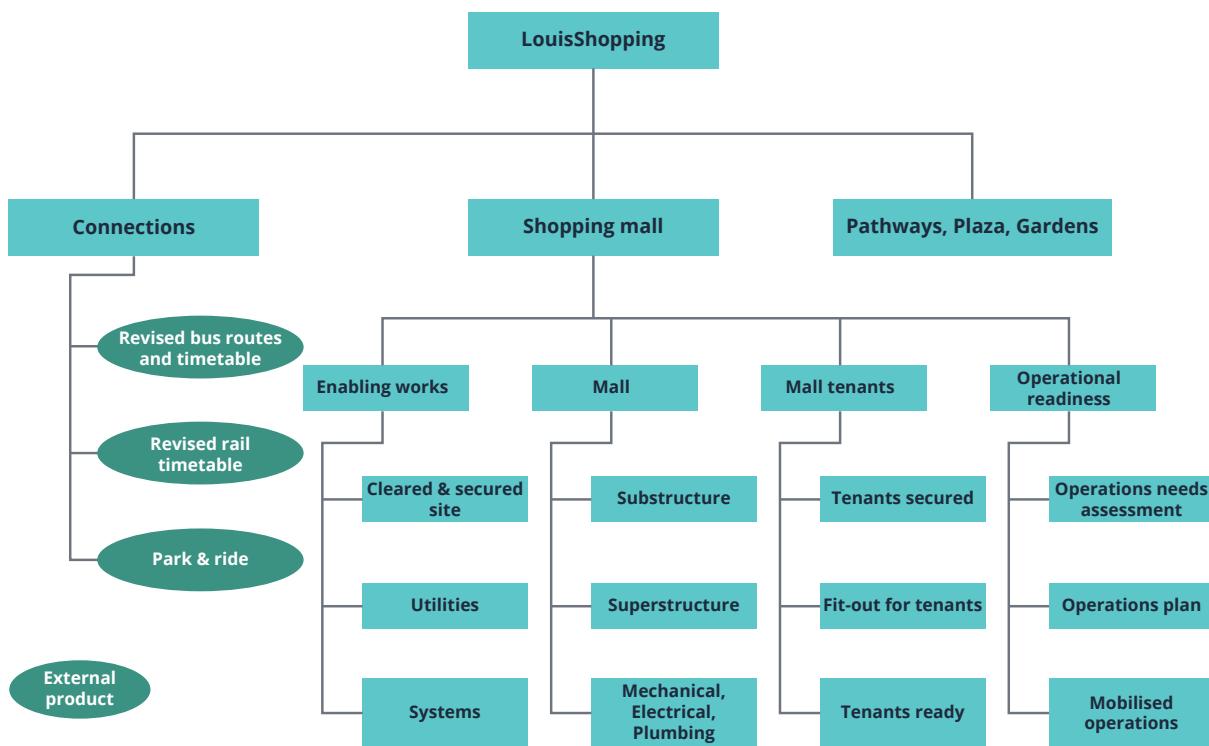


Figure 7.5 Product breakdown structure for LouisShopping project

A function of a product breakdown structure is to allow requirements specific to one product or component to be grouped together in a logical manner. For instance, in the example of a house, the requirements for the plumbing are closely interrelated, whereas the requirements for wall finishings are largely independent of those for the plumbing.

Another function of a product breakdown structure is to group requirements related to the same procurement or delivery method. In the house example, the land is likely purchased in a different way and from a different source than the construction of the house.

It may be worth considering whether to include different states of a particular product. For example, the mall may start as a design from an architect, then become a construction effort by a construction team, and then a decorator for the interior finishing. Although the owner's goal is to obtain a building with units which can be let to tenants, there may be quality specifications for each state.

7.3.2.3 Writing product descriptions

In the process of initiating a project, the required products are described in more detail. The project manager elicits the user's requirements for these products and documents them in one or more product descriptions. The project manager also consults with subject matter experts to determine requirements related to how these products are procured, developed, tested, used, and supported after acceptance. The aim of this more detailed step is to confirm that the requirements for the major products have been described in sufficient detail to enable realistic scheduling and estimation.

The definition and analysis of products may be an iterative procedure. In a linear-sequential project, the product descriptions should be sufficiently detailed to enable costs and time to be estimated at an appropriate level of confidence. However, in an iterative-incremental project, the detailed requirements for products may be developed in parallel with the products themselves, and a high-level set of product descriptions may be sufficient to proceed with the stage in which they are to be developed.

Projects rarely have the luxury of fulfilling all user expectations without regard to constraints. For example, a desirable product option that has a high energy demand may be in conflict with sustainability constraints set for the project. For this reason, it is helpful to prioritize quality specifications for each product to ensure that the most important requirements are met.

7.3.2.4 Creating a product flow diagram



Definition: Product flow diagram

A diagram showing the sequence of production and interdependencies of the products listed in a product breakdown structure.

The development of the product breakdown structure helps to identify dependencies among the products. These dependencies can be described in a product flow diagram, which illustrates the sequence in which the products in the plan will be developed and any dependencies between them.

In some cases, intermediate products will need to be delivered. Intermediate products are products that are created as an essential input to the delivery of another product but not intended for use by the user. For example, producing a prototype can be an effective way to reduce the risk of full-scale production, but the prototype itself is only the input to the full-scale production stage. The product flow diagram and product breakdown structure must include both intermediate and final products, as well as any dependencies on external products outside the scope of the plan.

The product flow diagram leads naturally to the consideration of the activities required to deliver the products and provides the information for estimating and scheduling. In the Louistown City Council example, securing tenants could proceed in parallel with the construction of the mall, but construction of the mall cannot proceed until the utilities are in place. Before the shopping mall can open the revised public transport and park and ride schemes need to be ready and operational. They are outside of the project and identified as an external product. Figure 7.6 illustrates how the product breakdown structure for this project is translated into a product flow diagram.

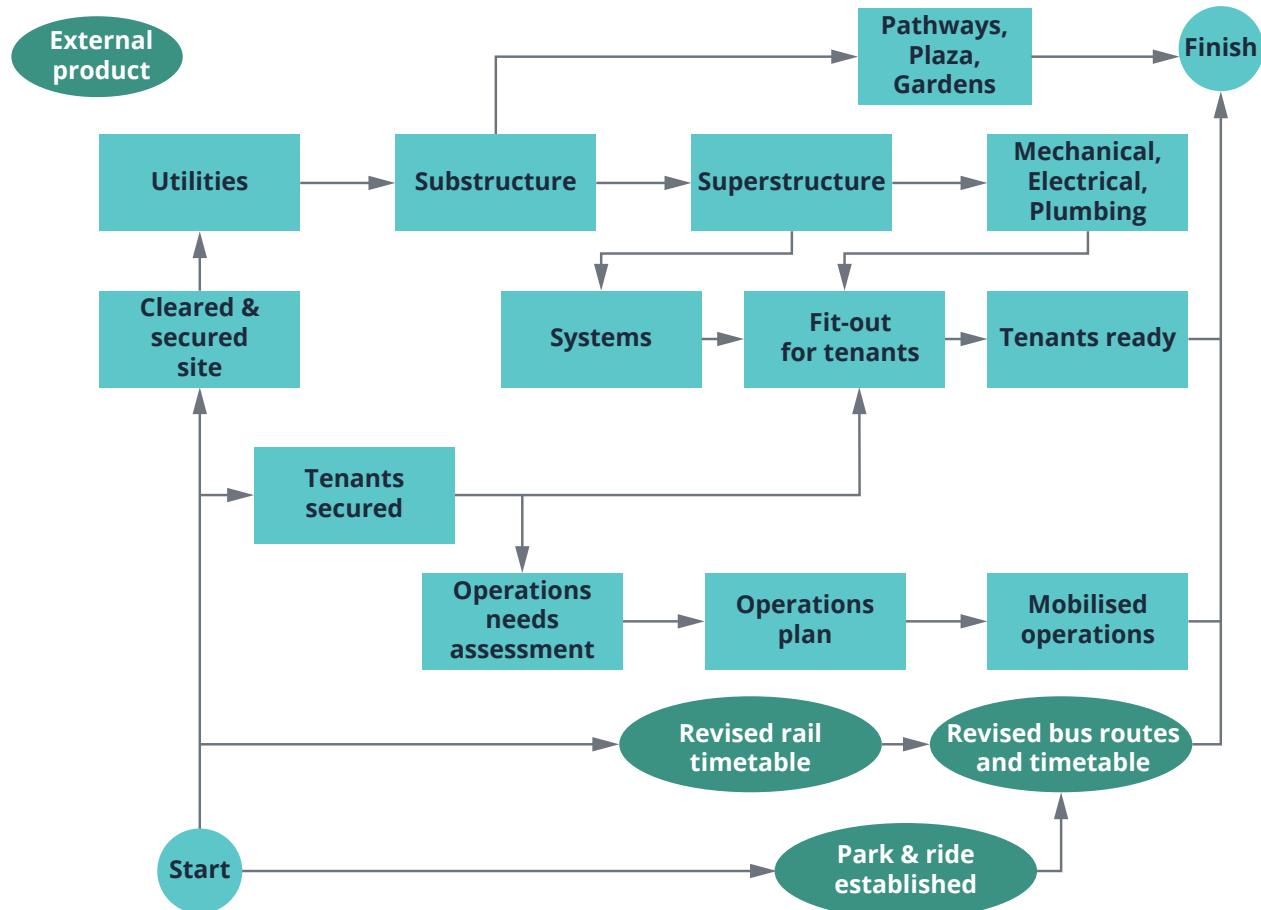


Figure 7.6 Product flow diagram for LouisShopping project

A product flow diagram should have a clear starting point and a clear end point. Its level of detail should be appropriate to the cost, duration, and scale of the products and work involved. Preparing the product flow diagram usually involves consultation with subject matter experts in the delivery and acceptance of the required products.

The project manager and senior user may find it useful to use the product breakdown structure and product flow diagram to identify when project outputs (the products) will begin to affect outcomes and to allow the user to begin to measure the realization of benefits. It may also be useful to distinguish products by which stage they are completed in, for example by colour.

7.3.2.5 Organizing work packages

The product flow diagram helps the project management team decide whether the project should be delivered in a linear-sequential or iterative-incremental manner.

When the delivery method is decided, the delivery activities involved in each product can be identified and organized into work packages. Each work package should combine closely related people, resources, and delivery activities. Also, each should create at least one required end product or an intermediate product required as an input to a subsequent work package.

If a work package depends on delivery of a product from another work package or from an activity outside the scope of the project, this relationship is considered a dependency.



Definition: Dependency

A dependency means that one product is dependent on another. There are at least two types of dependency relevant to a project: internal and external.

Internal dependency An internal dependency is one between two products of a project. In these circumstances, the project team has control over the dependency.

External dependency An external dependency is one between a project product and a product or activity outside the scope of the project. In these circumstances, the project team does not have complete control over the dependency.

All dependencies shown in the product flow diagram must be documented in the associated work package description. Regardless of whether a contract is involved in the delivery of a work package (for example, there may not be a contract for an internal supplier), a work package description is considered an agreement between the project manager and the team manager responsible for the work package.

Although work packages are often interrelated, the project manager should ensure there is no overlap in the scope of any two work packages. This could incur unnecessary costs and create potential conflicts between teams. The totality of the work packages should comprise the full delivery scope of the project. There should be no gaps between the product flow diagram, the product breakdown structure, and the full set of work packages.

It can be useful to organize project management activities into a single work package for each stage, even if these activities are not considered part of the project budget. This helps document all project management tasks and to show the relationship between stages and milestones and activities purely in relation to product delivery.

In the PRINCE2 planning technique, the work breakdown structure (see Chapter 6) is a technique with several applications. It is used to support project organization by mapping work packages to the teams or suppliers responsible for delivering the associated products. This application is particularly helpful when a project has a mix of work packages, with one or more being delivered through internal staff and others by external suppliers. Where people represent a major element of the project's costs, the work breakdown structure allows labour costs to be described in terms of types of skills, level of effort, and duration of effort.

Finally, the work breakdown structure helps in developing team plans, where necessary work to deliver the products can be detailed in terms of tasks and the team members assigned to them. The work breakdown structure is optional for simple projects with one or two products or work packages and small delivery teams.

7.3.2.6 Preparing estimates

Project managers and team managers always plan using estimates of:

- **People** These can be the specific skills required, the level of effort involved, and when and where they will be needed.
- **Resources** These can be specific materials, equipment, facilities, access, natural resources, or money, as well as the number or amount of each.
- **Duration of activities** Preparation of the schedule requires estimating the time it is likely to take to complete tasks.
- **Cost of people and resources** For people, these can be labour rates, fees, or salaries, whereas for resources such as materials, these can be unit costs and based on market rates or supplier contracts.
- **Benefits** These can be estimates of the value of the outcomes enabled by the project products.
- **Risk** These can be estimates of the proximity, probability, velocity, and the impact of risks and their associated risk responses.

It is useful to include a level of confidence with every estimate. The higher the level of confidence in an estimate, the less likely that unexpected variations will be encountered during delivery. This enables the project manager and project board to agree to a realistic set of tolerances.

Examples of estimating techniques are provided in section 7.3.4.

7.3.2.7 Preparing a schedule



Definition: Schedule

A graphical representation of a plan (such as a Gantt chart), typically describing a sequence of tasks together with resource allocations, which collectively deliver the plan.

The sequencing, interrelationships, and duration of work packages and their associated tasks are captured in a schedule. All work packages for a stage must be included in the schedule for the stage.

A work package includes one or more delivery activities. These activities, in turn, can be decomposed into a set of tasks. For each task, the people and resources can be identified. Then, the level of effort required and the duration of each task can be estimated.

The project manager should consider the planning horizon and use stage plans to elaborate the schedule as the level of effort and duration of tasks are better understood.

7.3.2.8 Preparing the budget

The people and resource requirements can be listed, and their costs along with other costs can be calculated to produce the plan's budget. The budget should include:

- costs of the activities (including people, equipment, materials, and facilities) to produce and deliver the products and the cost of the project management activities
- risk budget (see section 9.2)
- change budget (see section 10.2.5)
- cost tolerances.



Definition: Resource

The goods, services, equipment, materials, facilities, and funding required to complete a plan.

Subject to the type of resources required, the plan's budget may need to be documented using several different components. For example, the time required in a test facility may be indicated in a schedule, whereas the necessary capital funding may be detailed in the project budget.

The use of distinct risk budgets and change budgets is optional. Their use will depend on the project context as to whether the value of the additional control outweighs the additional project management costs and time.

7.3.2.9 Analysing risks

Plans need to be analysed for risks throughout the planning technique as the plan develops. As the detail of the plan evolves, it should be examined for its potential risk content. All identified risks should be entered into the project log: risk register.

After the plan has been produced, the plan should still be considered as a draft until decisions regarding whether and how to treat the inherent risks in the plan have been made. Subject to those decisions, the plan may need to be modified (see section 9.3.1 for more details on the PRINCE2 risk management procedure).

7.3.2.10 Documenting the plan

The PRINCE2 planning technique creates several management products that constitute the plan. The schedule and budget may be maintained in separate systems or files. Meanwhile, the product breakdown structure, product flow diagram, and work breakdown structure may be maintained in a document, spreadsheet, or graphical planning tool. Multiple elements may be maintained in a team collaboration tool. Even so, it is often useful to prepare a narrative document that explains the plan at a high level and identifies:

- internal and external dependencies
- proposed tolerances
- monitoring and control requirements

- budgets
- key risks
- assumptions underlying any of the above.

A project plan would also include a description of the stages and planned project board decisions.

7.3.3 Supporting techniques

7.3.3.1 Prioritizing

Projects seldom have the money, time, or resources to deliver everything wanted by the organization, users, or suppliers, even if delivery of everything has business justification.

This means that on most projects, scope (including acceptance criteria and quality specifications) must be prioritized whereby the project will attempt to deliver as much as possible and for which there is a business justification.

There are numerous ways to facilitate agreements on priorities over requirements. For example:

- categorizing criteria as must-have, should-have, could-have, or won't have
- a product backlog approach that explains the sequence in which features will be made available to users (or in which criteria will be met)
- pairwise comparison to understand preferences between criteria
- the Kano model that describes features as delighters, performance features, and essential as a means of gauging customer satisfaction
- Eisenhower matrices, which assess criteria in two contrasting dimensions (for example, importance versus urgency or value versus ease of implementation).

Prioritization techniques help to define scope tolerances, supporting the manage by exception principle.

7.3.3.2 Scheduling

Project schedules provide information on the sequencing, dependencies, and durations of activities, along with milestones. There are a variety of scheduling and presentation techniques that can be used, including the following:

- **Gantt chart** It is a graphical representation of the duration of tasks against the progression of time. Gantt charts are useful for projects with numerous activities and milestones and are compatible with many scheduling tools.
- **Spreadsheet** For simple projects, work packages and tasks can be listed with their corresponding timelines. This presentation can be difficult to maintain for large projects or projects with frequent changes in schedule.
- **Product checklist** It is a list of the major products of the plan and the key dates in their delivery. When the planned and actual dates for delivery are displayed, this presentation provides a good summary of delivery performance over the project lifecycle.
- **Activity flow board** This technique shows how each product or product component progresses through the work of development or delivery. It is used in Kanban boards as well as other tools that are often used in iterative-incremental projects.

The schedule should identify the amount of time that an activity can be delayed without affecting the completion time of the plan. This is known as float or slack. A schedule with zero float across all activities represents a high risk of delay and exception to the time tolerance.

A critical path diagram illustrates the sequence of activities from the start to the end of the project that have the least amount of total float. Any delay beyond the planned float between any two activities on the critical path means the project will overrun its schedule.

A weakness in the critical path diagram is that it does not address resource limitations. Therefore, it may be useful to identify the critical chain as well. The critical chain is the sequence of tasks that, given available resources, prevents a project from being completed in a shorter time given. In the example of the house project, the critical chain might reflect the fact that local regulations prohibit outside construction work on weekends.

By identifying schedule constraints, the project manager is able to focus on changes in the schedule of activities, critical path, or critical chain as potential exceptions. Moreover, the project manager can avoid exceptions by adjusting the timing of activities with the available float or resource flexibilities.

7.3.4 Estimating

A variety of estimating techniques are available to project managers. These include the following:

- **Top-down** A top-down technique assumes that the costs, duration, and level of effort of the major products and work packages can be estimated to a high-level of confidence. These are then allocated to subordinate elements of the product breakdown structure and work breakdown structure. This technique could be used for an iterative-incremental project in which delivery is structured into stages and sprints with fixed timeframes and resources.
- **Bottom-up** A bottom-up technique develops estimates for individual products, components, activities, or tasks at their lowest level of definition. The lower-level estimates are then aggregated to obtain overall estimates. This technique is useful when the lower-level elements are well-understood but will be combined in a manner unique to the project or new to the organization.
- **Comparative** When the materials, products, or delivery work are well-understood and based on common practices, estimates can be developed based on similar projects or openly available market information.
- **Parametric** When measured or when empirical data on materials, effort, and duration is available and supported by estimating models (such as in the construction industry), estimates can be developed using values from the project, such as the number, units, or size of a structure.
- **Data analytics** Descriptive analytics (understanding the characteristics of a task) and predictive analytics (understanding a task's predisposition to particular outcomes) can be used to help improve estimates. This will require access to data that may be generated by the project, held by the business layer, or sourced from a data trust.
- **Subject matter expertise** Consensus-based techniques, such as Delphi and planning poker, can be used to develop a consensus on estimates with the participation of subject matter experts.

Several estimating techniques are often used in large and complex projects. The project manager may seek support from specialists in cost estimation if they are available to the project.

7.4 Applying the practice

PRINCE2 provides a flexible approach to apply the planning technique to a variety of projects.

7.4.1 Organizational context

Project planning is often influenced by organizational context, including policies, procedures, and support. For example, the project budget may need to be prepared according to procedures for handling capital investment expenditures. Projects in governmental or other public organizations may need to comply with regulatory requirements and ensure transparency in record keeping.

Scenario: example of complying with regulations

Findef's change of business model means they are selling directly to consumers rather than via intermediaries such as the banks. This means they are now subject to consumer protection regulations that had previously been the responsibility of their intermediary. The FindefTwo programme commissioned a study to determine what changes they would need to make across the business to comply with consumer protection regulations and any other regulations. The study revealed that the regulations also had requirements of product design. The requirements were fed into the product descriptions. The project team included additional reviews in the stage plans (stages 3, 4, and 5) to verify compliance with them.



For projects that are part of a programme, the programme management team may take a major supporting role or even lead the planning for its projects. The programme may have dedicated planners that can provide templates for management products and assist the project manager in preparing and maintaining the project plan and stage plans.

The number and length of stages will be influenced by the programme plan. It may be desirable or necessary to align stage reviews to programme milestones, for example, at the end of a tranche. The programme may even define a set of standard stages with which all projects within the programme comply.

The programme delivery plan will detail which of the project products are being used by other projects within the programme. Any such dependencies to or from the project should be incorporated into the project's plans.

7.4.2 Commercial context

For projects in a commercial context, the role of suppliers is an important consideration. Many projects rely on external suppliers to deliver work packages. This is one reason why it is useful to align work packages with their responsible suppliers, whether external or internal. However, when an external supplier is responsible for a work package, this arrangement may be reflected through a formal agreement such as a contract.

It is recommended to ensure that the agreement requires the supplier's plans to provide clear traceability to the applicable elements of the user's project plan. The agreement should require

alignment with the acceptance criteria and quality specifications approved by the project board. This approach is often referred to as a back-to-back agreement.

The agreement should state how these plans are to be produced and what rights of inspection and audit the user has. The supplier's plan should have sufficient activities or milestones for the user's project manager to maintain their plans.

Both the user's and supplier's plans may be confidential to the other party as they may contain other information, such as dependencies to or from other client projects or subcontractor costs. Therefore, it is beneficial to prepare non-confidential versions of the plan that can be shared while omitting private information.

Plans need to include procurement-related milestones such as purchase orders and milestone payments aligned with each stage.

Scenario: procurement/tender in separate stages

The three innovative cybersecurity products to be delivered by Findef required tender activities throughout the project to secure advisory, marketing specialists, and training delivery. As a hybrid approach of linear-sequential is being used for the overarching design and an iterative-incremental approach is being applied to the development of each product, procurement of services was fully completed in stage 2. This included extensive work from Findef to issue a request for proposals followed by rounds of presentations by shortlisted suppliers. After a detailed assessment of proposals by each candidate against the weighted criteria and assurance from the procurement team, a contract has been awarded to the current marketing agency and training provider.



7.4.3 Delivery method

The PRINCE2 planning techniques can be applied in both linear-sequential and iterative-incremental projects. For linear-sequential projects, most planning effort is applied upfront in the processes of starting up a project and initiating a project. This is because these projects are often characterized by well-understood products and mature delivery activities. The example of similar projects helps establish the planning horizon and suggest the necessary products, work packages, and stages. Duration, level of effort, and costs can be estimated with a high level of confidence. The estimates in the project plan are refined in stage plans, and team plans and product descriptions are further detailed in subsequent stages, but the project plan usually does not change unless there is a project level exception.

On the other hand, iterative-incremental projects focus on how much can be produced over a fixed period of time (such as a sprint or a timebox). This is with the goal of delivering an initial product quickly and refining and improving it iteratively.

When an iterative-incremental approach such as agile is being used, a common planning approach would consist of:

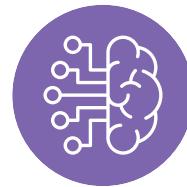
- setting tolerances for each iteration that effectively fix time and cost and enable more flexibility in scope
- producing the project product description in terms of expected outcomes and benefits
- developing the user stories, epics, and product backlogs instead of product descriptions

- determining the length of releases or timeboxes and defining these as stages
- estimating the resource requirements for each stage and preparing the project budget
- combining the product backlog and workflow in a collaborative planning tool, such as a Kanban board. A Kanban board may be used instead of a team plan and is developed as a joint effort by the whole development team.

The iterative-incremental approach lends itself to the review and update of the plan as part of each cycle, just as in the preparation of stage plans in a linear project. However, it reflects the updates in a collaborative planning tool.

Scenario: timebox delivery method

Data Knowledge is using a timebox delivery method to ensure that the new time-reporting solution and reporting suite can be deployed quickly to several new projects and enhanced during its roll-out to the rest of the business. With fixed budget and timescale (three months), the project management team has divided the project into small units of time of two weeks each. Based on an agreed product backlog, the team is going to plan and manage how much scope fits in the timebox. When that period of time is completed, the performance of the timebox is assessed, the backlog is refined, and the subsequent timebox is planned. This approach ensures continuous and incremental delivery by Data Knowledge, enabling value to be perceived early in the project.



7.4.4 Sustainability

Plans can address sustainability in at least three different ways:

- **Product sustainability** In identifying and describing the required products, it is useful to determine the environmental impact of the product through its full lifecycle, including disposal where appropriate.
- **Delivery sustainability** Projects often face choices in planning work packages and stages that can affect the climate impacts of the delivery activities. Agreeing to sustainability tolerances is an effective way in which the project manager and project board can keep things like fuel consumption and production wastes aligned with the organizational strategy.
- **Benefits sustainability** Projects often deliver benefits long after they have been closed. Projects also sometimes fail to achieve the expected benefits because there are only limited means to sustain these benefits. For example, ongoing training and user support are not considered when defining the project's scope. An effective way to avoid this problem is by identifying requirements to ensure benefits sustainability.

7.4.5 Scale

The PRINCE2 planning technique supports a wide range of projects. Although product-based planning always applies, the level of effort involved in planning can easily be scaled up or down based on the characteristics and needs of the project.

Aspects of project scale that affect planning include:

- **Duration** The longer a project's lifecycle, the more likely that project plans will need to adapt to changes in both the external environment and internal project delivery activities. Duration should be considered in organizing work packages and stages, as well as in estimating the change budget. In addition, multi-year projects will likely see changes in the project team, including key roles such as the project manager. Project plans should be prepared to aid orientation, continuity, and reduce the impact of turnover.
- **Size of the project team** Large and dispersed project teams will generally need more project support and benefit from easily accessible project planning and reporting tools and documentation.
- **Complexity** Projects with a small number of products and work packages can be planned with relatively simple documents and tools. For example, the project schedule could be a list of major milestones or a presentation slide. However, as the number of products and work packages increase, the use of specialized tools such as a project scheduling application will make it much easier to analyse and incorporate changes.
- **Novelty** If the products or delivery method are new to an organization, it may be difficult to rely on experience or similar projects to capture requirements or estimate schedule and costs. Therefore, plans incorporate a high degree of uncertainty and the use of risk mitigating techniques (such as prototyping) or an iterative-incremental approach may be justified.
- **Cost** Project planning is one of the most prudent ways to reduce the risk of project failure. Therefore, it is sensible to ensure that the level of effort in project planning is in line with the overall cost of the project. The cost of project planning and support will depend on the importance and complexity of the project. In some cases, it could be ten percent or more of the overall cost of the project.

Scenario: contrasting scale

Projects are contextual with different scales of size, risk, and complexity. The planning should reflect these differences in an attempt to apply proportionality in the approach.



The LouisShopping project is a typical project (to the supplier) of medium complexity (to the client) and spans three financial years. Therefore, with a larger planning horizon, the project will require a combination of high-level detail (overall project) and low-level detail (stage) when planning. This is to enable sufficient oversight on a day-to-day basis for team leaders and the project management team while assuring the project board that the overall project is on track.

In contrast, a simpler project with lower complexity and risk that spans six months within the same financial year will be less demanding regarding planning and controls. This can be seen in the new campaign by NowByou. In this instance, it could be sufficient to present a single timeframe (project plan) relating to the entire project.

7.5 Management products to support the practice

PRINCE2 includes 16 management products that are used to manage the project. The management products specific to the plans practice are described here.

Management product: Plan

Purpose

The purpose of the plan is to provide a proposal that outlines the what, where, when, how, and by whom the project as a whole (or a subset of its activities) will be performed. When approved, a plan provides a baseline against which progress can be measured and issues assessed.

High-level content

Scope description of the plan's scope (project, stage, team, and exception)

Dependencies external products or activities on which the plan depends

Planning assumptions and prerequisites assumptions on which the plan is based and any fundamental aspects that must be established or remain in place for the plan to succeed

Lessons incorporated details of relevant lessons from previous similar projects, which have been reviewed and accommodated within this plan

Products to be delivered the product breakdown structure, product flow diagram, and product descriptions that fall within the scope of the plan

Work to be performed the work in the scope of the plan shown by way of a work breakdown structure and the associated work package description(s)

Budget the project costs, including the risk budget and change budget

Schedule a representation of the project stages and activities, their durations, and sequence, such as a Gantt chart

Targets and tolerances the permissible deviations for scope, cost, and time at the level of the plan. Stage plans and team plans may also include sustainability and risk tolerances

Monitoring, control, and reporting arrangements description of how the project will be monitored and controlled and of reporting procedures and responsibilities.

Management product: Project product description

Purpose

The purpose of the project product description is to describe the project's major products and intended purpose, including the user's quality expectations and the acceptance criteria and acceptance methods for the project. It is created in the process of starting up a project and refined during the process of initiating a project.

High-level content

Purpose description of what the project products will fulfil and who will use them

Major products description of the major products to be delivered

Box continues

Derivation what the products are based on, such as existing products or a requirement for a new capability

User's quality expectations description of the quality expected of the project products and the standards and procedures that will need to be applied to achieve them

Acceptance criteria prioritized list of criteria that the project products must meet to be accepted by the user

Acceptance methods and responsibilities the means by which acceptance will be confirmed and who will be responsible for the acceptance decisions

Project level quality tolerances any tolerances that apply to the acceptance criteria.

Management product: Work package description

Purpose

The purpose of a work package description is to describe how one or more products will be produced and delivered. It is used to pass responsibility for work formally to a team manager or team member.

High-level content

Description of work to be done a statement of work and associated work breakdown structure

Team manager or person authorized the name of the team manager or individual responsible for the work package

Product descriptions the product descriptions associated with the work package

Techniques and procedures requirements for how the work is to be done

Change control requirements arrangements for control of the project and product baselines that fall within scope of the work package

Constraints restrictions or limits on the work, such as authorized work hours, safety, and security measures

Monitoring, control, and reporting description of how the work package will be monitored and controlled and reported

Targets and tolerances the permissible deviations for scope, cost, and time for the work package

References applicable references from higher-level plans

Approval who will approve the completed products

Agreement a record of the initial authorization and final completion of the work package between the project manager and the team manager.

7.6 Focus of key roles for the practice

PRINCE2 defines seven key roles to manage a project. Their responsibilities specific to the plans practice are described here.

Table 7.1 Areas of focus for key roles associated with the plans practice

Role	Responsibilities
Business layer	set project tolerances and document them in the project mandate or confirm them to the project board for inclusion in the project brief approve exception plans when project level tolerances are forecast to be exceeded provide the planning standards required by the business
Project executive	approve the project plan set tolerances for each stage and approve stage plans approve exception plans when stage level tolerances are forecast to be exceeded commit people and business resources to stage plans (for example, finance team and systems)
Senior user	advise and assist the project manager in preparing project and stage plans ensure that the project plan and stage plans remain consistent with the user perspective commit people and user resources to stage plans (for example, operational staff for training or testing and test environment)
Senior supplier	advise and assist the project manager in preparing project, stage plans, and work package descriptions ensure that the project plan and stage plans remain consistent from the supplier perspective commit people and supplier resources to stage plans (for example, developers and machinery)
Project manager	design the plans prepare the project plan, stage plans, and work package descriptions and update as necessary decide how stages and delivery steps are to be applied instruct corrective action when work package level tolerances are forecast to be exceeded prepare an exception plan in response to the project board's decision on an exception report
Team manager	assist the project manager in preparing work package descriptions prepare team plans prepare schedules for each work package
Project assurance	review the feasibility of stage and the project plan against agreed targets and their tolerances review changes to the project plan to see whether there is any impact on the needs of the business or the project business case
Project support	assist with the compilation of the project plan, stage plans, work package descriptions, and team plans contribute specialist expertise (for example, planning tools) baseline, store, and distribute the project plan, stage plans, team plans and work package descriptions

7.7 Key relationships with principles

The plan practice contributes to the adherence to PRINCE2 principles across the project lifecycle.

Table 7.2 Key relationships between the plans practice and PRINCE2 principles

Principle	Achieved by	Resulting in
Ensure continued business justification	aligning the plan's performance targets to the business case objectives and providing estimates upon which the project board can confirm whether the project is viable	ensuring plans remain aligned with the overall business strategy and can be delivered within the defined tolerances
Learn from experience	using lessons to inform planning, including those lessons from prior projects or from completed work within the project (for example, lessons from the current stage being applied in the next stage); sharing planning lessons for future projects	improved capability of the project team to deliver the plan and of the organizations involved to plan similar projects in the future through the sharing of data and lessons
Define roles, responsibilities, and relationships	establishing the roles and responsibilities specific to a plan; organizing the project through work packages and teams based on organizational factors arising from the project context and delivery method	clear accountability for plan performance and results, enabling efficient decision-making
Manage by stages	breaking the project lifecycle into stages as a means of accommodating planning horizons and aligning stages to key decision points as required	project stages and tolerances planned in a manner appropriate to both the business needs and realistic estimates of resources, schedule, risks, and issues
Manage by exception	defining levels of plan (project, stage, and team) and establishing the targets and tolerances for them	efficient decision-making and escalation appropriate to the level of plan (project, stage, or team)
Focus on products	basing all plans and planning activities on identifying the required products and the most effective way to deliver them	effective communication with stakeholders and avoidance of unnecessary work and products
Tailor to suit the project	requiring only planning activities and plans appropriate to the project approach and context	the right balance between project management, delivery activities, and resources



CHAPTER 8

QUALITY



CHAPTER 8

›QUALITY

8.1 Purpose



Key message

The purpose of the quality practice is to document the user's requirements of the project products and to establish the means by which they will be met.

Quality is concerned with ensuring that the project products meet the user's requirements and expectations and enable the desired benefits to be realized. The quality practice addresses the quality concepts, guidance, techniques, management products, and responsibilities for the project products.



Definition: Quality

The degree to which a set of inherent characteristics of a product, service, process, person, organization, system, or resource fulfils its requirements.

The PRINCE2 method includes systematic activities to:

- explicitly confirm the user's quality expectations and acceptance criteria for the project products in the project product description
- identify the project products to the level at which the project can exert control
- define the project products in product descriptions, including the quality specifications by which they will be assessed, the quality techniques to be used in checking their quality, and the quality responsibilities of those involved
- implement and track the quality techniques employed throughout the project.

Quality should be built into everything; not just tested at the end of the project.

8.1.1 Key quality terminology

PRINCE2 uses a specific set of terms to characterize information about the needs of project stakeholders and enable effective quality planning, quality control, and quality assurance. These terms are:

- user's quality expectations
- requirements
- acceptance criteria
- quality specifications.



Definition: User's quality expectations

A statement about the quality expected from the project product, captured in the project product description.

All project stakeholders have expectations of how the project will be performed and of the products it will deliver. However, in PRINCE2, the term user's quality expectations only applies to the statements found in the project product description.



Definition: Requirement

A need or expectation that is documented in an approved management product.

Similarly, the PRINCE2 method distinguishes between needs and expectations that are captured in an approved management product (such as a product description) and those that are not. Captured and documented needs or expectations are considered requirements, which constitute part of the project scope. Needs and expectations that are not captured in an approved management product are not part of the project scope. This distinction is essential to enable effective monitoring and control.



Definition: Acceptance criteria

A prioritized list of criteria that the project product must meet before the user will accept it. For example, measurable definitions of the attributes required for the set of products to be acceptable to key stakeholders.

Acceptance criteria are stated in the project product description. In effect, they are owned by the business, and the project board approves these on behalf of the business. Acceptance criteria are



typically described in terms of the functional capabilities the business expects to achieve upon the acceptance of the project products.



Definition: Quality specifications

A description of the quality measures that will be applied by those performing quality control and the levels that a finished product must meet.

Quality specifications are stated in product descriptions. These are typically both derived from the user's quality expectations and determined by aspects of the business or operational context. Operational context could include applicable regulatory requirements or requirements driven by existing policies and practices.

8.1.2 Product-based quality

The principle of focusing on products is central to the PRINCE2 approach to quality. PRINCE2 uses the term requirements to describe the expectations, needs, and desires of a project's stakeholders for the project products, outcomes, and benefits. No project can ever satisfy all requirements. This is why requirements need to be prioritized and agreed in a controlled manner.

PRINCE2 provides a product-based approach to requirements that aims to translate requirements into acceptance criteria and quality specifications for project products and the activities to deliver them. This helps avoid expending resources on work that cannot be traced back to the project's business justification.

The product-based quality management approach ensures clear traceability of quality specifications and quality controls to the required products, thereby avoiding conflicts over unmet user quality expectations.

The larger the scope and duration of a project, the larger (and more dynamic) the set of requirements the project manager will need to handle. No matter how thoroughly and accurately stakeholder requirements have been captured in product descriptions in the process of initiating a project, the project management team should anticipate requirements changes and be prepared to handle them. Requirements management is an ongoing activity that constitutes the first part of the product-based quality management approach.

It is easier and cheaper to correct quality issues and flaws early in the project lifecycle, rather than when the finished product is being tested or, worse, when the product is already in operational use.

Prevention of such issues is achieved through quality planning, which also reduces the resources and risks involved in quality control.

8.2 Guidance for effective quality management

Quality management focuses on three elements: quality planning, quality control, and quality assurance.

- Quality planning involves:
 - identifying the major products of the project and documenting them in terms of user's quality expectations and acceptance criteria in the project product description

- eliciting user requirements and detailing them in terms of quality specifications in product descriptions
- developing the quality management approach to ensure the associated quality specifications and acceptance criteria are met
- obtaining the project board's approval for the above as a baseline for subsequent management and control.
- Quality control involves:
 - implementing the agreed quality management approach during delivery
 - assessing issues related to quality and raising quality exceptions when necessary
 - obtaining acceptance of the delivered products.
- Quality assurance involves:
 - ensuring that the quality planning and control techniques are sufficient to confirm that the quality requirements can be met.

8.2.1 Quality planning



Definition: Quality planning

The capturing of quality specifications for the project products and generating the associated product descriptions and quality management approach.

8.2.1.1 User's quality expectations

Quality planning begins with documenting the user's quality expectations in the process of starting up a project. These expectations are described in the project product description, which is an element of the project brief.

Although the project product description is often written at a high level, it should identify:

- all the major products to be delivered
- user quality expectations and acceptance criteria
- any standards and procedures that will need to be applied, including the extent to which the business', user's, and supplier's quality management systems should be used
- any measurements that may be useful to assess whether the project product is acceptable
- quality tolerances that may apply for the acceptance criteria.

This coverage is crucial to avoid the introduction of requirements outside the approved scope of the project in developing product descriptions.

8.2.1.2 Quality tolerances



Definition: Quality tolerance

The permissible deviation in a product's quality that is allowed before the deviation needs to be escalated to the next level of management.

Projects rarely have sufficient resources to meet all quality specifications and acceptance criteria. Therefore, the project manager should work with stakeholders and the project board to develop and agree to a prioritization of these criteria using techniques such as those described in section 8.3. The prioritized acceptance and quality specifications can then be used to set quality tolerances by which the management and direction of the project can be exercised in line with the manage by exception principle.

8.2.1.3 Describing products

The high-level requirements captured in the project product description are useful for management and direction purposes. However, the delivery of the products requires more detail to enable realistic planning, estimating, scheduling, and quality control.



Definition: Product description

A description of a product's purpose, format, composition, where it is derived from, quality specifications, and development responsibilities.

The requirements for a product are captured in a product description. It is produced when the need for the product is identified. In linear-sequential projects, this is often performed during the initiation stage and then at stage boundaries for each subsequent stage. However, in iterative-incremental projects, product descriptions evolve in parallel with product development work. This allows the product's quality specifications to be refined through feedback from use of prototypes or early versions of the product.

After acceptance, products become part of business as usual. Therefore, the needs of the staff responsible for operating and maintaining the products should be captured as quality specifications and included in the product descriptions.



Definition: Product register

A component of the project log that identifies the products to be delivered by the project and records their acceptance.

When a product description is approved by the project board, it is recorded in the product register and becomes part of the project baseline. Product descriptions can be changed but in a controlled manner. An efficient time to make this change is when the project approaches the next stage as part of the assessment of any changes to the project context.

8.2.1.4 Product sustainability

Product descriptions should include product sustainability requirements captured as quality specifications or acceptance criteria. Product sustainability considers both the environmental impact of the product and the characteristics that will ensure that the product can sustain the realization of its benefits over its expected lifetime. It may be appropriate to consider how a product will be decommissioned if that work represents a significant portion of its overall environmental impact.

8.2.1.5 Quality responsibilities

To avoid confusion and potential conflicts, the quality responsibilities for a product should be specified in the product description. Quality responsibilities are often described as the following:

- **Producer** The person or group responsible for developing a product.
- **Reviewer** The person or group responsible for assessing if a product meets its quality or acceptance criteria
 - reviewers should always be independent of producers to avoid a conflict of interest.
- **Acceptance authority** The person or group responsible for deciding if a product is acceptable
 - this can be the project board, but the board may delegate the acceptance authority for some products
 - such delegation should be stated in the quality management approach.

8.2.1.6 Quality in subordinate plans

Individual quality control events, such as testing, may be documented in further detail in stage and team plans to allow more accurate estimating and scheduling. However, project managers should take care not to introduce new requirements that cannot be traced back to the product descriptions and project product description. Changes to the baseline project initiation documentation arising from lower-level planning should be addressed using the issue management approach (see Chapter 10).

8.2.2 Quality control



Definition: Quality control

The procedures to monitor the specific products of a project and their development or delivery activities to determine whether they comply with relevant standards and of identifying ways to minimize causes of unsatisfactory performance.

Project quality control is a series of activities for each product usually involving a number of techniques. It begins when a product description is approved and recorded in the product register.

If the product is new and development or delivery includes new design or production methods, then quality control may involve evaluating both a prototype of the product and its initial production method ahead of full-scale production. If the product is mature or commercial off-the-shelf, quality control may simply consist of inspection at the point of delivery.

The quality techniques that will be applied to monitor and control product quality during delivery are described in the quality management approach.



Definition: Quality register

A component of the project log that identifies all the quality control activities that are planned or have occurred and provides information for end stage reports and the end project report.

The quality register provides a record of quality control activities, starting with the approval of each product description. As the project progresses and records of the quality control activities are completed, the quality register is updated to reflect (in summary form) the actual results from the quality activities. The quality register provides key audit and assurance information, comparing what was planned and agreed (in the quality management approach and product descriptions) to the quality control activities actually performed.

Quality control during delivery usually involves collaboration between the project manager, project assurance roles, and subject matter experts, whether internal or external. Quality control activities that require support from specialists within the business or external specialists should be included in the work breakdown structure, schedule, and project budget as described in section 8.3.

Scenario: responsibilities for quality control in quality management approach



The following quality register demonstrates the responsibilities for quality control in the LouisShopping project:

Table 8.1 Quality register in the LouisShopping project

Quality activity ID	Product ID	Product	Quality method	Producer	Reviewer	Approver	Target review date	Actual review date	Target approval date	Actual approval date	Result
1	109	Test parking plan	Inspection	T Jones	A Doe	B Jones	17 Sep	17 Sep	25 Sep	25 Sep	Pass
2	112	Water pump	Performance test	M Silver	S James	R Lauren	12 Sep	17 Sep	25 Sep	28 Sep	Fail
3	112	Water pump	Maintenance test	L Kay	A Doe	R Lauren	17 Sep	04 Oct	05 Oct	05 Oct	Pass

8.2.3 Quality assurance



Definition: Quality assurance

A planned and systematic activity that provides confidence that products will meet their defined quality specifications when tested under quality control. Quality assurance activities are typically performed by the business ensuring they are independent of the project team.

Quality assurance focuses on ensuring that the project's quality control measures are appropriate to assess the project products against their quality specifications. Quality assurance activities should take place throughout the project lifecycle, from start-up to closing.

It is important not to confuse quality assurance with project assurance. Quality assurance is focused on products and is independent of the project management team. It is typically performed by a function from the business. Project assurance is the responsibility of the project board and is used to confirm if the project is being conducted correctly. Project assurance is independent of the project manager but not the project.

8.3 Techniques

8.3.1 PRINCE2 techniques for quality management

PRINCE2 includes a three-step quality management technique (planning quality, controlling quality, and accepting products) integrated around the principle of focusing on products as shown in figure 8.1. Driven by the requirements expressed in the project product description, this ensures alignment between the project products and the project's quality management approach through a stepwise cycle of quality planning, quality control, and product acceptance.

An alternative procedure can be used instead if desired, for example, if the business has product design, development, and testing procedures specific to their organization. The use of an alternative procedure should be documented as part of the tailoring decisions in the project initiation documentation.

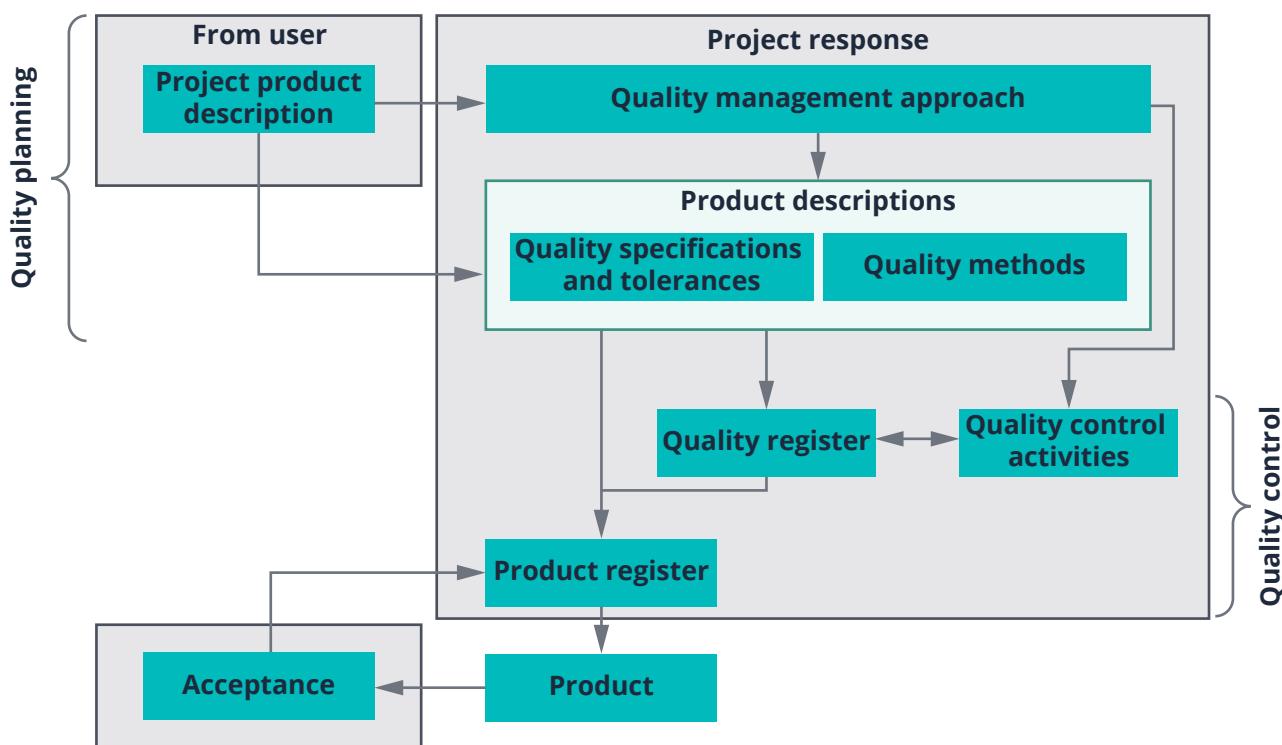


Figure 8.1 Product quality lifecycle

8.3.1.1 Planning quality

8.3.1.1.1 Gathering user inputs

The user's quality expectations and acceptance criteria are documented in the project product description and produced in the process of starting up a project, which is a primary input to the PRINCE2 planning technique. The project product description is also the primary input to quality planning, which aims to create two management products:

- **Product descriptions** detailing the quality specifications for each product and associated quality tolerances
- **Quality management approach** describing the supporting techniques and standards to be applied, and the roles and responsibilities for achieving the required quality specifications and acceptance criteria.

8.3.1.1.2 Creating product descriptions

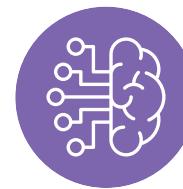
The requirements in the project product description are typically stated at a high level and must be developed in further detail to enable accurate estimation and planning. It is not unusual for a small number of user quality expectations in the project product description to be translated into dozens of quality specifications in an individual product description.

One of the biggest challenges in translating stakeholder requirements into quality specifications is achieving consensus on effective measures for product characteristics. For example, it is not enough to state that a new building has to be large enough to house 100 staff. How the building will be used by the staff, the nature of the work they will perform, and the types of support equipment and facilities they will require must be considered and translated into quality specifications. These will be used in the

design and construction of the building to satisfy the business case. All of these factors need to be captured as objective quantitative and qualitative measures:

- **Quantitative measures** translating requirements into numeric terms (In the above example, 100 staff is a quantitative measure.)
- **Qualitative measures** translating requirements into descriptive rather than numeric terms such as 'easy to use'. The danger in using qualitative measures is that they can be too vague to assess objectively. For example, easy to use should be clarified by also describing the level of knowledge and training of the intended user. It may be useful to distinguish quality specifications in terms of functional and non-functional requirements:
 - **Functional requirements** describes how a product must perform and be used
 - **Non-functional requirements** describes inherent characteristics of the product, such as its security or reliability.

Scenario: example non-functional requirement



For Data Knowledge's time-recording solution, a functional requirement is that it must allow the authentication of users who are trying to log in to the app. These requirements define how a system/product must work and/or do. The requirement that the processing of each time record should be done within 10 seconds is an example of a non-functional requirement to be met by Data Knowledge's app. These requirements explain how the system/product should perform, including attributes of usability, performance, security, and so on.

Another way to distinguish functional and non-functional requirements is to associate functional requirements with fitness for purpose and non-functional requirements with fitness for use. If there are constraints on how a product is developed, produced, or delivered, such requirements may also need to be reflected in the associated work package description.

Subject to the complexity and maturity of the requirements for a product, it may be appropriate to keep the product descriptions at a relatively high level in the process of initiating a project. The product descriptions can be primarily used to establish sufficient confidence in the time and cost estimates and confirm that the project can be delivered within an acceptable level of risk. The product description also identifies the responsible producer, reviewer, and acceptance authority.

8.3.1.3 Describing the quality management approach

Although the quality management approach is often developed in parallel with the initial product descriptions, its content should be aimed at ensuring the delivery of products that meet the user's quality expectations and acceptance criteria. Therefore, it should focus on how quality control will be organized, performed, monitored, and reported while providing a concise explanation of how quality planning has occurred.

The quality management approach describes the quality standards and procedures that will be followed, the tools and techniques to be used, the reporting and record keeping arrangements, and the roles and responsibilities for the quality management activities.

Scenario: example quality standards



In the LouisShopping scenario, there will be fire, safety, security, heritage, and other regulatory requirements that the shopping centre and parking garage must meet. The quality planning for this project will need qualified subject matter experts to help develop the quality specifications included in the product descriptions. Additionally, BuildyBrick and Louistown city council have agreed to adopt the latest version of the Mall Federation standards for construction, which include defined criteria to be met by BuildyBrick. The Mall Federation standards are referred to in the quality management approach as well as in relevant product descriptions which will refer to specific clauses in the standards. As construction work is completed, numerous types of specialized testing and inspection activities will be involved during quality control to confirm compliance with these specifications. The quality management approach should ensure that the necessary experts are identified and available to support both quality planning and quality control.

Construction efficiencies and safety concerns mandate the application of high-quality standards in the construction industry. LouisShopping will not be an exception regarding the concrete pavement strength, composition of construction materials, or parking slots measurements.

When approved, the initial product descriptions and the quality management approach become part of the project baseline. The product descriptions are recorded in the quality register to allow monitoring and reporting of quality control activities and in the product register to allow monitoring and reporting on product delivery and acceptance.

8.3.1.2 Controlling quality

When the quality management approach and the initial product descriptions are approved, the focus of the quality practice shifts to quality control. Quality control activities are recorded in the quality register, which provides information for end stage reports and the end project report.

The quality register merely records the quality control activity and its result (typically as 'pass' or 'fail'). If a product fails a quality control activity such as an inspection or test, and there is an expectation that the product is likely to pass, it may be reasonable to repeat the activity.

If a product cannot pass a quality control activity, the failure must be reviewed against quality tolerances and quality specifications. Exceptions to quality tolerances and off-specifications are addressed using the issue management technique as described in Chapter 10.

Lessons identified in the course of the product quality lifecycle are captured in the project log: lessons log.

8.3.1.3 Accepting products

The individuals or roles responsible for accepting a product are identified in the product description. Acceptance usually involves both the review of the product quality control information provided by the project and an independent review of the product against the user's quality expectations and acceptance criteria. Acceptance of a project product typically transfers ownership or responsibility for the product from the project or supplier to the project board on behalf of the user.

8.3.2 Supporting techniques

An understanding of the types of quality techniques used and their timing, location, and resource requirements is essential to project planning. Although a wide range of quality techniques exist, the most commonly used in a project context are:

- Verification:
 - focuses on confirming that the interim products (such as the project design) reflect the necessary quality specifications and acceptance criteria and on ensuring that the delivery method follows good practices
 - occurs during the design and development of a product before the actual product exists
 - usually requires support by specialists in the relevant products or methods.
- Validation:
 - focuses on confirming that the product meets the quality specifications and acceptance criteria.
 - occurs during testing or after the product exists
 - usually requires support by specialists in the relevant products and may require arranging for independent testing.
- Prototyping:
 - produces an interim product that is used to obtain early feedback on its functionality or to understand full scale production concerns
 - is integral to an iterative-incremental delivery method such as Agile; sometimes referred to as beta testing
 - may also involve production and use of alternate versions of a product, such as in A/B testing, in which multiple versions are compared to determine the preferred one.
- Testing:
 - involves the use of the product, its components, or some portion of its functionality under conditions representative of its intended use
 - can occur at multiple times during development and delivery and in different locations. For example, testing at a supplier's facility can reduce the risk of costs and delays that might be encountered at the user's location. Similarly, live testing in the operational environment may be required to confirm the product is fit for operational use.
- Inspection:
 - confirms that the product complies with quality specifications and acceptance criteria
 - usually occurs at the point of delivery
 - most applicable to commodities and commercial off-the-shelf products.
- Certification:
 - presentation of proof that the product or supplier complies with applicable industry or regulatory requirements
 - usually occurs at the point of delivery and requires the lowest level of effort
 - only applicable to commercial off-the-shelf products.

8.4 Applying the practice

8.4.1 Organizational context

A starting point of quality planning in an organizational context is to identify whether the business or programme has a mandated quality management system and expertise to perform quality assurance activities. If more than one organization is involved in a project (for example, separate user and supplier organizations), each may have its own quality management system and quality assurance expertise.

The roles, responsibilities, and capabilities of each should be reflected in the quality management approach.

Where the project is part of a programme or portfolio, the quality management approach for the programme or portfolio will usually determine the quality management approach for the project. In this case, only project-specific approaches will need to be documented in the quality management approach.

The project may also be subject to external quality standards, for example, when the project is within a regulated environment. These standards may apply to both the project products and the delivery activities and would need to be reflected in the product descriptions and the work package descriptions.

8.4.2 Commercial context

In a commercial context, product descriptions and the quality management approach must consider the function of a contract or other commercial agreement during product delivery. For example, access to a supplier's facility or the ability of the customer's quality assurance staff to conduct inspections or independent tests should be specified as part of the contract terms. The contract may also need to specify that the supplier provides transparency for its own quality control and reporting.

Acceptance must be also treated in a contractual and project sense. Acceptance of a product from a supplier may be a prerequisite to acceptance of a product by the customer. However, its terms and conditions will be covered under the contract, not the project initiation documentation. Care should be taken to ensure that contractual quality and acceptance criteria do not conflict with those in the product and project product descriptions.

Scenario: quality responsibilities in contracts

In the Louistown Shopping scenario, the construction of the shopping centre and parking garage falls under the scope of a contract. Therefore, the quality management approach must ensure that the roles and responsibilities for quality control and contractual acceptance are clearly distinguished from the responsibilities for acceptance of the project as a whole.



8.4.3 Delivery method

8.4.3.1 Linear-sequential projects

In a linear-sequential delivery method, there is generally more information about the required products and their delivery activities. This enables product descriptions and quality specifications to be developed in sufficient detail to support scheduling and estimation to a higher level of confidence. However, this does not mean that there will be no changes in requirements in the course of production or delivery. Instead, the sequence of delivery activities is typically designed to allow uncertain aspects of product requirements and quality specifications to be addressed early, thereby reducing the level of risk in later stages.

In addition, as with all projects, acceptance criteria and quality specifications may be affected by changes external to a linear-sequential project and addressed through change control. An example of such an external change would be the introduction of new regulatory requirements for a project product.

Scenario: example of changes to scope and quality

The results of early market testing by Findef uncovered that receiving in-app push notifications on product 1 was a feature in high demand by the consulted market sample, and it is a feature increasingly offered in financial services products. Findef also learned that a new regulatory reporting requirement for financial crime has been published. The project manager is going to assess the impact of introducing the new notification feature as a change request to scope and the regulatory reporting requirement as a change request to quality standards. These change requests will be assessed, and options proposed ahead of the planning of the next project stage.



8.4.3.2 Iterative-incremental projects

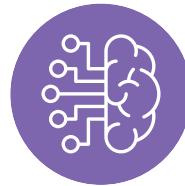
In iterative-incremental projects, the quality specifications and acceptance criteria are not fixed with the approval of the project initiation documentation. Instead, they are considered goals that are to be achieved through iterations of development and delivery, often referred to as sprints.

In this case, the project product descriptions may be written in the form of high-level user stories with associated acceptance criteria and can develop iteratively as the project proceeds. As an alternative, the requirements (including quality specifications and acceptance criteria) can be captured and managed in a product backlog. This is a prioritized list that is reviewed and updated with each iteration. Acceptance criteria are commonly used to ascertain whether a user story has been completed.

An agile project may also aim for early delivery of a minimum viable product, a version of the product with just enough features to be usable for the purpose of providing feedback and refining requirements. Developing a product description for the minimum viable product is an effective way of demonstrating PRINCE2 principles with agile delivery. The quality management approach may include a standard 'definition of done' and 'definition of ready'.

Scenario: timebox example

To enable accelerated project progression without compromising quality, Data Knowledge's time-recording solution and resource management reporting suite is being delivered in timeboxes. Must-have features will be included in timebox three, whereas refinements (should- and could-have features) will be covered by timebox four, following a pilot.



8.4.4 Sustainability

Sustainability is a key consideration in describing and specifying the project products. Sustainability requirements should address both the organization's ability to sustain expected benefits after delivery (for example, the sustainability of a product) and its ability to achieve its expectations for the environmental impacts of the project and its products (environmental sustainability).

Both aspects can be addressed at a high level in the project product description. The quality specifications associated with product sustainability can usually be derived from information about the product's supply chain, as well as how the business intends to use and support the product. Quality specifications related to environmental sustainability may need to reference regulatory or advisory standards.

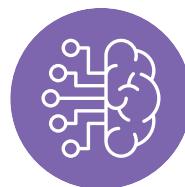
8.4.5 Scale

Quality management always has a cost. The goal of an effective quality management approach is to offset the potential costs of product failures by an adequate level of quality planning and control. Overly stringent quality specifications and acceptance criteria can dramatically increase the overall cost of a project.

Projects with a small number of products delivered through well-understood methods may find it sufficient to rely on existing standards and inspection at the point of delivery. On the other hand, a project that develops a new product with numerous components or subsystems and involving multi-stage delivery, may need a significant investment in quality control as well as numerous quality reviews. Quality reviews assess whether a product is complete, adheres to standards, and meets its quality specifications. They may need to be conducted at multiple points in the development of a complex product.

Scenario: scale illustrations

Since Data Knowledge's time-recording solution is a simple project, the project manager decided to outline the quality management approach in a project workbook. This contains all the management approaches and will follow the established organizational standards. Planned quality activities are limited to a single round of user acceptance testing by selected users in the company.



In contrast, Findef's project manager developed a standalone and comprehensive quality management approach document, which details how quality is going to be managed during the project. Due to the complexity and novelty of the work involved, several quality activities are planned. These are namely technical design inspections, unit tests, integration tests, performance tests, functional tests, and user acceptance testing. The planning and results of these activities are described in the quality register established for the project.

8.5 Management products to support the practice

PRINCE2 includes 16 management products that are used to manage the project. The management products specific to the quality practice are described here.

Management product: Product description

Purpose

The purpose of a product description is to describe a product's purpose, composition, where it is derived from, and quality specifications. It is produced at the planning phase as soon as possible after the need for the product is identified.

High-level content

Identifier product name or a unique identifier if the project has a large number of products

Version the current version number of the product description

Purpose the purpose of the product, how it will be used, and who will use it

Composition list of the product's components or parts

Format is there a standard appearance to which the finished product must conform?

Derived from the source of the product, such as a design, a commercial product, an existing system to be upgraded or replaced, or a statement of expected benefits

Quality specifications the functional and non-functional requirements for the product along with their associated measures

Development or production approach and skills required description of how the product is expected to be developed or produced; any special skills, facilities, or equipment required

Allocated to the person or team needed to create this product

Quality tolerance the ranges within which key quality specifications can vary and remain acceptable

Quality methods and quality skills required the quality methods (such as verification, test, and inspection) to be used to check that the product meets its quality specification and the indication of skills required to perform the quality control activities

Responsibilities the producer, reviewer, and acceptance authority for the product.

Management product: Quality management approach

The quality management approach is part of the project initiation documentation.

Purpose

The purpose of the quality management approach is to describe the quality techniques and standards to be applied and the roles and responsibilities for achieving the required quality specifications and acceptance criteria during a project.

Box continues

High-level content

Scope description of what products and work are in the scope of the quality management approach

Quality management procedures description of project quality planning and quality control activities (for example, a procedure for accepting products); any variance from business standards should be highlighted together with justification for any variance

Responsibilities defines responsibilities for quality planning and control activities (This should include responsibilities between the user, business, and support organizations for project assurance.)

Resources for the quality planning, control and assurance activities, for example, any testing equipment required

Supporting tools and techniques for the quality planning and control activities, including any systems to be used and how, and any specific techniques such as testing, inspection, prototyping

Standards any standards that apply to quality management, including the composition and format of the quality register and other quality records

References for any associated documents or products, for example, the business' or supplier's quality management systems.

Management product: Quality register

The quality register is part of the project log.

Purpose

The purpose of the quality register is to summarize all quality management activities that are planned or have occurred. The quality register is used by the project manager and project assurance as part of reviewing progress.

High-level content

Quality identifier unique reference for the quality activity

Product identifier the identifier of the product subject to the quality activity

Quality method the quality method involved in the activity

Dates planned and actual dates of the activity

Responsibilities the individuals or functions involved and their respective roles and responsibilities

Result whether the product passed or failed; indication of the response in the event the product fails

Records list of the documents associated with the activity and their location.

Management product: Product register

The product register is part of the project log.

Purpose

The purpose of the product register is to list of all products required of a plan and the status of those products.

High-level content

Product identifier the identifier of the product

Dates date of product description approval and date of product acceptance

Status status of the product (such as in development or accepted) and current version number

References link to the associated product description.

8.6 Focus of key roles for the practice

PRINCE2 defines seven key roles to manage a project. Their responsibilities specific to the quality practice are described here.

Table 8.2 Areas of focus for key roles associated with the quality practice

Role	Responsibilities
Business layer	<ul style="list-style-type: none"> ● provide details of the business' quality management system and applicable standards ● set project level quality tolerance ● provide quality assurance expertise
Project manager	<ul style="list-style-type: none"> ● consult with stakeholders to capture and document user's quality expectations and acceptance criteria in the project product description ● consult with stakeholders to prepare the quality management approach ● consult with stakeholders to prepare and maintain the product descriptions ● ensure that team managers implement the quality control measures agreed in product descriptions and work package descriptions ● develop product descriptions for key products
Project executive	<ul style="list-style-type: none"> ● approve the project product description ● approve the quality management approach ● set stage level quality tolerance ● confirm acceptance of the project product
Senior user	<ul style="list-style-type: none"> ● provide the user's quality expectations and acceptance criteria ● approve the project product description ● agree the quality management approach ● approve product descriptions for specialist products ● provide people and resources to perform user quality activities and product acceptance ● accept the project product and be accountable for the acceptance of the project product
Senior supplier	<ul style="list-style-type: none"> ● approve the project product description (if appropriate) ● agree the quality management approach ● agree product descriptions for key specialist products ● agree the quality techniques and tools adopted in product development as defined in product descriptions and work package descriptions ● provide people and resources to perform supplier quality activities

Table continues

Role	Responsibilities
Team manager	<ul style="list-style-type: none"> ● assist the project manager with preparing and maintaining the product descriptions and work package descriptions ● produce products in the scope of their team plan consistent with their product descriptions ● implement the quality management procedures agreed in their work package description, including: <ul style="list-style-type: none"> ● manage quality controls for the products in the scope of their team plan ● assemble quality records for the products in the scope of their team plan ● advise the project manager of product quality status
Project assurance	<ul style="list-style-type: none"> ● advise the project manager on the quality management approach ● confirm to the project board that the quality management approach is compliant with business policies ● assist the project board and project manager by reviewing the product descriptions ● advise the project manager on suitable quality experts ● assure project board members on the implementation of the quality management approach (such as the proper conduct of the quality procedures)
Project support	<ul style="list-style-type: none"> ● provide administrative support for quality controls ● prepare and maintain the product register and quality register ● assist team managers and members with the application of the project's quality procedures

8.7 Key relationships with principles

The quality practice contributes to the adherence to PRINCE2 principles across the project lifecycle.

Table 8.3 Key relationships between the quality practice and PRINCE2 principles

Principle	Achieved by	Resulting in
Ensure continued business justification	developing a quality management approach that designs and delivers products that meet quality specifications required of the business case	ensuring the project products achieve the desired outcomes and remain aligned with overall business strategy
Learn from experience	incorporating lessons from quality control activities into quality planning for subsequent stages	recurring elicitation and reporting of lessons learned to improve the quality management approach for the project and to improve organizational capabilities for future projects
Define roles, responsibilities, and relationships	establishing the roles and respective responsibilities for quality within the project organization	clear accountability for quality planning, quality control, and quality assurance
Manage by stages	aligning quality controls and techniques with stages and stage boundary controls	early identification of quality issues and avoiding the cost and delay of rework
Manage by exception	establishing the quality tolerances approved by the project board in the project initiation documentation	efficient means for the project manager to take decisions and report exceptions
Focus on products	basing all quality planning and control activities on the project products	effective communication with stakeholders and avoidance of conflicts over user quality expectations
Tailor to suit the project	requiring only those quality activities that are appropriate to the delivery method and product characteristics	the right balance between project quality, delivery activities, and resources



CHAPTER 9

RISK



CHAPTER 9

RISK

9.1 Purpose



Key message

The purpose of the risk practice is to identify, assess, and control uncertainties that would affect the project's objectives, and, as a result, improve the ability of the project to succeed.

All projects encounter uncertainty when trying to achieve their objectives. This uncertainty may arise from events inside or outside the business. For example, there may be uncertainty from within the business about the ability to agree to the scope of the project within certain timescales, or the availability of key people and critical resources. There may also be uncertainty from outside the business, such as geopolitical events, economic conditions, changes to legislation, or suppliers' responses to procurement requests coming within expected costs.



Definition: Risk

An uncertain event or set of events that, should they occur, will affect the achievement of objectives. A risk is measured by a combination of the probability of a perceived threat or opportunity occurring and the magnitude of its impact on objectives.

Risks can have a negative or positive impact on objectives if they occur. PRINCE2 uses the terms 'threat' for uncertain events that would have a negative impact on objectives and 'opportunity' for uncertain events that would have a positive impact on objectives.

Threats and opportunities can impact the project's objective of delivering an agreed scope and benefits to an agreed time, cost, and quality, as well as within agreed sustainability targets.

As all projects involve some degree of risk-taking, they need to manage risk in a way that supports effective decision-making. The risk practice provides a disciplined environment for proactive decision-making.

The approach used by PRINCE2 to manage risk is aligned with the ISO standard, ISO 31000. This is the international standard for risk management. By providing comprehensive principles and guidelines, this

standard helps organizations with their risk analysis and risk assessments. PRINCE2 risk approach is also aligned with regional variants of the ISO standard and can be tailored to meet these local requirements.

9.2 Guidance for effective risk management

Effective risk management provides confidence that the project can meet its objectives, and the business justification continues to be valid. It supports decision-making by ensuring that the project team understands not only individual risks but also the overall risk exposure that exists at a particular time.

For risk management to be effective:

- risks that might prevent the project from achieving its objectives need to be identified, captured, and described
- each risk needs to be assessed and prioritized
- the overall risk exposure needs to be kept under review together with the impact of the risk on the overall business justification for the project
- responses to each risk need to be planned and assigned to people who can take ownership of the risk and perform the necessary action
- risk responses need to be implemented, monitored, and controlled
- information about risks is communicated to relevant stakeholders
- each risk needs to be assigned and owned by a risk owner.



Definitions

Risk owner The person who is assigned to take responsibility for responding to a risk.

Risk action owner The person who is the nominated owner of agreed actions to respond to a risk. This role is also known as the risk actionee.

Risk probability The estimated chance that a risk will occur. Probability is often estimated by considering the likelihood or frequency of occurrence of a risk.

Risk impact The estimated effect on objectives should a risk occur.

Risk proximity How near in time a risk might occur.

Risk velocity How quickly a risk would have an impact on objectives should it occur.

Risk exposure The degree to which a particular objective is 'at risk'. Risk exposure is a neutral concept as exposure can be positive or negative.

Risk appetite The amount and type of risk that the business is willing to take in pursuit of its objectives.

Risk budget A sum of money to fund specific management responses to the project's threats and opportunities (for example, to cover the costs of any contingent plans should a risk materialize).

Risk tolerance A measurable threshold to represent the tolerable range of outcomes for each objective 'at risk' using the same units as for measuring performance for that objective.

9.2.1 Risk planning

The use of risk categories helps projects to identify and prioritize risks. Techniques such as PESTLE (political, economic, social, technological, legal, and environmental) analysis and SWOT (strengths, weaknesses, opportunities, threats) analysis (both described later in this chapter) can be used to analyse the internal and external context for risks. These techniques also help to identify different types of risk that may affect the project (for example, sustainability, cybersecurity, or systems integration). An understanding of the types of risks can also help to identify the most appropriate owners.

A key item that needs to be recorded in the risk management approach is the project board's attitude towards risk-taking, documented as the risk tolerance. The risk tolerance will be set by the project board based on the business' overall risk appetite.

An important aspect of identifying risks is the ability to provide a clear and unambiguous expression of each risk. A useful way of expressing risk is to consider the following aspects:

- **Risk cause** This should describe the source of the risk, such as the event or situation that causes it. These are often referred to as risk drivers. They are not risks in themselves but are potential trigger points for risk. These may be either internal or external to the project.
- **Risk event** This should describe the area of uncertainty in terms of the threat or the opportunity.
- **Risk effect** This should describe the impact that the risk would have on the project objectives, should the risk materialize.

The cause, event, and effect relationship could also be expressed as follows:

- **Threat** Insufficient staffing capacity (risk cause) could lead to the business being unable to provide enough staff to complete user training in the planned timescales (risk event), resulting in the project taking longer than planned (risk effect).
- **Opportunity** If allowable under data regulations, the company could include a discount code in the email (risk event) when it renews customer details every year (risk cause), generating income to offset the cost of the regulatory requirement (risk effect).

9.2.2 Risk analysis

Risk analysis can include qualitative and quantitative approaches. Qualitative analysis of a risk includes, as a minimum, assessing its probability (the chance that the risk will occur) and its impact (the size of the effect on one or more objectives if the risk occurs). Other qualitative assessments include analysing a risk's proximity (how near in time it might occur) and velocity (how quickly it would have an impact on objectives should it occur).

A useful way of summarizing the set of risks and their estimations is to plot them onto a risk matrix, an example of which is shown in figure 9.1. This represents a situation at a specific point in time (such as a snapshot of the risk environment). The numbered markers in the matrix represent unique risk identifiers used in the risk register on which this is based. The risks above and to the right of the dashed risk tolerance line represent those that the business will not tolerate, except under special circumstances. In the depicted case, the project manager would refer risks 1, 3, and 4 to the project board.



Figure 9.1 Risk matrix

The risk matrix can also be used to show trends. For example, risk 6 may have previously been recorded as 'low probability, high impact', indicating that its probability of occurring is increasing.

It is also possible to take a quantitative approach to prioritize risks. Quantitative risk assessment (for example, Monte Carlo analysis) involves using modelling techniques to calculate levels of overall risk exposure and analyse the effects of risk. Risk models use statistical methods to analyse the effect of uncertainty on objectives. Quantitative risk assessment can be used to analyse the impact on cost (known as quantitative risk cost analysis) or time objectives (known as quantitative risk schedule analysis).

9.2.3 Risk control

9.2.3.1 Risk responses

The best actions to take in response to risks will depend on the particular situation and type of risk. Different responses may be appropriate for threats and opportunities.

Table 9.1 Risk responses

Response options	Use
Avoid a threat	This option is about making an uncertain situation certain by removing the risk. This can often be achieved by removing the cause of a threat, or by implementing a factor that leads to an opportunity. This option may be adopted for no extra cost by changing the way the work is planned. However, often costs will be incurred to remove all residual risk for threats and opportunities. Where costs are incurred, they must be justified. For example, it is acceptable to discover the cost of a response to make the situation certain.
Exploit an opportunity	

Table continues

Response options	Use
Reduce a threat Enhance an opportunity	This option chooses to take definite action now to change the probability and/or impact of the risk. The term 'mitigate' is relevant when discussing reduction of a threat, which involves making the threat less likely to occur or reducing the impact if it did. Enhancing an opportunity is the reverse process, which involves making the opportunity more likely to occur or increasing the impact if it did. Again, because this option commits the business to the costs for reduction or enhancement now, response costs must be justified in terms of the change to residual risk.
Transfer the risk	This option aims to impart part of the risk to a third party. Insurance is the most common form of transfer, where the insurer accepts the risk cost but the insured retains the impact on other objectives (for example, a time delay). The transfer can apply to opportunities, where a third party gains a cost benefit, and the primary risk taker gains another benefit. This is not a commonly used option, whereas transfer of threats is commonly used. Again, the cost of transfer must be justified in terms of the change to residual risk (for example, is the premium you pay worth it?). It is important to note that some elements of risk cannot be transferred, although the business may choose to delegate the management of the risks to a third party.
Share the risk	This option is different in nature from the transfer response, as it seeks for multiple parties, typically within a supply chain, to share the risk on a pain or gain share basis. Risks can rarely be entirely shared in this way. For example, the primary risk taker will always need to protect their brand and reputation, but this can be a successful way of encouraging collaboration on risk management activities, particularly in programmes and projects.
Accept the risk	This option means that the business 'takes the chance' that the risk will occur, managing its full impact if it did. There is no change to residual risk with the accept option, but neither are any costs incurred now, to manage the risk or to prepare to manage the risk in future. An example would be the risk to profitability because of currency fluctuations. The business may decide to take the chance and not engage in any hedging or other provisions to protect margins from wide variation in rates. This option would not be appropriate if the risk exposure exceeded the risk tolerance threshold for the activity in question. Note that in a case such as currency fluctuations, where the impact could be positive or negative, this counts as two risks because a risk is the relationship between the uncertain event and the impact of that event. There is a risk leading to loss and another leading to gain, so framing the uncertainty as two risks allows for different responses to each.
Prepare contingent plans	This option involves preparing plans but waiting to take action. It is most usually associated with the 'accept' option. The preparation of contingent plans suggests that the risks are accepted for now, but a plan will be made for what should be done if the situation changes. This option applies equally to other responses and is often referred to as a fallback plan, which is the plan if the original response does not work. Fallback plans apply to all other strategies, including avoiding a threat and exploiting an opportunity, because the plan to avoid or exploit may not be successful despite good intentions.

If a threat is reduced rather than removed, the largest realistic probability or size of impact of the risk that remains is called the 'residual' risk. If the residual risk is significant, then it may be appropriate to select more than one risk response.

In some cases, implementing a risk response will reduce or remove other related risks. It is also possible that the responses to risks will change some aspect of the project after they have been implemented. Consequently, this may lead to secondary risks (risks that occur as a result of invoking a risk response). It is essential that these are identified, assessed, and controlled in the same way as the initially identified risk.

It is important that risk responses balance the cost of implementing the response against the probability and impact of allowing the risk to occur. One way to assess this is to compare the cost of the risk response with the difference in the expected monetary value of the risk. This is the product of the estimated most likely financial impact of a risk and its estimated probability, both before and after the risk response. If the cost of the risk response is lower than the reduction in the expected monetary value, then it is usually worth undertaking the risk response. However, it is always worth remembering the overall effect of all risk response activities on the project team, as it may move their focus away from delivering the project to risk response actions.

Scenario: example of a response to an opportunity

NowByou has been invited to participate in the annual NGO Summit, a conference with national reach that unites the sector's key players and attracts the interest of donors across the country. NowByou has been given the chance for a free stand in the conference. The project manager is going to exploit this opportunity as another mechanism to advertise the new campaign.



Scenario: example of a combination of responses to a risk

Due to the location of the building and the historical nature of the surrounding buildings, there is a security risk for the LouisShopping project. There is a risk that the construction works are unsafe for the BuildyBrick staff and partners to operate. This is a significant risk because of the financial and reputational impact at stake. To minimize this threat, the LouisShopping's project manager will hold regular meetings on health and safety with the BuildyBricks team leaders (reduce), have planned site inspections by independent contractors (reduce), and have included indemnification clauses in the contractual arrangements with BuildTech (transfer).



9.2.3.2 Risk owners and risk action owners

As part of controlling risks, it is essential that the risk owner, the risk action owner and their responsibilities are clearly identified.

The risk owner is responsible for the management, monitoring, and control of all aspects of a particular risk assigned to them, including the implementation of the selected responses to address the threats or to maximize the opportunities. The risk action owner owns an action to address a risk.

Some actions may not be within the remit of the risk owner to control explicitly. In that situation, there should be a nominated owner of the action to address the risk. They will need to keep the risk owner up to date.

Scenario: example of combined risk owner/risk action owner

NowByou wants to pursue the opportunity of having a stand at the NGO Summit, where it has been invited to participate for free. The project manager for the new campaign is the risk owner for this opportunity. However, the person arranging NowByou's participation with the organizing committee of the conference is the Head of Partnerships. The Head of Partnerships is therefore responsible for implementing the action of agreeing the terms of NowByou participation and securing a free stand at the event. They are the risk action owner.



9.2.3.3 Risk budget

It might be appropriate to identify and ring-fence an explicit risk budget within the project's budget. As the project progresses, some of the risks previously identified will occur and others will not. New risks

may be identified during the life of the project, whereby response costs will not have been included within the risk budget. This means that it is prudent to include a provision for unknown risks (those yet to be identified) in the risk budget.



Key message

As the risk budget is part of the project budget, there may be a tendency to treat it as just another sum of money that the project manager can spend. This culture should be discouraged, and the risk management approach should define the mechanisms for the control of, and access to, this budget.

9.2.4 Risk culture

The risk culture of the business should be reflected in its risk appetite. A supportive risk culture recognizes the importance of considering risk as an important part of decision-making.

An aspect of culture that will affect decisions and risk management is decision bias, which is the inherent tendency for people to adopt mental shortcuts or faulty thinking processes to process situations and make decisions. Decision bias is natural and largely positive, allowing the brain to efficiently make rapid decisions every day.

However, sometimes decision bias can result in less effective decision-making. There are many types of bias, for example:

- **Optimism bias** A mindset that drives people to discount disadvantageous risk, on the assumption that things are likely to be successful for them.
- **Loss aversion** A mindset that values the avoidance of loss rather than making a gain.
- **Groupthink** A mindset that makes people value social cohesion in a group more than expressing an alternative point of view or reaching the right decision.
- **Proximity** A mindset where situations that are closer in time are seen as riskier and more important than those in the future.

Understanding and overcoming these are important considerations when identifying risks and potential responses.

Scenario: culture example

The transformational nature of the projects that form the FindefTwo programme and the business risks involved require a different attitude to risk compared with the normal day-to-day activities at Findef.



The programme manager knows that if they want to make risk management work, they must establish the conditions for success within the leadership team. The programme manager recognizes that it is common for people to feel the pressure to agree with the views 'from the top'. Therefore, the programme manager utilizes external advisers to stop groupthink in the senior leadership team. This enabled the senior leadership team to be self-aware and to encourage a culture of critical reasoning in the management of risks.

9.3 Techniques

9.3.1 PRINCE2 technique for risk management

PRINCE2 includes a five-step risk management technique (identify, assess, plan, implement, and communicate) as shown in figure 9.2, based on *Management of Risk: Creating and Protecting Value*.

An alternative procedure can be used if desired, for example, if the project is part of a programme that has a programme-wide risk management technique. The use of an alternative procedure should be documented as part of the tailoring decisions in the project initiation documentation.

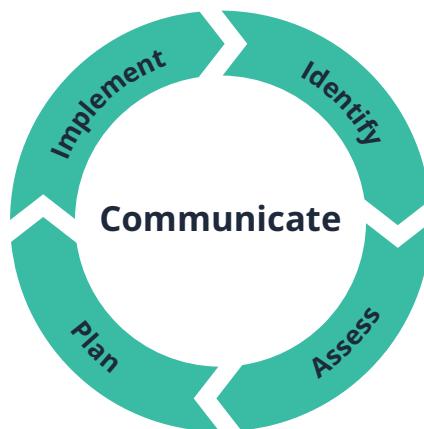


Figure 9.2 PRINCE2 technique for risk management

In the ‘identify’ step, the plan’s context and objectives are reviewed so that threats and opportunities can be identified.

The ‘assess’ step involves prioritizing risks and assessing the combined risk profile.

The ‘plan’ step involves deciding on risks responses and monitoring arrangements.

The ‘implement’ step involves establishing monitoring arrangements and execute actions for priority risks or realized risks.

The ‘communicate’ step is how information regarding opportunities and threats are communicated within the project ecosystem and, where needed, externally to stakeholders from the organizational ecosystem. The communicate step operates throughout as the outputs of any of the other steps may need to be communicated to stakeholders at any point in the process.

All the steps are repeatable. When additional information becomes available, it is often necessary to repeat earlier steps based on the new information. These steps are described in more detail below.

9.3.1.1 Identify

9.3.1.1.1 Define context and objectives

This step involves obtaining information about the project to ensure that there is a common understanding of the specific objectives that are at risk and to formulate an appropriate risk management approach.

The following will have an influence on the project's risk management approach:

- user's quality expectations
- the number of organizations involved and the relationships between them
- the needs of the stakeholders involved with the project
- the importance, complexity, and scale of the project
- the delivery method being used (linear-sequential, iterative-incremental, hybrid)
- what assumptions have been made
- the business' own environment (legislative or governance requirements)
- business policies, standards, processes, and procedures
- whether the project is part of a programme.

This information will be derived from the project mandate, the project brief, and the project product description.

It is a common error to try to identify specific risks before completing this process. Without a shared understanding of the objectives at risk, there is a danger that the uncertainties identified are not related to the objectives. There is no risk if the uncertainty does not impact one or more of the defined objectives.

9.3.1.2 Identify threats and opportunities

Risks can be identified at any time during the management and delivery of the project. Any member of the project, business, or other stakeholder may raise a risk. Risks are captured in the risk register as soon as they are identified. More information about the risk is gathered and developed through the subsequent steps.

9.3.1.2 Assess

9.3.1.2.1 Prioritize risks

The next step is to assess the probability of each risk and its impact to ensure that stakeholders understand the most important risks. This involves assessing:

- the probability that the risk will occur (often estimated by considering its probability or frequency)
- the impact of each risk in terms of the project objectives (for example, if the objectives are measured in time and cost, the impacts should also be measured in units of time and cost)
- the impact of the risk on the stage plan, project plan, and business case
- how the impact of the threats and opportunities may change over the life of the project
- whether the project team is best placed to manage the risk or the risk needs to be escalated to the project board, an overarching programme, or a corporate body.

The risk register should be kept up-to-date with this information.

9.3.1.2.2 Assess combined risk profile

The combined effect of the individual risks needs to be understood to determine if the overall risk exposure of the project remains within the risk appetite determined by the business and applied by the project board. If the risk exposure is greater than the overall risk appetite, then control actions will need to be planned in response.

In line with PRINCE2's continued business justification principle, the justification of the project should be evaluated in the context of the risk exposure. There is no such thing as a risk-free project and understanding how risk exposure compares with the risk tolerance informs how much effort is put into risk responses.

9.3.1.3 Plan

This step involves identifying and evaluating the appropriate risk response to remove or reduce threats, and to maximize opportunities. Typical risk responses are summarized in table 9.1.

Any chosen response needs to be included in the appropriate level of plan. For more significant risks, it may be appropriate to establish not only early warning indicators to identify whether the risk is likely to materialize but also plans for managing the risk should it occur.

The risk response needs to identify the most appropriate body to manage a risk. This may not be the project team, especially if:

- The project team does not have within its scope of influence the ability to implement an appropriate risk response.
- The realization of the risk will materially impact the project's business justification.
- The project is part of a programme, and it would be more appropriate for the risk to be managed at the programme level. For example, if a specific project identifies a risk that is common across projects within the programme.
- The implementation of a risk response will cause the project to exceed agreed tolerances. This might typically occur in a regulated organization where certain risks might either be reported by the business or where the realization of the risk might cause a breach of a regulatory condition.

If the risk falls within the tolerances set for the project, the project manager may decide the appropriate response. Otherwise, the decision is escalated to the project board. Subject to the risk tolerance, the risk might be escalated to the business. The escalation of risks is good practice and should not be seen as a failure. The earlier the risks are escalated, the more time that is available to implement any corrective actions.

9.3.1.4 Implement

Planned risk responses need to be actioned, their effectiveness reviewed, and corrective action taken where responses do not match expectations. It is critical to ensure that the responsibilities for the risk owner and risk action owner are identified and agreed for each risk (see section 9.2.3.2 for further information on risk owners and risk action owners).

In some cases, the risk owner and risk action owner are likely to be the same person. The risk owner should be the person most capable of managing the risk. The allocation of too many risks to any one individual should be avoided.

9.3.1.5 Communicate

Communication should be undertaken continually. This step ensures that information related to the threats and opportunities faced by the project is communicated both within the project ecosystem and externally to stakeholders from the organizational ecosystem. Risks are communicated in:

- checkpoint reports
- highlight reports
- end stage reports
- exception reports
- issue reports
- end project reports.

There are many other communication methods that could be considered alongside the PRINCE2 management products (such as bulletins, notice boards, dashboards, information radiators, discussion threads, and briefings). Project teams should refer to the communication management approach for the most appropriate method to communicate risk information with stakeholders.

A project's exposure to risk is never static; effective communication is key to the identification of new risks or changes in existing risks. This depends on the maintenance of a good communications network, including relevant contacts and sources of information, to facilitate the identification of changes that may affect the project's overall risk exposure.

9.3.2 Supporting techniques

Table 9.2 shows examples of additional techniques that support the PRINCE2 risk management technique. The risk management approach should document which specific techniques are used on the project.

Table 9.2 Risk management techniques

Technique	Identify	Assess	Plan	Implement
Cause and effect diagrams	X		X	X
Horizon scanning/PESTLE/SWOT analysis	X			
Prompt lists	X			
Pre-mortem analysis	X	X	X	
Swiss cheese model			X	
Use of data	X	X	X	X

9.3.2.1 Cause and effect diagrams

Cause and effect diagrams, otherwise known as fishbone diagrams or Ishikawa diagrams, help to identify multiple factors that may lead to a risk occurring that has a particular impact on objectives. They may help project teams identify the root cause of a risk, which can then be targeted to reduce its impact or probability.

9.3.2.2 Horizon scanning/PESTLE/SWOT analysis

These techniques examine the internal and external environments and enable understanding of the current and future risk landscapes that may result in threats and opportunities for the project.

Strengths	Weaknesses
<p>'Green town' status</p> <p>Solid funding available</p> <p>Strong town's reputation</p> <p>Experienced main contractor</p> <p>Standard for construction agreed with Buildy Brick</p>	<p>Low level of trust from the town residents</p> <p>Outdated infrastructure</p> <p>Shortage of parking spaces</p> <p>Little experience in the city council to act as 'intelligent client'</p>
Opportunities	Threats
<p>Increasing residents' sustainability awareness</p> <p>Increasing number of tourists</p> <p>External funding possible to obtain</p> <p>Cooperation with twin and partner towns</p>	<p>Competition from nearby towns</p> <p>Economic crisis approaching</p> <p>Shortages in building materials supply</p> <p>Changes in national law and construction industry regulations</p> <p>Possible archaeological discovery</p>

Figure 9.3 SWOT analysis for LouisShopping project

PESTLE analysis reviews the current external landscape by looking at the political, economic, sociological, technological, legal, and environmental factors that cause uncertainties for the project. SWOT analysis looks at current strengths and weaknesses that may result in opportunities or threats. Horizon scanning looks further ahead to gather data on emerging trends and potential future developments that may impact the overall levels of risk exposure.

9.3.2.3 Prompt lists

Prompt lists are useful to identify the risk context and individual risks facing the project. Types of prompt list include:

- PESTLE or SWOT analysis
- risk breakdown structure, where different types of risks are broken down to identify specific risks
- risk prompt lists generated from lessons learned reports by the business for common project activities (such as a risk prompt list for an office move).

9.3.2.4 Pre-mortem

This technique looks backwards from a future point when objectives should have been achieved, painting a scenario of either success or failure. An analysis of the steps that contributed to achieving the future result can help to identify the threats or opportunities that should be considered.

9.3.2.5 The Swiss cheese model

The Swiss cheese model shows that for a risk to actually occur, multiple levels of controls must fail (or in the Swiss cheese analogy, the holes in the cheese must align). This technique is useful for considering whether risk controls are sufficient.

9.3.2.6 Use of data

The use of data to identify, analyse, and control risks can give deeper insight into and understanding of the risks facing a project, the relationships between them, and the most appropriate controls for risk mitigation. For example, use of data analytics on data sets containing similar projects, products, or tasks may provide a better understanding of the project's predisposition to certain risks and therefore their probability, impact, and priority. Robotic process automation (RPA) may be used to automate aspects of the risk procedure to aid the assignment of actions and the monitoring, reporting, and escalation of risks.

9.4 Applying the practice

9.4.1 Organizational context

A project may need to align its approach to risk management with organizational, programme, or portfolio policies, standards, or approaches. This might include:

- aligning with any centrally defined risk management policies, standards, and approaches
- using any centrally defined risk management techniques
- adopting any centrally deployed tools
- aligning with any centrally defined risk management roles or competency frameworks
- aligning with any industry or sector specific policies, standards or approaches, for example, health and safety.

Organizations will often require that a consistent, mandated process is used across different projects, typically to ensure that they can assess the overall risk exposure of the business across projects.

If a project is part of a programme, the risk management approach should identify the types of risk that will be managed at the project level. The risk tolerance should show when risks need to be escalated to the programme for further action.

Scenario: part of a programme

Effective risk management requires a consistent approach, particularly in the context of a programme where different project management teams will have different attitudes towards risk. In our example, the manager of the FindefTwo programme gathered the project managers of the several projects that composed the programme. The aim was to co-create and adopt the risk management approach that would align with existing corporate standards. The group ensured that all projects were using the same risk register template, categories, levels, and thresholds. They also defined escalation and reporting routes in this way, thereby clarifying roles and responsibilities towards risk and aligning the risk management approach to the programme level.



9.4.2 Commercial context

In a commercial context, there may be a need for more than one risk register. Some project risks could be unique to only one party that may have good reasons for not making the risk register visible to the other party. When a joint risk register is used, care should be taken to establish whose risk it is, and as a result, the risk owner should be appointed accordingly. For example, on a fixed price contract, any cost overruns will impact the supplier's business case, but timescale overruns will typically impact the customer's business case.

In order to adapt and tailor PRINCE2 in the best way possible, it is important to assess the context in which a project exists with regard to the environment and the working relationships. To help achieve this, an assessment tool such as the Agilometer in PRINCE2 Agile can be used to answer the question, 'how agile can we be on this project?'.

9.4.3 Delivery method

The approach to managing risk needs to work with and support the project's chosen delivery method. For example, a risk management approach that includes monthly risk review meetings will struggle to support an iterative-incremental delivery method with two-week sprints.

The PRINCE2 method does not require a particular format for risk management products, nor specific timings for risk management activities. What is important is that they are appropriate for the format and pace of the project. For example, in an agile delivery method, risks in a risk register may be written on a whiteboard and reviewed as part of a daily stand-up meeting. In this context, this manual approach may be just as valid as using a specialized IT system to capture and review risks.

It is also important to recognize that the project's delivery method might work to mitigate or reinforce specific risks. For example, an agile way of working inherently ensures that users do not overspecify requirements at the beginning of a project, which can be a risk in a more linear approach.

Although agile is characterized by a high level of engagement with the users directly involved in the project, if not managed correctly, it can lead to uncontrolled changes to the agreed baseline. Linear approaches tend to reinforce the impression of 'controlled change' but can appear unresponsive and alienate users. It is of importance that the risk management approach recognizes these inherent differences.

9.4.4 Sustainability

A project will have specific sustainability targets and tolerances incorporated into its business case. These should be assessed for risks. Risk management considerations related to sustainability can include:

- defining the approach to managing risks relating to sustainability of the project work (for example, the project not meeting its sustainability performance targets)
- defining the approach to managing risks relating to the sustainability of the project product, (for example, one or more products not meeting their sustainability performance requirements)
- incorporating the cost of responding to sustainability risks into the risk budget (for example, extreme weather events that may affect the project or the resilience of the supply chain)
- documenting specific risks and actions relating to sustainability into the risk register and including them in regular risk communications.

9.4.5 Scale

It is important to ensure that the risk management approach is appropriate for the project's size, scale, and complexity as well as for the project's likely risk impact. Project scale and impact need to be considered separately. For example, a small-scale project to replace an element of a business' IT network infrastructure could stop the whole business if it goes wrong. It is possible for projects to create impacts that far outweigh their apparent size, scale, and complexity.

It is important that the risk management approach supports effective decision-making in the project and does not create an undue burden or bureaucracy. In general, smaller, simpler projects will need correspondingly simpler risk management arrangements, and larger, more complex projects will need more thorough controls. For example, in a simple project, the project manager would typically directly undertake most risk management activities. However, in more complex projects these activities might be delegated to a dedicated risk manager or risk management team. Similarly, risks might be held in a simple list on a whiteboard, in a spreadsheet, or in a dedicated system. It is important to ensure that the approach to risk management is appropriate and understood by everyone involved in the project.

The risk budget is based on the aggregate cost of all the project's planned risk responses. For simpler projects, it will usually be enough to combine the cost of all risk responses. However, for more complex projects, care needs to be taken so that the aggregation of the factored costs is not skewed by a small number of large risks.

9.5 Management products to support the practice

PRINCE2 includes 16 management products that are used to manage the project. The management products specific to the risk practice are described here.

Management product: Risk management approach

The risk management approach is part of the project initiation documentation.

Purpose

The purpose of the risk management approach is to describe how risk will be managed on the project. This includes the specific procedures, techniques, standards, and responsibilities to be applied.

High-level content

Scope description of the scope of the risk management approach

Risk management procedures description of project's risk management activities (for example, identify, assess, plan, implement, communicate) (Any variation from business standards should be highlighted, together with justification for any variation.)

Risk tolerance guidance provides additional guidance to the risk tolerance levels defined for the project in the business case

Timing of risk management activities states when formal risk management activities are to be undertaken (such as at the end of a stage)

Box continues

Responsibilities defines responsibilities for risk management activities (This should include responsibilities for risk owners and risk action owners.)

Resources for the risk management activities, for example, any testing equipment required

Supporting tools and techniques for the risk management activities, including any systems will be used and how, and any specific techniques such as pre-mortems

Standards any standards that apply to risk management such as the grading system used for rating probability, impact, proximity, and velocity (The standards should also specify the composition and format of the risk register and other risk records.)

References for any associated documents or products, for example, the business' or supplier's risk management systems.

Management product: Risk register

The risk register is part of the project log.

Purpose

The purpose of the risk register is to maintain a record of identified risks related to the project, including their status and history. It is used to capture and maintain information on all the identified threats and opportunities relating to the project.

High-level content

Risk identifier unique reference for the risk

Risk description a summary of the cause, event, and effect of the risk

Probability an estimate of how likely it is for the risk event to occur

Impact an estimate of the risk effect

Proximity an estimate of how near in time a risk might occur

Velocity an estimate of how quickly a risk would have an impact on objectives should it occur

Risk responses chosen actions to treat the risk

Planned residual probability and impact the probability and impact of the risk assuming the risk responses are effective

Risk owner for the risk

Risk action owner(s) for the risk responses

Relevant dates related to the risk for example, date logged, date last reviewed, and action due dates

Records list of the documents associated with the risk and their location.

9.6 Focus of key roles for the practice

PRINCE2 defines seven key roles to manage a project. Their responsibilities specific to the risk practice are described here.

Table 9.3 Areas of focus for key roles associated with the risk practice

Role	Areas of focus
Business layer	<ul style="list-style-type: none"> ● provide the business layer risk management policy, risk management standards, and risk management framework (or similar documents) ● define the risk appetite for the project ● set project level risk tolerance and risk budget
Project executive	<ul style="list-style-type: none"> ● approve the risk management approach and ensure it is appropriate for the project's objectives and the business' risk appetite. Set scale for risk impact, proximity and velocity ● set stage level risk tolerance and risk budget ● ensure risks associated with the business case are identified, assessed, and controlled ● ensure sustainability risks are identified, assessed, and controlled ● make decisions on escalated risks, with particular focus on continued business justification ● escalate risks to the business as necessary
Senior user	<ul style="list-style-type: none"> ● ensure risks to the users are identified, assessed, and controlled (for example, the impact on benefits, operational use, and maintenance) ● agree the risk management approach ● make decisions on escalated risks, with particular focus on safeguarding the expected benefits.
Senior supplier	<ul style="list-style-type: none"> ● ensure risks relating to the supplier aspects are identified, assessed, and controlled (for example, the delivery of products) ● agree the risk management approach ● make decisions on escalated risks with particular focus on safeguarding the integrity of the complete solution
Project manager	<ul style="list-style-type: none"> ● consult with stakeholders to prepare and maintain the risk management approach ● ensure that team managers implement the risk management procedures agreed in their work package description ● establish and maintain risks in the risk register ● ensure that project risks are being identified, assessed, and controlled throughout the project
Team manager	<ul style="list-style-type: none"> ● implement the risk management procedures agreed in their work package description ● participate in the identification, assessment, and control of risks
Project assurance	<ul style="list-style-type: none"> ● advise the project manager on the risk management approach ● confirm to the project board that the risk management approach is compliant with business policies ● assist the project board and project manager by reviewing proposed risk responses to specific risks when asked ● assure project board members that risk is being managed appropriately by reviewing risk management practices to ensure they are performed in line with the project's risk management approach
Project support	<ul style="list-style-type: none"> ● provide administrative support for risk controls ● prepare and maintain the risk register ● assist the project management team with the application of the project's risk management procedures

All roles are responsible for implementing risk responses (as the risk action owner) for assigned risks.

9.7 Key relationships with principles

The risk practice contributes to the adherence to PRINCE2 principles across the project lifecycle.

Table 9.4 Key relationships between the risk practice and principles

Principle	Achieved by	Resulting in
Ensure continued business justification	assessing whether identified risks have a material impact on the business case and hence business justification	increased confidence that the investment is worthwhile and has acceptable levels of risk
Learn from experience	using lessons to inform risk identification and management	confidence that responses to risks are based on effective foundations developed from previous experience
Define roles, responsibilities, and relationships	clarifying the responsibilities for identifying, managing, and reporting on risks through the organizational layers of the project	clear understanding of expectations relating to risk management responsibilities
Manage by stages	ensuring decisions made at stage boundaries are informed by risks de-risking the project investment by using stages to formalize 'stop-go' decisions at critical points in the project lifecycle	confidence that the project investment continues to align with business objectives and the level of risk remains acceptable through the project
Manage by exception	empowering those most able to own risks and action the risk responses and ensuring right risks and actions are allocated to them and escalating risks that are forecast to exceed tolerances	confidence that the threats and opportunities facing the project are escalated and managed at the appropriate level
Focus on products	understanding risks associated with defining, developing, and delivering both specialist and management products	clear understanding of the threats and opportunities relating to developing the products in the project
Tailor to suit the project	ensuring that risk management approach and associated procedures are appropriate for the type, size, and complexity of the project	clearly defined, efficient, and effective management of the threats and opportunities that align to relevant organizational standards



CHAPTER 10

ISSUES



CHAPTER 10

ISSUES

10.1 Purpose



Key message

The purpose of the issues practice is to collect and assess issues and control changes to the project's baseline.

Projects occur in the context of constant organizational and environmental change. The larger the scope of a project and the longer its duration, the greater the probability that it will need to respond to issues and potential changes.

Issue management is at the heart of a project's monitoring function, and a project cannot be responsive to changes in its organizational and environment context if any member of the project management team filters or censors issues.



Definition: Issue

An event relevant to the project that requires project management consideration.

Issues may be raised at any time during the project by any team member or stakeholder and captured in the project log.

In PRINCE2, issue management encompasses change control.



Definition: Change

A change is defined as a modification to any of the approved products that constitute the project baseline.

Changes are not incorporated into the project baseline until they have been approved by the individual or role delegated with the appropriate authority.



Definition: Project baseline

The current approved versions of the management products and project products that are subject to change control.

It is important not to judge issues before they are assessed. Change is not something to avoid. All projects encounter changes, and they must be addressed, not ignored. The key is to handle changes in a responsive but controlled way.

10.2 Guidance for effective issue management

The PRINCE2 issue management approach comprises:

- **Baselines** describes what is subject to change control
- **Issue resolution** how issues are identified, captured, assessed, and recommended for resolution
- **Change control** describes how changes to the project baseline are controlled
- **Delegating authority for changes** allocating authority from the project board down to enable a responsive but controlled way to handle changes
- **Change budget** the money set aside in a plan to cover changes.

10.2.1 Baselines

Change can only be assessed in terms of its impact on the project as understood and approved by the project board. At any stage in its lifecycle, the project will comprise a set of management and specialist products. At any point in time, each product is either in preparation, development, or has been approved. In all cases they will be under change control.

A prerequisite to effective issue management and change control is a way of creating baselines of products that allow changes to be analysed and controlled. A new version of the product is created each time a change is approved and implemented. Change control enables those involved to identify when changes have been made and to trace them to a decision made by the appropriate authority.

The issue management approach for a project is driven by the nature of the products to be delivered (the 'what') and the planned delivery activities (the 'how'). Therefore, the preparation of this approach usually follows the preparation of product descriptions and work package descriptions.

Regardless of size, scale, and complexity, the project management team needs to determine:

- The appropriate level at which the products need to be baselined
 - this is generally determined by dividing the project products until they reach the level at which a component can be independently released, installed, replaced, or modified
 - the level of control exercised will be influenced by the importance of the project and the complexity of the relationships between its products.

- How products and their versions are identified
 - generally, a system of some type will need to be established, providing a unique identifier for each product.
- What information about products needs to be captured and maintained in the project log (for example, versions, status, and relationships with other products).
- The specific authorities and authorizations needed to approve and baselines.
- The procedure to follow to capture and manage issues and changes.

It is good practice to periodically verify that the actual status of the products reflects the authorized state of products and look for any discrepancies. This usually occurs through reviews or audits and is typically undertaken at the end of each stage and at the end of the project.

Project baselines are often managed with a variety of systems. Management products may be maintained as documents with a simple way of indicating each version and its date of approval. Specialist products may require a dedicated system. However, each system should ensure that changes cannot be introduced without the appropriate level of approval and provide an audit trail for all changes. In addition, the product register element of the project log should record the approval and implementation of all changes to the project baseline.

10.2.2 Issue resolution

PRINCE2 recommends that all issues are categorized as either:

- a problem or concern
- an event external to the project
- a business opportunity
- a request for change
- off-specification.

This assists the assessment and also provides valuable data on the type of issues that are repeatedly being raised which can indicate another aspect of project management is not working. It is good practice when assessing categorizing issues to check whether the issue is actually a risk. The distinction is that risks are uncertain. If this is the case the issue should be transferred to the risk register and the procedure in the risk management approach should be followed. Similarly, it is good practice to review and check whether the risk register includes any entries which are not uncertain and therefore should be managed as an issue.



Definition: Problem or concern

A **problem** is an issue with an immediate and negative impact.

A **concern** is an issue whose timeliness and impact need to be assessed.

Often, issues are first presented informally in conversations or communications among project team members. This is particularly the case for issues that constitute a problem, concern, or business opportunity.

How to handle problems and concerns is often a matter of judgement. Capturing too many problems and concerns as issues can inundate the project management team with trivial decisions and distract them from the most important ones. On the other hand, project managers should avoid filtering or prejudging problems and concerns. It is most effective to identify issues early when they can generally be resolved within approved tolerances.

In some cases, the issue is an event external to the project that may impact the project in some way. For example, a supplier going out of business is outside the project's control, but it may force the project management team to analyse the resulting impacts and consider finding an alternative supplier. This is why it is always advised to monitor the project's external environment on a regular basis.

Scenario: formal versus informal issues

In the LouisShopping project, BuildyBrick, the main contractor, did not complete the water storage tank installation as per the floor plan, as it was difficult to integrate the infrastructure with an old pipe uncovered by excavations. As this is off-specification, it needs to be handled formally, and the project manager has entered it in the issue register and that a printed report needs to be issued to the council the following week. It has also been reported by a member of the project office that the project printer is not working. As this issue can be easily fixed by someone in the project team, it represents an informal issue that will be added to the daily log.



Definition: Business opportunity

An issue that represents unanticipated positive consequences for the project or user organization.

Not all issues have negative consequences. In some cases, an issue occurs that represents a business opportunity with positive consequences. For example, significant savings in the cost of goods or services, or the availability of new equipment with improved functionality. The consequences of such business opportunities are not always limited to a project, so it can be useful to seek the advice of the project board when preparing the assessment of impacts and possible resolutions.

Issues should be recorded in the issue register. For some issues, the details captured in the issue register are sufficient for the issue to be considered and an action agreed. However, some issues may require more detailed analysis and an issue report will be created. The issue report should identify the type of issue, assess its impact on the project baseline, and recommend how to resolve the issue. Decisions and actions relating to issues should be recorded in the issue register.

In some cases, the issue or its resolution will represent a change to the project baseline. This will then need to be addressed through the change control procedure.

10.2.3 Change control



Definitions

Change control The process by which changes that may affect the project baseline are identified, assessed, and then approved, rejected, or deferred.

Request for change A proposal for a change to a baseline.

Off-specification A product that will not meet its quality specifications.

Concession An off-specification that is accepted by the project board without corrective action.

All projects need an appropriate approach to control changes to the project baseline. The issue management approach describes the project's change control procedure, including how proposals to change the project baseline will be recorded and decided.

PRINCE2 characterizes proposals to change a project baseline as either a request for change or off-specification.

A request for change must identify the management products proposed to be changed and provide a justification for making the change. If there is a cost associated with the change, the source of its funding must be identified as either the approved change budget or additional funding.

Off-specifications most often occur when a supplier fails to deliver a product that fully complies with its quality specifications. However, off-specification can also occur when a required quality specification is found to be unachievable. In either case, it represents a discrepancy between the approved project baseline and the delivered products, and this discrepancy must be addressed through the change control procedure.

If the off-specification is accepted, the project baseline must be changed to reflect the affected product description. Accepted off-specifications are known as concessions and require project board approval, or approval by those with delegated change authority. If the off-specification is rejected, the team manager in consultation with the project manager will need to explore how to correct the situation, including through possible use of the change budget or raising an exception report (see Chapter 11).

If an issue requires a request for a change or off-specification, the issue report should include the details of the proposed changes to enable timely decision-making.

Scenario: example of off-specification

In the LouisShopping scenario, if it was determined that the number of spaces in the parking garage was inadequate for the anticipated demand, it would be necessary to identify not only the cost of increasing capacity, but also how this change might be funded.



In some cases, an issue is raised because a product does not or will not meet its quality specifications. This is referred to as off-specification. In the LouisShopping scenario, if it was determined that the construction contractor had failed to provide the required number of parking spaces, this would be considered off-specification.

10.2.4 Delegating authority for changes

The project board is the ultimate authority for reviewing and approving requests for change and off-specifications. However, the project board may delegate authority to approve changes. Delegating authority for effective change control is a matter of balancing efficiency and control. If there is too little delegation, the project board is likely to slow the progress or be asked to review changes that others are better able to decide. Whereas, if there is too much delegation, particularly to too many different roles, there is an increased risk that the overall benefits of the project will be reduced as alignment with the business justification is diluted.

In a project where few changes are envisaged, it may be reasonable to leave this authority in the hands of the project board. However, for projects where there are likely to be many changes, the project board may choose to delegate some decisions.

In practice, most changes will be generated at the work package level. It is important to ensure that there is sufficient delegated authority to approve the changes for the work packages. In this way, changes can be made without always having to escalate decisions to the project board for approval.

Subject to the scale and complexity of the project, it may be useful to delegate change authority to several levels within the project management team. This is based on parameters specified in the issue management approach.

10.2.5 Change budget



Definition: Change budget

The money or authorized constraints set aside in a plan to cover changes. It is allocated by those with delegated authority to deliver authorized changes.

The project manager should ensure that delegated authority is accompanied by an appropriate change budget from which approved changes can be delivered. The change budget is usually an amount of money earmarked specifically to fund changes. However, it can also be defined as a set of authorized constraints within which trade-offs can be made. A project brief might call for in-person user training, while also allowing virtual training to be used as an alternative (as long as the same number of people can be trained within the required timeframe).

10.3 Techniques

10.3.1 PRINCE2 Technique for issue management

PRINCE2 includes a five-step issue management technique (capturing issues, assessing issues, recommending changes, deciding on changes, implementing changes) as shown in figure 10.1.

An alternative procedure can be used instead if desired. For example, if the project is part of a programme with established issue management procedure that is to be used by all the projects within

the programme. The use of an alternative procedure should be documented as part of the tailoring decisions in the project initiation documentation.

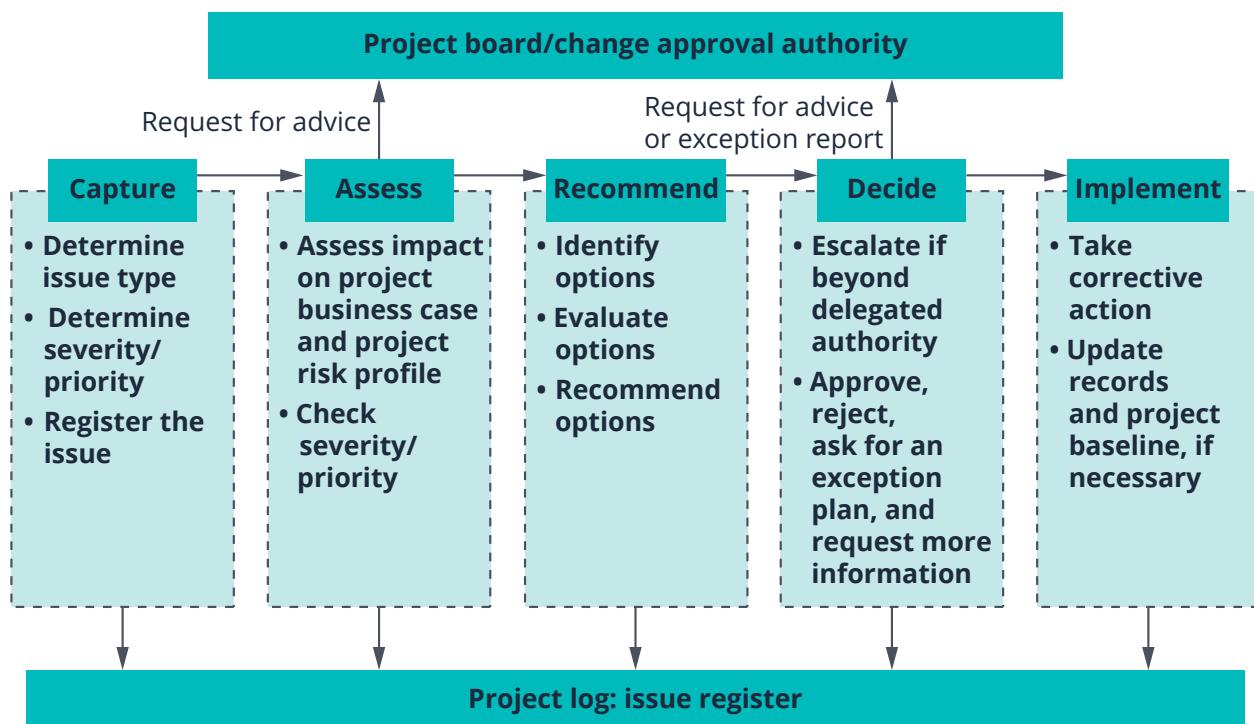


Figure 10.1 PRINCE2 technique for issue management

10.3.11 Capturing issues

Issues can be captured through any of the formal or informal communication channels available during a project. However, the project manager should ensure that the means for translating issues from these channels into issue reports is efficient and involves minimum administrative burden. Review of new and open issues should be a part of all project reviews, from regular status meetings to stage boundary reviews.

Scenario: different ways to capture issues

One of the members of the team of Findef's project to develop the first cybersecurity product has complained that the project data was not being backed up as it should. An IT analyst was called to identify the problem and realized that the hard disk used for taking backups was broken and will require full replacement. This is a problem/concern that can be handled immediately by the project manager without adding significant cost to the project. Therefore, it does not need to be registered in the issue register but can be recorded in the daily log.



Later in the project, the project board requests that the logotype displayed in the new cybersecurity product be changed to reflect the corporate logotype that has been recently approved. This represents a change request which, although simple to accommodate and within the tolerance levels of the project manager, needs to be handled formally and recorded in the project issue register.

10.3.1.2 Assessing issues

When reviewing issues, the aim is to answer these three questions:

- What is the type of issue (a problem or concern, an event external to the project, a business opportunity, a request for change, or off-specification)?
- Does this issue affect the project?
- If so, how?

Many issues will not need an extensive assessment or require the preparation of a request for change. However, in some cases, the first question cannot be answered in simple 'yes or no' terms. Instead, it has to be answered within the context of project tolerances and priorities. A project with tightly limited tolerances may need to restrict the types of issues it considers. On the other hand, some issues are purely informational or advisory, such as a change in working hours that does not result in an acceleration or delay in delivery activities.

Major issues or potential changes to the project baseline require an integrated assessment that considers them in the context of impacts on the overall project plan. The seven types of tolerances represent interrelated aspects of a project, and major issues and changes rarely affect only one aspect. Therefore, the assessment should consider the impact of an issue or change on:

- the approved targets and tolerances
- the project business case
- other products or work packages.

When possible, project managers should aim to offer the project board more than one way to respond to an issue or change. It is often possible to make trade-offs or concessions among requirements or tolerances, such as obtaining better performance from a product in return to allowing a delay in its delivery. Although all issues should be assessed, not all will necessitate a change. To reject it and do nothing can be a valid response to an issue.

The assessment of issues and the development of ways to resolve them is best approached in a cooperative manner by gathering inputs and ideas from a variety of project team members and stakeholders. This is particularly true when the issue has impacts and response options outside the scope of the project itself.

It may be useful to seek the advice of the project board to confirm its understanding of an issue's priority or severity before completing the assessment and proposing options.

10.3.1.3 Recommending resolution

Based on the assessment, a recommendation is made to the appropriate person or group who has the required authority. Whether the recommendation is to approve or reject a request for change, the consequences of both choices should be made clear.

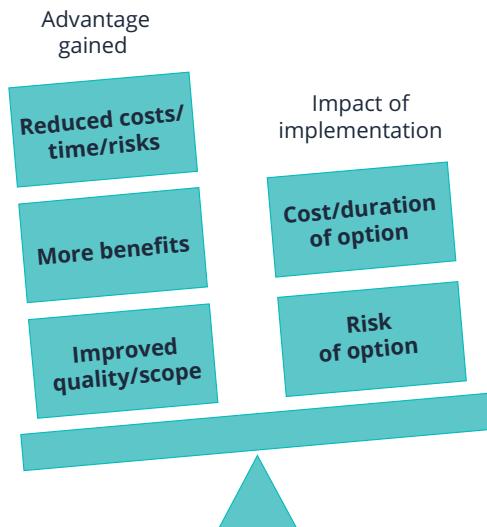


Figure 10.2 Consequences of recommended option

10.3.1.4 Deciding on changes

Table 10.1 outlines the typical decision choices in response to a change proposal, whether it is a request for change or off-specification.

Table 10.1 Choices in response to a change proposal

Type	Response	Considerations
Request for change	Approve	The cost of making the change can be funded by: <ul style="list-style-type: none"> ● use of the change budget ● reducing the scope of other elements of the project ● requesting additional funds.
	Reject	Will the business justification continue to be satisfied, and will expected benefits still be realized if the change is rejected?
	Ask for an exception plan	This can be an appropriate response if the problem stems from overly stringent quality specifications or acceptance criteria and could be resolved through changes in the approved tolerances.
	Request more information	This choice effectively defers the decision but may be the appropriate response if the impacts of approving or rejecting the request for change are complex.
Off-specification	Accept	What is the impact on the business justification and expected benefits? The project baseline is updated and the off-specification is noted as a concession
	Reject	How can the issue be resolved? <ul style="list-style-type: none"> ● via the change budget ● via an exception plan ● via a contractual remedy (if a supplier is responsible).

10.3.1.5 Implementing changes

Approved requests for change and off-specifications should be recorded in the project log and reflected in the affected management products. The baselines of different management products may be maintained using different systems, but each system should enable configuration control by providing a record of changes and an archive of superseded versions.

10.3.2 Supporting techniques

A variety of problem-solving techniques may be used to enable the assessment and resolution of issues. Examples include:

- **Root cause analysis** deconstructs a problem into its contributing causes with the aim of distinguishing one or more primary causes from other secondary or derivative ones.
- **Pareto analysis** collects possible causes and identifies the most likely ones using the 80/20 rule, also known as the Pareto principle, which asserts that 80 percent of outcomes result from 20 percent of all causes.
 - This is useful when multiple causes exist and no single one is the obvious source.
- **Cause and effect analysis** sorts possible causes into various categories that diverge from the original problem, with the aim of identifying the most significant factors.
 - This analysis is sometimes performed using a fishbone or Ishikawa diagram.
- **Failure mode analysis** a step-by-step approach for identifying all possible failures in a product or process and assessing the consequences of each.
 - This usually requires some form of the product, either interim form (such as a prototype) or final form to exist.
- **Five whys** uses a series of questions (such as ‘why did this happen?’) to investigate successive layers of a problem.
 - The answer to each question becomes the basis of the next ‘why?’ question. This is a simple tool that is useful when detailed statistics are not needed or available.

To be effective, problem-solving techniques must be applied systematically. A team effort is typically required.

10.4 Applying the practice

10.4.1 Organizational context

The project manager should determine whether there are any organizational or external policies, standards, and procedures that must be applied and incorporate them into the project’s own issue management approach.

If the project is within a programme or portfolio, there may be a requirement that the project uses their defined policies and procedures. Many programmes employ a common issue management capability, as well as change control systems that projects must use. The programme or portfolio may also have requirements on how issues are assessed and guidance on issues that need to be raised to their level.

10.4.2 Commercial context

In a commercial environment, the project may be required to adopt change control procedures defined in the contract. Suppliers will often have their own issue management approach and change control system. If a supplier is required to participate in the project’s issue management approach, use its issue register or change control tools. This needs to be specified within the applicable contract or agreement.

Scenario: collaborative approach to issue management

The incomplete state of the water storage tank installation in the LouisShopping project triggered off-specification to be managed by the project management team. The project board is sympathetic to the fact that the shopping centre is being constructed in an unusual setting, where historical findings are a risk to the excavation works. However, a water reserve station is a must-have requirement concerning health and safety and therefore must be addressed immediately.



BuildyBrick is interested in establishing a relationship of partnership and trust with the LouisTown Council, as a successful project can be used as a case study and reference site for prospective business. Consequently, a collaborative approach has been agreed to resolve this issue. Despite leading to additional construction cost to the project, BuildyBrick will complete the water storage tank installation and has agreed to absorb that cost directly rather than request additional funding for completion. The project board has agreed to the additional time required to resolve the tank installation issue without issuing any penalties on BuildyBrick for the delay.

10.4.3 Delivery method

10.4.3.1 Linear-sequential projects

A key assumption underlying the choice of a linear-sequential approach to a project is that the number and magnitude of changes will be reduced as the project lifecycle progresses. This is because it is generally much easier and less costly to make changes to the project baseline early in the project. For example, changing the size of a room in a construction project may be a trivial matter when the building is being designed but costly and time consuming when the building is nearly complete.

For this reason, the issue management approach may propose tailoring tolerances to allow flexibility in early stages, such as during design, when the impact of changes may be relatively small. Then, in later stages, such as during construction, the tolerances may be much more tightly restricted and a larger portion of the change budget made available, in recognition of the potential cost of even minor changes.

Scenario: speed of assessing issues

After learning about the incomplete state of the water storage tank installation in the LouisShopping project, the project manager decides to assess any dependencies other products in the project have on the water storage tank.



They will assess the project performance targets overall and, if necessary, also the project business case. They discover that although the storage tank is not on the critical path, it would cause a delay of more than two weeks, which would lead to a delay to the overall project.

The project manager immediately escalates the issue to the project board, who agree to release additional funding for one of the project manager's recommendations. If there was an incomplete or slow assessment of the issue by the project manager and/or a delay in escalating it to the project board, it would have been too late to implement the recommended remedy. This would have caused a domino effect of delays and additional costs.

10.4.3.2 Iterative-incremental projects

Issue management and change control are intrinsic to the iterative-incremental approach. The frequent review of progress and short cycles of delivery work (such as in agile methodologies) are intended to raise and resolve issues quickly. This is to allow the scope baseline (sometimes referred to as the product backlog) to evolve in a manner that keeps a close alignment between requirements and developed capabilities of the product.

If the entire scope of the project's delivery activities follows an incremental-iterative approach, it may be sufficient for the project manager to ensure that issues are consistently captured, assessed, and decided. This would be in a manner that provides traceability back to the project product description and maintains an effective level of control.

In other cases, the project manager should consider structuring the issue management approach to allow the project board to retain change authority over management products. Meanwhile, delegating authority over changes in features and functionality in specialist products to the teams working within a framework such as PRINCE2 Agile. The issue management approach may include the agile technique of trading/swapping features in response to issues as a means of remaining within tolerance.

Agile methods enable change late in the product development lifecycle to deliver a product that better matches user expectations with the biggest possible value. This philosophy applies when products are difficult to define in detail early in the project.

10.4.4 Sustainability

Sustainability can be a source of significant issues and changes from outside the project, particularly in the areas of regulatory requirements and supplier capabilities. If sustainability and environment impacts are a major aspect of the project, the issue management approach should ensure that someone in the project management team is tasked with the responsibility to monitor external sources of potential issues and changes.

10.4.5 Scale

The project manager should consider the following in developing the issue management approach:

- **The scale of the project and the number or diversity of stakeholders** On a small project, the project manager may be able to manage issues and changes without support, whereas on a larger project, issue management and change control may justify dedicated support.
- **The products to be delivered and the degree of uncertainty or volatility in their quality specifications** If the product descriptions and the understanding of the activities involved in delivering them are mature and well-understood, it is less likely that issues and changes will arise frequently and in a large number. If the project products and delivery method are novel or the set of products to be delivered are complex, it is likely that issue management and change control will require a significant level of effort.
- **The characteristics of the project change control tools and associated data** Some projects, such as software development, may be supported by a tool that allows issue management and change control to be supported in a single integrated environment.
- **The sensitivity of issues and the project baseline** Project teams whose scope may involve dis-benefits or outcomes that may be perceived as negative by some stakeholders may want to exercise strong control over access to its issue register.

Scenario: scale illustrations

NowByou has a project relating to a campaign against discrimination. As a simple project, where professional project management is being introduced to the organization, the project complies with the approach to issues management during the first project team meeting.



Issues are captured in a presentation slide and discussed with the campaigns manager on a weekly basis, as part of an overall project status update meeting. Whenever there is off-specification or a change request, the project manager assesses the criticality of the issue and formulates a resolution plan to be discussed in the project status update meeting. Upon approval, changes are implemented, and this is also recorded in the slide deck.

In contrast, Findef projects, which are complex in nature and implemented in the context of a programme within an organization with some project management maturity, have additional established controls. The project manager has developed a change control approach document that describes how changes will be managed during the project. An issue register has been established for the project and is available as a form in Findef's project management system.

Notifications on new issues that are flagged as requiring escalation or review are sent automatically to the project board and followed-up in a weekly meeting. An assessment of change requests are conducted with the involvement of subject matter experts with an independent report recommending a preferred action. Upon resolution or approval of change requests, the records in the product register records in the project management system are updated by the project manager.

10.5 Management products to support the practice

PRINCE2 includes 16 management products that are used to manage the project. The management products specific to the issues practice are described here.

Management product: Issue management approach

The issue management approach is part of the project initiation documentation.

Purpose

The purpose of the issue management approach is to describe how issues will be captured and reported and explain how changes to the project baseline will be assessed and controlled.

High-level content

Scope description of the scope of the issue management approach

Project baseline elements list of the management products comprising the project baseline

Box continues

Issue reporting and resolution procedure description of how issues will be raised, reported, and resolved (Any variance from business standards should be highlighted, together with justification for any variance.)

Change control procedure description of how changes to the project baseline will be requested, decided, incorporated, and verified (Any variance from business standards should be highlighted, together with justification for any variance.)

Change budget the authorized change budget and any allocations at the stage or work package level

Timing formal issue management activities when and how often issues will be reviewed and decided

Responsibilities defines who will be responsible for the roles associated with the issue management approach, including delegation of change authority

Supporting tools or systems any tools or systems that will be used to perform or support the issue management approach, such as a version control system

Standards any standards that apply to issue management, such as the grading system used for rating priority and severity of issues. (The standards should also specify the composition and format of the issue register and other change control records.)

References for any associated documents or products

Management product: Issue register

The issue register is part of the project log.

Purpose

The purpose of the issue register is to log all issue reports raised during the project lifecycle, their current status, and date of closure.

High-level content

Issue identifier unique reference for the issue

Issue description summary of the issue

Issue type problem, concern, external event, business opportunity, request for change, and off-specification

Grading a rating of priority and severity

Issue owner for the issue

Decision a record of the decision in response to the issue, e.g. for an off-specification it could record the acceptance and provide a summary of the concession made

Status the current status of the issue, for example, logged, reviewed, actioned, escalated, and resolved

Relevant dates related to the issue for example, date raised, date last reviewed, action due dates, and date resolved

Records list of the documents associated with the issue and their location.

Management product: Issue report

Purpose

The purpose of the issue report is to describe the issue's impacts on the project baseline and identify ways to resolve the issue or address off-specification and recommend a decision.

High-level content

Unique identifier unique reference for the issue

Product identifier(s) the identifier of the product(s) affected by the issue

Date raised the date the issue was first logged

Type of issue problem or concern, external event, business opportunity, request for change, and off-specification

Grading severity and priority, if used

Description a summary of the issue source, cause and impact

Impact analysis analysis of its impact on the project baseline

Options ways in which the project, user, or supplier could respond to the issue

Recommendation the decision recommended by the project manager or team manager

Decision a record of the decision in response to the issue, e.g. for an off-specification it could record the acceptance and provide a summary of the concession made.

10.6 Focus of key roles for the practice

PRINCE2 defines seven key roles to manage a project. Their responsibilities specific to the issues practice are described here.

Table 10.2 Areas of focus for key roles associated with the issues practice

Role	Responsibilities
Business layer	<ul style="list-style-type: none"> ● provide any business layer policies, standards, or procedures for issue management and change control ● approve project level change budget (if used) ● respond to requests for advice and escalated issues from the project executive
Project executive	<ul style="list-style-type: none"> ● determine if a project level change budget is needed and for how much ● set stage level change budget ● determine if and where delegated authority for approving changes is needed ● approve the issue management approach and ensure it is appropriate for the project's objectives (Set scale for rating the severity and priority of issues.) ● respond to requests for advice from the project manager and make decisions on escalated issues, with particular focus on continued business justification
Senior user	<ul style="list-style-type: none"> ● respond to requests for advice from the project manager and make decisions on escalated issues, with particular focus on safeguarding the expected benefits ● agree the issue management approach
Senior supplier	<ul style="list-style-type: none"> ● respond to requests for advice from the project manager and make decisions on escalated issues with particular focus on safeguarding the integrity of the complete solution ● agree the issue management approach

Table continues

Role	Responsibilities
Project manager	<ul style="list-style-type: none"> ● consult with stakeholders to prepare and maintain the issue management approach, agreeing with the level to which the products are baselined ● manage the issue and change control procedures, assisted by project support where possible ● ensure that team managers implement the issue and change control procedures agreed in their work package description ● maintain the issue register, assisted by project support where possible ● implement corrective actions
Team manager	<ul style="list-style-type: none"> ● implement the issue and change control procedures agreed in their work package description ● implement corrective actions
Project assurance	<ul style="list-style-type: none"> ● advise the project manager on the issue management approach ● confirm to the project board that the issue management approach is compliant with business policies ● advise on assessing and resolving issues ● assist the project board and project manager by reviewing issue reports and exception reports, when asked ● assure project board members that issues are being managed appropriately by reviewing issue and change control practices to ensure they are performed in line with the project's issue management approach
Project support	<ul style="list-style-type: none"> ● administer the change control and issue procedures by: <ul style="list-style-type: none"> ● maintaining issue register ● maintaining the project baseline ● assisting the project manager in preparing issue reports ● assisting the project management team with the application of the project's risk management procedures.

10.7 Key relationships with principles

The issues practice contributes to the adherence to PRINCE2 principles across the project lifecycle.

Table 10.3 Key relationships between the issues practice and PRINCE2 principles

Principle	Achieved by	Resulting in
Ensure continued business justification	developing an issue management approach that ensures issues and changes are assessed in terms of their impacts on the business case and the justification for the project	issues and changes being addressed and the project remaining aligned with the overall business strategy
Learn by experience	using issue management as a means to capture the lessons learned throughout the project lifecycle and using the lessons to inform responses to issues	ensuring that the project products and delivery activities can continuously evolve and improve in a controlled manner in response to feedback
Define roles, responsibilities, and relationships	establishing the roles and respective responsibilities for issue management and change control within the project organization	clear accountability for issue management and changes to the project baseline
Manage by stages	enabling issues and changes to be identified and reviewed within stages and at stage boundaries	early identification of issues and avoiding the cost of uncontrolled changes
Manage by exception	establishing the authority and procedure for issue management	efficient means for the project manager to manage issues, take decisions, and report exceptions within the authority delegated by the project board
Focus on products	linking issues and requested changes to the project baseline	ensuring traceability of changes and clear linkage to products
Tailor to suit the project context	requiring only the level of change control appropriate to the importance and complexity of the project, the chosen delivery method, and product characteristics	the right balance between control and responsiveness



CHAPTER 11

PROGRESS



CHAPTER 11

PROGRESS

11.1 Purpose



Key message

The purpose of the progress practice is to:

- establish mechanisms to monitor and compare actual achievements against those planned
- provide a forecast for the project's objectives and continued viability
- control any deviations causing an exception.

A key component of project management is controlling the project's progress, which ensures that the project remains viable against its approved business case.

Progress control involves measuring actual progress against the performance targets of benefits, time, cost, quality, scope, sustainability, and risk. This information is used to make decisions, such as whether to approve a stage or work package, whether to escalate deviations, or whether to prematurely close the project, and to take actions as required. Progress can be monitored at work package, stage, and project level.



Definitions

Progress The measure of the achievement of the objectives of a plan.

Forecast A prediction made by studying historical data and past patterns.

Exception A situation where it can be forecast that there will be a deviation beyond the tolerance levels agreed between the project manager and the project board (or between the project board and business layer).

11.2 Guidance for effective progress management

The progress management practice is based on an overarching plan-do-check-act cycle as shown in figure 11.1 (also known as the Deming cycle or Shewhart cycle). This also brings in the controls aspects of the other PRINCE2 practices, such as risk management.

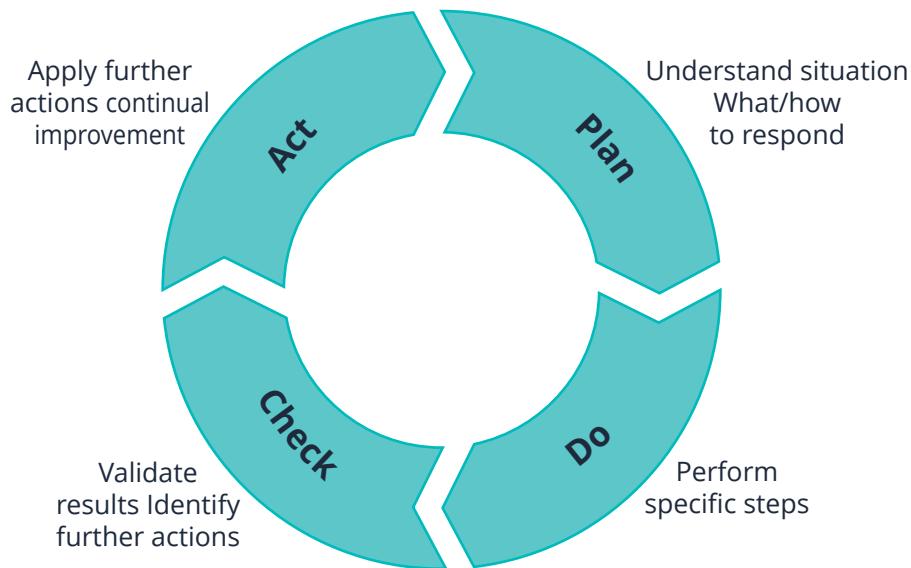


Figure 11.1 Plan-do-check-act cycle

Effective progress management includes:

- defining management levels and tolerances for progress control
- applying two types of control (event-driven and time-driven)
- reviewing progress and lessons
- reporting progress and lessons
- forecasting remaining work
- escalating
- using data.

11.2.1 Management levels and tolerances for progress control

The project is managed by exception between four management levels against tolerances for seven performance targets, as shown in figure 11.2 and table 11.1.

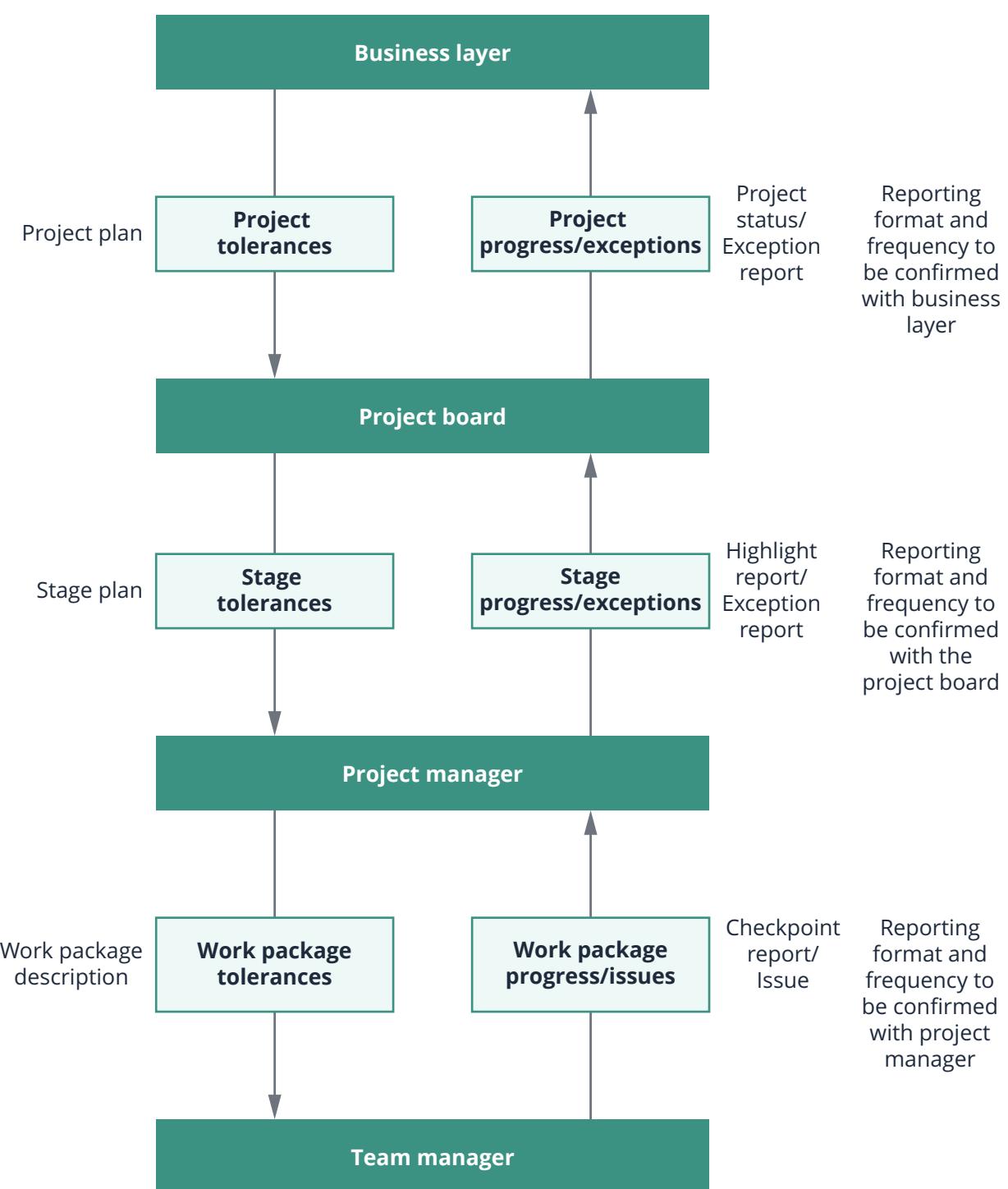


Figure 11.2 Delegating tolerance and reporting actual and forecast progress

The business layer, outside the project team, sets the overall requirements and tolerance levels for the project. The three levels of management within the project (responsible for directing, managing, and delivering) will manage and implement within these tolerances and escalate any forecast breaches of project tolerance.

The project board has overall control at a project level if forecasts remain within project tolerance and will allocate tolerances for each stage to the project manager. The project board can review progress and decide whether to continue, change, or stop the project. When executing the project plan, if any

forecasts indicate that the project is likely to exceed the agreed project tolerances, then the deviation should be referred to the business layer by the project board. This is to decide the corrective action.

The project manager has day-to-day control of a stage within the tolerance limits established by the project board. When executing a stage plan, if any forecasts indicate that the stage is likely to exceed the agreed stage tolerances, then the deviation should be referred to the project board by the project manager to decide the corrective action. This would be done by raising an issue and an exception report.

The team manager has control for a work package, but only within the work package tolerances agreed with the project manager. When executing the work package, if any forecasts indicate that it is likely that the agreed tolerances will be exceeded, then the deviation should be referred to the project manager by the team manager to decide the corrective action. This would be done by raising an issue. Table 11.1 shows where each of the tolerances are defined for which level of management.

Table 11.1 The seven tolerance types by layer

Tolerance areas	Project level tolerances	Stage level tolerances	Work package level tolerances	Product level tolerances
Benefits Defining target benefits in terms of ranges	Business case	Stage plan	N/A	N/A
Time ± amount of time on target completion dates	Project plan	Stage plan	Work package description	N/A
Cost ± amount of planned budget	Project plan	Stage plan	Work package description	N/A
Quality Defining quality targets in terms of ranges	Project product description (acceptance criteria)	N/A ¹	N/A ¹	Product description (quality specifications)
Scope Permitted variation of the scope of a project solution	Project plan ²	Stage plan ²	Work package description ²	N/A
Sustainability Limits on the agreed metrics for sustainability	Business case	Stage plan ⁴	Work package description ⁴	Product description ⁴
Risk Limit on the aggregated value of threats	Business case	Stage plan ³	Work package description ³	N/A

¹ Quality tolerances are not summarily defined at the stage or work package level but are defined as per product description within the scope of the plan.

² The scope of a plan is defined by the set of products to be delivered. Scope tolerance (if used) should be in the form of a note or reference to the product breakdown structure for the plan. Scope tolerance at the stage or work package level is of particular use, if applying an iterative-incremental development method such as agile.

³ More specific stage level risk tolerances may be set by the project board when authorizing a stage or by the project manager when authorizing work packages, especially from external suppliers.

⁴ More specific stage level sustainability tolerances may be set by the project board when authorizing a stage or by the project manager when authorizing work packages, especially from external suppliers.

Scenario: example of a project prioritizing a tolerance

Findef's programme board, in alignment with the leadership team, chose to prioritize speed over cost for the project because of Findef's stagnated growth and its new competitors' quick time-to-market strategy.



The project board has been granted authority for the project subject to an acceptable deviation of up to 25 percent of the target project cost. A smaller tolerance has been assigned to the variable of time, where the project has been given a tolerance of ±1 month only. Should the project forecast to be more than one month early or late compared to the target launch date for each product, then the project board would need to escalate this deviation to the programme board.

11.2.2 Types of control

Effective project control is delivered through the accurate, timely, and regular measurement of actual progress and comparing it with the planned progress at that stated point in the project or stage and taking any necessary corrective action.

The PRINCE2 method provides two types of progress control throughout the life of a project: event-driven controls and time-driven controls.



Definitions

Event-driven control A control that occurs when a specific event occurs. For example, this could be the end of a stage, the completion of the project initiation documentation, or the creation of an exception report. It could also include organizational events that may affect the project, such as the end of the financial year.

Time-driven control A management control that occurs at predefined periodic intervals. For example, this could be producing highlight reports for the project board or checkpoint reports showing the progress of a work package.

Monitoring is a time-based activity, control (decision-making) is an event-based activity, and reporting is both time-based and event-based. The use of event-driven controls drives efficiency as it means project management team do not meet unnecessarily or too frequently, but when most needed.

11.2.3 Reviewing progress and lessons

As part of the controlling a stage process, the project manager will regularly review progress through checkpoint reports and will maintain the project log. The project manager will use this information to update the stage plan with the actual progress achieved. The format and frequency of checkpoint reporting will depend on the needs of individual work packages. It is only possible to control progress at the level of detail in the plans. For example, if weekly checkpoint reports are required, the stage plan will have to include what needs to be achieved week by week.

It is also necessary to analyse the project data for trends to get a view of the overall health of the stage. For example, the stage may seem to be progressing well in terms of the products being completed against the schedule. However, the issue register may reveal an increasing number of issues that are not being resolved and may be a cause for concern. Similarly, the quality register may reveal there are a number of products that have failed a test and not yet been recorded as having been re-tested in the quality register.

Actions may arise from many sources and small actions may simply be recorded on the daily log and marked when completed. The daily log can also be used to record informal issues and any other notes or observations that are not captured by any other management product.

The difference between a formal issue and an informal issue is that a formal issue will be captured in the issue register as an open forum. There, it will then be monitored and reviewed due to its material impact on the project or stage. An informal issue is one that either does not have a material impact or requires handling in a suitable manner where open access would be inappropriate. The daily log is a useful way of recording individual observations that on their own may seem insignificant but when collated may alert the project manager to a new issue or risk.

The product register also provides data on the status of the products that are complete, currently in progress, and those awaiting development. The data from this register may be compared with the physical status of the products to provide assurance on the progress of the project.

A principle of a PRINCE2 project is that the project management team learns from experience. Therefore, the project team actively seeks, records, and incorporates relevant lessons throughout the life of the project, applies them to the remaining work and shares them for future projects. It is often in the reviewing of progress that lessons are identified. The project log includes a lessons log, which is used for capturing lessons and is accessed when reviewing progress.



Definition: Lesson

A lesson is information to facilitate the future of the project or other projects and actively promote learning from experience. The experience may be positive, as in a successful test or outcome, or negative, as in a mishap or failure.

To record lessons during a project is good for the organization, project team, and other existing and future projects. Lessons are the documented information that reflect both the positive and negative experiences of a project. Lessons can be captured:

- during a post-project review
- during any meetings throughout the project (you do not have to wait until a post-project review to share lessons)
- via PRINCE2 management products like checkpoint reports or highlight reports
- by performing retrospectives
- when issues occur
- during stakeholder one-to-one meetings
- using electronic workspaces where data and information are shared.

The analysis of a lesson should answer five questions in the following order:

- What did we expect to occur?
- What actually happened?
- What worked well and why?
- What did not work and why?
- What needs to be done differently or what needs to be repeated?

Document management systems or team collaboration systems are a useful tool in sharing and reporting knowledge from lessons.

It should be noted that systems and data play a major part in reviewing progress. Any reports, registers, or logs mentioned above may originate from a system where the data is integrated and accessible. This would be in accordance with the digital and data management approach, and presented electronically with drill-down capabilities to access more detail.

Scenario: example of analysing a lesson

The LouisShopping project experienced a setback concerning the electric power distribution system, as an outdated floor plan had been shared with the team responsible for the electric system. This has caused a week of rework and project delay. The project manager gathered the relevant project team members to investigate how incorrect drawings were shared and to understand what changes were needed to prevent the issue from happening again. In this way, they ensured that the issue was not repeated.



The project manager also asked for an audit of all floor plans that have been issued for other parts of the project to prevent outdated information from being used. The team identified three other cases of incorrect drawings and were able to rectify them before any other delays or rework was caused. Together, the team also reviewed the project communication matrix and agreed that going forward, project records are to be maintained and distributed by the project office members only. This is in line with the latest approved records in the product register records.

11.2.4 Reporting progress and lessons

The frequency of reporting should reflect the level of control required, and this is likely to vary during the project. For example, if the team is highly experienced, then less frequent reporting may be appropriate. Whereas, for an inexperienced team, the project manager or project board may wish to increase the frequency of reporting until sufficient confidence has been gained in the capability of the team.

Table 11.2 Reports provided by PRINCE2

Report	From/to	Type	Use
Checkpoint report	From a team manager to the project manager	Time-driven	To provide a progress and status update of their team plan
Highlight report	From the project manager to the project board	Time-driven	To provide a progress and status update of the project and stage
Lesson report	Depends on the context	Event-driven or time-driven	To provide a detailed lessons review of a specific lesson or a stage or the overall project

Table continues

Report	From/to	Type	Use
Issue report	Depends on the context	Event-driven	To enable a request for change, off-specification, business opportunity, or a problem or concern to be formally reviewed and responded to
Exception report	From the project manager to the project board	Event-driven	To report where tolerances have or are forecast to be breached for the stage or project and seek direction from the project board
End stage report	From the project manager to the project board	Event-driven	To report the performance of the stage and request approval to proceed to the next stage
End project report	From the project manager to the project board	Event-driven	To report the performance of the project, any subsequent recommendations and request approval to close the project

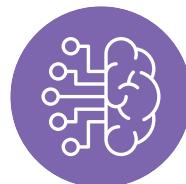
PRINCE2 does not define the composition, format, or presentation for reports, which should consider the quality management, risk management, and issue management approaches. If part of a programme, the information should also consider the programme's monitoring and control requirements.

Reports may take the form of an electronic dashboard, which has aggregated and summarized data from an integrated system. These dashboards may be available to the respective stakeholder audience, such as for the directing, managing, or delivering levels of the project. These are based on the access and availability stipulated in the digital and data management approach.

Additionally, an information snapshot of the status of products within the project, stage, or a particular area of the project to support the findings of a progress review can be found in the product register on a self-service basis. Data for this snapshot may be found within a system rather than in a manually generated document or spreadsheet.

The reporting of lessons could include information about the development of a product or the project management practices, processes, procedures, techniques, or tools used that either contributed to the project's achievements or caused a problem. Examples might include the performance of the project management team, the methods used, or the analysis of quality data and measurements. Larger projects are more likely to utilize a lessons report as part of this procedure, where more detail would be helpful.

Scenario: difference between event-driven and time-driven



Upon completion of the operations needs assessment for the LouisShopping project, the project manager will gather the team to review and potentially update the product description for operations plan and the associated work package description. This control is event-driven, as it is due only when the milestone is achieved in the project. On the other hand, time-driven controls occur at predefined periods of time in the project, as they are duration based. For example, the project board meeting occurs every month, and therefore the project manager will need to consider this activity when scheduling the project.

11.2.5 Forecasting

A fundamental component of the manage by exception principle is forecasting. An exception is defined as a situation where it can be forecast that a deviation beyond the agreed tolerance levels will occur. It is not necessary, and indeed not helpful, to wait until that deviation has occurred. Therefore, forecasting

within projects is essential because it helps to identify responses to project risks, predict project outcomes, and help ensure overall project success.

It is important to consider the performance of the project so far and other projects inside or outside the organization. Although time and cost are often stated as the key metrics to track, all seven PRINCE2 performance targets should be considered.

The collected data is then sifted, collated, and analysed to provide the project manager with sufficient information on the past performance to predict the future risks and outcomes, as well as determine whether the project retains a continued business justification. Again, the data may be held in an integrated system, which may also allow for ‘what if’ scenario forecasting, to ease the forecasting workload for project managers.

The digital and data management approach will describe what systems and data will be used by the project to assist with forecasting. This may involve using data from outside the project or the business, for example, from a data trust as a reference class to enable predictive data analytics to be used.

11.2.6 Escalating

The output derived from reviewing progress is a decision as to whether the work package, stage plan, or project plan will remain within or exceed the agreed tolerances. If they exceed or are forecast to exceed the agreed tolerances, then they are in exception.

11.2.6.1 Work package level exceptions

After agreeing the work package tolerances with the team manager, the project manager should be kept informed of progress with regular checkpoint reports. If a work package is forecast to exceed its tolerances, the team manager should inform the project manager by raising an issue for the attention of the project manager. The project manager will advise of any corrective actions required.

11.2.6.2 Stage level exceptions

If the stage is forecast to exceed its tolerances, the project manager should produce an issue report to capture and analyse the data behind the deviation and then provide an exception report for the project board. Based on information in this report, the project board may request that the project manager produces an exception plan to replace the plan that was forecast to exceed tolerance. The project board may also remove the cause, accept or adjust the tolerance, or request more time to consider the recommendations. If an exception plan is requested, the project board will review and either approve or reject the exception plan.

11.2.6.3 Project level exceptions

If the forecast is for project tolerances to be exceeded, the project board no longer has the authority to direct the project and must refer the matter to the business layer for a decision. The project board may request the project manager to produce an exception plan for the project.

Scenario: example of the escalation procedure done quickly/verbally



Due to lengthy negotiations with some of NowByou's marketing partners, the new campaign project is expected to take an additional two months before options analysis, a key output of Stage 2, can be completed. The project manager has a regular 30-minute catch-up calls with the sponsor (campaigns director) every Thursday. This time is used to share news and discuss possible corrective actions rather than waiting until the next scheduled project board meeting. The sponsor expressed their preference, and they agreed to explore possible actions further in the project status meeting that has been scheduled for the following week.

11.2.7 Use of data and systems in progress management

Data and technology help manage projects more accurately by supporting progress tracking and decision-making. Project data may be in the form of project documentation, correspondence, project log, and records. It includes both internal and external data, as well as digital and non-digital formats.

The collection of data within projects has evolved dramatically with the introduction of digital technology to plan and schedule projects. These systems will capture, validate, and present data against the plans and milestones for ease of understanding progress. Data analytics is the means of using and analysing data to support effective decision-making or to bring efficiency through the automation of tasks.

Progress reviews are not confined to looking backwards. After having secured and stored the data through systems, past performance can be used to predict future performance. To ensure clarity, this information can then be presented in the stakeholders' preferred format and style.

The project management team must decide what they require from the reporting and forecasting procedures. Then, they should select a solution to fit both the requirements and the level of maturity of the business and the organizations that are involved in the project. The business may already have established systems through a centralized programme or project office. Or the nature of the project may require new systems to be designed, (possibly) procured, and established. For example, the use of digital twins and building information modelling (BIM) in construction projects.

The project's digital and data management approach will explain what digital technology will be used to support project management and project work as well as how the data will be used and which systems will be used for data analytics. For example, the use of sentiment analysis to understand team performance or stakeholder engagement.

The management products used for checking the baselines, reviewing progress, capturing, and reporting lessons, reporting progress, or forecasting are frequently recognized by the project manager as a combination of disparate sources. Automation, for example the use of artificial intelligence, is removing the need for a manual approach, enabling project professionals to focus on far more value-added tasks rather than administration.

Due to home working and globalization, project teams are more likely to be distributed across multiple locations rather than co-located. Therefore, the use of digital systems can help to communicate and transfer data or information. If the team and the data are up-to-date, information management is more reliable and easier to administer in an automated system.

11.3 Techniques: progress management

11.3.1 PRINCE2 technique for exception management

PRINCE2 includes a six-step exception management technique shown in figure 11.3. An alternative procedure can be used instead if desired, for example, if the project is part of a programme that has a programme-wide exception management procedure. The use of an alternative procedure should be documented as part of the tailoring decisions in the project initiation documentation.

Although this technique mentions reports, this does not preclude the use of systems and data from performing the same function.

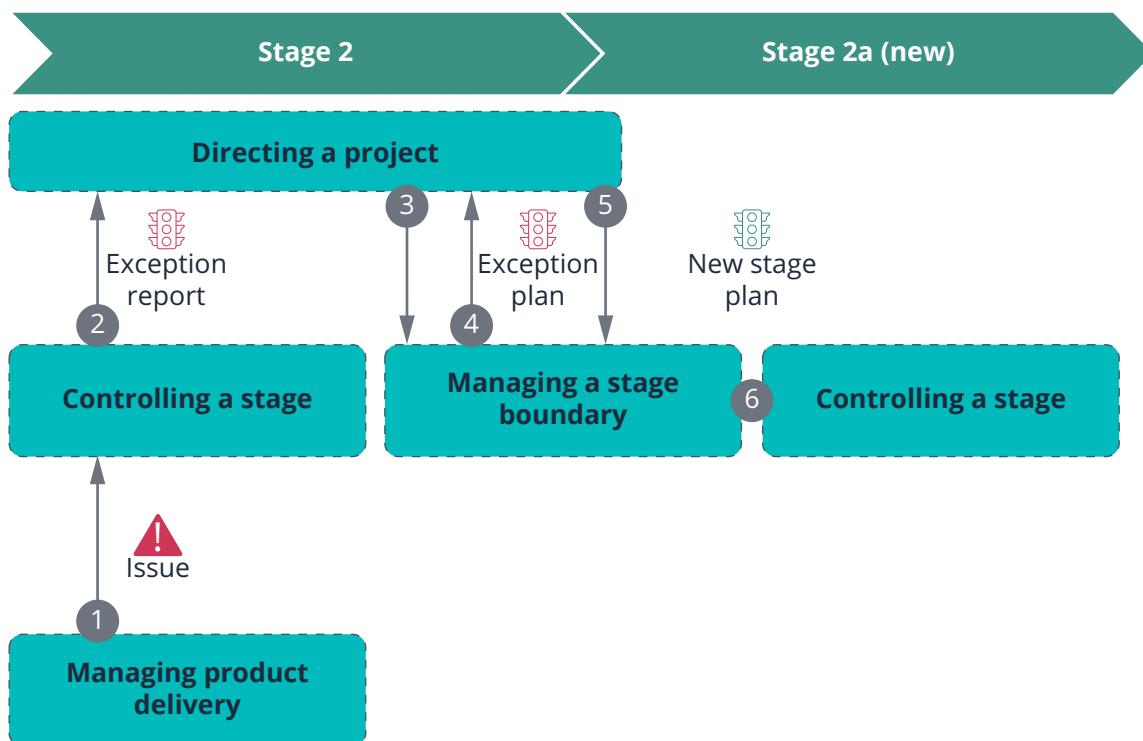


Figure 11.3 PRINCE2 technique for exception management

Issues are often encountered in the delivering level of the project that will take the stage outside one of the stage tolerances. It may also occur during the managing level for those issues that are not driven from delivery problems.

Figure 11.3 shows the steps of the exception management technique from the delivering level to the directing level.

11.3.1.1 Step 1

From the work package data, the team manager forecasts that one or more of the products in the work package will take the work package outside one of its tolerances. At this point, an issue is raised for the attention of the project manager. If the issue can be resolved by the project manager within the stage tolerances, the resolution will not require an exception report to be created. However, the issue will be reported in the next highlight to the project board, and a note may be made in the lessons log.

Issues are captured in the issue register. For some issues, the detail captured is sufficient to analyse the issue and respond. Other issues may require more detail or may need to be raised and responded to in a more formal way. In such cases the issue is captured in more detail in an issue report.

11.3.1.2 Step 2

If the issue will affect the stage (or project) tolerances to the point that they are forecast to be breached, an exception report is created by the project manager detailing the situation with resolution options and a recommendation.

The exception report is sent to the project board or project executive at the directing level, along with any other relevant data to assist in their decision.

11.3.1.3 Step 3

The project board or project executive have several options that they could take. They may:

- reallocate the overall project tolerances to resolve the breach of the stage tolerance
- reprioritize the requirements to bring the stage back within tolerance (de-scoping or re-scoping the product)
- inform the project manager that they require more time to consider their options
- implement the exception report and request an exception plan from the project manager
- implement the exception report by escalating to the business layer for advice and direction, if the exception will take the project outside one or more of its project level tolerances
 - the business layer will provide direction to the project board, which will then direct the project manager accordingly.

11.3.1.4 Step 4

The project manager ceases the current stage and introduces a stage boundary to create the exception plan and adjust any other related information in the project initiation documentation. An end stage report may also be produced where the stage has progressed to a point where this would be useful data for the decision.

11.3.1.5 Step 5

The project board or project executive will assess the exception plan and may take a number of options. They may:

- reject the exception plan and request amendments from the project manager
- reject the exception plan and direct the project manager to continue with the stage
 - this may require minor adjustments to the current stage
- approve the exception plan and return it to the project manager for further action.

11.3.1.6 Step 6

The exception plan will be received by the project manager with a direction to implement it as a new stage plan. In effect, the exception plan becomes the new stage plan. The project manager authorizes the next set of work packages for the delivering level to recommence, taking into consideration the issue that triggered the exception.

Consideration should be given to aligning the new stage end with the old stage end if desirable or feasible. This ensures that the planned end stage assessments by the project board or project executive do not require rescheduling and are still aligned with the original requirements for a decision at that point in the project. A product flow diagram can also be used to map progress while at the same time reminding the project board of the dependencies and sequencing of products.

11.3.2 Supporting techniques

Measuring the progress of a stage involves looking backward at the progress made against plans and forward at what still needs to be completed with available time and resources. However, effective progress management requires an open and transparent culture with a no blame attitude to progress reporting.

There are many supporting techniques, and those mentioned below may be used in isolation or combined depending on the needs of the project or team. For example, the solution developers may use Kanban as a team board to demonstrate progress and hold daily stand-ups for reporting purposes.

11.3.2.1 Dashboards

A dashboard is a technique to represent vast amounts of decision supporting information at an amalgamated level using tabular and graphic representation, such as graphs and traffic lights.

Highlight Report

RAG Status	Overall	Benefits	Cost	Time	Quality	Scope	Carbon	Risk	Project	NowBYou Campaign				
This period	G	G	G	A	G	A	G	A	Project Sponsor	Mary L				
Last period	G	G	A	G	G	R	G	A	Project Manager	Tommy S				
1. Achieved this period?					2. Expected achievements next period?									
<ul style="list-style-type: none"> Completed requirements gathering for new campaign 					<ul style="list-style-type: none"> Complete options analysis for stage 3 Establish coaching routine for Director of Campaigns 									
3. Pending Decisions and Changes					4. Critical Issues and Risks									
<ul style="list-style-type: none"> Waiting on Director of Campaigns to reduce the long list of options to be analysed 					<ul style="list-style-type: none"> Issue: Coaching sessions for Director of Campaigns not started Risk: there may be insufficient funding depending on selected option Risk: stage 2 completion could be delayed if longlist of options are not reduced soon 									
Project Manager's Commentary														
All identified stakeholders have been consulted and their needs captured in the requirements document. The sponsor will present the project at the next donors forum to gain (financial) support to enable the campaign to deliver to objectives.														
Project Budget	Actual Cost	Forecast Cost	Cost Variance	Variance Commentary										
£ 45,000	£ 4,000	£ 55,000	+£ 10,000	Based on initial estimates on the Business Case, additional 10K may need to be secured via donations										
No.	Project Milestone			Baseline Date	Current Date	Variance Commentary								
1	High-Level Requirements Gathering Complete			10-February	10-February	Completed								
2	Financial support secured			05-March	05-March	-								
3	Options selected			24-March	31-March	Too many options to analyse								
4	Campaign Launch			10-July	10-July	-								

Figure 11.4 Example highlight report for NowBYou campaign



Scenario: an example of a dashboard

An example of a dashboard being used as a highlight report is presented above for the NowByou campaign project, highlighting the following aspects:

1. general identification project data, including reporting period
2. RAG (red-amber-green) indicators, which show the status of the project at a glance, including a comparison with the last reporting period
3. activities accomplished and planned activities, which provide oversight on the project progress
4. pending decisions and changes, highlighting to the board decisions that are required from them
5. critical risks and issues operating under the management by exception principle, which help the board gain visibility over the risks and issues with highest score/exposure level (typically referred to a 'red')
6. commentary or latest update by the project manager, offering an opportunity to share a critical and subjective evaluation of the project status to date, including the 'route to green', if applicable
7. project financials update, including latest forecast available and a commentary on this objective
8. project milestones update, including a comparison against the baselined estimates and a commentary on any deviations identified.

11.3.2.2 Daily stand-ups

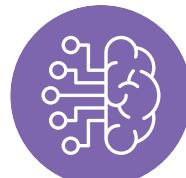
Daily stand-ups are daily meetings that are conducted quickly. All team members attend, and although the original meaning of the term implied that this meeting was conducted with everyone standing up, this is now rarely the case, with virtual meetings becoming more common in today's environment. The intention is that it makes for a brisk, focused meeting. Progress is reviewed, and every team member declares their next steps, using the three guiding questions which are:

- What have you done since yesterday?
- What are you planning to do today?
- Have you encountered any problems or issues?

Part of the value of the daily stand-up is that everyone in the team maintains awareness of what everyone else is doing. This creates an opportunity within an organized, empowered team for one team member to offer timely help or suggestions to another team member.

Scenario: example of a virtual stand-up

Every day, from 10:15am to 10:15am in the morning, the project team of the Data Knowledge time recording solution project meets virtually from the comfort of their homes to share their current progress and detect any roadblocks where assistance may be needed. This daily stand-up gives the team an opportunity to assess progress and promptly respond to any setbacks in the project; it also builds team cohesion. The project's product flow diagram is used to efficiently show progress. The team has embedded a short video or recording on progress of that product into the product on the product flow diagram so that it can also be shared with key stakeholders.



11.3.2.3 Earned value management

This is a technique to create an integrated project baseline combining scope, schedule, and cost performance by comparing the completed products and the actual cost and time taken against their schedule and cost estimates. Besides providing an objective assessment of past performance, it can be used to forecast total project cost and duration based on historical performance. PRINCE2's approach to product-based planning provides information to support earned value management.

11.3.2.4 Peer review

A peer review is where people experienced in project management but outside the project management team are asked to evaluate the project. Peer reviews may also be held between subject matter experts in relation to a particular product. There are many peer review techniques, and the quality management approach should identify the techniques appropriate to the project.

11.3.2.5 Burn charts

This is a technique for showing progress (for example, during a timebox), where work that is completed and work still to be done are shown with one or more lines, and the chart is updated regularly (perhaps daily). This is one of the most popular techniques when using an agile approach.

Burn charts come in two forms: burn-down charts and burn-up charts. Burn-down charts are the most well-known, and they show how much work remains, whereas burn-up charts show how much work has been done.

Burn-down charts identify estimation issues early and help viewers to understand how much work and effort remains. Burn charts help motivate teams by showing progress toward the project's outcome.

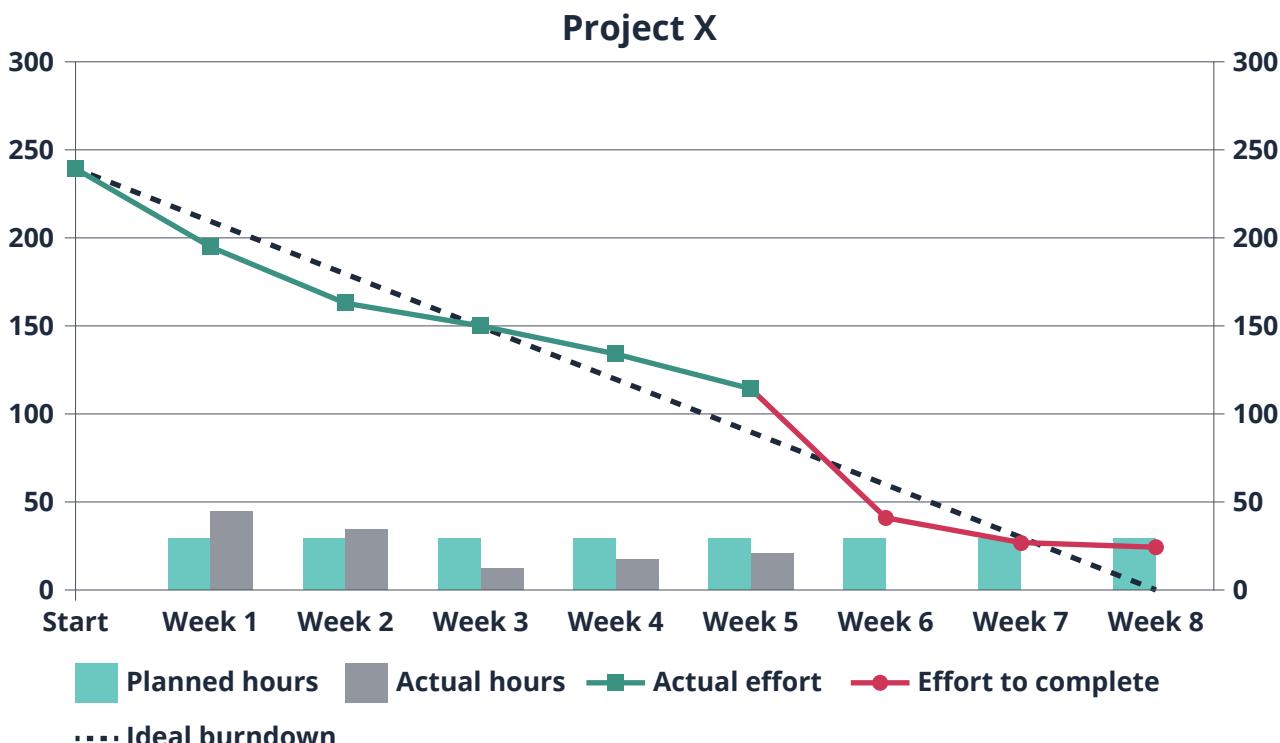


Figure 11.5 Burn down chart

11.3.2.6 Retrospectives

A retrospective is a type of progress review that specifically considers the way of working as opposed to looking at what was produced.

To be fully effective, a retrospective should be planned, structured, and actively facilitated. They can be quite informal, but if they are run as an unstructured meeting, they are likely to become ineffective and not contribute to better ways of working.

Running an effective retrospective is similar to running a successful workshop, and should consider:

- inviting the right people (normally just the team, and possibly project support)
- having an independent facilitator
- focusing on a small number of issues that can be actioned, rather than a larger number that are unlikely to result in action
- different, creative approaches to keep the retrospectives interesting and useful
- visual feedback tools to help people express their ideas.

11.3.2.7 Kanban board

Kanban is a term that covers the use of Kanban systems, which are visual management systems that limit the number of work items in circulation. A Kanban board is a tool used in Kanban to visually display the work in the system. It usually comprises a series of columns (and possibly rows) where work items move from left to right as they move through the various states to be completed. A Kanban board acts like a dashboard and enables the team to see blockers and areas where the flow is not smooth.

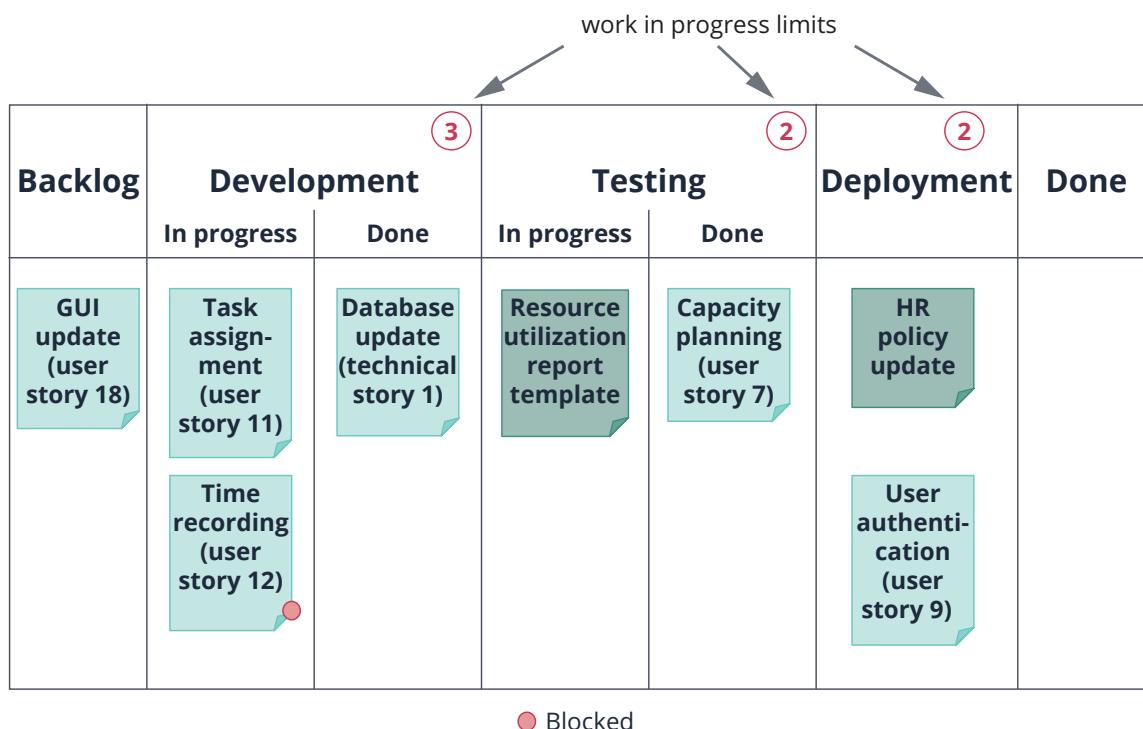


Figure 11.6 Kanban board example for timebox 1

11.4 Applying the progress practice

11.4.1 Organizational context

A starting point for any project will be to identify the timing of the business layer governance arrangements from which the project will require decisions or authority. It is usually advisable to design the project's progress controls to align with business layer timings.

If the project is part of a programme or portfolio, then the programme or portfolio will usually dictate the progress controls for the project. This will typically include defining common controls, procedures, tolerances, and timings.

11.4.2 Commercial context

PRINCE2 is based on a customer/supplier environment. It assumes that there will be a customer who will specify the desired result and (usually) pay for the project, and a supplier who will provide the resources and skills to deliver that result. Additional considerations apply if the relationship between the customer and the supplier is a commercial one.

The contract between the parties acts as a constraint on a project manager's or team manager's degree of freedom when managing the project or work package. For this reason, it is good practice to ensure that contracts reflect and promote good working relations rather than inhibiting them and that any tailoring to PRINCE2 respects the parties' contract obligations.

From a supplier's perspective, the project lifecycle should be defined to consider pre-contract activities, such as qualification, designing and costing the solution, bidding, and negotiation. It may also consider activities at the end of the project, such as warranty and maintenance periods.

11.4.3 Delivery method

It is important that the approach to managing progress works with, and supports, the project's chosen delivery method rather than going against it.

For a project using an iterative-incremental delivery method, it will typically be more appropriate to focus on tracking how much of the requirement is being met by the end of the sprint rather than how long it will take to complete the products. The tolerances would have been set in accordance with this. The frequent delivery of products that meet their acceptance and quality specifications is a primary source of progress information and provides the basis for forecasting future progress.

The formality of reporting may differ in an iterative-incremental project using agile techniques such as Kanban and burn-down or burn-up charts. Checkpoint reporting may be based on a 'pull' system, where the project manager reviews the charts maintained by the development teams rather than being sent by them.

By contrast, for a project using a linear-sequential delivery method, the focus may be on when the stage's products will be complete and for what costs. In this way, the project board can be confident that there is a robust basis to move from the current stage to the next.

11.4.4 Sustainability

Progress management will gather data on those aspects of sustainability recorded in the project implementation document that are critical success factors for the project. This is to check that the project remains within its sustainability tolerances and the parameters established by the business layer.

Some areas of sustainability will fall under legislation, regulation, or business layer policies. Therefore, it will require evidence to support compliance. Progress management must be able to identify and report on the data required to support this evidence.

The project executive may request an audit of the project if compliance against sustainability regulations is required. Advice should be sought from the quality assurance function with the business or programme.

Sustainability reporting should not be separate from the agreed reporting requirements but rather integrated into the cyclical analysis of the project data by the project manager, team managers, and project support. The activities in the plans should consider the data needed to satisfy sustainability analysis, just as they should for the other tolerances within the project. This is so that evidential reporting on sustainability is a consequence of progress management and not something that requires additional activities or resource.

11.4.5 Scale

Progress management needs to be applied or tailored to reflect the needs of the project's scale, risk, complexity, and prominence. In simple projects where risk and complexity are minimal, the progress practice may lend itself to some simplified data analysis for reporting and forecasting purposes. Some of the roles may have been combined with a project executive sponsoring the project without a project board. The style may be more relaxed, and this could lead the project manager to report progress in a structured email rather than a formal report, for example.

For simple projects, questions that may be asked are:

- Do all the management products need to be used?
- Could some of the management products be combined?
- Could the data be distributed in a more effective and efficient manner?
- Could access to the data be given to stakeholders in accordance with the digital and data management approach?

As the projects become more complex and attract more risk, the project business may include more stakeholders with different reporting requirements. Under these circumstances, a more formal approach to evaluation and reporting, either through structured reports or through the use of data and systems, will be required to satisfy the stakeholder requirements.

The project executive or project board must agree on the frequency of reporting and have the project manager record their requirements in the project initiation documentation.

11.5 Management products to support the practice

PRINCE2 includes 16 management products that are used to manage the project. The management products specific to the progress practice are described here.

Management product: Digital and data management approach

Purpose

The purpose of the digital and data management approach is to describe:

1. how digital technology will be used to support project management (for example, project controls) and project work (for example, the use of digital twins for design and construction).
2. how data and information will be created, used, and managed across the project ecosystem and through the project lifecycle and afterwards.

High-level content

Scope describes what data is to be managed

Digital technology requirements an analysis of the digital technology the project will need by considering the automation and facilitation of project management activities and any specialist technology required to support the specialist project work (In some cases, this may involve the use of systems already established by the business and suppliers. In other cases, different or additional systems may be needed.)

Data management requirements an analysis of the data the project will generate or need by considering:

- What data or information is needed or will be created?
- Where will the data come from?
- Where will the data be held?
- How will the data be kept secure?
- What level of privacy is required?
- How the data or information will be analysed, curated, and presented?
- Who will have access or rights? How integrity will be ensured?
- How will data quality be assured?
- What will happen to the data after the project completes?

Digital and data management procedures description of any digital and data management procedures to be used on the project (based on the analysis of the digital and data management requirements)

Responsibilities who will be responsible for the roles associated with the digital and data management approach

Box continues

Timing formal digital and data management activities for example, the implementation of systems, the timing of any data audits, or the provision of a data room to support procurement activities

Supporting tools or systems describes what tools or systems that will be used for digital and data management. For example, the use of artificial intelligence (AI) in project forecasting.

Standards describes any digital and data management standards required for the project

References for any associated documents or products.

Management product: Daily log

The daily log is part of the project log.

Purpose

The purpose of the daily log is to record informal issues, required actions, or significant events not captured by other PRINCE2 management products. It can act as the project diary for the project manager. It can also be used as a repository for issues and risks during the starting up a project process if the other registers have not been set up.

There may be more than one daily log, as team managers may elect to have one for their work packages, separate from the project manager's daily log. Entries are made when the project manager or team manager feels it is appropriate to log some event. Often entries are based on thoughts, conversations, and observations.

High-level content

Log entry description of the informal issue, action, event, or diary note

Date date logged, assessed, or actioned

Management product: Lessons log

The lessons log is part of the project log.

Purpose

The purpose of the lessons log is to provide a repository to record lessons that apply to this project or future projects. Some lessons may originate from other projects and should be captured on the lessons log for input to the project's approaches and plans. Some lessons may originate from within the project, where new experience (both good and bad) can be applied to this project and/or transferred to others.

Box continues

High-level content

Lesson identifier unique reference for the lesson

Lesson description a summary of the lesson and associated details, for example, the effect (such as positive/negative financial impact), known cause/trigger, whether there were any early warning indicators, whether it was previously identified as a risk (threat or opportunity), recommendations

Lesson type for example, team lesson, project lesson, business layer lesson

Lesson owner who is responsible for actioning any learning from the lesson (could be from a team, the project, or the business)

Grading a rating of priority and severity

Status the current status of the lesson, for example, logged, reviewed, learning actioned (by project), learning actioned (by business)

Relevant dates related to the lesson for example, date raised, date last reviewed, action due dates, date resolved

Records list of the documents associated with the issue and their location.

Management product: Checkpoint report**Purpose**

The purpose of a checkpoint report is to report to the project manager the status of the work package at a frequency defined in the work package.

High-level content

Executive summary team manager's report

Period the reporting period covered by the checkpoint report

Follow-ups the outstanding items from previous reports (for example, action items completed or unresolved)

This reporting period the products being developed by the team during the reporting period; the products completed by the team during the reporting period; quality management activities performed during the period; lessons identified

Next reporting period the products being developed by the team in the next reporting period; the products planned to be completed by the team in the next reporting period; quality management activities planned for the next reporting period

Work package tolerance status how execution of the work package is performing against its tolerances (for example, cost/time/scope actuals and forecast)

Issues and risks an update on issues and risks associated with the work package.

Management product: Highlight report

Purpose

The purpose of a highlight report is to provide the project board (and possibly other stakeholders) with a summary of the stage status at intervals defined by them.

High-level content

Executive summary project manager's report

Period the reporting period covered by the highlight report

Follow-ups the outstanding items from previous reports (for example, action items completed or unresolved)

This reporting period the actual progress of work packages, including those pending authorization, in execution, and completed in the period (if any work packages are being performed by external suppliers, this information may be accompanied by purchase order and invoicing data); products completed in the period; products planned but not started or completed in the period (providing an early warning indicator or potential breach of time tolerance); any corrective actions taken during the period

Next reporting period forecast progress of work packages, including those to be authorized, in execution and to be completed during the next period (if the work packages are being performed by external suppliers, this information may be accompanied by purchase order and invoicing data); products to be completed in the next period; corrective actions to be completed during the next period

Stage and project tolerance status how execution of the project and stage are performing against their tolerances (for example, cost/time actuals and forecast)

Key issues and risks a summary of the actual or potential issues and risks (including a list of requests for change or off-specifications raised, actioned, or pending for the period)

Lessons (if appropriate) a review of what went well, what went badly, and any recommendations for consideration by the business; sourced from the lessons log or any lessons reports that may exist.

Management product: Lessons report

Purpose

The purpose of a lessons report is to share lessons and trigger actions to ensure that lessons become embedded in the appropriate organization's way of working. A lessons report can be created at any time in a project and should not necessarily be delayed until the end. Typically it can be included as part of the end stage report or end project report. It may be appropriate (and necessary) that there are several lessons reports specific to a particular organization (for example, user, supplier, business).

Box continues

High-level content

Executive summary a summary of the lesson

Description for work package, stage, or project lessons a review of what went well, what went badly, and recommendations for this project or future projects

Description for a specific lesson the effect (for example, positive/negative financial impact), cause/trigger if known/proven, whether there were any early warning indicators, whether it was previously identified as a risk (threat or opportunity), recommendations for this project or future projects.

Management product: Exception report**Purpose**

The purpose of an exception report is to inform the project board when a stage plan or project plan is forecast to exceed tolerance levels set and to offer options and recommendations for the way to proceed.

High-level content

Identifier unique identifier for the exception

Date date issued

Description an overview of the exception being reported

Cause of the exception a description of the cause of a deviation from the current plan

Consequences of the exception what the implications are if the deviation is not addressed for the project and the business

Options what options are available to address the deviation and the effect of each option on the business case, risks, and tolerances

Recommendation of the available options, which is recommended and why

Lessons what can be learned from the exception, on this project or future projects.

Management product: End stage report**Purpose**

The purpose of an end stage report is to give a summary of progress to date, the overall project situation, and sufficient information to ask for a project board decision on what to do next with the project.

High-level content

Executive summary project manager's report

Performance review a review of the business case, project objectives, stage objectives, team performance, quality activities, products' status, phased handover of products (if applicable), and lessons

Box continues

Summary of follow-on action recommendations actions to be taken by the business following the phased handover of any products during the stage

Key issues and risks a summary of the actual or potential issues and risks (including a list of requests for change or off-specifications raised, actioned, or pending for the period)

Forecast for the next stage and project against targets and their tolerances.

Management product: End project report

Purpose

The purpose of the end project report is to review how the project performed against the version of the project initiation documentation used to authorize it.

High-level content

Executive summary project manager's report

Performance review a review of the business case, project objectives, and team performance

Product review a review of products, off-specifications, project product handover, and lessons

Summary of follow-on action recommendations any post-project actions to be taken by the business or supplier(s).

11.6 Focus of key roles for the practice

PRINCE2 defines seven key roles to manage a project. Their responsibilities specific to the progress practice are described here.

Table 11.3 Areas of focus for key roles associated with the progress practice

Role	Responsibilities
Business layer	<ul style="list-style-type: none"> ● set project tolerances and document them in the project mandate ● provide any business layer reporting requirements and standards, for example, periodic timings for highlight reports or health and safety specific content ● make decisions on exception reports when project level tolerances are forecast to be exceeded
Project executive	<ul style="list-style-type: none"> ● set stage tolerances ● approve the digital and data management approach from the business perspective, for example, the treatment of legacy data on project closure ● ensure that progress towards the outcome remains consistent from the business perspective ● make decisions on exception reports when stage level tolerances are forecast to be exceeded ● recommend future action on the project to the business layer if the project tolerance is forecast to be exceeded ● remain accountable to the business on sustainability reporting for the project ● remain accountable for sharing lessons learned from the project with the business

Table continues

Role	Responsibilities
Senior user	<ul style="list-style-type: none"> ● agree the digital and data management approach from a user's perspective, for example, the handover of product data for operational and maintenance needs ● define sustainability reporting requirements from the user perspective ● ensure that progress towards the outcome remains consistent from the user perspective
Senior supplier	<ul style="list-style-type: none"> ● agree the digital and data management approach from a supplier's perspective, for example, any specialist technology to be used or provided by the supplier or... expectations on data to be provided by the business and to be transferred to the business ● remain responsible for sustainability reporting from the supplier perspective ● ensure that progress towards the outcome remains consistent from the supplier perspective
Project manager	<ul style="list-style-type: none"> ● consult with stakeholders to prepare and maintain the digital and data management approach ● ensure that team managers implement the data management procedures agreed in their work package description ● authorize work packages and set work package tolerances ● establish and maintain the project log ● monitor progress against stage plans ● produce lessons reports, highlight reports, exception reports, end stage reports, and the end project report ● remain responsible for sustainability reporting from the project perspective ● produce exception reports for the project board when stage level or project level tolerances are forecast to be exceeded
Team manager	<ul style="list-style-type: none"> ● agree the work packages with the project manager ● implement the data management procedures agreed in their work package description ● produce checkpoint reports ● remain responsible for sustainability reporting for the team ● notify the project manager of any forecast deviation from work package tolerances ● inform project support of issues, risks, lessons, completed quality activities, and completed products
Project assurance	<ul style="list-style-type: none"> ● advise the project manager on the digital and data management approach ● confirm to the project board that the digital and data management approach is compliant with business policies ● confirm stage and project progress against agreed tolerances ● check the business case against project progress and any external events ● assist the project board and project manager by reviewing exception reports for impacts against the business case, when asked ● assure project board members that data is being managed appropriately by reviewing data management practices to ensure they are performed in line with the project's digital and data management approach
Project support	<ul style="list-style-type: none"> ● assist the project management team with implementing and applying the digital and data management approach ● administer specialist tools to support the digital and data management approach (such as planning, control, and reporting tools) ● assist with the compilation, dissemination, and storage of reports (checkpoint report, exception reports, lessons report, end stage report, end project report) ● assist the project manager in maintaining the project log

11.7 Key relationships with principles

The progress practice contributes to the adherence to PRINCE2 principles across the project lifecycle. Of PRINCE2's seven principles, manage by exception is particularly important to the progress practice.

Table 11.4 Key relationships between the progress practice and PRINCE2 principles

Principle	Achieved by	Resulting in
Ensure continued business justification	checking viability of the business case when progress is reviewed periodically at stage boundaries and for exceptions	more appropriate decisions on the ongoing viability of the project as it progresses
Learn from experience	identifying lessons from the output of progress management; applying forecasting techniques based on progress management	lessons being applied to the project or other projects to avoid unnecessary issues or risks in the future; more accurate predictions or estimates about the future of the ongoing project
Define roles, responsibilities, and relationships	clarity on reporting requirements and responsibilities for progress management	more timely and effective decisions being made on verified information
Manage by stages	dividing the project into stages and authorizing the project one stage at a time; evaluating project progress in accordance with the planned stages	the project being delivered in more manageable chunks, as well as exercising more control over the project resources; more focus when applying the progress management technique
Manage by exception	setting tolerances and managing by exception against those tolerances; delegating authority from one level of management to the level below	more event-driven control and raising exceptions to the next level of management when a tolerance is forecast to be exceeded; decisions being made by correct level of management for the project, stage, or work package
Focus on products	knowing the status of each product and the project product during delivery	the progress of the project, stage, or work package being aligned with product delivery rather than just time completed
Tailor to suit the project	defining the approach to controlling progress; setting tolerances and controls (event-driven and time-driven) appropriate to the risk, complexity, and size of the project at project, stage, and work package levels	an understanding by project team as to how the project will be monitored and controlled; the right level of progress management, monitoring, and control commensurate with the risk, complexity, and size of the project



CHAPTER 12

INTRODUCTION TO

PRINCE2 PROCESSES

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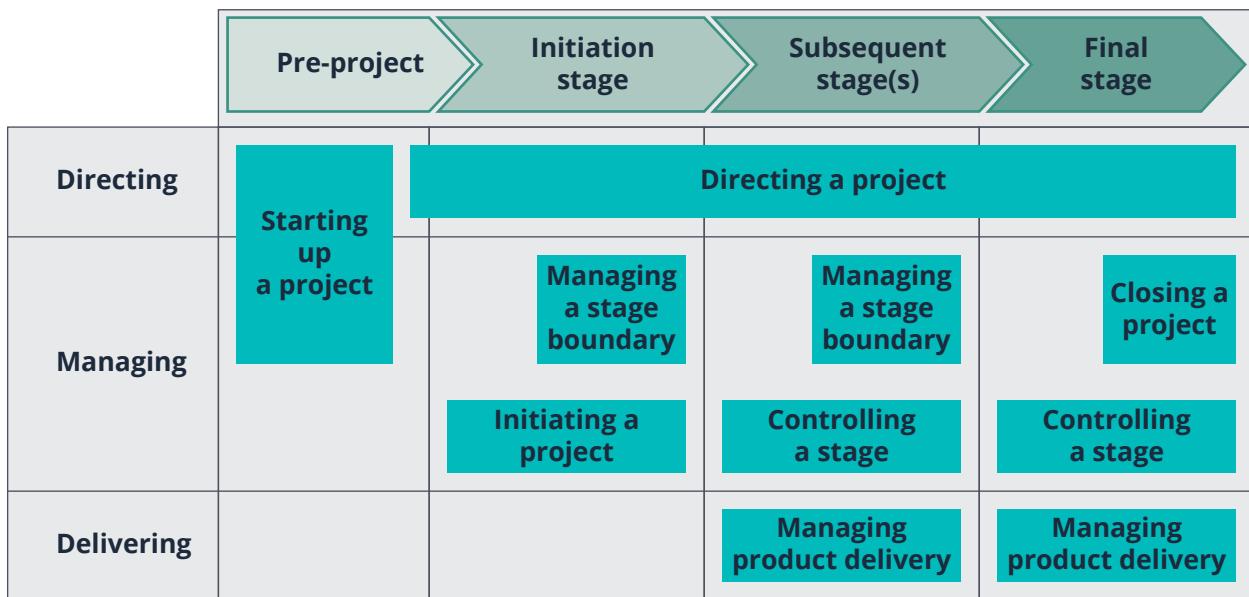


Definition: Process

A structured set of activities that define the sequence of actions and their inputs and outputs to achieve a specific objective.

PRINCE2 is a process-based approach for project management. There are seven processes in PRINCE2 that provide the set of activities required to direct, manage, and deliver a project successfully.

Figure 12.1 shows how each process is used throughout a project's lifecycle. The lifecycle shown has three stages: an initiation stage, subsequent stages, and the final stage. There will always be a minimum of two stages: an initiation stage and a final stage; there may be any number of stages in between.



Note

- Starting up a project is used by both the directing and managing levels.
- There should be at least two stages, the first of which is the initiation stage.
- Managing a stage boundary is first used at the end of the initiation stage and repeated at the end of each subsequent stage except the final stage. It is also used to prepare exception plans, which can be done at any time including in the final stage.

Figure 12.1 The PRINCE2 processes

12.1 The PRINCE2 journey

12.1.1 Pre-project

Before a project begins, someone has an idea or a need. The trigger for the project (which may come in a wide range of ways) in PRINCE2 is called a project mandate. The project mandate is provided by the business, (the organization commissioning the project) and can vary in form from a verbal instruction to a well-defined and justified project definition.

Before formally starting a project, it is important to assess and confirm that it is worthwhile and viable. This is done in the process of starting up a project (see Chapter 13), in which the project manager and project board are appointed, and a project brief and a stage plan for the initiation stage are created. The decision to proceed with project initiation is taken by the project board using their own process of directing a project (see Chapter 14). The project board then reviews the project brief and stage plan and decides whether and how to initiate the project and allocate the people and resources required.

12.1.2 Initiation stage

When a decision has been made to proceed with the project, it needs to be planned at an appropriate level of detail. The planning, establishment of the project management approaches and controls, development of a robust business case, and a means of reviewing benefits are covered by the process of initiating a project (see Chapter 15). Also, during the initiation stage, the process of managing a stage boundary (see Chapter 18) is used to plan the next stage in detail.

The initiation stage ends with the project initiation documentation being reviewed by the project board, again using their own process (directing a project) to decide whether to authorize the project and the next stage to proceed. The contents of the project initiation documentation are likely to change throughout the project (under change control), so this version is preserved as the original baseline for later reviews.

12.1.3 Subsequent stages

The project board delegates day-to-day control to the project manager on a stage-by-stage basis. The project manager needs to ensure that progress is in line with the approved plan and that forecasts for the project are within agreed tolerances. The project manager informs the project board of progress through regular highlight reports. The activities to control each stage are covered by the process of controlling a stage (see Chapter 16).

The project manager needs to assign work to be done to the team managers or members, who execute assigned work packages. They, in turn, keep the project manager informed of progress through checkpoint reports. This work is covered by the process of managing product delivery (see Chapter 17).

Towards the end of each stage, the project manager requests permission to proceed to the next stage by reporting how the current stage performed, provides an update to the business case, and plans the next stage in detail. The project manager provides the information needed by the project board to assess the continuing viability of the project and to make a decision to authorize the next stage. At all times, the project board must ensure the project remains aligned with the business strategy. The activities to manage each stage boundary are covered in the process of managing a stage boundary (see Chapter 18).

12.1.4 Final stage

As a project is a temporary undertaking, it will be time to start the process of closing a project towards the end of the final stage (see Chapter 19).

The project may have been transferring and transitioning individual products into operational use throughout the life of the project. The project board now needs to be satisfied that the recipients of each product are in a position to own and use them on an ongoing basis and that the business is able to take overall ownership of the project product. Should this be the case, the project can close. The project documentation should be archived, the project assessed for performance against its original plan, and the people and resources assigned to the project need to be released. Closure activities include confirming or revising the plans for the planning post-project benefits reviews to occur for those benefits that can only be assessed after the project product has been in use (and therefore after the project has closed).

12.1.5 Post-project

Even though some benefits may be realized during the project, in most cases, many or all of the benefits will be realized after the project is completed. It is therefore likely that one or more post-project benefits reviews will occur. The project's benefits management approach will document how and when these reviews should occur and who is responsible and accountable for them.

12.2 The PRINCE2 process model

The PRINCE2 process model is shown in figure 12.2. The processes are aligned with the management levels of business layer, directing, managing, and delivering. The triggers between the processes are shown.

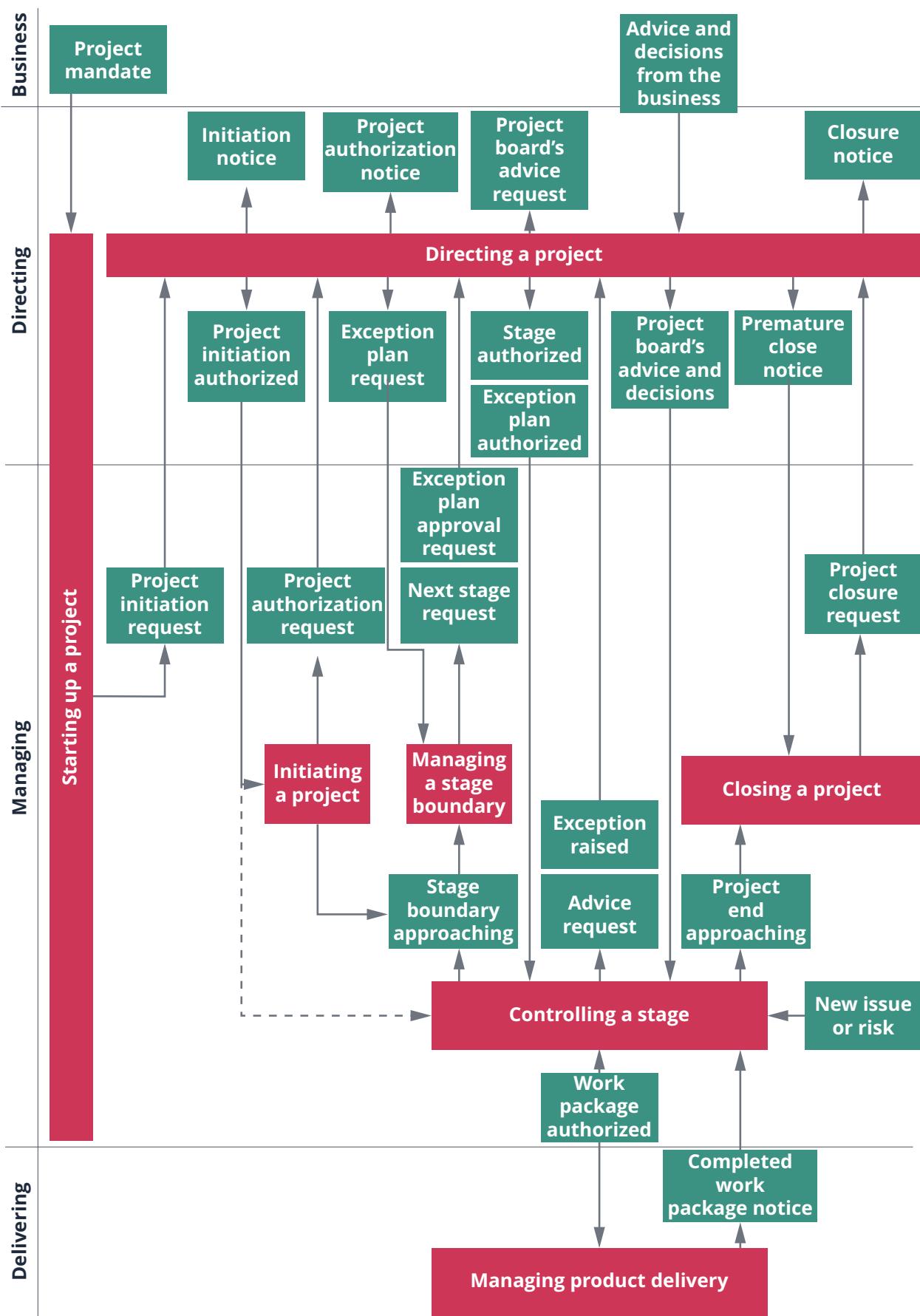


Figure 12.2 The PRINCE2 process model



Key message

The five integrated elements of the PRINCE2 method work together. The practices ensure that the principles are continually applied during the processes in a way that is specific to the project context and considers the requirements of people and groups within the project ecosystem and organizational ecosystem.

12.3 Format of the process chapters

Each process within PRINCE2 is described using the following structure and format:

- **Purpose** There should be a reason to execute the process.
- **Objectives** There should be specific objectives to be achieved by the process.
- **Context** Each process is described in the context of the other processes and activities going on within the project and the business. The context includes a table of inputs/outputs of management products for each activity.
- **Activities** Each PRINCE2 process comprises a set of activities, which may be performed in sequence or in parallel during the project. PRINCE2 activities comprise a set of recommended actions designed to achieve a particular result.
- **Responsibilities** A RACI table in each process chapter describes the responsibilities for each of the processes.
- **Application of the practices within the process** It is important to know how each practice applies to the process.

The process chapters contain a number of process diagrams. These process diagrams use the following conventions:

Managing a stage boundary

This is a PRINCE2 process. Each process contains a number of activities.

Assess previous lessons

This is an activity within a PRINCE2 process. Each activity contains a number of actions.

Project initiation request

This is an event or decision that triggers a PRINCE2 process. The direction of the arrow indicates which process is being triggered. Where the arrow goes to the business layer, it serves to notify the business of an update or request. Double triggers indicate that there are alternative triggers for a process.

Figure 12.3 Key to process diagrams



CHAPTER 13

STARTING UP A

PROJECT



CHAPTER 13

STARTING UP A PROJECT

13.1 Purpose

The purpose of the process of starting up a project is to ensure that the prerequisites for initiating a project are established by answering the question, 'do we have a viable and worthwhile project?'

The decision to start the project must be explicit, as the activities within the process of starting up a project happen before this decision. Nothing should be done until fundamental information needed to make rational decisions about the commissioning of the project is defined, key roles and responsibilities are resourced and allocated, and a foundation for detailed planning is available.

The purpose of the process of starting up a project is as much about preventing poorly conceived ideas from ever being initiated as it is about progressing viable projects for approval. As such, starting up a project is a lighter process compared to the more detailed and thorough process of initiating a project. The aim is to do the minimum necessary to decide whether it is worthwhile to even initiate the project.

13.2 Objectives

The objectives of the process of starting up a project are to ensure:

- There is a business justification for initiating the project (documented in an outline business case).
- All the necessary authorities exist for initiating the project (for example, to assign people and secure resources).
- Sufficient information is available to define and confirm the scope of the project (in the form of a project brief).
- Alternative approaches have been evaluated and the chosen project approach agreed.
- Individuals are appointed who will undertake the work required in the initiation stage or take significant project management roles during the project.
- The work required for the initiation stage (documented in a stage plan) is planned.
- Time is not wasted initiating a project based on unsound assumptions regarding the project's scope, timescales, acceptance criteria, or constraints.

13.3 Context

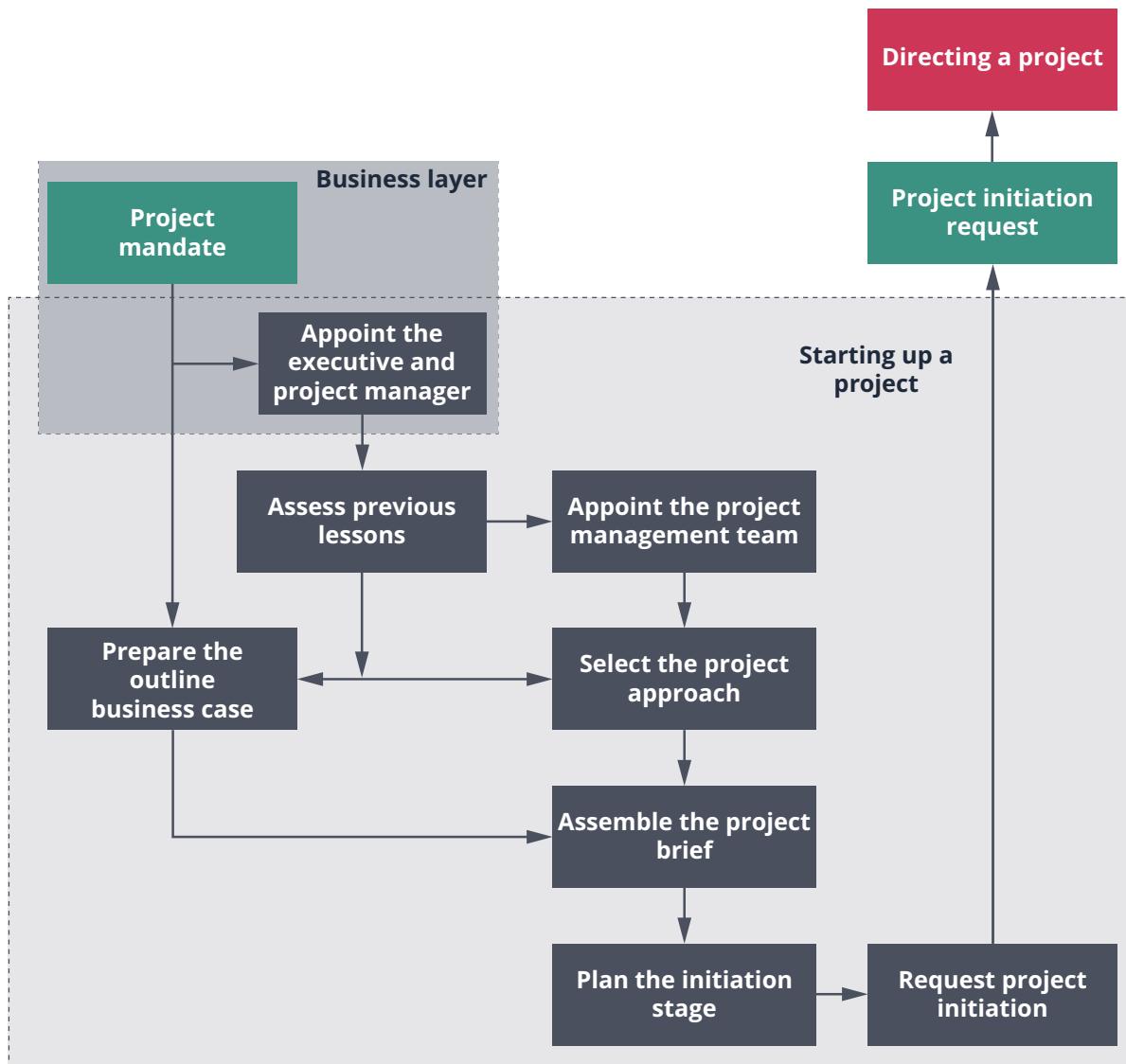


Figure 13.1 Overview of starting up a project

Projects can be triggered in a number of ways and thus have a wide variation in the information available prior to them being formally initiated. In PRINCE2, the trigger for the project is referred to as the project mandate. This is provided by the responsible authority from the business that is commissioning the project. There is also a wide variety of areas where the responsible authority could come from. For example, the project executive group, a functional or operational unit, a programme, a portfolio, or a customer.

From an organizational perspective in PRINCE2, the responsible authority is regarded as being outside the project in the business layer. The term project mandate applies to whatever information is used to trigger the project, such as a feasibility study or the receipt of a request for proposal in a supplier environment. The project mandate should provide the terms of reference for the project and should contain sufficient information to identify at least the prospective project executive of the project board. The information in the project mandate is refined to develop the project brief.

The project board must be provided with sufficient information to make the decision to initiate the project. The project brief is prepared for this purpose.

The effort involved in starting up a project can vary enormously from project to project. If the project is part of a programme, the programme management team should provide the project brief and will appoint some, if not all, members of the project board, thus eliminating much of the work required in this process. In such cases, the project manager should validate what is provided by the programme and, if necessary, recommend modifications.

The preparation of the outline business case and the assembling of the project brief, which are parallel and iterative activities, require regular and frequent interaction and consultation between the project manager, the project board members, and other stakeholders. The more time spent on clearly capturing the requirements during the process of starting up a project, the more time will be saved during project initiation and delivery by avoiding issues, exceptions, and replanning.

Table 13.1 Inputs, activities, and outputs for starting up a project

Input	Activities	Output
Project mandate (triggers this process)	Appoint the project executive and project manager	Daily log (create)
Previous lessons reports (review)	Assess previous lessons	Lessons log (create)
	Prepare the outline business case	Project product description (create) Outline business case (create)
	Appoint the project management team	Project brief (create)
	Select the project approach	
	Assemble the project brief	
	Plan the initiation stage	Stage plan (create for initiation stage)
	Request project initiation	Project initiation request (triggers the process of directing a project)

13.4 Activities

13.4.1 Appoint the project executive and project manager

To get anything done in the project, a decision-maker with appropriate authority (the project executive), who represents the interests of the business stakeholder, is needed. The appointment of the project executive is a prerequisite to ensuring that the project is justified.

The appointment of a project manager allows for the project to be managed on a day-to-day basis on behalf of the project executive. The project executive may need to consult with, and gain agreement from, the business when appointing a project manager.

Recommended actions:

- The business reviews the project mandate, checks understanding, and clarifies any ambiguities.
- The business identifies, selects, and appoints the project executive.
- The project executive identifies, selects, and appoints the project manager.
- The project manager creates the daily log as a repository for project information.

13.4.2 Assess previous lessons

A number of lessons may have been provided by other projects in the business and external organizations. These lessons may include weaknesses or strengths of the processes and procedures, as well as the techniques and tools used, when they were used, how they were used, and by whom. The design of the project management team, the outline business case, the contents of the project brief, and the stage plan for the initiation stage can be influenced by lessons from previous projects.

It may be useful to hold a workshop as a means to capture relevant lessons. Attendees could include any interested parties and people who have worked on previous similar projects. If the business has not done this type of project before, it may be helpful to include people external to the business who have the relevant experience.

Recommended actions for the project manager:

- Review related lessons of similar previous projects of the business and external organizations to identify lessons that can be applied to this project (for example, these may include the results of audits and project reviews).
- Consult with individuals or teams with experience of similar projects.
- If appropriate, create the lessons log and record any lessons identified and associated actions.

13.4.3 Prepare the outline business case

Given the information available, the outline business case is likely to be only a high-level view at this time. It provides an agreed foundation for a more detailed business case developed in the process of initiating a project (see Chapter 5).

Recommended actions:

- The project executive develops the outline business case in accordance with the project mandate and based on what is currently known about the project. This is in consultation with the senior user if appointed at this time. They will need to understand how the project will contribute towards the business objectives.
- The project manager consults with the senior user, senior supplier, and project executive to define what the project is to deliver and create the project product description (see Chapter 7).
- Any risks captured in the daily log are reviewed, and the key risks affecting viability of the project are summarized in the outline business case.

13.4.4 Appoint the project management team

The project needs the right people in place with the authority, responsibility, and knowledge to make decisions in a timely manner. The project management team needs to reflect the interests of all parties who will be involved, including business, user, and supplier interests (see Chapter 6 for a breakdown of the recommended roles within the project management team). It is important that in addition to the authority, responsibility, and knowledge mentioned above, those involved can work together to form a high-performing team (see Chapter 3).

It is essential in a well-run project that every individual involved in the management of the project understands and agrees who is accountable to whom for what, who is responsible for what, and what the reporting and communication lines are.

Recommended actions:

- The project manager should review the lessons log, design the project management team structure, and prepare role descriptions.
- The project executive in consultation with the senior user and project manager should identify, select, and appoint the project management team.
- The project manager should agree team working practices and communication for the initiation stage, and if any risks are identified, add them to the project log.

13.4.5 Select the project approach

Before any planning of the project can be done, questions must be raised regarding how the work of the project is going to be approached:

- Will the solution be developed in-house or contracted to third parties (often referred to as the delivery model)?
- Will the solution be a modification to an existing product or built from scratch?
- Will the solution be based on a commercial off-the-shelf product (often referred to as a COTS product) or something that is custom designed?
- What delivery methods should be used? For example, can the project product be delivered incrementally, perhaps using agile working methods, or will it need to be delivered in a linear-sequential way?
- How will the project approach support any sustainability expectations or requirements?

The way in which the work is to be conducted will depend on any user or supplier standards, practices, and guidelines (such as any specific delivery methods that may apply). These should be captured in the project brief as part of the project approach, as they will influence the management approaches to be created in the process of initiating a project. Capturing these aspects also ensures that the project approach is clearly understood between the user and the supplier and does not jeopardize the project in any way.

Recommended actions for the project manager:

- Evaluate the possible delivery solutions and determine the project approach appropriate to delivering the project product and achieving the outline business case.
- Define any requirements to tailor the method, if known at this time.
- Use the project log to record any new issues or risks.

13.4.6 Assemble the project brief

An agreed project brief ensures that the project has a commonly understood and well-defined starting point.

Recommended actions for the project manager:

- Confirm the current status of the project
 - such as the project background and any preparation work performed to date.
- Confirm the objectives and desired outcomes.
- Confirm the project scope, exclusions, and project tolerances.
- Identify any constraints and assumptions.
- Identify the user and any other known interested parties.

- Review the project management team structure and role descriptions to identify any additional roles or skills required in the project ecosystem
 - Prepare additional role descriptions as necessary.
- Identify the dependencies with other projects or activities that the project must maintain.
- Document the above in the project brief (see Chapter 5).
- Use the project log to record any new issues or risks.

13.4.7 Plan the initiation stage

Initiating a project takes time and consumes resources. The work should be planned and approved to ensure that initiation is not aimless and unstructured. If the project is part of a programme, the end date for the initiation stage should be checked against the date defined in the programme's plans. The stage plan for the initiation stage will also give the programme management team warning of any requirements from the programme.

The application of PRINCE2 processes during the initiation stage needs to be considered as part of the process of starting up a project. For example, the project may choose to apply the controlling a stage and managing product delivery processes during the process of initiating a project.

Recommended actions for the project manager:

- Decide suitable management controls for the initiation stage activities, based on the project approach.
- Identify any constraints on time and costs for the initiation stage and produce the stage plan for this stage according to the principles and techniques in Chapter 7.
- Review any risks in the project log and assess their impact on the stage plan for the initiation stage. If any new risks are identified (or existing ones have changed), update the project log.

13.4.8 Request project initiation

To finish the process of starting up a project, the project manager contacts the project board to request project initiation. The formal justification in the outline business case and project brief is presented to the project board.

Recommended actions:

- Brief the project board on the outline business case, project product, project approach, the project management team appointments, and initiation stage activities and controls.
- Formally request authority from the project board to initiate the project to secure the people and resources required.

13.5 Applying the process

13.5.1 General considerations

The activities in this process may be combined, split, or run concurrently to suit the context, but care should be taken to ensure the integrity of the connection with the process of directing a project when a request to initiate a project is submitted.

At this point in the project lifecycle, it may not always be clear what output the project is intended to create; if this is the case, it should at least be clear what business problem is to be solved or what outcome is required.

Consideration should be given to the value of co-creation of the outline business case, project brief, and initiation stage plan with prospective users and stakeholders to increase understanding and buy-in of the proposed approaches (see Chapter 3).

13.5.2 Tailoring roles in starting up a project

It is good practice to appoint the project manager as early in this process as possible, but if a project manager has not been appointed until later in the process, the required management products may be created by the project executive or anyone appointed by them. Similarly, the project executive does not need to create the outline business case personally but may have another person create this on their behalf. The single point of accountability for each role's duty should be maintained.

For more guidance on roles, see Chapter 6.

13.6 Responsibilities

Table 13.2 summarizes the accountability and responsibility for completing each activity in the process along with who should be consulted and informed.

Table 13.2 RACI chart for starting up a project

Activity	Business layer	Project executive	Senior user	Senior supplier	Project manager	Team manager	Project assurance	Project support
Appoint the project executive and project manager	A/R ¹	R						
Assess previous lessons	C	A			R			
Prepare the outline business case	C	A/R	C ³	C ³	R			
Appoint the project management team	A	R						
Select the project approach		A	C	C	R	C ²	C	
Assemble the project brief		A	C	C	R		C	C
Plan the initiation stage		A	C	C	R	I ²	C	C
Request project initiation		A	C	C	R	I ²	C	I

R = Responsible, A = Accountable, C = Consulted, I = Informed

A/R¹: Business is accountable for the appointment of the project executive and the project manager. They are also responsible for appointing the project executive.

C² / I² : If any team managers have been identified when designing and appointing the project management team, then it is good practice to consult them on the project approach and inform them of key details in the stage plan for the initiation stage should they be involved in that stage.

C³ if/when appointed

13.7 Application of the practices to this process

Table 13.3 summarizes how each practice supports the activities of the process of starting up a project.

Table 13.3 Application of the practices to the starting up a project process

Practice	Application to the starting up a project process
Business case	The business case is developed in outline and forms part of the project brief based on the understanding gained from the project mandate and lessons learned and consulting with the business and prospective users.
Organizing	The project executive and project manager are appointed by the business who then determine the project management team structure they need for the project and appoint people to the roles needed to initiate the project.
Plans	<p>Key milestones that are known at this early point will be captured in the project brief.</p> <p>The project executive and project manager will develop the project approach that will later be used after this process to inform the delivery method and the project plan. The number of stages may be identified at this point and may also be recorded in the project approach.</p> <p>The project manager will prepare a stage plan for the initiation stage detailing the products and work required to successfully initiate the project as well as the timescales and costs for the stage.</p>
Quality	The users' quality expectations as well as any specifications or standards that are known at this early point are captured and recorded in the project product description. The users' quality expectations will be further refined after this process when initiating the project and when planning each stage through the development of individual product descriptions.
Risk	High level risks are captured and included in the project brief.
Issues	High level issues are captured and included in the project brief.
Progress	<p>Any known tolerances for the project will be identified and included in the project brief. These will be refined and approved after this process.</p> <p>Tolerances for the initiation stage will be identified and included in the stage plan for approval.</p>



CHAPTER 14

DIRECTING A PROJECT



CHAPTER 14

DIRECTING A PROJECT

14.1 Purpose

The purpose of the process of directing a project is to enable the project board to be accountable for the project's success by making key decisions and exercising overall control while delegating day-to-day management of the project to the project manager.

14.2 Objectives

The objectives of the directing a project process are to ensure:

- There is authority to initiate the project.
- There is authority to deliver the project product.
- Appropriate management direction and control are provided throughout the project's life.
- The project remains viable.
- The business layer has a connection to the project.
- There is authority to close the project.
- Plans for realizing the post-project benefits are managed and reviewed.

14.3 Context

Figure 14.1 provides an overview of the process of directing a project. This process starts on completion of the process of starting up a project and is triggered by the request to initiate a project.

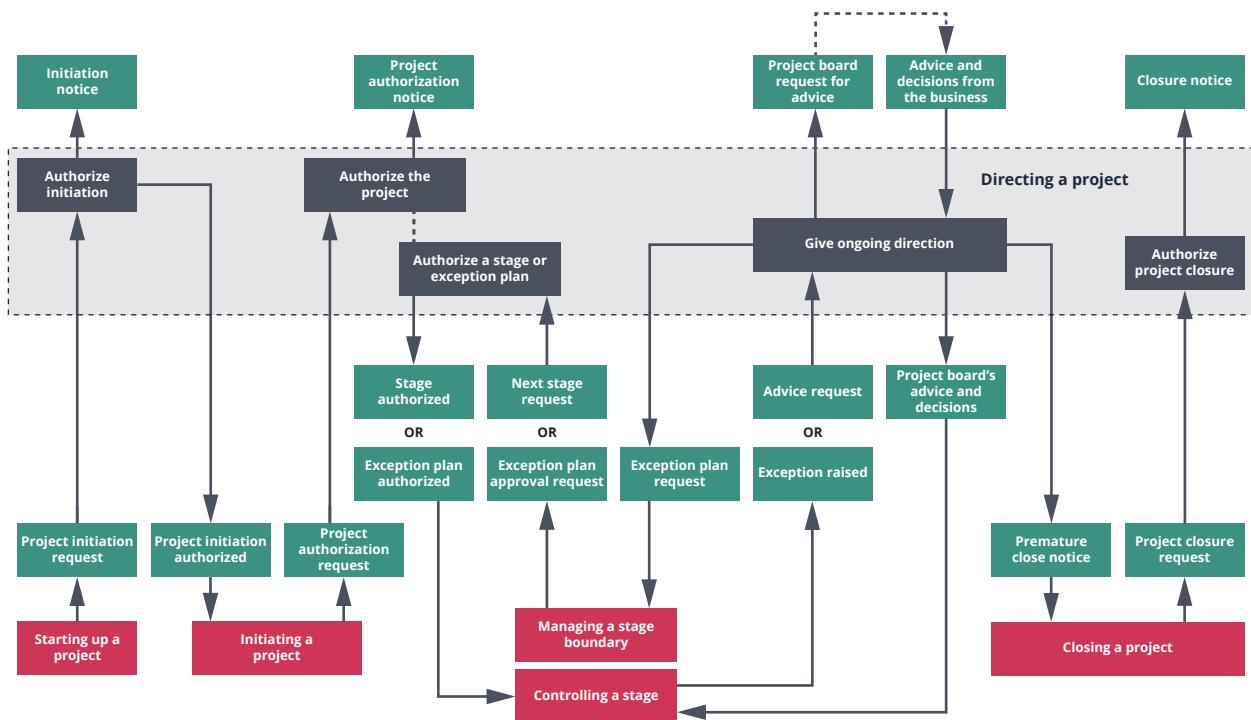


Figure 14.1 Overview of directing a project

The process of directing a project covers the activities of the project board and is not concerned with the day-to-day activities of the project manager. The project board manages by exception. It monitors via reports and controls through a small number of decision points. There should be no need for other progress meetings for the project board, as the project manager will inform the board of any exception situation. It is also important that levels of authority and decision-making processes are clearly defined and empower the project manager and team managers.

There needs to be a two-way flow of information between the project board and the business layer during the project. The project board must ensure that the project always remains aligned with the business layer's strategy.

A key role of the project board is to engage with the business layer and act as a communication channel. The requirement for the project board to act as a communication channel, and how it is going to do this should be documented in the communication management approach.

The project board should provide unified direction and guidance to the project manager. If the project board is unable to provide a single view, then the risk of project failure significantly increases, as the project manager may act on contradictory requirements and priorities. In such cases, the project executive makes the decision.

The process of directing a project provides a mechanism for the project board to meet its responsibility for ensuring there is continued business justification without being overburdened by hands-on project management activity. It also provides a mechanism to avoid the project board micromanaging the project manager.

One of the functions of the project board is to provide informal advice and guidance as well as formal direction to the project manager. This is two-way, with the project board updating the project manager on matters external to the project and the project manager seeking advice whenever necessary during the course of the project.

Table 14.1 Inputs, activities, and outputs for directing a project

Input	Activities	Output
Project initiation request (triggers this process) Outline business case (review) Project brief (review) Project product description (review) Stage plan (initiation) (review)	Authorize initiation	Outline business case (approved) Project brief (approved) Project product description (approved) Stage plan (for initiation) (approved) Initiation notice Project initiation authorized (triggers the process of initiating a project)
Project authorization request (triggers this process) Project initiation documentation (review) Business case (review)	Authorize the project	Project initiation documentation (approved) Business case (approved) Project authorization notice
Next stage request (triggers this process) Exception plan approval request (triggers this process) End stage report (review) Stage plan (for next stage) (review) Project plan (check) Business case (check)	Authorize a stage or exception plan	End stage report (approved) Stage plan (for next stage) (approved) Project plan (updated, if required) (approved) Business case (updated, if required) (approved) Stage or exception authorized (triggers the process of controlling a stage) Project initiation documentation (updated, if required) (approved)
Advice request (triggers this process) Exception raised (triggers this process) Lessons report (review) Highlight report (review) Issue report (review) Exception report (review) Business case (check)	Give ongoing direction	Exception plan request (triggers the process of managing a stage boundary) Project board's advice and decisions (triggers the process of controlling a stage) Premature close notice (triggers the process of closing a stage)
Project closure request (triggers this process) End project report (review) Business case (confirm)	Authorize project closure	Project closure notice

14.4 Activities

14.4.1 Authorize initiation

Projects take time and cost money to initiate, so the activities for initiation should be planned, monitored, and controlled. The project board activity to authorize initiation ensures such investment is worthwhile.

When a request to initiate a project is received from the project manager (following the process of starting up a project), the project board must decide whether to allow the project to proceed to the initiation stage. This may be done either with or without a formal project board meeting or without a formal meeting, as long as all members are in agreement, and the project manager is given documented instruction from the project executive to proceed with initiation. The project board may delegate project assurance by instructing a person or group to undertake some of the reviewing and assessing actions (such as inspecting the initiation stage plan to confirm it is viable). Where project assurance activities are delegated, the project board remains accountable.

Recommended actions for the project board:

- Check that the project approach aligns with business policies.
- Review and approve the project brief and the project product description.
- Check that the outline business case demonstrates a viable project that aligns to business strategy.
- Review and approve the stage plan for the initiation stage. Set tolerances for the stage.
- Inform all stakeholders and the impacted sites that the project is being initiated and request any necessary logistical support (such as communication facilities, equipment, and any project support) sufficient for the initiation stage.
- Authorize the project manager to proceed with the initiation stage.

14.4.2 Authorize the project

This activity will be triggered by a request from the project manager for authorization to deliver the project and may be undertaken in parallel with authorizing a stage or exception plan (see section 14.4.4).

The objective of authorizing the project is to decide whether to proceed with the rest of the project. The project board has to confirm that:

- A robust business case exists, and it shows a viable project.
- The project plan and the benefits management approach demonstrate the project is able to deliver the business case.
- The management approaches and controls support delivery of the project plan.

If the project is not authorized by the project board, then it should be prematurely closed (see Chapter 19).

The project board may delegate project assurance by instructing a person or group to undertake some of the reviewing and assessing actions, such as inspecting the communication management approach to confirm all stakeholders are covered. Where project assurance activities are delegated, the project board remains accountable.

Recommended actions for the project board:

- review and approve the project initiation documentation
- confirm tolerances for the project
- confirm that lessons from previous similar projects have been reviewed and addressed
- confirm that there has been a review of the risks and that risk responses for both threats and opportunities are appropriate and planned
- obtain or commit the people and resources needed by the project (these will be provided to the project manager stage by stage)
- notify the business and other interested parties that the project has been authorized
- authorize the project manager to deliver the project or instruct the project manager to close the project prematurely if a decision is made not to proceed.

14.4.3 Give ongoing direction

Project board members must offer informal guidance or respond to requests for advice at any time during a project. The need for consultation between the project manager and project board is likely to be especially frequent during the initiation stage and when approaching stage boundaries.

Ongoing direction may be given collectively or by individual project board members. There are a variety of circumstances that trigger ongoing direction, including:

- general advice on the project (for example, explaining the business' sustainability objectives and ESG reporting requirements relevant to the project)
- responding to requests (for example, when options need clarifying or where areas of conflict need resolving)
- responding to reports (for example, highlight reports, exception reports, and issue reports)
- responding to external influences (such as changes in business priorities)
- project board members' individual concerns
- responding to changes in project board composition (which may also require business approval).

If an exception has occurred during the stage, the project board may request that the project manager produces an exception plan for the project board's approval. Only exceptions to stage plans need to be escalated for approval by the project board; deviations from the project plan need business approval. Work package level exceptions are managed by the project manager using the process of controlling a stage (see Chapter 16). If approved, the exception plan will replace the plan that is in exception and will become the new baselined plan.

It is also possible that the business revises the project mandate in response to events external to the project or instructs the project board to close the project. The project board has two primary options should the business decide to change the project mandate:

- Treat it as a request for change (see Chapter 10), asking the project manager to replan the stage or project.
- Stop, trigger a premature close (see Chapter 19), and then start a new project to meet the changed project mandate. This may result in additional costs compared with the request-for-change option.

The project board may delegate project assurance by instructing a person or group to undertake some of the reviewing and assessing actions, such as inspecting a request for change to confirm that the impact has been adequately assessed. Where project assurance activities are delegated, the project board remains accountable. When making decisions, it is important to consider the impact on all stakeholders (as identified in the communication management approach).

Recommended actions for the project board:

- In response to informal requests for advice and guidance, seek advice (if needed) and assist the project manager.
- In response to an escalated issue (see Chapter 10), seek advice (if needed) and make a decision. If the issue is off-specification then the response is either to reject it, which means the project management team or supplier will need to complete the relevant product, or to grant a concession, which means the incomplete product is accepted.
- In response to an exception report (see Chapter 11), seek advice (if needed) and make a decision.
- In response to the receipt of a highlight report (see Chapter 11), review and take actions as necessary.
- In response to advice and decisions from the business, notify the project manager of any changes.

14.4.4 Authorize a stage or exception plan

It is important that a stage starts only when the project board says it should. The project board authorizes a stage by reviewing the performance of the current stage and approving the stage plan for the next stage. Approval of stage plans occurs prior to every stage.

The project board delegate project assurance by instructing a person or group to undertake some of the reviewing and assessing actions, such as inspecting the stage plan to confirm it is viable. Where project assurance activities are delegated, the project board remains accountable.

Recommended actions for the project board:

- Review and approve the end stage report.
- Review the stage plan or exception plan for which the project manager is seeking approval.
- Make a decision to approve the plan or ask the project manager to revise the rejected plan, or instruct the project manager to initiate premature closure of the project.
- Communicate the status of the project to the business and keep other interested parties informed about project progress (in accordance with the communication management approach).

14.4.5 Authorize project closure

The controlled close of a project is as important as the controlled start. There must be a point when the objectives in the original and current versions of the project initiation documentation and project plan are assessed in order to understand:

- whether the objectives have been achieved
- how the project has deviated from its initial basis
- that the project has nothing more to contribute.

Without this approach, there is a risk that the project fails to close down in a controlled way without completing the handover to the business, and the original focus on benefits will be lost. There is a risk that the team is not fully released for new work.

Authorizing closure of the project is the last activity undertaken by the project board, prior to its own disbandment, and may require endorsement from the business. The project board may request project assurance to undertake some of the reviewing and assessing actions, such as inspecting the end project report to confirm it is accurate.

Recommended actions for the project board:

- Review the original and current versions of the project initiation documentation to understand the project's initial baseline and current approaches and controls.
- Review and approve the end project report.
- Ensure that post-project benefits reviews defined by the updated benefits management approach cover the performance of the project product in operational use in order to identify whether there have been any side effects (beneficial or adverse).
- Review and gain approval for the updated benefits management approach, ensuring that it addresses the expected benefits that cannot yet be confirmed. (As the benefits management approach includes resources beyond the life of the project, responsibility for the approach needs to be transferred to the business.)

- Confirm the updated business case by comparing the actual and forecast benefits, costs, and risks against the outline business case that was used to justify the project (it may not be possible to confirm all the benefits as some will not be realized until after the project is closed).
- Review and issue a project closure notification in accordance with the communication management approach. The project board advises those who have provided the support infrastructure and resources for the project that these can be withdrawn. This should indicate a closing date for costs being charged to the project.
- Ensure that off-boarding of all remaining project team members is handled in a correct way (see Chapter 3).

14.5 Applying the process

The project executive is responsible for all the activities in this process, but the actual work may be done by others. It should be noted, however, that the project manager should not take any decisions or give approval or direction on matters that are the responsibility of the project executive. The roles of project executive and project manager must be kept separate.

In some contexts, the decision at stage boundaries, particularly when funds are released for the next stage, may be taken by a role at a higher level than the project executive, such as in a programme, portfolio, or business layer context. For this reason, the 'authorize a stage or exception plan' activity may be treated as a separate process in a tailored PRINCE2 process model.

For more guidance on roles, see Chapter 6.

14.6 Responsibilities

Table 14.2 summarizes the accountability and responsibility for completing each activity in the process along with who should be consulted and informed.

Table 14.2 RACI chart for directing a project

Activity	Business layer	Project executive	Senior user	Senior supplier	Project manager	Team manager	Project assurance	Project support
Authorize initiation	I	A/R						
Authorize the project	I	A/R	C	C	I	I	C	I
Give ongoing direction	C	A/R ¹	R ²	R ³	C/I	I	C	I
Authorize a stage or exception plan	I	A/R	C	C	I	I	C	I
Authorize project closure	I	A/R	C	C	I	I	C	I

R = Responsible, A = Accountable, C = Consulted, I = Informed

R¹: Business related; R²: User related; R³: Supplier related

14.7 Application of the practices to this process

Table 14.3 summarizes how each practice supports the activities of the process of directing a project.

Table 14.3 Application of the practices to the directing a project process

Practice	Application to the directing a project process
Business case	<p>The project board provides input to the business case to ensure it is desirable, viable, and achievable and that the proposed option aligns with the business strategy.</p> <p>The outline business case within the project brief is reviewed to check whether it is worthwhile to initiate the project and if so, the project board provides their approval.</p> <p>The full business case is reviewed to check whether it is worthwhile to authorize the project and the next stage. If so, the project board provides their approval. When asked to authorize project closure, the project board reviews the full business case to confirm the performance of the project against the business case.</p> <p>The project board approves the initial and any updated versions of the benefits management approach and sustainability management approach for alignment to the business case and business strategy. The project board agrees project level benefits and sustainability tolerance with the business and sets stage level tolerance for them.</p>
Organizing	<p>The three stakeholder interests of user, business, and supplier are represented on the project board by senior leaders with the right level of authority for the nature and scale of the project and credibility across the project ecosystem.</p> <p>The project board approves the initial and any updated versions of the project management team structure and role descriptions, commercial management approach, communication management approach, and the change management approach. The project board confirms the proposed delivery model.</p>
Plans	<p>The plans and proposed delivery method are reviewed for alignment to the business case, business strategy, and the timings of key milestones and critical decisions.</p> <p>The project board approves the initial and any updated versions of the project approach, project plan, each stage plan, and any exception plans. The project board commits funding, people, and resources to the plans.</p>
Quality	<p>The senior user on the project board provides the user's quality expectations and acceptance criteria. The project board is responsible for project assurance and ensures that adequate assurance is planned and performed from user, business, and supplier perspectives.</p> <p>The project board approves the initial and any updated versions of the project product description, product descriptions, and the quality management approach.</p> <p>The project board agrees project level quality tolerance with the business and sets product level quality tolerance.</p>
Risk	<p>The project board considers the high-level risks in the project brief prior to authorizing project initiation and in the business case prior to authorizing the project and each stage.</p> <p>The project board agrees project level risk-tolerance with the business, and sets stage level risk tolerance.</p> <p>The project board confirms that the overall level of risk is acceptable throughout the life of the project.</p> <p>The project board approves the initial and any updated versions of the risk management approach.</p>
Issues	<p>The project board approves the initial and any updated versions of the issue management approach. The project board provides timely response to issue reports and provides ongoing direction to the project manager.</p> <p>The project board considers whether and how to delegate change authority and establish a change budget.</p>
Progress	<p>The project board approves the initial and any updated versions of the digital and data management approach.</p> <p>The project board agrees project level time, cost, and scope tolerance with the business, and sets stage level tolerances for them.</p> <p>The project board satisfies themselves that the project is progressing as planned through reviewing and responding to highlight reports provided by the project manager at the agreed frequency.</p> <p>The project board provides timely response to any exception reports and considers whether an exception plan is needed.</p> <p>The project board reviews and approves the end project report and informs the business that the project is closing.</p>



CHAPTER 15

INITIATING A

PROJECT



CHAPTER 15

INITIATING A PROJECT

15.1 Purpose

The purpose of the process of initiating a project is to establish solid foundations for the project, enabling the business to understand the work that needs to be done to deliver the project product before committing to any significant expenditure or resources.

15.2 Objectives

The objectives of the process of initiating a project are to ensure that there is a common understanding of:

- the reasons for doing the project, the benefits expected, and the associated risks (documented in a full business case)
- the scope of what is to be done and the products to be delivered
- how and when the products will be delivered and at what cost
- who is to be involved in the project decision-making
- how the quality required will be achieved
- how baselines will be established and controlled
- how risks and issues will be identified, assessed, and controlled
- how progress will be monitored and controlled
- who needs information, in what format, and at what time
- how the project applies business policies, methods, and guidance.

15.3 Context

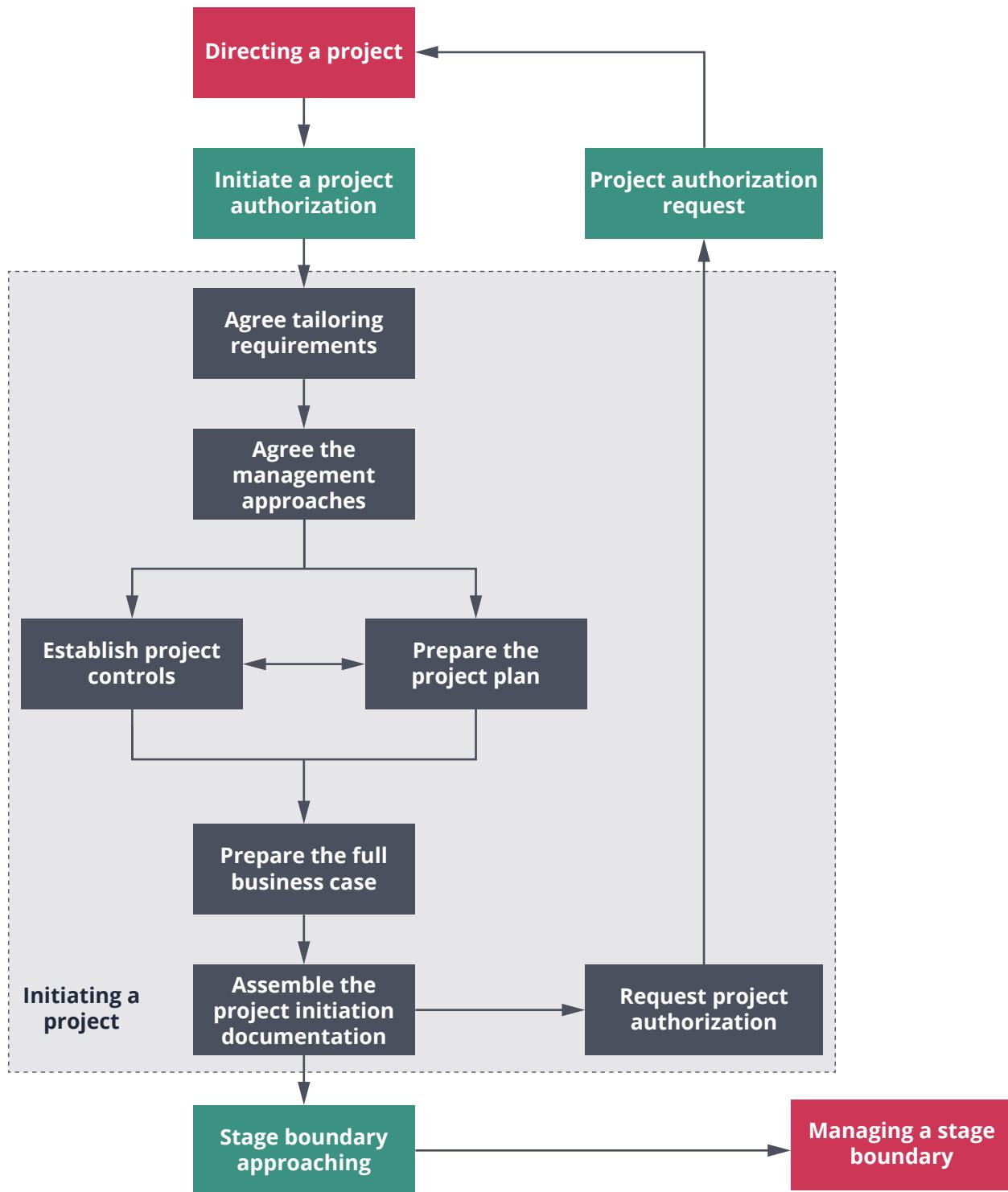


Figure 15.1 Overview of initiating a project

Initiating a project prepares the foundations for achieving a successful project. Specifically, all parties must be clear on what the project is intended to achieve, why it is needed, how the outcome is to be achieved, and what their responsibilities are, so there can be genuine commitment to the project.

The process of initiating a project enables the project board, via the process of directing a project (see Chapter 14), to decide whether or not the project is sufficiently aligned with the business objectives to justify its continuation.

In the process of initiating a project, the project manager will be creating the suite of management products required for the level of control specified by the project board. The project manager should have agreed with the project board how they will review and approve the management products. For example, should they review each management product as they become ready or wait until the full suite of management products are ready to review as a set?

All activities within the process of initiating a project need further consideration if the relationship between the user and the supplier is a commercial one, as the risks, rewards, and reasons for undertaking the project will be different for the user (as the customer) and the supplier.

Table 15.1 Inputs, activities, and outputs for initiating a project

Input	Activities	Output
Project initiation authorized (triggers this process)	Agree tailoring requirements	Management approaches (create)
Project brief (review)	Agree the management approaches	Project plan (create)
Project log (check)	Establish project controls	
Project product description (review)	Prepare the project plan	
Stage plan (initiation) (review)		
Outline business case	Prepare the full business case	Business case (create)
Business case	Assemble the project initiation documentation	Project initiation documentation (create)
Project brief		Project log (update)
Project product description		Stage end approaching (triggers the process of managing a stage boundary)
Project plan		
Management approaches		
Project initiation documentation	Request project authorization	Project authorization request (triggers the process of directing a project)

15.4 Activities

15.4.1 Agree tailoring requirements

The project manager may need to tailor PRINCE2 to recognize the internal and external factors that affect the way in which the project is delivered. The business may already have a standard project management framework, based on a tailored version of PRINCE2, ready to apply to the project. How PRINCE2 or the business' standard project management framework will be applied and/or tailored must be documented and agreed.

Recommended actions for the project manager:

- Review the project brief to understand the outlined tailoring approach (if defined).
- Seek lessons on how to apply tailoring from similar previous projects, businesses, and external organizations.
- Define any tailoring requirements as part of the project initiation documentation including any related project controls.

- Consult with project assurance to check that any proposed tailoring will meet the needs of the project board or business.
- Seek the project board's approval for any tailoring (although the project board may prefer to review it later as part of the project initiation documentation).

15.4.2 Agree the management approaches

The activities to establish the approaches for the project may be executed in parallel, but it is recommended that the communication management approach is completed last, as it will need to include the communications required by the other approaches.

The management approaches are derived from business strategies, standards, or practices that the project needs to comply with and the users' quality and sustainability expectations captured in the project product description. When the approaches have been defined, it is possible to establish the project controls and create the project plan. The nine different management approaches are:

- change management approach (see Chapter 3)
- communication management approach (see Chapter 3)
- sustainability management approach (see Chapter 5)
- benefits management approach (see Chapter 5)
- commercial management approach (see Chapter 6)
- quality management approach (see Chapter 8)
- risk management approach (see Chapter 9)
- issue management approach (see Chapter 10)
- digital and data management approach (see Chapter 11).

Recommended actions for the project manager:

- Review how PRINCE2 will be tailored and its implications for the management approaches.
- Review the project brief to understand whether any business strategies, standards, or practices relating to management approaches need to be applied during the project (including any that are contractual requirements).
- Seek lessons related to the management approaches from similar previous projects, business, and external organizations. (Some of these may already have been captured in the project log.)
- Review the project log for any issues and risks related to the management approaches.
- Update the project log if any new risks or issues are identified (or existing ones have changed).
- Consult with project assurance to check that the proposed management approaches meet the needs of the project board or business.
- Seek the project board's approval for the management approaches (although the project board may prefer to review them later as part of the project initiation documentation).

15.4.3 Establish project controls

The level of control required by the project board after initiation needs to be agreed, and the mechanism for such controls needs to be established, as does the level of control required by the project manager of the work to be undertaken by team managers. Project controls enable the project to

be managed in an effective and efficient manner that is consistent with the scale, risks, complexity, and importance of the project.

Effective project controls are a prerequisite for managing by exception. Project controls can include:

- the frequency and format of communication between and within the project management layers (see Chapter 6)
- the number of stages (see Chapter 7)
- mechanisms to capture and analyse issues (see Chapter 10)
- setting tolerances for delegated authority (see Chapter 10)
- how delegated authority from one level of management to another will be monitored (see Chapter 11)
- mechanisms to escalate exceptions (see Chapter 11).

Many of these controls would have been defined in the management approaches but not necessarily established. The focus of this activity is to establish such controls and to make sure that they make sense as a coherent set.

Recommended actions for the project manager and project support:

- Confirm the delivery method (linear-sequential, iterative-incremental, hybrid), and assess its implications for project controls.
- Review how PRINCE2 will be tailored and included in the project initiation documentation and its implications for project controls.
- Review the management approaches to identify which controls need to be established.
- Actively seek lessons related to project controls from similar previous projects, business, and external organizations: some may have been captured in the project log.
- Review the project log for risks and issues associated with project controls. (The aggregated set of risks will have an impact on the scale and rigour of control activities.)
- Confirm and document the stage boundaries required to provide the appropriate level of control.
- Allocate the various levels of decision-making required within the project to the most appropriate project management level.
- Establish any decision-making procedures that may be appropriate, possibly by tailoring procedures within an existing quality management system or other standard procedures.
- Build the agreed decision-making authority and responsibility into the project management team structure and role descriptions where appropriate; this may include finalizing any roles not previously allocated, reallocating roles previously filled and, if necessary, redesigning the project management team to include all needed stakeholders and to build a coherent team (see Chapter 3 and Chapter 6).
- Confirm the tolerances for the project and the escalation procedures (from team managers to project manager, project manager to project board, and project board to business).
- Summarize the project controls in the project initiation documentation.
- Consult with project assurance to check that the proposed project controls are consistent with the nature of the project and meet the needs of the project board or business.
- Update the project log if any new risks or issues are identified (or existing ones have changed).
- Seek the project board's approval for the project controls (the board may review them later as part of the project initiation documentation).

15.4.4 Prepare the project plan

Before committing to major expenditure on the project, the timescale, resource, and people requirements must be established. This information is held in the project plan and is needed so that the benefits management approach can be prepared, and the project board can control the project.

Planning is not an activity that the project manager performs in isolation but something that should be done with close involvement of the users and suppliers to co-create the project plan. It is often useful to hold planning workshops to help identify all the products required, their details, and the dependencies between them.

Recommended actions for the project manager:

- Confirm the delivery method (linear-sequential, iterative-incremental, hybrid), and assess its implications for planning.
- Review the project brief to understand scope and any planning requirements.
- Review how PRINCE2 will be tailored for the project and included in the project initiation documentation and its implications for planning.
- Seek lessons related to planning from similar previous projects, business, and external organizations. (Some of these may already have been captured in the project log.)
- Review the project log for risks and issues associated with planning.
- Identify any planning and control tools to be used by the project, and document how they will be used in the project plan.
- Choose the methods of estimating for the project's plans.
- Review the management approaches to understand the resources, standards, methods, and costs for the work to be performed.
- Create a product breakdown structure for the project product and its major components, write product descriptions for these, and devise a product flow diagram (include them all in the project plan).
- Identify the arrangements for the transition of the project product into operational use. (If the project product is likely to require maintenance when operational, then plan for a suitable service agreement should be drawn up between the support group and the user; in such instances, it will be necessary to include any agreement as a product in the project plan.)
- Consider whether the project product description needs to be updated (for example, if the understanding of the acceptance criteria has changed or been refined in the course of initiating the project).
- Create or update the product register records in the project log for each product to be delivered by the plan.
- Identify and confirm people and resources required.
- Confirm the selected people's availability, their acceptance of these roles, and their commitment to execute them (see Chapter 6 for more details).
- Identify the activities, resources, people, and timings for the project controls and include them in the plan.
- Document and decide the format and presentation of the project plan, bearing in mind the audience for the plan and how it will be used (for example, it may be sufficient to use a product checklist for presenting the plan to the project board). (See the product description for a plan in Appendix A, section A10, for more information.)

- Consult with project assurance to check that the proposed project plan meets the needs of the project board or business.
- Update the project log if any new risks or issues are identified (or existing ones have changed).
- Seek the project board's approval for the project plan (although the project board may prefer to review it later as part of the project initiation documentation).

15.4.5 Prepare the full business case

The outline business case produced during starting up a project needs to be updated to reflect the estimated time and costs, as determined by the project plan, and the aggregated risks from the updated project log.

Preparing the full business case is not an activity that the project manager performs in isolation but something that should be done with close involvement of the project executive to co-create the business case. The full business case will be used by the project board to authorize the project and provides the basis of the ongoing check that the project remains viable. (For more details on business justification, see Chapter 5.)

Recommended actions for the project manager:

- Review the project brief to check whether there are any business requirements for the format and content of a business case.
- Seek lessons related to business case development from similar previous projects, business, and external organizations. (Some of these may already have been captured in the project log.)
- Create a more detailed business case with the additional detail gained.
- Update the project log if any new risks or issues are identified (or existing ones have changed).
- Consult with project assurance to check that the proposed business case meets the needs of the project board or business.
- Seek the project board's approval for the business case (although the project board may prefer to review them later as part of the project initiation documentation).

15.4.6 Assemble the project initiation documentation

There needs to be a focal point at which all information relating to the what, why, who, how, where, when, and how much of the project is:

- gathered for agreement by the key stakeholders
- available for guidance and information for those involved in the project.

This information is collated in the project initiation documentation. The project initiation documentation is an aggregation of many of the management products created or updated during initiation and used to gain authorization for the project to proceed. It is not necessarily a single document but a collection of documents or other forms of information (such as a workbook or contents of a project management tool).

The version of the project initiation documentation created during the process of initiating a project and used to gain authorization for the project to proceed must be baselined and should be placed under change control. It will be used later as a means to compare the project's actual performance against the original forecasts that formed the basis of approval.

Recommended actions for the project manager:

- Extract and, if necessary, revise information from the project brief.
- Include or reference information in the:
 - project's management team structure and role descriptions
 - business case
 - management approaches
 - project plan.
- Include or reference the project controls and summarize how the project has tailored PRINCE2.
- Assemble the project initiation documentation.
- Perform a cross-check of the information in the various elements to ensure that they are compatible.
- Consult with project assurance to check that the assembled project initiation documentation meets the needs of the project board or business.
- Prepare for the next stage (which triggers the managing a stage boundary process).

15.4.7 Request project authorization

To finish the process of initiating a project, hence the initiation stage, the project manager contacts the project board to request project authorization. The formal justification can be found in the business case and the project initiation documentation.

Recommended actions for the project manager:

- Share the final version of the business case, the project initiation documentation, and the project plan with the project board.
- Formally request authority from the project board to deliver the project to secure the people and resources required.

15.5 Applying the process

15.5.1 General considerations

The activities in this process may be combined, split, or run concurrently to suit the project's circumstances.

The number of management products created in this process can look daunting and together may imply a level of detail that is not always needed. This process lays the foundation and tailoring for the project is primarily decided at this point.

Tailoring is needed to suit a project's circumstances, but it may not always be obvious what the relevant factors are at the start of initiation. At such an early stage in the project, there may not be enough information; tailoring needs will emerge as the initiation work progresses. For this reason, it is better to start simple and then elaborate if needed, rather than creating a management environment suitable for a hypothetical major project.

Some projects are too complex to have a full definition of the project's output (and hence a project's final products) agreed by the end of this process. In such cases, it is common to have a project lifecycle with a number of investigative stages to look at options and choose a solution. In these situations, the process of initiating a project is only used at the start of the first stage to establish the management and control environment.

15.5.2 Tailoring roles in initiating a project

This book shows that the project manager is responsible for the creation of the management products. Project support may be responsible for some supporting products, but in all cases, the project manager is responsible to the project executive for how the project is run. The project manager may therefore assign the various roles to whoever is appropriate for the tasks. Often, support may be provided by a higher-level programme office or a similar setup.

For more guidance on roles, see Chapter 6.

15.6 Responsibilities

Table 15.2 summarizes the accountability and responsibility for completing each activity in the process along with who should be consulted and informed.

Table 15.2 RACI chart for initiating a project

Activity	Business layer	Project executive	Senior user	Senior supplier	Project manager	Team manager	Project assurance	Project support
Agree tailoring requirements	A	C	C	R	C	C	C	I
Agree the management approaches	A	C	C	R	C	C	C	I
Establish project controls	A	C	C	R	C	C	C	I
Prepare the project plan	A	C	C	R	C	C	C	C
Prepare the full business case	A	C	C	R	C	C	C	I
Assemble the project initiation documentation	C	C	C	A	C	C	C	R
Request project authorization	I	A	C	C	R	I	C	I

R = Responsible, A = Accountable, C = Consulted, I = Informed

15.7 Application of the practices to this process

Table 15.3 summarizes how each practice supports the activities of the process of initiating a project.

Table 15.3 Application of the practices to the process of initiating a project

Practice	Application to the process of initiating a project
Business case	The outline business case in the project brief is developed further into a full business case ready for approval by the project board based on a better understanding of the project and the proposed option. The benefits management approach and sustainability management approach are developed to support the business case and provide input for establishing controls.
Organizing	The project management team structure is updated with further detail on levels of authority delegated from one layer to the next, and the rest of the project management team are appointed and onboarded. A work breakdown structure is considered based on the project plan to provide information about the organization of work into teams and determine which elements will be externally supplied. The communication management approach, change management approach, and commercial management approach are created and provide input for establishing project controls.
Plans	The project product description is used to develop a product breakdown structure and a product flow diagram that are then used to create the project plan. The project plan defines the stages required for the project. The product register is created.
Quality	Product descriptions are created, and the project product description is updated if necessary. The quality specifications in the product descriptions help with the creation of the quality management approach, which provides input for establishing controls. The quality register is created.
Risk	The risk management approach is created for providing input for establishing project controls. The risk register is created based on the categories, and the grading system is defined in the risk management approach. Risks identified in the business case, project plan, and elsewhere are logged in the risk register and assessed. A risk budget is considered and created if needed.
Issues	The issue management approach is created for providing input for establishing project controls for change control and issue management. The issue register is created based on the categories, and the grading system is defined in the issue management approach. Issues identified in the business case, project plan, and elsewhere are logged in the issue register and assessed. A change budget is considered and created if needed.
Progress	The digital and data management approach is created for providing input for establishing project controls. The project controls for all the management approaches are established and provide a foundation for progress management. Highlight reports are used to show progress for the initiation stage.



CHAPTER 16

CONTROLLING A

STAGE



CHAPTER 16

CONTROLLING A STAGE

16.1 Purpose

The purpose of the process of controlling a stage is to assign work, monitor such work, handle issues, report progress to the project board, and take corrective actions to ensure that the stage remains within the tolerances set by the project board.

16.2 Objectives

The objectives of the process of controlling a stage are to ensure that:

- Attention is focused on delivery of the stage's products; any movement away from the products and delivery method that was agreed at the start of the stage is monitored to avoid uncontrolled change.
- Risks and issues are controlled.
- The business case is kept under review.
- The agreed products for the stage meet the agreed quality expectations and are accepted.
- The project management team focus on delivery within the established tolerances.

Freedom should be given to the team managers, when possible, using the tolerances so that escalations can be minimized. In the same way, the project manager should discuss their own tolerances with the project board to avoid unnecessary escalations and gain freedom to act and learn. Hence, the project manager acts as a facilitator rather than a controller.

16.3 Context

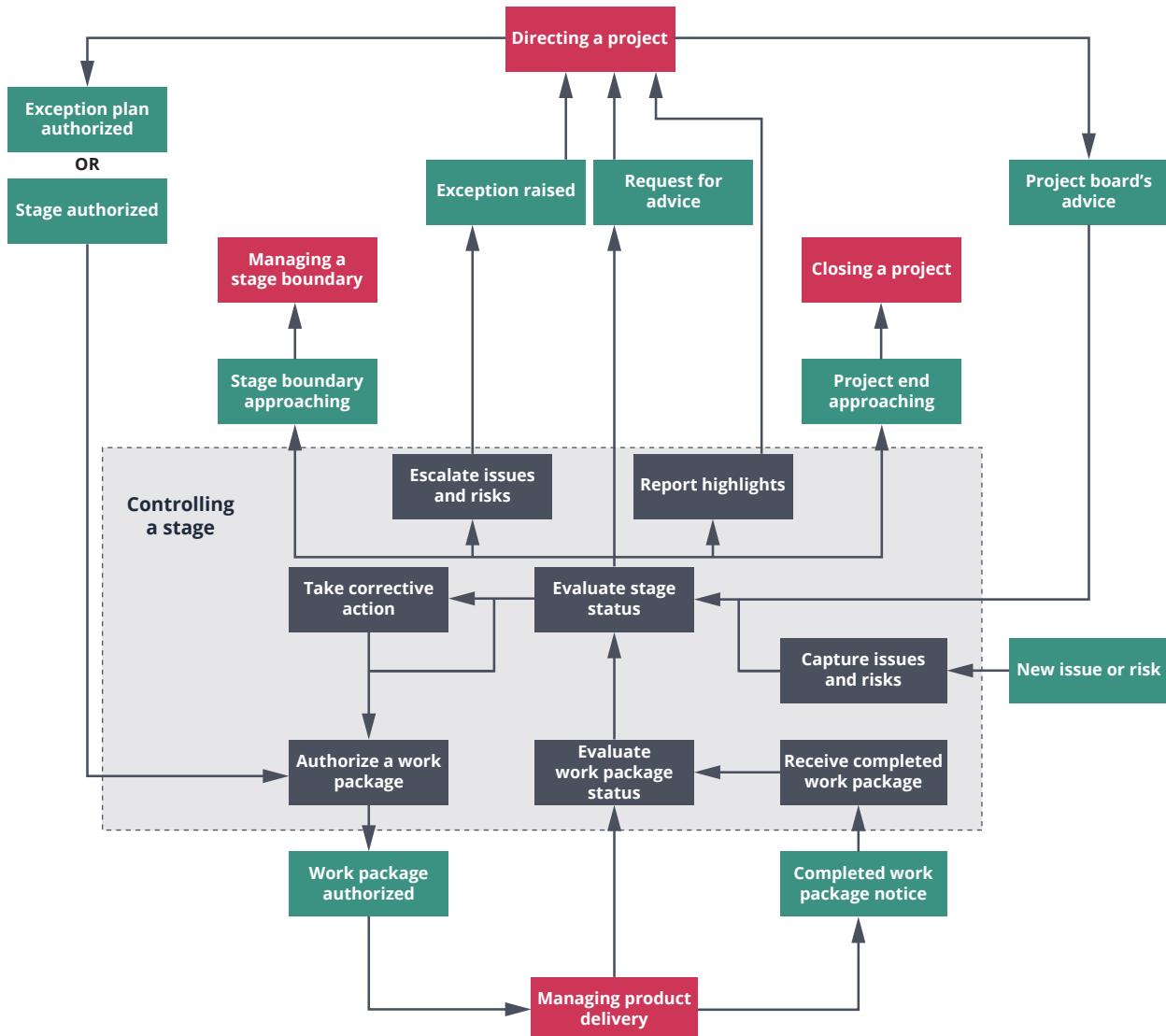


Figure 16.1 Overview of controlling a stage

The process of controlling a stage describes the project manager's day-to-day management of the stage; this process will be used for each stage of a project. The activities within the process of managing a stage boundary will occur towards the end of each stage (see Chapter 18), with the exception of the final stage.

Normally the process of controlling a stage is used first after the project board authorizes the project, but it can be used during the initiation stage, especially for large or complex projects.

Work package descriptions are used for defining, assigning, and controlling the work to be done, as well as setting tolerances for the team managers. If the project manager is fulfilling the team manager role, work package descriptions should still be used to define and control the work of the individual team members. When this is the case, references to the team manager throughout the process of controlling a stage should be regarded as references to the individual team member assigned with the work.

The day-to-day control of the work conducted is central to the ultimate success of the project. Throughout a stage, this will consist of a cycle of:

- authorizing work
- monitoring progress information about that work, including accepting completed work packages
- reviewing the situation, including that for product quality, and triggering new work packages
- reporting highlights to the project board at an agreed frequency
- observing, assessing, and handling issues and risks
- taking any necessary corrective action to remain within tolerances.

Towards the end of the last stage, the process of closing a project will be triggered (Chapter 19).

Table 16.1 Inputs, activities, and outputs for controlling a stage

Inputs	Activities	Outputs
Stage authorized (triggers this process) Exception plan authorized (triggers this process) Project initiation documentation (review) Team plan (review) Stage plan (review)	Authorize a work package	Project log (update) Work package description (create, amend, approve) Work package authorized (triggers the process of managing product delivery)
New issue or risk (triggers this process) Work package description (review) Team plans (review) Checkpoint reports (review)	Evaluate work package status Capture issues and risks Take corrective action	Project log (update) Stage plan (update) Issue reports (create, if required) Request for advice (triggers the process of directing a project)
Completed work package notice (triggers this process) Work package description(s) (review)	Receive completed work package	Project log (update)
Project board's advice (triggers this process) Highlight report (previous period) (review) Stage plan (review) Checkpoint reports (review) Project log (review)	Evaluate stage status Report highlights	Project log (update) Highlight reports (create for each period) Stage end approaching (triggers the process of managing a stage boundary) Project end approaching (triggers the process of directing a project)
Stage plan (review) Project plan (review)	Escalate issues and risks	Exception reports (create) Exception raised (triggers the process of directing a project)

16.4 Activities

16.4.1 Authorize a work package

The degree of autonomy people require to deliver project work needs to be balanced with the need to coordinate timing of when work starts and by when work should be completed. Project work should only commence and continue with the consent of the project manager. Otherwise, the working environment would be chaotic if people started performing activities whenever they chose. The vehicle for ensuring the coordinated timing of project work is the authorization, execution, and delivery of a work package.

A work package should cover the work to create one or more products. If a product requires more than one work package to create it, then it should be broken down into further sub-products with their supporting product descriptions.

The triggers for the project manager to authorize a work package include the following actions:

- **Stage authorization** The project board gives authority to execute a stage plan.
- **Exception plan approved** The project board gives authority to execute an exception plan.
- **New work package required** An output is derived from evaluate stage status (see section 16.4.4).
- **Corrective action** It is taken in response to an issue or risk.

This activity is used to authorize new work packages or to authorize amendments to existing ones.

Recommended actions for the project manager:

- Examine the project initiation documentation and the stage plan to determine the work packages required.
- Define each work package to be authorized (or amended).
- Build a working relationship with the team manager (see Chapter 3).
- Co-create and review the work package description with the team manager, confirm they have accepted it, and authorize the team manager to begin work (see Chapter 17). For projects using an iterative-incremental delivery method, the co-creation of the work package description may be a joint exercise with the team manager, development team, and product owner.
- Review the team manager's team plan (if the commercial environment means it is inappropriate for the project manager to see its contents, use the milestone extract from it) and update the stage plan to reflect the timing of the work packages authorized.
- Update the project log to reflect the content of the work packages authorized.
- Update the project log for planned quality management activities.
- Consult with project assurance that the identified and selected quality reviewers are acceptable.
- If necessary, update the project log in accordance with the management approaches.

16.4.2 Evaluate work package status

This activity provides the means for regular assessment of the status of the work package. The frequency and formality of this activity will usually be aligned with the frequency of reporting defined in the work package description and supported by the stage plan for the current stage.

Recommended actions for the project manager for each work package in progress:

- Have informal conversations with the team manager to maintain the relationship (see Chapter 3), and understand any issues or risks they may have with their work package.
- Collect and review progress information from the checkpoint report for the work package being executed.
- If necessary, update the project log.
- Update the stage plan for the current stage with actuals to date, forecasts, and adjustments.

16.4.3 Receive completed work package

When work has been allocated to individuals or teams, there should be a matching confirmation that the work has been completed and approved.

Recommended actions for the project manager:

- Ensure that the team manager has completed the work defined by the work package description, or, if an agile approach is being used, they have delivered the features agreed for the timebox.
- Check the quality register relating to the product to determine if the necessary quality reviews are completed.
- Ensure that each product in the work package has gained its requisite approval (as defined in the quality and sustainability responsibilities in their product descriptions).
- Confirm that the product register record for each approved product has been updated.
- Update the stage plan to show the work package as completed.

16.4.4 Evaluate stage status

There is a danger that the stage will get out of control if it is not checked on a timely basis. There must be a balance between planning ahead and reacting to events.

To make informed decisions and exercise rational control, it is necessary to compare what has actually happened with what was expected to happen and what might happen next (including any issues and risks).

It is therefore essential to have a steady flow of information that provides an overall view of progress and simple, robust monitoring systems to supply that information.

The objective of this activity is to maintain an accurate and current picture of progress on the work performed and the status of resources. The activity occurs at a frequency defined in the stage plan, may be triggered by the project board's advice, or forms part of the analysis of new issues and risks.

Recommended actions for the project manager:

- Review progress for the stage, and decide whether any actions are required.
- Revise the project log as necessary.
- Update the stage plan if the aggregated assessment changes any forecasts.
- Confirm if ownership of any of the products has been transferred to the users as part of a phased handover of the products (see Chapter 19). (Note that there may be multiple handovers throughout the project lifecycle.)
- Consider whether to review lessons now or wait until either a later review of stage status or when approaching a stage end.
- Prepare the next stage if the end of the current stage is approaching, as indicated by, for example, the stage plan, the contents of the project log, or a milestone (see Chapter 18).
- Prepare to close the project if the end of the final stage is approaching (see Chapter 19).

16.4.5 Capture issues and risks

In the course of managing the project, issues will most likely occur, and risks may be identified. They will occur in an unstructured way and should be captured in a consistent and reliable manner. Any member

of the business, project, or other stakeholders may raise an issue or risk. In addition, it is extremely important to ensure psychological safety within the project management team (see Chapter 3). Related issues and risks will have to be addressed immediately and adequately.

Before making a decision on a course of action, each issue or risk should be registered in the project log and then assessed for its impact.

For more details on risk management, see Chapter 9; for more details on issue management, see Chapter 10.

Recommended actions for the project manager:

- In the case of a risk, log and manage the risk in accordance with the risk management approach (see Chapter 9).
- In the case of an issue, log and manage the issue in accordance with the issue management approach (see Chapter 10).
- If it is necessary to take corrective action, seek advice from the project board or escalate an issue or risk. Thereafter, review the stage status first so that an overall view can be considered (see section 16.4.4).

16.4.6 Take corrective action

Even when changes and adjustments to the project appear to be easily manageable and within tolerances, they must be made in a consistent and rational way.

By taking corrective action, the objective is to select and implement actions that will resolve deviations from the plan (within the limits of the stage and project tolerances). Corrective action is triggered while evaluating the stage status (section 16.4.4) and typically involves handling advice and guidance received from the project board and issues raised by team managers.

For more details on planning, see Chapter 7; for more details on issue management, see Chapter 10.

Recommended actions for the project manager:

- Collect any relevant information about the deviation.
- Identify potential solutions for the deviation, and select the most appropriate option.
- Trigger corrective action via authorizing a work package (see section 16.4.1).
- Update the product register records of the affected products, including whether any changes are required or new products are required.
- Update the issue report (if necessary) to show the status of the corrective action.
- Update the project log with any changes resulting from the corrective action.
- Update the stage plan for the current stage.

16.4.7 Escalate issues and risks

A stage should not exceed the tolerances agreed with the project board. The project manager can only take corrective action or maintain the status quo as long as the stage (or project) is forecast to be completed within the tolerances set by the project board. This activity applies where any corrective action within the project manager's control would not save the stage from going beyond the tolerances agreed. This applies to all types of issue and risk (or aggregations of them) that cannot be resolved within the tolerances set by the project board.

As it may take some time to gather the information to create an exception report, it is recommended to alert the project board as early as possible. Therefore, the project manager may wish to execute this activity in two steps: an early notification of the forecast exception situation to the project board so that they are prepared, followed by the supporting information in an exception report.

The project manager should execute any decision by the project board in response to the escalation. Escalating issues and risks is good practice and should not be seen as failure; the earlier that issues are escalated, the more time is available to implement any corrective actions.

For more details on management of risk, see Chapter 9; for more details on issue management, see Chapter 10; for more details on exception management, see Chapter 11.

Recommended actions for the project manager:

- Examine the stage plan to define the extent of the deviation and the unfinished products and to determine what would happen if the deviation was allowed to continue.
- Understand the psychological safety within the project management team to decide if actions are required.
- Examine the project plan for the project status and the overall effect of any deviation (using the current baseline of the project initiation documentation).
- Determine the options for recovery, and assess them against the business case.
- Assess the impact of the options for recovery against the stage plan for the current stage. (Consideration should be given to the availability of individuals or groups with the skills or experience to assess the impact.)
- Put the situation, options, and the recommendation for a course of action to the project board in an exception report; the project board will then decide an appropriate course of action (which may support or otherwise reject the project manager's recommendation).

16.4.8 Report highlights

The project manager must provide the project board with summary information about the status of the stage and project and distribute other information to the stakeholders at a frequency documented in the communication management approach, as defined by the project board. (See Chapter 11 for more details on progress controls.)

Recommended actions for the project manager:

- Assemble the information from the checkpoint reports, project log, and any significant revisions to the stage plan for the current reporting period (the information is gained from the review of the stage status; see section 16.4.4).
- Assemble a list of corrective actions (as noted or recorded in the project log) undertaken during the reporting period; this will assure the project board that the project manager is acting within the agreed tolerances (the information is gained from taking corrective action; see section 16.4.6).
- Review the highlight report for the previous reporting period.
- Produce the highlight report for the current reporting period.
- Distribute the highlight report (see Chapter 11). For projects using an iterative-incremental delivery method such as agile, the highlight report may be based on a 'pull' system, whereby the project board looks at progress charts being maintained by the project manager and development teams.

16.5 Applying the process

16.5.1 General considerations

The work package descriptions are fundamentally important to this process, as they relate to PRINCE2's principle to focus on products.

A work package description may vary in detail depending on the relationship between the business and the supplier. It is good practice to include extracts from, or simply make cross-reference to elements of, the project plan, stage plan, or project initiation documentation. This can reduce duplicate content.

The relationship between the project manager, project support, and team managers during the controlling a stage process should be collaborative. The project manager is not delegating or assigning tasks to team managers or project support but rather facilitating the process to improve ownership and enable the team manager and project support to deliver their contribution to the project, and ultimately, the business objectives (see Chapter 3 on co-creation and collaboration).

16.5.2 Tailoring roles in controlling a stage

The project manager is responsible for the creation of all new management products in this process but may delegate tasks to others while retaining responsibility. For example, PRINCE2 shows the project manager as responsible for creating work package descriptions. However, in practice, they may not have the requisite skills to define specialist products or method statements in the work package description. Hence, they will rely on the team manager or other specialists to create the content, and the project manager's role will be to ensure that they are defined, reviewed, and assured sufficiently to meet the needs of the stage plan.

16.6 Responsibilities

Table 16.2 summarizes the accountability and responsibility for completing each activity in the process along with who should be consulted and informed.

Table 16.2 RACI chart for controlling a stage

Activity	Business layer	Project executive	Senior user	Senior supplier	Project manager	Team manager	Project assurance	Project support
Authorize a work package		A			R	C	C	C
Evaluate work package status	A				R	C	C	C
Receive completed work package					A	R	C	I
Evaluate stage status	A	C	C		R	C	C	C
Capture issues and risks	A				R ¹	R ²	C	C
Take corrective action	A	C	C		A ¹ /R ³	R ⁴		I
Escalate issues and risks	A	C	C	R		I		I
Report highlights	A	C	C	R		C	C	C

R – Responsible; A – Accountable; C – Consulted; I – Informed

R¹: Responsible to capture issues and risks at stage level

R²: Responsible to capture issues and risks at team level

A¹: Accountable for corrective actions taken by team manager

R³: Responsible for own corrective actions

R⁴: Responsible for corrective actions at team level

16.7 Application of the practices to this process

Table 16.3 summarizes how each practice supports the activities of the process of controlling a stage.

Table 16.3 Application of the practices to the controlling a stage process

Practice	Application to the controlling a stage process
Business case	The business case is regularly checked to ensure that it remains viable, otherwise the project board must be informed. The benefits management approach and sustainability management approach are applied, and their requirements are included in work package descriptions for the stage.
Organizing	The communication management, change management approach, and commercial management approach are applied, and their requirements are included in work package descriptions for the stage. Project team health and wellbeing are monitored.
Plans	Work package descriptions for the stage are developed or updated. The product register is updated with the status of products for the stage. The stage plan and project plan are updated.
Quality	The quality management approach is applied, and its requirements are included in work package descriptions for the stage. Product descriptions for the stage are developed or updated. The quality register is updated with planned or actual quality activities.
Risk	The risk management approach is applied, and its requirements are included in work package descriptions for the stage. The risk register is updated with details of new risks, and risk responses are actioned or completed.
Issues	The issue management approach is applied, and its requirements are included in work package descriptions for the stage. The issue register is updated with details of new issues and any actions required or completed. Issues reports are created for those issues requiring escalation, further analysis, and action.
Progress	The digital and data management approach is applied, and its requirements are included in work package descriptions for the stage. The daily log and lessons log are updated with new entries. Highlight reports are produced and issued at the frequency required for the project controls. Exception reports are produced and escalated for issues that cannot be resolved within agreed tolerances.



CHAPTER 17

MANAGING PRODUCT DELIVERY



CHAPTER 17

MANAGING PRODUCT DELIVERY

17.1 Purpose

The purpose of the process of managing product delivery is to control the link between the project manager and the team manager. This is achieved by agreeing the requirements for acceptance, execution, reporting, and delivery of specialist products. The role of the team manager is to coordinate an area of work that will deliver one or more of the specialist products that form the project product. Team managers can be internal or external to the organization running the project.

17.2 Objectives

The objectives of the process of managing product delivery are to ensure that:

- Work on products allocated to the team is authorized and agreed.
- Team managers and their teams are clear as to what is to be produced and what is the expected effort, cost, and timescales.
- The planned products are delivered to quality expectations and within the tolerances.
- Accurate progress information is provided to the project manager at an agreed frequency to manage expectations.

Team managers should receive enough freedom from the project manager to do their work and deliver what is asked for. This should be formalized by the tolerances as established in the work package description and the project manager's trust in the team manager (see Chapter 3). Micromanagement from the project manager will not improve the project, instead it is more likely to create frustration and delays.

17.3 Context

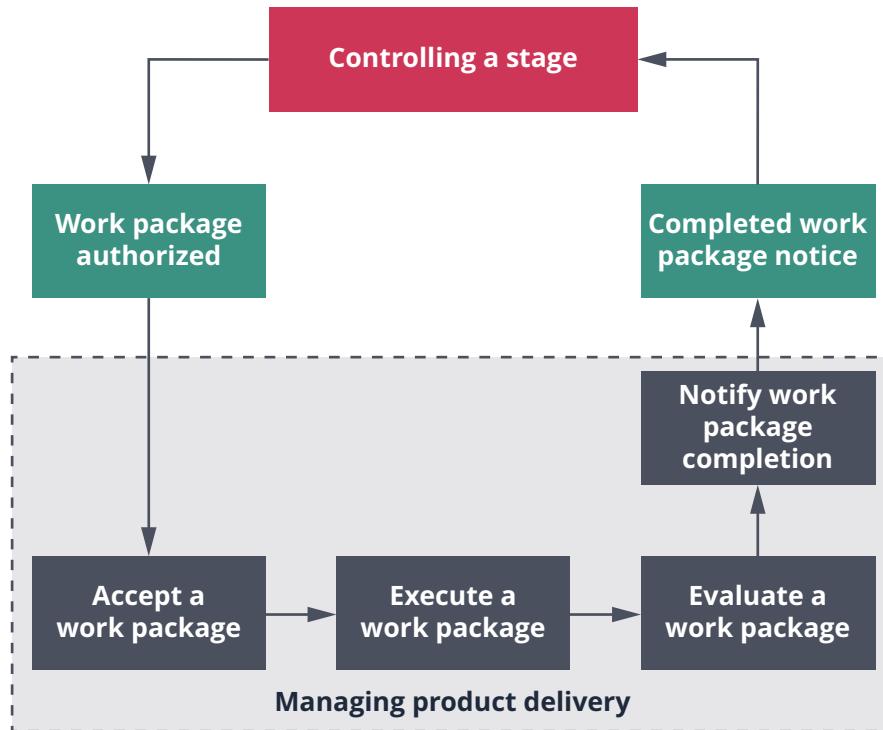


Figure 17.1 Overview of managing product delivery

The process of managing product delivery views the project from the **team manager's** perspective. The process of controlling a stage views it from the **project manager's** perspective.

The team manager ensures that the team creates and delivers products during the project by:

- accepting authorized work packages from the project manager
- ensuring that the development, operations, and maintenance relationships identified in the work package description are maintained
- creating a team plan for the assigned work packages (this may be done in parallel with the project manager creating the stage plan for the stage)
- ensuring that the products are developed in accordance with any development methods specified in the work package description
- demonstrating that each product meets its quality criteria through the quality methods specified in the product description
- obtaining approval for completed products from the authorities identified in the product description
- delivering the products to the project manager in accordance with any procedures specified in the work package description.

Sometimes a project uses external suppliers that do not use PRINCE2. The process of managing product delivery provides a statement of the required working relationship between the team manager and the project's PRINCE2 method by the project manager. The work package may be part of a contractual agreement; therefore, the formality of a team plan could vary from simply appending a

schedule to the work package description to creating a fully formed plan that is presented in a style similar to a stage plan.

Table 17.1 Inputs, activities, and outputs for managing product delivery

Input	Activities	Output
Work package authorized (triggers this process)	Accept a work package	Team plan (create, update)
Work package description (review)		
Team plan (review)	Execute a work package	Project log (update)
Work package description (review)		Specialist products (create)
Team plan (review)	Evaluate a work package	Checkpoint reports (create for each period)
Work package description (review)		Project log (update)
Project log (review)		
Team plan (check)	Notify work package completion	Team plan (update)
Work package description (check)		Work package (complete)
Project log (review)		Completed work package notice (triggers the process of controlling a stage)

17.4 Activities

17.4.1 Accept a work package

There should be an agreement between the project manager and the team manager as to what is to be delivered before a work package is allocated to a team. This should cover the reporting requirements, the constraints that apply, any procedures to be applied, and whether the requirements of the work package are reasonable and can be achieved.

Recommended actions for each team manager:

- Review the work package description to understand what is to be delivered and when.
- Produce a team plan to show which products can be completed within the given constraints. For example, within the timebox when using an agile approach.
- Check the work package description for the procedure to update the project log.
- Consult with project assurance as to whether any extra reviewers are required for each product, and ensure the project log is updated accordingly.
- Consult with project assurance (supplier) to confirm that the team plan is viable and in accordance with the relevant supplier standards.
- Seek necessary approval for the team plan (note that in a commercial customer-supplier relationship, it may be inappropriate for the project manager to review and approve the team plan, and in this context, the senior supplier may review and approve the team plans).
- Undertake a review of the risks against the team plan, and advise the project manager of any additional or modified risks, and if the work package description allows the team manager to directly log the risks, the team manager should update the project log.
- Agree to deliver the work package.

17.4.2 Execute a work package

The work must be executed and monitored in accordance with the requirements defined in the authorized work package.

The team manager can only proceed with the work package or take corrective action when the work package is forecast to be completed within the tolerances set by the project manager. As soon as work package tolerances are expected to be exceeded, the team manager should raise an issue with the project manager. They will then choose a course of action.

In addition, it is extremely important to ensure psychological safety within the team (see Chapter 3). Related issues and risks will have to be addressed immediately and adequately.

Recommended actions for each team manager:

- Manage the development of the required products in accordance with the requirements defined in the work package description and any specific arrangements in the agreed team plan.
- Notify the project manager of any new issues, risks, or lessons, and take any action required by the project manager.
- Notify the project manager of the completed quality activities, and update the quality register.
- Obtain approvals for any completed products, and update the product register.

17.4.3 Evaluate a work package

The team manager should review and report progress to the project manager for each period defined in the work package description.

Recommended actions:

- Review the work package description and team plan to confirm expected progress for the period.
- Review the issue register for any issues associated with the work package.
- Review the risk register for any risks associated with the work package.
- Review the quality register for the status of the quality activities associated with the work package.
- Review the product register for the status of the products associated with the work package, including any approval records.
- Review the lessons log for any lessons associated with the work package.
- Report the status of the work package to the project manager via a checkpoint report. For projects using an iterative-incremental delivery method such as agile, the checkpoint report may be based on a 'pull' system, whereby the project manager looks at progress charts such as Kanban boards or burn-down charts being maintained by the team manager and development teams.

In a commercial context where the team manager is from a supplier organization, they may have their own logs and registers distinct from the project log which they will use to evaluate their work package. Project support may also assist the team manager with their review by providing any information relating to their work package held in the project log.

17.4.4 Notify work package completion

Just as the work package authorization was accepted by the team manager from the project manager, notification of its completion must be communicated to the project manager.

Recommended actions for each team manager:

- Check the work package description, and follow the procedure to deliver the completed products.
- Review the approval records to check that all the products to be delivered by the work package are approved.
- Update the team plan to show that the work package is complete.
- Review the project log for any lessons and outstanding issues or risks associated with the work package.
- Brief the project manager on the status of delivered products and the performance of the work against the agreements in the work package description, highlighting any outstanding issues (for example, off-specifications) or risks relating to the completed products.
- Notify the project manager that the work package is complete.

17.5 Applying the process

17.5.1 General considerations

The activities in this process may be combined, separated, or run concurrently to suit the context. However, care should be taken to ensure the integrity of the connection to the controlling a stage process.

As specialist work is undertaken in this process, work will be completed using delivery methods and techniques that are appropriate to the type of work. It is therefore important that monitoring and control of specialist work uses controls and measures that are appropriate to the methods and techniques being used. The project manager and team manager should agree with such controls, include them in the work package description, and ensure that they are compatible with the management approaches established for the project.

Work packages are not necessarily small in scale. All the PRINCE2 principles are as applicable to a work package as to a project, requiring appropriate governance and control and often needing a team manager who is skilled in project management.

For large work packages, a team manager may create a hierarchy of smaller work packages to allocate to the team members. In this case, the process for managing product delivery should be tailored to ensure the work in any lower-level work packages is controlled.

The relationship between the team manager and their team members during the process of managing product delivery should be collaborative. The team manager is not delegating or assigning tasks to team members but rather facilitating the process to improve ownership and enabling them to deliver their contribution to the work package or team plan and ultimately the project and business objectives (see Chapter 3 on co-creation and collaboration).

17.5.2 Tailoring roles in managing product delivery

The team manager is responsible for all activities but may be supported by team members. A project manager may undertake a team manager role.

Work packages may be broken down into further work packages; this can create a hierarchy of team managers with its own reporting structure. The top-level team manager is responsible for all the work within the top-level work package and reports to the project manager on the overall progress.

Although the PRINCE2 processes define who creates, updates, and approves a work package description, these responsibilities may be changed provided both the team manager and project manager are in agreement on what the work package description comprises.

17.6 Responsibilities

Table 17.2 summarizes the accountability and responsibility for completing each activity in the process along with who should be consulted and informed.

Table 17.2 RACI chart for managing product delivery

Activity	Business layer	Project executive	Senior user	Senior supplier	Project manager	Team manager	Project assurance	Project support
Accept a work package					A	R		I
Execute a work package					A	R	C	C
Evaluate a work package					A	R	C	C
Notify work package completion					A	R	C	I

R – Responsible; A – Accountable; C – Consulted; I – Informed

17.7 Application of the practices to this process

Table 17.3 summarizes how each practice supports the activities of the process of managing product delivery.

Table 17.3 Application of the practices to the managing product delivery process

Practice	Application to the managing product delivery process
Business case	Benefits management and sustainability management requirements defined in the work package description are fulfilled when executing the work package.
Organizing	Communication management, change management, and commercial management requirements defined in the work package description are fulfilled when executing the work package. A team plan is developed that includes the team structure, appointments, and working arrangements. Team health and wellbeing are monitored.
Plans	The team manager develops a team plan for the work packages requested by the project manager. The product register for products in scope of the team plan is updated with records of the product status.
Quality	Quality management requirements defined in the work package description are fulfilled when executing the work package. The specialized products in scope of the team plan are developed and delivered. The quality register for products in scope of the team plan is updated with records of planned and actual quality activities.
Risk	Risk management requirements defined in the work package description are fulfilled when executing the work package. The risk register for team-level risks is updated with new risks, changing risks, and records of risk response status. Risks are escalated to the project manager where applicable.

Table continues

Practice	Application to the managing product delivery process
Issues	<p>Issue management requirements defined in the work package description are fulfilled when executing the work package.</p> <p>The issue register for team-level risks is updated with new issues, changing issues, and records of status of actions.</p> <p>Issues are escalated to the project manager where applicable.</p>
Progress	<p>Data management requirements defined in the work package description are fulfilled when executing the work package.</p> <p>Checkpoint reports are provided to the project manager at the frequency agreed in the work package description.</p> <p>The lessons log is updated for team-level lessons</p>



CHAPTER 18

MANAGING A STAGE BOUNDARY



CHAPTER 18



MANAGING A STAGE BOUNDARY

18.1 Purpose

The purpose of the process of managing a stage boundary is to enable the project manager to provide the project board with sufficient information to be able to:

- review the success of the current stage
- prepare the next stage plan
- review the updated project plan
- confirm continued business justification and acceptability of the risks.

Therefore, this process should be executed at, or close to, the end of each stage.

Projects do not always go to plan, and in response to an exception report (if the stage or project is forecast to exceed its tolerances), the project board may request that the current stage and possibly the project is replanned. The output from replanning is an exception plan that is submitted for the project board's approval in the same way that a stage plan is submitted for approval. Exceptions are another possible trigger for this process.

18.2 Objectives

The objectives of the process of managing a stage boundary are to:

- assure the project board that all products in the current stage plan have been completed and approved
- prepare a stage plan or exception plan for the next stage
- review and if necessary, update the project initiation documentation, in particular the business case, project plan, user's quality expectations, management approaches, project management team structure, and role descriptions
- provide the information needed for the project board to assess the continuing viability of the project
- record any information or lessons that can help later stages of this project or other projects
- request authorization to start the next stage.

For exceptions, the objectives of the process of managing a stage boundary are similar to those listed above but include preparing an exception plan and seeking approval to replace the project or current stage plan with the exception plan.

18.3 Context

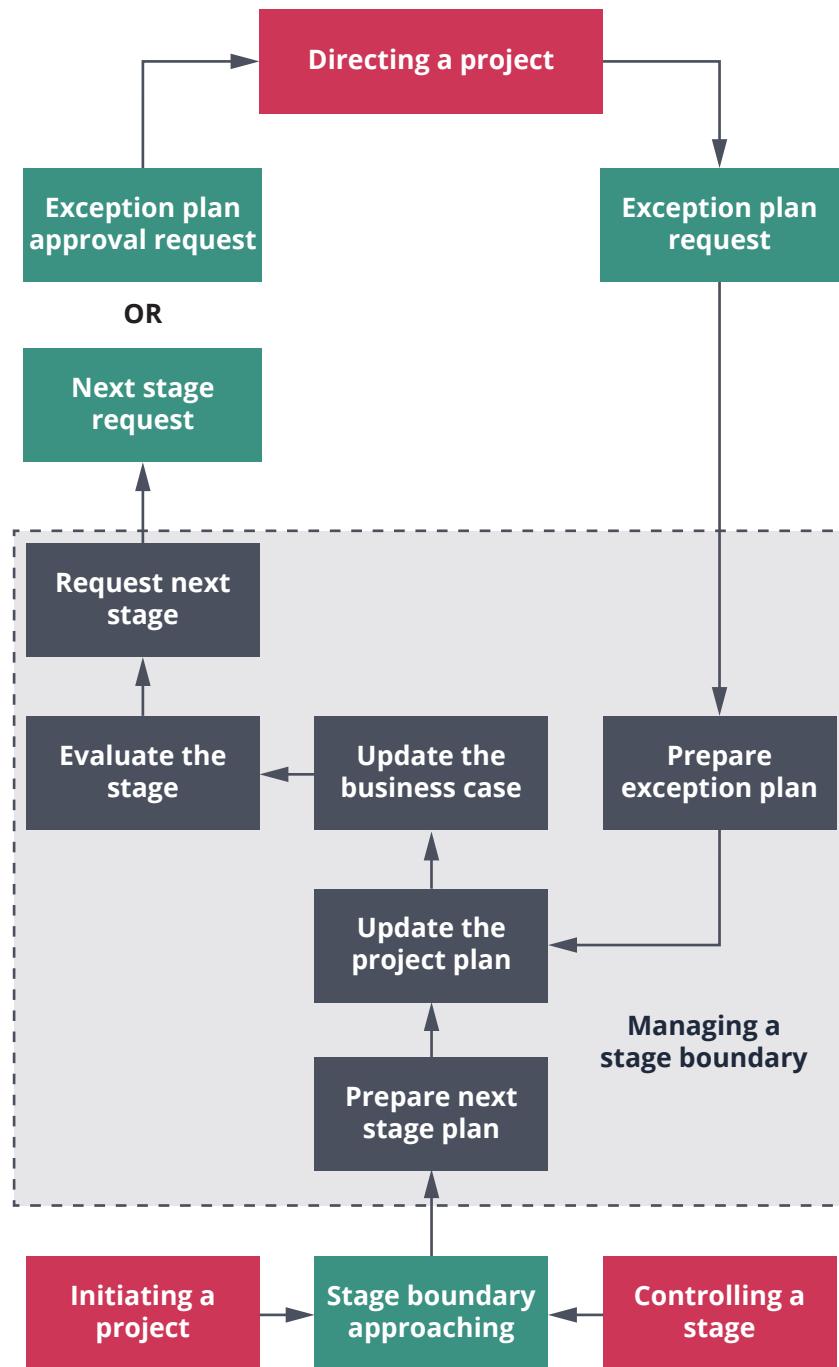


Figure 18.1 Overview of managing a stage boundary

The process of managing a stage boundary is based on dividing the project into stages (see Chapter 7).

A project, whether large or small, must ensure that the products it creates will deliver the benefits sought, either in their own right or as part of a programme or portfolio. The business justification of the project should be reconfirmed at the end of each stage. If necessary, the project can be redirected or stopped to avoid wasting time and money.

It is important to recognize that projects can go wrong or be affected by external factors that invalidate the business justification. An early identifier of potential failure is the project manager's forecast that any of the project or stage tolerances are likely to be exceeded. In such cases, it is important to have a mechanism for corrective action to bring the project back in the right direction and under control.

A positive decision not to proceed is not failure. However, providing insufficient information that prevents the project board from making an informed decision is a failure, as it may lead to a wrong decision or an unnecessarily delayed decision.

The process of managing a stage boundary provides a means by which an exception procedure can be implemented.

Table 18.1 Inputs, activities, and outputs for managing a stage boundary

Inputs	Activities	Outputs
Stage boundary approaching (triggers this process) Project initiation documentation (review) Project plan (review) Project log (check)	Prepare the next stage plan	Project log (update) Stage plan (create for next stage) Product descriptions (create for next stage) Project initiation documentation (update, if necessary)
Exception plan request (triggers this process) Exception report (review) Project initiation documentation (review) Project plan (review) Project log (check)	Prepare the exception plan (if required)	Project log (update) Exception plan (create) Product descriptions (create/update for the revised stage) Exception plan approval request (triggers the process of directing a project)
Project log (check) Stage plan (check) Project plan (review)	Update the project plan	Project plan (update, if required)
Project plan (check) Project log (check) Business case (review)	Update the business case	Benefits management approach (update, if required) Business case (update, if required)
Project log (check) Communication management approach (check)	Evaluate the stage	End stage report (create)
End stage report Stage plan or exception plan (for next stage)	Request the next stage	Next stage request (triggers the process of directing a project)

18.4 Activities

18.4.1 Prepare the next stage plan

The stage plan for the next stage is produced near the end of the current stage. Closure activities should be planned as part of the stage plan for the final stage.

Planning is not an activity undertaken in isolation. The project manager will need to consult with the project board, project assurance, team managers, and possibly other stakeholders to create a viable plan. The more the people involved in planning, the more robust the plan, provided that the right people are involved. (See Chapter 7 for more details on planning.)

Recommended actions for the project manager:

- Review the components of the project initiation documentation, and update if necessary. Check for any planning requirements, for example, from the management approaches. It may be necessary to consult with the project board regarding any required changes.
- Review the lessons log for lessons to apply to the next stage.
- Review the project plan for any milestones applicable to the stage.
- Produce the stage plan for the next stage.
- Produce product descriptions for products to be delivered in the next stage.
- Create or update product register records for products planned to be produced in the next stage.
- Update the project log if any new issues or risks have been identified (or if existing ones need to be modified).
- Update the quality register for planned quality management activities. This should include target review and approval dates for the products.

18.4.2 Prepare the exception plan (if required)

If a stage or the project is forecast to deviate beyond its agreed tolerances, it no longer has the approval of the project board.

Exception plans are requested by the project board in response to an exception report. Although an exception plan will be produced prior to the planned stage boundary, its approval by the project board marks a stage boundary for the revised stage.

Recommended actions for the project manager:

- Update the project log to record the project board's request for an exception plan.
- Review and (if required) update the project initiation documentation. Check for any planning requirements, for example, from the management approaches. It may be necessary to consult with the project board regarding any required changes.
- Review the lessons log for lessons to apply to the exception plan.
- Review the project plan for any milestones applicable to the exception plan.
- Produce the exception plan.
- Produce or update product descriptions for products to be delivered in the next stage.
- Create or update product register records for products to be produced by the exception plan.
- Update the project log if any new issues or risks have been identified or if existing ones need to be modified.
- Update the project log for planned quality management activities. This should include target review and approval dates for the products.

18.4.3 Update the project plan

The project board uses the project plan throughout the project to measure progress.

The project plan is updated to include progress from the stage that is finishing, forecast the duration and costs from the exception plan, or stage the plan for the stage about to begin. Details of any revised costs or end dates are used when updating the business case. (See Chapter 7 for more details on planning.)

Recommended actions for the project manager:

- Check that the current stage plan is up to date with actual progress, and update it if necessary.
- Revise the project plan.
- Update the project log if any new issues or risks have been identified or if existing ones need to be modified.

18.4.4 Update the business case

It is a PRINCE2 principle that a project must ensure continued business justification.

The project board is ordinarily only authorized to continue while the project remains viable; the benefits will be realized within the time, cost, quality, scope, risk, and sustainability parameters established in the currently agreed business case.

Projects do not take place in a static environment. The environment external to the project changes as does the development of the project product. Therefore, the business case needs to reflect these changes and must be reviewed and amended to keep it relevant to the project.

As the project executive is accountable for the business case, the project manager should consult with them when reviewing and updating the business case in preparation for the project board's approval. (See Chapter 5 for more details on business justification.)

Recommended actions for the project manager:

- Check whether there have been any changes to the risk appetite and risk capacity of the organizations involved and whether risk tolerances need to be redefined.
- Assess the project's risks using the project log to ascertain the aggregated risk exposure for the project, and identify the current key risks that affect the business case. This should include an assessment that the aggregated risk exposure remains within risk tolerances.
- Update the benefits management approach with the results from any benefits management actions undertaken during the stage.
- Examine and review the project plan to see whether the final implementation date of the project has changed to an earlier or later date, which might affect some or all of the projected benefits.
- Check and update the project log as necessary.
- Revise the business case and, if necessary, the benefits management approach, ready for the project board's approval.

18.4.5 Evaluate the stage

The results of a stage should be reported back to the project board so that progress is clearly visible to the project management team.

The project manager gives a view on the continuing ability of the project to meet the project plan and business case and assesses the overall risk situation. This activity should happen as close as possible to the actual end of a stage.

Recommended actions for the project manager:

- Based on the performance of the stage using the updated business case, updated project plan, project logs, and any updated management approaches, prepare an end stage report for the current stage.

- Review the lessons logged to date and include them in the end stage report. This is particularly important for longer projects where interim reviews of lessons (or the project itself) may benefit the business.
- Review the communication management approach to see whether there is a requirement to send copies of the end stage report (and, if appropriate, a lessons report) to the interested external parties.

18.4.6 Request the next stage

The project manager contacts the project board to request to finish the current stage and to proceed to the next stage. The formal justification can be found in the end stage report and the next stage plan or the exception plan.

Recommended actions for the project manager:

- Brief the project board about the performance of the current stage, an overview of the next stage, and the people and resources required, and confirm readiness to proceed. The project manager should also confirm where there have been concessions for any off-specifications during the stage.
- Seek approval from the project board for the exception plan or stage plan and, if appropriate, the revised project plan, the revised benefits management approach, and the revised business case (see Chapter 14). If the project board does not approve the exception plan, then the current stage continues in accordance with the project board direction until a revised exception plan is approved.
- Request authority from the project board to deliver the next stage.
- If appropriate, review the lessons at this time, particularly for longer projects where interim reviews of lessons (or the project itself) may benefit business.

18.5 Applying the process

18.5.1 General considerations

The activities in this process may be combined, separated, or run concurrently to suit the context, but care should be taken to ensure the integrity of the connections with the processes of initiating a project, controlling a stage, and directing a project.

18.5.2 Tailoring roles in managing a stage boundary process

The project manager is responsible for the creation of all new management products in this process but may delegate work to others with the requisite skills, such as project support or a team manager, provided the project manager retains the overall responsibility.

18.6 Responsibilities

Table 18.2 summarizes the accountability and responsibility for completing each activity in the process along with who should be consulted and informed.

Table 18.2 RACI chart for managing a stage boundary

Activity	Business layer	Project executive	Senior user	Senior supplier	Project manager	Team manager	Project assurance	Project support
Prepare the next stage plan	A	C	C	R	C	C	C	C
Prepare the exception plan (if required)	A	C	C	R	C	C	C	C
Update the project plan	A	C	C	R	C	C	C	C
Update the business case	A	C	C	R	C	C	C	C
Evaluate the stage	A	C	C	R	C	C	C	C
Request the next stage	A	C	C	R	I	C	I	

R – Responsible; A – Accountable; C – Consulted; I – Informed

18.7 Application of the practices to this process

Table 18.3 summarizes how each practice supports the activities of the process of managing a stage boundary.

Table 18.3 Application of the practices to the managing a stage boundary process

Practice	Application to the managing a stage boundary process
Business case	The performance of the project at the end of the stage is assessed, and the business case is updated to reflect any changes to forecast costs, risks, and benefits as well as any changes external to the project that affect the business case. The benefits management approach and sustainability management approach are reviewed and updated if required.
Organizing	Project team performance and health and wellbeing are reviewed for input to lessons learned and the end stage report. The communication management approach, change management approach, and commercial management approach are reviewed and updated if required. The project management team structure and role descriptions are reviewed and updated, and new role descriptions are created for the next stage.
Plans	The product register is checked to confirm that the required products for the stage have been delivered and to provide input to the end stage report. The performance of the project at the end of the stage is assessed, and the project plan is updated to reflect any changes to scope and timings. The next stage plan or exception plan is created.
Quality	The quality register is checked to confirm that the required quality activities for the stage have been performed and to provide input to the end stage report. Product descriptions for the next stage plan or exception plan are created. The project product description and quality management approach are reviewed and updated if required.
Risk	The risk register is reviewed to eliminate current stage risks, to add or update risks for the next stage, and to provide input to the end stage report. The risk management approach is reviewed and updated if required.
Issues	The issue register is reviewed to eliminate current stage issues or identify any following actions, to add or update issues for the next stage, and to provide input to the end stage report. The issue management approach is reviewed and updated if required.
Progress	The daily log and lessons log are reviewed to eliminate current stage actions, to add or update actions for the next stage, and to provide input to the end stage report. The digital and data management approach is reviewed and updated if required. The end stage report is created and issued.



CHAPTER 19

CLOSING A PROJECT



CHAPTER 19

› CLOSING A PROJECT

19.1 Purpose

The purpose of the process of closing a project is to provide a fixed point at which acceptance of the project product is confirmed.

It also provides a point to recognize that the objectives or the approved changes to the objectives, as established in the project initiation documentation, have been achieved.

Where there is a cause for a premature close, this process ensures the project is closed in an orderly way.

19.2 Objectives

The objectives of the process of closing a project are to:

- check user acceptance of the project product
- ensure that the business can support the products when the project is closed
- review the performance of the project against its baselines
- assess any benefits that have already been realized, and update the benefits management approach to include any post-project benefit reviews
- ensure provision has been made to address all open issues and risks, with follow-on action recommendations
- ensure the project is closed in an orderly way and not simply abandoned (in the case of a premature close).

19.3 Context

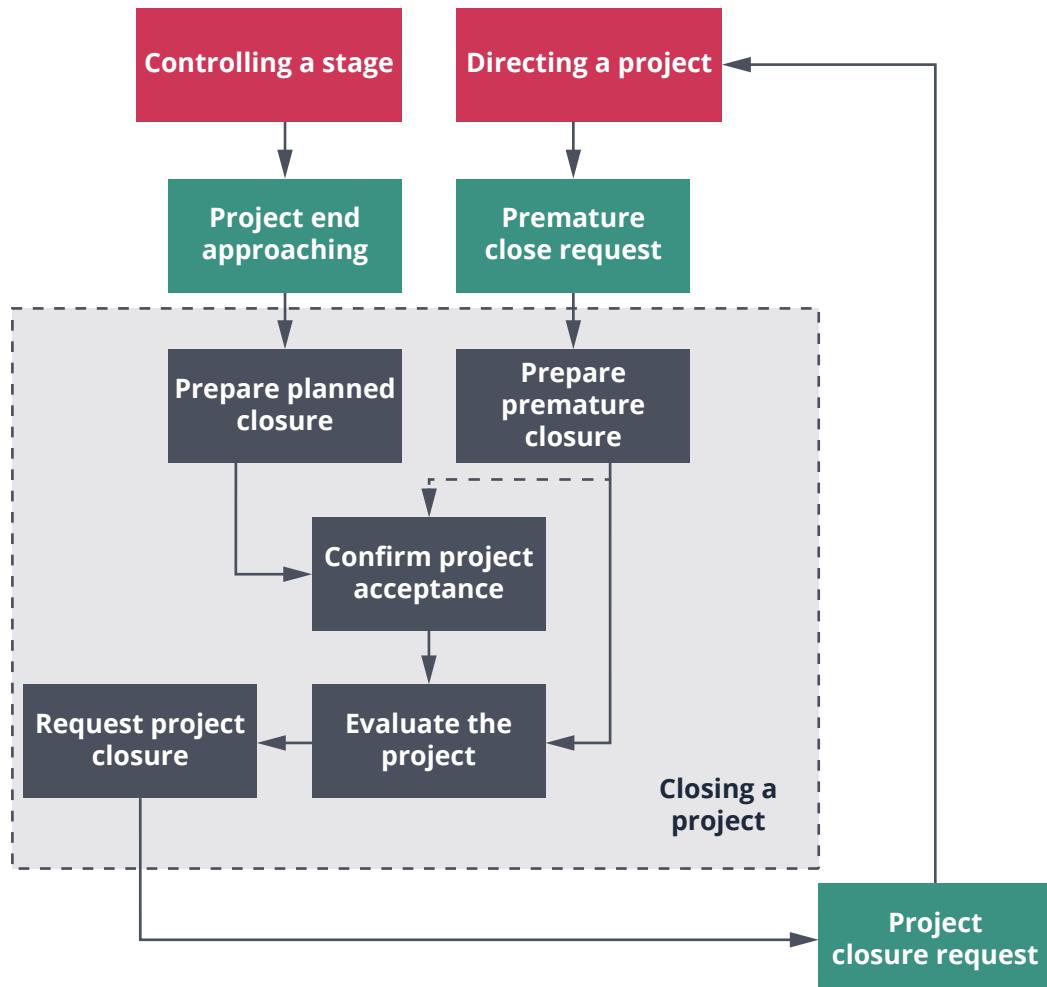


Figure 19.1 Overview of closing a project

One of the defining features of a project is that it is finite; it has a start and an end. If the project loses this distinction, it loses some of its advantages over purely operational management approaches.

A clear end to a project:

- is always more successful than a slow drift into use, as it is a recognition by all concerned that:
 - the original objectives have been met (subject to any approved changes)
 - the current project has run its course
 - responsibility for ongoing operations and maintenance of the products has been confirmed by the agreed owners
 - the temporary project organization, specifically the project management team, can be disbanded
 - project costs should no longer be incurred.
 - provides an opportunity to ensure that all unachieved goals and objectives are identified, so they can be addressed in the future
 - transfers ownership of the products to the agreed owners and terminates the responsibility of the project management team.

Closure activities should be planned as part of the stage plan for the final stage. When closing a project, work is required to prepare information to the project board to obtain its authorization to close the project. Subsequently, the project executive should also notify the business layer that the project has closed (see section 14.4.5).

It is also possible that the project board may wish to trigger a premature closure of the project under some circumstances; for example, if the business case is no longer valid. If the project is being brought to a premature close, this process will still need to be executed.

Several actions specific to the project product may be required after the project; these should be documented and planned as follow-on action recommendations. The actions may have different audiences and therefore may need to be issued individually. The needs of the recipient will determine the format and content; some may want a formal report, some a log entry on a system, whereas others may want a meeting.

Table 19.1 Inputs, activities, and outputs for closing a project

Input	Activities	Output
Project end approaching (triggers this process)	Prepare planned closure	Project log (update)
Project log (review)	Confirm project acceptance	Project plan (update, if required)
Project initiation documentation (check)	Evaluate the project	Benefits management approach (update, if required)
Business case (check)	Request project closure	Lessons report (create)
Project plan (review)		End project report (create)
Premature close request (triggers this process)	Prepare premature closure	Project log (update)
Project log (review)	Confirm project acceptance	Project plan (update, if required)
Project initiation documentation (check)	Evaluate the project	Benefits management approach (update, if required)
Business case (check)	Request project closure	Lessons report (create)
Project plan (review)		End project report (create)

19.4 Activities

19.4.1 Prepare planned closure

A closure recommendation can be raised to the project board after the project manager has confirmed that the project can be closed.

Recommended actions for the project manager:

- Use the communication management approach to identify any organization or interested party that needs to know that the project is closing. (Consider communication activities for public relations and marketing opportunities at this point.)
- Close the project log.
- Ensure that all project information is secured and archived (in accordance with the issue management approach) to permit any future audit of the project management team's decisions, actions, and performance.
- Prepare a draft project closure notification for review by the project board.

19.4.2 Prepare premature closure

In some situations, the project board may have instructed the project manager to close the project prematurely. In such circumstances, the project manager must ensure that work-in-progress is not simply abandoned but that the project salvages anything of value created to date and checks that any gaps left by the cancellation of the project are raised to the business.

Recommended actions for the project manager:

- Update the project log (and, if necessary, the issue report) to record the premature closure request.
- Update the project plan with actuals from the final stage.
- Request the product status from project support. From this, determine which of the project product's components:
 - have been approved by the authorities identified in their product descriptions
 - are currently in development (and which of those need to be completed)
 - are covered by approved concessions
 - are yet to be started
 - need to be made safe
 - may be useful to other projects.
- If appropriate, agree the means for recovering products that have been completed or are in progress. This will need the project board's consultation and may include additional work to create, make safe, or complete products that might be useful to other projects (for example, making an unfinished building safe and weatherproof). In some cases, the additional work may require an exception plan.
- Seek approval to give notice to the business that resources and people can be or are about to be released early.

19.4.3 Confirm project acceptance

The project products must be passed to an operational and maintenance environment prior to the project closure. This may happen as a single release at the end of the project, or the project approach may include a phased delivery where products are delivered in several releases. In the case of a premature closure, there may be some products that have been approved but not yet delivered. Depending on the project board's guidance, the ownership of some or all of those products may need to be transferred to the users.

When delivering products, the benefits management approach may need to be updated to include the post-project benefits review or reviews of the performance of the project product in operational use. Such benefits reviews may identify whether there have been any side effects (beneficial or adverse) that could provide useful lessons for other projects.

There may be multiple handovers throughout the project lifecycle. It is not a project activity to undertake the benefits review after the completion of the project, but only to plan for such benefits reviews to occur. If the project is part of a programme, then the post-project benefits reviews need to be covered by the programme's benefits management activities.

Recommended actions for the project manager:

- Prepare follow-on action recommendations for the project product to include any uncompleted work, issues, and risks in consultation with the project management team. There could be separate follow-on action recommendations for the project product or its components or for each distinct user group (such as human resources, finance, and operations).
- Check that the benefits management approach includes post-project activities to confirm benefits that cannot be measured until after the project product has been in operational use for some time, such as reliability performance.
- Examine the project initiation documentation to confirm how products are to be delivered to those who will maintain them in their operational life.

19.4.4 Evaluate the project

Successful organizations learn from experience with projects. When evaluating the project, the objective is to assess how successful the project has been or in the case of premature close, evaluating the project and the reasons for early closure. It may also be possible to improve the estimation for future projects by analysing the estimates and the actual progress metrics for this project.

Recommended actions for the project manager:

- Review the project's original intent as agreed in the initiation stage and defined by the project initiation documentation and baselined at that time.
- Review the approved changes as defined by the current version of the components of the project initiation documentation.
- Prepare an end project report in consultation with the project management team.
- Review the project log to identify lessons that could be applied to future projects and include them in the lessons report in consultation with the project management team.

19.4.5 Request project closure

To finish the current stage and close the project, the project manager contacts the project board to request project closure. The project manager will emphasize the importance of celebrating the project success and suggest some form of appreciation by the project board to all involved. The formal justification for project closure can be found in the end project report.

Recommended actions for the project manager:

- Brief the project board with a summary of the performance of the project, and confirm readiness to close, highlighting where there are concessions for any off-specifications.
- Request project closure from the project board.

19.5 Applying the process

19.5.1 General considerations

The activities in this process may be combined, separated, or run concurrently to suit the context, but care should be taken to ensure the integrity of the connections with the processes of directing a project and controlling a stage.

The product handover activity may not be undertaken in the project's final stage as part of closing the project, but it may have happened within several previous stages. Closing the project process would then only require confirmation that all handovers have been completed.

19.5.2 Tailoring roles in closing a project

The project manager is responsible for the creation of all new management products in this process but may delegate work to others, provided the overall responsibility is retained. Checking that post-project benefits reviews are planned to take place may be undertaken by the senior user in the 'confirm project acceptance' activity.

19.6 Responsibilities

Table 19.2 summarizes the accountability and responsibility for completing each activity in the process along with who should be consulted and informed.

Table 19.2 RACI chart for closing a project

Activity	Business layer	Project executive	Senior user	Senior supplier	Project manager	Team manager	Project assurance	Project support
Prepare planned closure		A	C	C	R	C	C	C
Prepare premature closure		A	C	C	R	C	C	C
Confirm project acceptance		A	C	C	R	I	I	I
Evaluate the project		A	C	C	R	C	C	C
Request project closure	I	A	C	C	R	I	C	I

R – Responsible; A – Accountable; C – Consulted; I – Informed

19.7 Application of the practices to this process

Table 19.3 summarizes how each practice supports the activities of the process of closing a project.

Table 19.3 Application of the practices to the closing a project process

Practice	Application to the closing a project process
Business case	The performance of the project at the end of the project is assessed, and the business case is updated to reflect the actual costs and benefits as well as a forecast of benefits yet to be realized. The benefits management approach and sustainability management approach are reviewed and updated for post-project responsibilities if required.
Organizing	Project team performance and health and wellbeing are reviewed for input to lessons learned and the end project report. The communication management approach, change management approach, and commercial management approach are reviewed for any requirements relating to project closure, for example, who to notify. The project management team is disbanded, and off-boarding activities are completed.
Plans	The product register is checked to confirm that the required products for the final stage have been delivered and to provide input to lessons learned and the end project report. The product register is closed.
Quality	The quality register is checked to confirm that the required quality activities for the final stage have been performed and to provide input to the end report. The quality management approach is reviewed for any requirements relating to project closure. The quality register is closed
Risk	The risk register is reviewed to eliminate final stage risks, to transfer any residual risks to the business, and to provide input to lessons learned and the end project report. The risk management approach is reviewed for any requirements relating to project closure. The risk register is closed.
Issues	The issue register is reviewed to eliminate final stage issues, to capture any follow-on actions for the business, and to provide input to lessons learned and the end project report. The issue management approach is reviewed for any requirements relating to project closure. The issue register is closed.
Progress	The daily log and lessons log are reviewed to provide input to the end project report. The digital and data management approach is reviewed for any requirements relating to project closure, for example, how and where will project data be archived or used. The end project report is created and issued. The daily log and lessons log are closed.



APPENDIX A

MANAGEMENT

PRODUCTS

APPENDIX A

MANAGEMENT PRODUCTS

This appendix contains product description outlines for PRINCE2's defined management products. These are not full product descriptions as defined in section A10, as some elements, such as quality method, will vary depending on the project's needs. Format examples are provided, but these are not exhaustive.

Management products should be applied and tailored to the requirements and environment of each project. This could include the composition, format, quality criteria, and naming of the management products. For example:

- Management products can be in other formats and do not necessarily need to be 'text documents'. They could be slides, spreadsheets, or data in information systems, which are brought together, either on screen or as outputs to form reports.
- Reports do not need to be documents. They could be emails, notes of meetings, wall charts or an entry in a daily log. Where verbal reports are used, the information would be incorporated in other reports.
- Management products can be combined for simpler projects where the products fulfil related purposes.
- Management products can be split into smaller parts if it makes them easier to use and maintain.
- Parts of the composition that are not relevant to the project can be added to or removed, or elements can be combined. The composition is not a table of contents, rather it is simply a list of what the product should typically cover, and therefore the order of the topics may be changed.
- The product description outlines in this appendix may be tailored to an organization to create its own set of outlines that would form part of its own PRINCE2-based project management method.

There are three types of management product: baselines, reports, and records.

Baseline management products are those that define aspects of the project, and when approved, are subject to change control. These are:

- A1 Business case
- A9 Plan (covers project plan, stage plans, exception plans and, optionally, team plans)
- A10 Product description
- A11 Project brief
- A12 Project initiation documentation
- A14 Project product description
- A15 Work package description

Most of the baseline products evolve during pre-project and initiation stage activities, as shown in figure A.1.

The baseline products are then reviewed and (possibly) updated at the end of each stage or if an exception occurs.

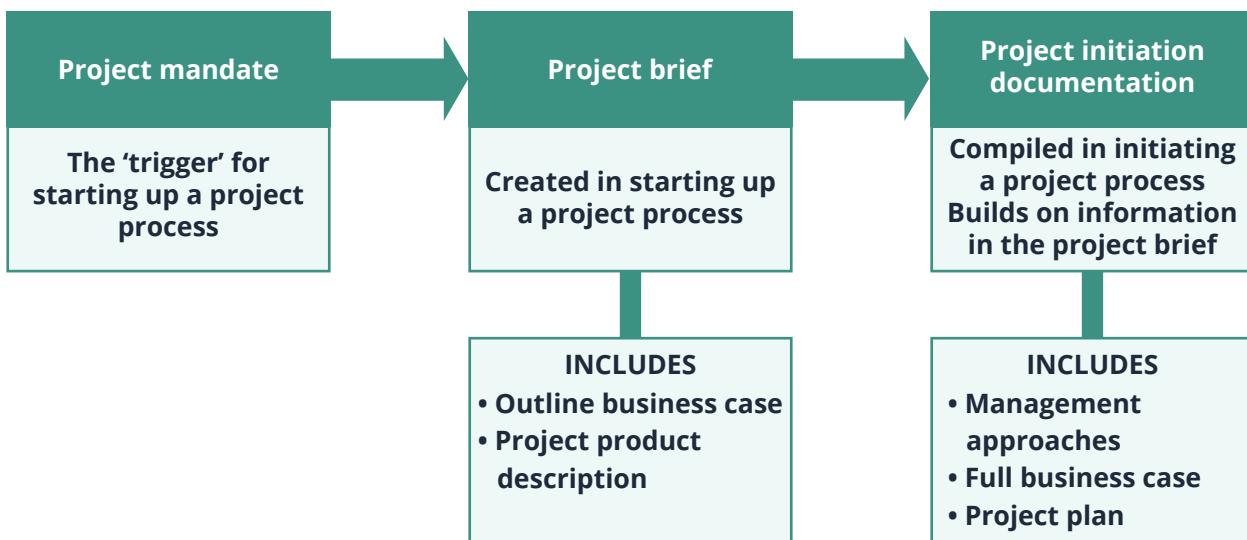


Figure A.1 Development of baseline management products for the project

Reports are management products providing a snapshot of the status of certain aspects of the project. These are:

- A.2 Checkpoint report
- A.3 End project report
- A.4 End stage report
- A.5 Exception report
- A.6 Highlight report
- A.7 Issue report
- A.8 Lessons report

Records are dynamic management products that maintain information regarding project progress. These are collectively referred to as the project log (A.13) and include the daily log, issue register, lessons log, product register, quality register and risk register.

A1 Business case

Purpose

The purpose of the business case is to document the business justification for undertaking a project, based on the estimated costs against the expected benefits to be gained and offset by any associated risks. It should outline how and when the expected benefits can be measured.

High-level content

Executive summary highlights the key points in the business case, which should include important benefits and the return on investment

Reasons defines the reasons for undertaking the project and explains how the project will enable the achievement of business objectives

Business options analysis and reasoned recommendation for the options

Expected benefits and dis-benefits benefits and dis-benefits expressed in measurable terms against the situation as it exists prior to the project. The measures include benefits tolerances

Sustainability targets specific targets relating to sustainability that the project must meet. The targets include sustainability tolerances

Time the period over which the project will run and the period over which the benefits will be realized

Costs a summary of the project costs, the ongoing operations and maintenance costs, and their funding arrangements

Investment appraisal compares the aggregated benefits and dis-benefits with the project costs and ongoing incremental operations and maintenance costs in order to define the value of a project as an investment

Major risks a summary of the key risks associated with the project, together with their likely impact and responses

Usage

Process	Action / Usage	By	Notes
Starting up a project	Produce	Project manager and Project executive	Outline business case created
	Advise	Project assurance	
Directing a project	Approve, Check, Confirm	Project board	Approve initial version and all updates Check progress and forecasts against targets during the project Confirm actual costs and benefits at project close
Initiating a project	Update Advise	Project manager Project assurance	Full business case created
Controlling a stage	Refer	Project manager	
Managing product delivery	Refer	Team manager	
Managing a stage boundary	Evaluate, Update	Project manager	Full business case updated if required
	Advise	Project assurance	
Closing a project	Evaluate, Update	Project manager	Comparison of actual against baseline and final version
	Confirm	Project assurance	

Format

The outline business case is part of the project brief. The full business case is part of the project initiation documentation. It may be an individual document or a section in the project brief or the project initiation documentation.

A2 Checkpoint report

Purpose

The purpose of a checkpoint report is to report to the project manager the status of the work package at a frequency defined in the work package.

High-level content

Executive Summary team manager's report

Period the reporting period covered by the checkpoint report

Follow-ups the outstanding items from previous reports (for example, action items completed or unresolved)

This reporting period the products being developed by the team during the reporting period; the products completed by the team during the reporting period; quality management activities carried out during the period; lessons identified

Next reporting period the products being developed by the team in the next reporting period; the products planned to be completed by the team in the next reporting period; quality management activities planned for the next reporting period

Work package tolerance status how execution of the work package is performing against its tolerances (for example, cost/time/scope actuals and forecast)

Issues and risks an update on issues and risks associated with the work package.

Usage

Process	Action	By	Notes
Starting up a project			
Directing a project			
Initiating a project			
Controlling a stage	Review	Project manager	
Managing product delivery	Create	Team manager	
Managing a stage boundary			
Closing a project			

Format

A checkpoint report can take a number of formats, including:

- an oral report to the project manager (could be in person or by phone) or the project manager attending a daily standup meeting
- a presentation at a progress review (physical meeting, conference call, web conference)
- a document, email or in-app message sent to the project manager
- a dashboard or an entry in a project management tool
- a wall chart or Kanban board.

A3 End project report

Purpose

The purpose of the end project report is to review how the project performed against the version of the project initiation documentation used to authorise it.

High-level content

Executive summary project manager's report

Performance review a review of the business case, project objectives, and team performance

Product review a review of products, concessions, off-specifications, project product handover, and lessons

Summary of follow-on action recommendations any post-project actions to be taken by the business or supplier(s).

Usage

Process	Action	By	Notes
Starting up a project			
Directing a project	Review	Project board	
Initiating a project			
Controlling a stage			
Managing product delivery			
Managing a stage boundary			
Closing a project	Create	Project manager	
	Confirm	Project assurance	

Format

An end project report can take a number of formats, including:

- a presentation to the project board (physical meeting, conference call, or web conference)
- a document or email sent to the project board
- a dashboard or an entry in a project management tool.

A4 End stage report

Purpose

The purpose of an end stage report is to give a summary of progress to date, the overall project situation, and sufficient information to ask for a project board's decision on what to do next with the project.

High-level content

Executive summary project manager's report

Performance review a review of the business case, project objectives, stage objectives, team performance, quality activities, products' status, phased handover of products (if applicable), and lessons

Summary of follow-on action recommendations actions to be taken by the business following the phased handover of any products during the stage

Key issues and risks a summary of the actual or potential issues and risks (including a list of requests for change or off-specifications raised, actioned, or pending for the period)

Forecast for next stage and project against targets and their tolerances.

Usage

Process	Action	By	Notes
Starting up a project			
Directing a project	Review	Project board	
Initiating a project			
Controlling a stage			
Managing product delivery			
Managing a stage boundary	Create	Project manager	
	Confirm	Project assurance	
Closing a project			

Format

An end stage report can take a number of formats, including:

- a presentation to the project board (physical meeting, conference call, or web conference)
- a document or email sent to the project board
- a dashboard or an entry in a project management tool.

A5 Exception report

Purpose

The purpose of an exception report is to inform the project board when a stage plan or project plan is forecast to exceed tolerance levels set and to offer options and recommendations for the way to proceed.

High-level content

Identifier unique identifier for the exception

Date the date issued

Description an overview of the exception being reported

Cause of the exception a description of the cause of a deviation from the current plan

Consequences of the exception what the implications are if the deviation is not addressed for the project and the business

Options which options are available to address the deviation, and the effect of each option on the business case, risks, and tolerances

Recommendation of the available options, which is recommended, and why

Lessons what can be learned from the exception on this project or future projects?

Usage

Process	Action	By	Notes
Starting up a project			
Directing a project	Respond, Escalate	Project board	Make a decision or escalate to the business
Initiating a project			
Controlling a stage	Create Advise	Project manager Project assurance	
Managing product delivery			
Managing a stage boundary			
Closing a project			

Format

An exception report can take a number of formats, including:

- a presentation to the project board (physical meeting, conference call, or web conference)
- a document or email sent to the project board
- a dashboard or an entry in a project management tool.

For urgent exceptions, it is recommended that the exception report is oral in the first instance and is then followed up in the agreed format.

A6 Highlight report

Purpose

The purpose of a highlight report is to provide the project board (and possibly other stakeholders) with a summary of the stage status at intervals defined by them.

High-level content

Executive summary project manager's report

Period the reporting period covered by the highlight report

Follow-ups the outstanding items from previous reports (for example, action items completed or unresolved)

This reporting period the actual progress of work packages, including those pending authorization, in execution, and completed in the period (if any work packages are being performed by external suppliers, this information may be accompanied by purchase order and invoicing data); products completed in the period; products planned but not started or completed in the period (providing an early warning indicator or potential breach of time tolerance); any corrective actions taken during the period

Next reporting period forecast progress of work packages, including those to be authorized, in execution and to be completed during the next period (if the work packages are being performed by external suppliers, this information may be accompanied by purchase order and invoicing data); products to be completed in the next period; corrective actions to be completed during the next period

Stage and project tolerance status how execution of the project and stage are performing against their tolerances (for example, cost/time actuals and forecast)

Key issues and risks a summary of actual or potential issues and risks (including a list of requests for change or off-specifications raised, actioned, or pending for the period)

Lessons (if appropriate) a review of what went well, what went badly, and any recommendations for consideration by the business; sourced from the lessons log or any lessons reports that may exist.

Usage

Process	Action	By	Notes
Starting up a project			
Directing a project	Review	Project board	
Initiating a project			
Controlling a stage	Create	Project manager	
	Confirm	Project assurance	
Managing product delivery			
Managing a stage boundary			
Closing a project			

Format

A highlight report can take a number of formats, including:

- a presentation to the project board (physical meeting, conference call, or web conference)
- a document or email sent to the project board
- a dashboard or an entry in a project management tool
- a wall chart or Kanban board.

A7 Issue report

Purpose

The purpose of the issue report is to describe the issue's impacts on the project baseline and identify ways to resolve the issue or address off-specification and recommend a decision.

High-level content

Unique identifier unique reference for the issue

Product identifier(s) the identifier of the product(s) affected by the issue

Date raised the date the issue was first logged

Type of issue the problem or concern, external event, business opportunity, request for change, off-specification

Grading severity and priority, if used

Description a summary of the issue source, cause, and impact

Impact analysis analysis of its impact on the project baseline

Options ways in which the project, user, or supplier could respond to the issue

Recommendation the decision recommended by the project manager or team manager

Decision a record of the decision in response to the issue, e.g. for an off-specification it could record the acceptance and provide a summary of the concession made.

Usage

Process	Action	By	Notes
Starting up a project			
Directing a project	Respond, Escalate	Project board	Make a decision or escalate to the business
Initiating a project			
Controlling a stage	Create	Project manager or team manager	Make a decision or escalate to the project board
	Advise	Project assurance	
Managing product delivery			
Managing a stage boundary			
Closing a project			

Format

The format of the issue report will be defined in the issue management approach. Its various formats include:

- a document, spreadsheet, or database
- a dashboard or an entry in a project management tool.

Not all entries in the issue register will need a separately documented issue report.

A8 Lessons report

Purpose

The purpose of a lessons report is to share lessons and trigger actions to ensure that lessons become embedded in the appropriate organization's way of working. A lessons report can be created at any time in a project and should not necessarily be delayed until the end. Typically, they can be included as part of the end stage report or end project report. It may be appropriate (and necessary) for there to be several lessons reports specific to a particular organization (for example user, supplier, business).

High-level content

Executive summary a summary of the lesson

Description for work package, stage, or project lessons a review of what went well, what went badly, and recommendations for this project or future projects

Description for a specific lesson the effect (for example, positive/negative financial impact), cause/trigger if known/proven, whether there were any early warning indicators, whether it was previously identified as a risk (threat or opportunity), recommendations for this project or future projects.

Usage

Process	Action	By	Notes
Starting up a project	Review	Project manager and project executive	Review previous lessons reports from other projects and, perhaps, other organizations
Directing a project	Review, Communicate	Project board	
Initiating a project			
Controlling a stage			
Managing product delivery			
Managing a stage boundary	Create Advise	Project manager Project assurance	
Closing a project	Create Confirm	Project manager Project assurance	Confirm that lessons and follow-on actions are assigned

Format

A lessons report can take a number of formats, including:

- an oral report to the target audience (which could be in person or by phone)
- a presentation at a lessons review or progress review (via physical meeting, conference call, web conference)
- a document or email sent to the target audience
- a dashboard or an entry in a project management tool or management system.

A9 Plan

Purpose

The purpose of the plan is to provide a proposal that outlines the *what, where, when, how, and by whom* the project as a whole (or a subset of its activities) will be performed. When approved, a plan provides a baseline against which progress can be measured and issues assessed.

High-level content

Scope description of the plan's scope (project, stage, team, and exception)

Dependencies external products or activities on which the plan depends

Planning assumptions and prerequisites assumptions on which the plan is based and any fundamental aspects that must be established or remain in place for the plan to succeed

Lessons incorporated details of relevant lessons from previous similar projects, which have been reviewed and accommodated within this plan

Products to be delivered the product breakdown structure, product flow diagram, and product descriptions that fall within the scope of the plan

Work to be performed the work in the scope of the plan shown by way of a work breakdown structure and the associated work package description(s)

Budget the project costs, including the risk budget and change budget

Schedule a representation of the project stages and activities, their durations, and sequence, such as a Gantt chart

Targets and tolerances the performance targets and the permissible deviations for scope, cost, and time at the level of the plan. Stage plans and team plans may also include sustainability and risk tolerances

Monitoring, control, and reporting arrangements description of how the project will be monitored and controlled and of reporting procedures and responsibilities.

Usage

Process	Action	By	Notes
Starting up a project	Create	Project manager	Stage plan for the initiation stage
Directing a project	Approve, Review, Check	Project board	Project plan, stage plan
Initiating a project	Create Advise	Project manager Project assurance	Project plan
Controlling a stage	Approve, Check	Project manager	Team plan
Managing product delivery	Create, Review, Update	Team manager	Team plan
Managing a stage boundary	Check, Update Create, Update Advise	Project manager Project manager Project assurance	Project plan Stage plan Stage plan, project plan
Closing a project	Review	Project manager	Project plan

Format

A plan can take a number of formats, including:

- a document, spreadsheet, presentation slides or mind map (either as a stand-alone product or a section of the project initiation documentation)
- an entry in a project planning tool.

The schedule may be in the form of a list of the products to be delivered within the scope of the plan, together with key status dates such as draft ready, quality inspected, approved, and so on.

A10 Product description

Purpose

The purpose of a product description is to describe a product's purpose, composition, derived from, and quality specifications. It is produced at the planning time, as soon as possible after the need for the product is identified.

High-level content

Identifier the product name or a unique identifier if the project has a large number of products

Version the current version number of the product description

Purpose the purpose of the product, how it will be used, and who will use it

Composition a list of the product's components or parts

Derived from the source of this product, such as a design, a commercial product, an existing system to be upgraded or replaced, or a statement of expected benefits

Quality specifications the functional and non-functional requirements for the product along with their associated measures

Development or production approach and skills required a description of how the product is expected to be developed or produced and any special skills, facilities, or equipment required

Quality tolerance the ranges within which key quality specifications can vary and remain acceptable

Quality methods and quality skills required the quality methods (such as verification, test, and inspection) to be used to check that the product meets its quality specification and the indication of skills required to perform the quality control activities

Responsibilities the producer, reviewer, and acceptance authority for the product.

Usage

Process	Action	By	Notes
Starting up a project			
Directing a project	Approve	Project board	
Initiating a project	Create	Project manager	
	Advise	Project assurance	
Controlling a stage			
Managing product delivery			
Managing a stage boundary	Create, Update	Project manager	
	Advise	Project assurance	
Closing a project			

Format

A product description can take a number of formats, including:

- a document, presentation slides, workbook, or mind map
- an entry in a project management tool
- a user story (if an agile method is being used for product development).

All Project brief

Purpose

The purpose of the project brief is to provide a full and firm foundation for the initiation of the project.

High-level content

Project definition explains what the project should achieve and should include the following:

- the background
- project objectives
- desired outcomes
- project scope and exclusions
- constraints and assumptions
- project tolerances
- users and any other known interested parties.

Outline business case reasons why the project is needed, and the business option is selected (See A1 for a further breakdown.)

Project product description includes user quality expectations and acceptance criteria

Project approach defines the approach to deliver the business option selected from the business case

Project management team structure and role descriptions defines the different responsibilities of the various members of a team

References for any associated documents or products.

Usage

Process	Action	By	Notes
Starting up a project	Produce	Project manager and Project executive	
Directing a project	Approve	Project board	
Initiating a project	Review	Project manager	Project brief becomes part of the project initiation documentation from here on
Controlling a stage			
Managing product delivery			
Managing a stage boundary			
Closing a project			

Format

A project brief can take a number of formats, including:

- a document, presentation slides, workbook, or mind map
- a collection of information sources in a project management tool.

A12 Project initiation documentation

Purpose

The project initiation documentation gives the direction and scope of the project and (along with the stage plan) forms the ‘contract’ between the project manager and the project board. The three primary uses of the project initiation documentation are to:

- ensure that the project has a sound basis before asking the project board to make any major commitment to the project
- act as a base document against which the project board and project manager can assess progress, issues, and ongoing viability questions
- provide a single source of reference about the project so that people joining the ‘temporary organization’ can quickly and easily discover what the project is about and how it is being managed.

High-level content

Project definition explains what the project needs to achieve and should include background context, project objectives, desired outcomes, project scope (inclusions and exclusions), constraints and assumptions, the user(s) and any other interested parties, and interfaces

Project approach defines the choice of solution and delivery method that will be used in the project to deliver the business option selected from the business case, considering the operational environment into which the solution must fit

Business case describes the justification for the project and the selected business option based on estimated costs, risks, and benefits (See A1 for a further breakdown.)

Project management team structure defines who is involved in the project, their relationships, and how they will work together, including relevant key personnel outside the project team

Role descriptions describes the roles of those in the project management team and their specific responsibilities

Management approaches the procedures, techniques, and standards to be applied and the responsibilities for:

- **benefits management approach** (see Chapter 5) to define the benefits management actions and benefits reviews that will be established to ensure that the project's outcomes are achieved and to confirm that the project's benefits are realized
- **change management approach** (see Chapter 3) to establish the target organizational state required for the project to meet its objectives together with the means by which the business will shift from the current state and through any interim states
- **commercial management approach** (see Chapter 6) to describe the procedures, techniques, and standards to be applied and the responsibilities for effective commercial management (This covers the approach to secure, service, and maintain all commercial agreements required for the project to be a success. This may include activities such as market engagement, procurement, and contract management.)
- **communication management approach** (see Chapter 3) to define and describe the means and frequency of communication with and receiving feedback from across the project ecosystem, supporting alignment, and shaping of the project (It facilitates engagement with stakeholders through the establishment of a controlled and bidirectional flow of information.)
- **digital and data management approach** (see Chapter 11) to describe how data and information will be managed across the project ecosystem and through the project lifecycle and afterwards
- **issue management approach** (see Chapter 10) to describe how issues will be captured and reported and explain how changes to the project baseline will be assessed and controlled
- **quality management approach** (see Chapter 8) to describe the quality techniques and standards to be applied and the roles and responsibilities for achieving the required quality specifications and acceptance criteria during a project.
- **risk management approach** (see Chapter 9) to describe how risk will be managed on the project (This includes the specific procedures, techniques, standards, and responsibilities to be applied.)
- **sustainability management approach** (see Chapter 5) to define the actions, reviews, and controls that will be established to ensure that sustainability performance targets for the project are achieved.

Project plan describes how and when the project's objectives are to be achieved by showing the major products, activities, resources, and people required on the project; provides a baseline against which to monitor the project's progress (See A9 for a further breakdown.)

Tailoring of PRINCE2 a summary of how PRINCE2 is tailored for the project; for example, any changes of terminology.

Usage

Process	Action	By	Notes
Starting up a project			
Directing a project	Approve	Project board	
Initiating a project	Assemble	Project manager	
	Advise	Project assurance	
Controlling a stage	Review	Project manager	
Managing product delivery	Review	Team manager	Management approaches may be referenced in a work package description
Managing a stage boundary	Review, Update	Project manager	
Closing a project	Review	Project manager	

Format

The project initiation documentation can take a number of formats, including:

- a single document, an index for a collection of documents, or a document with cross-references to a number of other documents
- a collection of information sources in a project management tool.

A13 Project log

Purpose

The purpose of the project log is to capture the continually changing records of issues, lessons, products, quality, risk, and other informal actions or events. The project log is dynamic in that it contains the current and historic record of project activities and progress.

High-level content

Issue register The purpose of the issue register is to log all issue reports raised during the project lifecycle, their current status, and date of closure. It comprises:

- **Issue identifier** a unique reference for the issue
- **Issue description** a summary of the issue
- **Issue type** a problem, concern, external event, business opportunity, request for change, and off-specification
- **Grading** a rating of priority and severity
- **Issue owner** for the issue
- **Status** the current status of the issue, for example, logged, reviewed, actioned, escalated, and resolved
- **Relevant dates related to the issue** for example, date raised, date last reviewed, action due dates, and date resolved
- **Records** a list of the documents associated with the issue and their location.

Lessons log The purpose of the lessons log is to provide a repository to record lessons that apply to this project or future projects. Some lessons may originate from other projects and should be captured on the lessons log for input to the project's approaches and plans. Some lessons may originate from within the project, where new experience (both good and bad) can be applied to this project and/or passed on to others. It comprises:

- **Lesson identifier** a unique reference for the lesson
- **Lesson description** a summary of the lesson and associated details, for example, the effect (for example positive/negative financial impact), known cause/trigger, whether there were any early warning indicators, whether it was previously identified as a risk (threat or opportunity), and recommendations
- **Lesson type** for example, team lesson, project lesson, and business layer lesson
- **Lesson owner** the person responsible for actioning any learning from the lesson (could be from a team, the project, or the business)
- **Grading** a rating of priority and severity
- **Status** the current status of the lesson, for example, logged, reviewed, learning actioned (by project), and learning actioned (by business)
- **Relevant dates related to the lesson** for example, date raised, date last reviewed, action due dates, and date resolved
- **Records** a list of the documents associated with the issue and their location.

Product register The purpose of the product register is to make a list of all products required for a plan and the status of those products. It comprises:

- **Product identifier** the identifier of the product
- **Dates** the dates of product description approval and of product acceptance
- **Status** the status of the product (such as in development or acceptance) and current version number
- **References** links to the associated product description.

Quality register The purpose of the quality register is to summarize all quality management activities that are planned or have occurred. The quality register is used by the project manager and project assurance as part of reviewing progress. It comprises:

- **Quality identifier** unique reference for the quality activity
- **Product identifier** the identifier of the product subject to the quality activity
- **Quality method** the quality method involved in the activity
- **Dates** planned and actual dates of the activity
- **Responsibilities** the individuals or functions involved and their respective roles and responsibilities
- **Result** whether the product passed or failed; indication of the response in the event the product fails
- **Records** a list of the documents associated with the activity and their location.

Risk register The purpose of the risk register is to maintain a record of identified risks related to the project, including their status and history. It is used to capture and maintain information on all the identified threats and opportunities relating to the project. It comprises:

- **Risk identifier** a unique reference for the risk
- **Risk description** a summary of the cause, event, and effect of the risk

- **Probability** an estimate of how likely it is for the risk event to occur
- **Impact** an estimate of the risk effect
- **Proximity** an estimate of how soon a risk might occur
- **Velocity** an estimate of how quickly a risk would have an impact on objectives should it occur
- **Risk responses** chosen actions to counter the risk
- **Planned residual probability and impact** the probability and impact of the risk, assuming the risk responses are effective
- **Risk owner** for the risk
- **Risk action owner(s)** for the risk responses
- **Relevant dates related to the risk** for example, date logged, date last reviewed, and action due dates
- **Records** list of the documents associated with the risk and their location.

Daily log The purpose of the daily log is to record informal issues, required actions, or significant events not captured by other PRINCE2 management products. It can act as the project diary for the project manager. It can also be used as a repository for issues and risks during the starting up a project process if the other registers have not been created. There may be more than one daily log, as team managers may elect to have one for their work packages, separate from the project manager's daily log. Entries are made when the project manager or team manager feels it is appropriate to log some event. Often entries are based on thoughts, conversations, and observations. It comprises:

- **Log entry** description of the informal issue, action, event, or diary note
- **Date** the date logged, assessed, or actioned.

Usage

Process	Action	By	Notes
Starting up a project	Create	Project manager	Daily log, lessons log (if appropriate)
Directing a project			
Initiating a project	Create, Update	Project manager, Project support	All remaining logs and registers
Controlling a stage	Review, Update	Project manager, Project support	All
Managing product delivery	Review, Update	Team manager, Project support	All
Managing a stage boundary	Review, Update	Project manager, Project support	All
Closing a project	Review, Update	Project manager, Project support	All

Format

The format and presentation of the project log will be derived from the management approaches. The project log can take a number of formats, including:

- a document, spreadsheet, workbook, or database
- sticky notes on a wall chart
- a carry-forward in the minutes of progress review meetings
- an entry in a project management tool.

The project log may be created as an integrated log for all risks, actions, decisions, assumptions, issues, lessons, and so on, or may be created as a collection of standalone logs and registers in different formats, for example, the risk register in a risk management tool and the issues register in a spreadsheet.

A14 Project product description

Purpose

The purpose of the project product description is to describe the project's major products and intended purpose, including the user's quality expectations, the acceptance criteria, and acceptance methods for the project. It is created in the process of starting up a project and refined during the process of initiating a project.

High-level content

Purpose a description of what the project products will fulfil and who will use them

Major products a description of the major products to be delivered

Derived from what the products are based on, such as existing products or a requirement for a new capability

User's quality expectations description of the quality expected of the project products and the standards and procedures that will need to be applied to achieve them

Acceptance criteria a prioritized list of criteria that the project products must meet to be accepted by the user

Acceptance methods and responsibilities the means by which acceptance will be confirmed, and the people responsible for the acceptance decisions will be determined

Project level quality tolerances any tolerances that apply to the acceptance criteria.

Usage

Process	Action	By	Notes
Starting up a project	Create	Project manager	
Directing a project	Approve	Project board	
Initiating a project	Update	Project manager	
	Advise	Project assurance	
Controlling a stage			
Managing product delivery			
Managing a stage boundary	Review, Update	Project manager	
	Review	Project assurance	
Closing a project	Review	Project manager	
	Confirm	Project assurance	

Format

The project product description can take a number of formats, including:

- a document, presentation slides, workbook, or mind map
- an entry in a project management tool.

A15 Work package description

Purpose

The purpose of a work package description is to describe how one or more products will be produced and delivered. It is used to pass responsibility for work formally to a team manager or team member.

High-level content

Description of work to be done a statement of work and associated work breakdown structure

Team manager or person authorized the name of the team manager or individual responsible for the work package

Product descriptions the product descriptions associated with the work package

Techniques and procedures requirements for how the work is to be done

Change control requirements arrangements for control of the project and product baselines that fall within scope of the work package

Constraints restrictions or limits on the work, such as authorized work hours, safety, and security measures

Monitoring, control, and reporting description of how the work package will be monitored, controlled, and reported

Targets and tolerances the permissible deviations for scope, cost, and time for the work package

References applicable references from higher-level plans

Approval who will approve the completed products

Agreement a record of the initial authorization and final completion of the work package between the project manager and the team manager.

Usage

Process	Action	By	Notes
Starting up a project			
Directing a project			
Initiating a project			
Controlling a stage	Create, Review, Update	Project manager	
Managing product delivery	Accept, Review, Check	Team manager	
Managing a stage boundary			
Closing a project			

Format

A work package description can take a number of formats, including:

- a document, presentation slides, workbook, or mind map issued to the team manager
- a conversation, meeting, or workshop with the project manager, team manager, and team members
- an email or in-app message from the project manager to a team manager
- an entry in a project management tool.

The work package description will vary in content and in degree of formality, depending on circumstances. Where the work is being conducted by a team working directly under the project manager, the work package description may be an oral instruction. However, there are good reasons for putting it in writing, such as avoidance of misunderstanding and providing a link to performance assessment. Where the work is being performed by a supplier under a contract and the project manager is part of the customer organization, there is a need for a formal written instruction in line with the standards specified in the contract.



APPENDIX B

ROLE DESCRIPTIONS

APPENDIX B

ROLE DESCRIPTIONS

This appendix includes responsibilities of the PRINCE2 roles. To meet the needs of different projects, these roles may be tailored as described in Chapter 2 in general and in Chapter 6 in particular. It should be noted, however, that these roles do not necessarily equate to jobs to be allocated to people on a one-to-one basis. Some roles may be undertaken part-time, whereas many roles may be shared or combined according to the project's needs.

Project assurance

Overview

Project board members are responsible for the assurance of their respective areas of concern (business, user, and supplier). The project board is responsible for establishing how project assurance will be undertaken, ensuring clarity in the roles and responsibilities, and determining how those appointed to assurance roles will interact with each other. Depending on who has the knowledge, skills, and capacity to support the project team, the assurance tasks can be undertaken by the board members themselves, who are either appointed from the wider business or selected from an external party.

Responsibilities

- Advise the project board and project manager on assessing and resolving issues, risks, and exceptions reports and checking for impacts against the business case.
- Advise the project manager on selection of project team members.
- Advise the project manager on the management approaches.
- Assist the project board and project manager by reviewing product descriptions.
- Assure project board members that data is being managed appropriately by reviewing data management practices to ensure they are performed in line with the project's digital and data management approach.
- Assure project board members that issues are being managed appropriately by reviewing issue and change control practices to ensure they are performed in line with the project's issue management approach.
- Assure project board members that risk is being managed appropriately by reviewing risk management practices to ensure they are performed in line with the project's risk management approach.
- Assure the feasibility of stage and project plans against agreed targets and their tolerances.
- Assure the impact assessment of potential changes on the business case and project plan.

- Check and monitor the business case against external events and project progress.
- Check changes to the project plan to identify any impact on the needs of the business or the business case.
- Check project finance on behalf of the business.
- Check that the project fits with the overall business objectives.
- Check the business case against project progress and any external events.
- Confirm stage and project progress against agreed tolerances.
- Confirm that the management approaches are compliant with business policies, and assure the project board on the implementation of the management approaches.

Project executive

Overview

The project executive is appointed by the business as the single point of accountability for the project and is ultimately accountable for the success of the project. This accountability cannot be delegated. The project executive secures funding for the project and is responsible for the business case and the continued business justification of the project. They are responsible for effectively governing the project in a way that is aligned with the business strategy, including ensuring long-term thinking on topics such as environmental, social, and economic impacts.

Responsibilities

- Be accountable for benefits for the duration of the project (unless being managed by the business).
- Be accountable for the business case for the duration of the project. Oversee the development of a viable business case, ensuring the project is aligned with business objectives.
- Be accountable to the business on sustainability reporting for the project. Ensure that sustainability risks are identified, assessed, and controlled.
- Be accountable for sharing lessons learned from the project with the business.
- Review and confirm the project approach and the choice of delivery model, and ensure they are compatible with the business' ESG objectives.
- Approve the project brief, management approaches, the project management team structure, the project product description, the project initiation documentation, the project plan, stage plans, and any exception plans (when stage level tolerances are forecast to be exceeded).
- Ensure that the benefits specified by the senior user represent value for money are aligned with business objectives, and can be realized.
- Ensure that the delivery method and costs proposed by the senior supplier represent value for money.
- Confirm the organizational design for the project. Appoint the project manager (if not done by the business), and confirm appointments to the project management team. Commit people and business resources to the project.
- Determine if a project level change budget is needed, and specify the amount for the budget. Determine whether a delegated authority for approving changes is needed. Set tolerances and change budget for each stage.

- Ensure that risks associated with the business case are identified, assessed, and controlled. Make decisions on escalated risks, with a particular focus on continued business justification. Escalate risks to the business as necessary. Implement risk responses (as the risk action owner) for assigned risks.
- Determine risk budget.
- Secure the funding for the project.
- Ensure that progress towards the outcome remains consistent from the business perspective.
- Respond to requests for advice from the project manager, and make decisions on escalated issues, with a particular focus on continued business justification.
- Make decisions on exception reports when stage level tolerances are forecast to be exceeded. Escalate exceptions to the business as necessary.
- Ensure that the project remains desirable, viable, and achievable.
- Confirm project closure and acceptance of the project product. Notify the business.

Project manager

Overview

The project manager has the authority to run the project on behalf of the project board within the agreed project tolerances and constraints. They are responsible for day-to-day management of a project.

Responsibilities

- Consult with stakeholders to prepare and maintain the product descriptions and management approaches.
- Consult with stakeholders through the lifespan of the project to check whether any goals have changed.
- Design the plans. Decide how stages and delivery steps are to be applied.
- Design, review, and update the project management team structure and work breakdown structure. Prepare role descriptions.
- Prepare the business case and the management approaches. Assess and update them at the end of each stage.
- Prepare the project plan, stage plans, and work package descriptions, and update as necessary.
- Authorize work packages, and set work package tolerances.
- Ensure that project risks are being identified, assessed, and controlled throughout the project.
- Ensure that team managers implement the management approaches agreed in their team plans.
- Establish and maintain a healthy project ecosystem, and ensure the wellbeing of the project management team.
- Establish and maintain the project log, assisted by project support where possible.
- Implement corrective actions and risk responses (as the risk action owner) for assigned risks.
- Instruct corrective action when work package level tolerances are forecast to be exceeded.
- Manage the procedures required of the management approaches, assisted by project support where possible.

- Monitor progress against stage plans. Review the impact of issues and risks on the continued viability of the business case.
- Produce exception reports for the project board when stage level or project level tolerances are forecast to be exceeded.
- Prepare an exception plan to implement decisions in response to exception reports.
- Produce lessons reports, highlight reports, exception reports, end stage reports, and the end project report. Remain responsible for sustainability reporting from the project perspective.
- Assess and report on project performance at project closure.

Project support

Overview

Project support is responsible for providing services such as administrative support, advice and guidance on the project tools, planning support, risk management, and change management.

Although the role is the responsibility of the project manager, it can be delegated to suppliers, individuals, or groups within the business or to other team members. This is dependent on the scale and complexity of the project and the skills, knowledge, and capacity of the project manager. Some organizations establish a project office that can fulfil this role to support the delivery of projects (see *Portfolio, Programme and Project Offices P3O*). Project support can help with integration across the project ecosystem, including gaining feedback to aid improvements to the ways of working, evolving the project direction, and building social cohesion.

Responsibilities

- Administer specialist tools to support the digital and data management approach (such as planning, control, and reporting tools).
- Administer the change control and issue procedures. Advise the project manager of any proposed or actual changes to products that affect the business case.
- Assist team managers and members with the application of the project's procedures.
- Assist the project manager in maintaining the project log.
- Assist with the compilation of project plans, stage plans, work package descriptions, and team plans.
- Assist with the compilation, dissemination, and storage of reports (checkpoint report, exception reports, lessons report, end stage report, and end project report).
- Assist the project manager in preparing issue reports.
- Provide a baseline for project plans, stage plans, team plans, and work package descriptions and determine ways to store and distribute them.
- Provide a baseline for the business case, the project brief, management approaches, and the project initiation documentation and determine ways to store and distribute them.
- Contribute specialist expertise (for example, planning tools).
- Implement risk responses (as the risk action owner) for assigned risks.
- Maintain the project baseline.

- Provide administrative support for quality controls, risk controls, change management activities, commercial management activities, and communication management activities.
- Provide assistance with onboarding and offboarding.
- Provide assistance with stakeholder analysis.

Senior supplier

Overview

The senior supplier represents the supplier community that is involved in all aspects of delivering the project products. The senior supplier is accountable for the quality of the products delivered by the suppliers and for the technical integrity of the project.

Responsibilities

- Advise on the people aspects of the supplier teams, for example, specific health, safety, and wellbeing requirements.
- Agree product descriptions for key specialist products.
- Agree the management approaches (where appropriate).
- Agree the quality techniques and tools adopted in product development as defined in product descriptions and work package descriptions. Provide people and resources to perform supplier quality activities.
- Approve the project product description (if appropriate).
- Assist the project manager in preparing project, stage plans, and work package descriptions.
- Be accountable for the supplier business case (if applicable).
- Commit people and supplier resources.
- Confirm that the products required can be delivered within the expected costs and are viable.
- Ensure appropriate level of involvement of people from the supplier community.
- Ensure that risks relating to the supplier aspects are identified, assessed, and controlled (for example, the delivery of products).
- Ensure that progress towards the outcome remains consistent from the supplier perspective.
- Ensure that project plans and stage plans remain consistent from the supplier perspective.
- Implement risk responses (as the risk action owner) for assigned risks.
- Make decisions on escalated risks with a particular focus on safeguarding the integrity of the complete solution.
- Remain responsible for sustainability reporting from the supplier perspective.
- Respond to requests for advice from the project manager, and make decisions on escalated issues with a particular focus on safeguarding the integrity of the complete solution.

Senior user

Overview

The senior user represents the user community and is accountable for the approach taken to capture user requirements and the specification of benefits aligned to the business case. The senior user is responsible for:

- ensuring the approach gains user buy-in to the project
- monitoring the products against the requirements in line with the business case
- demonstrating to the business that the forecasted benefits in the business case are on track to being realized
- controlling change according to requirements and benefits, whether arising from the users, the business, or the project itself
- ensuring the successful handover and adoption of products into the business and facilitating continued realization of benefits after the project has closed.

The senior user must ensure sufficient ongoing commitment from people in the user community to support these activities, in particular where there is a long-term commitment beyond the lifespan of the project, such as the realization of benefits.

Responsibilities

- Agree the management approaches (where appropriate).
- Approve the project product description and product descriptions for specialist products. Provide the user's quality expectations and acceptance criteria. Allocate people and resources to perform user quality activities and product acceptance.
- Assist the project manager in preparing project and stage plans.
- Be accountable for specifying the desired outcome and benefits upon which the business case is approved. Define sustainability reporting requirements from the user perspective.
- Commit people and user resources.
- Contribute to stakeholder analysis. Advise on the people aspects of the user community, for example, who the key influencers are. Ensure appropriate level of involvement of people from the user community.
- Ensure that progress towards the outcome remains consistent from the user perspective.
- Ensure that project plans and stage plans remain consistent with the user perspective.
- Ensure that risks to the users are identified, assessed, and controlled (for example, the impact on benefits, operational use, and maintenance). Make decisions on escalated risks, with a particular focus on safeguarding the expected benefits. Implement risk responses (as the risk action owner) for assigned risks.
- Respond to requests for advice from the project manager, and make decisions on escalated issues, with a particular focus on safeguarding the expected benefits.
- Provide statements of actual benefit achievements versus forecast benefits at benefits reviews.
- Be accountable for realizing benefits, and ensure that the project produces products that deliver the desired outcomes and that those outcomes will generate the desired benefits. Confirm that the expected benefits (derived from the project's outcomes) are realized or are able to be realized.
- Accept the project product, and be accountable for the performance of the project product.

Team manager

Overview

Team managers are responsible for delivering the work allocated to them within the tolerances and constraints agreed with the project manager. The project manager allocates work to a team manager in the form of work packages, in line with the commercial management approach.

Responsibilities

- Assist the project manager with preparing and maintaining the product descriptions and work package descriptions. Agree work package descriptions with the project manager.
- Advise on the choice of team members for their part in the project. Manage team members. Ensure wellbeing of their team.
- Assemble quality records for the products in scope of their team plan. Where requested, advise the project manager on product quality status.
- Participate in the identification, assessment, and control of risks. Implement risk responses (as the risk action owner) for assigned risks.
- Implement corrective actions.
- Implement the management procedures agreed in their team plans.
- Inform project support of issues, risks, lessons, completed quality activities, and completed products.
- Manage quality controls for the products within the scope of their team plan.
- Prepare schedules for each work package. Prepare team plans.
- Notify the project manager of any forecast deviation from work package tolerances.
- Produce checkpoint reports, and remain responsible for sustainability reporting to the team.
- Produce products within the scope of their team plan, consistent with their product descriptions.



GLOSSARY



Glossary

acceptance

The formal act of acknowledging that the project has met agreed acceptance criteria and thereby met the requirements of its stakeholders.

acceptance criteria

A prioritized list of criteria that the project product must meet before the user will accept it. For example, measurable definitions of the attributes required for the set of products to be acceptable to key stakeholders.

accountable

The single person who 'owns' a task. Unlike responsibility, accountability cannot be delegated.

activity

Each PRINCE2 process comprises a set of activities, which may be performed in sequence or in parallel during the project. PRINCE2 activities comprise a set of recommended actions designed to achieve a particular result.

agile and agile methods

A broad term for a collection of behaviours, frameworks, concepts, and techniques that go together to enable teams and individuals to work in an agile way that is typified by collaboration, prioritization, iterative and incremental delivery, and timeboxing. There are several specific methods (or frameworks) that are classed as agile, such as Scrum and Kanban. PRINCE2 can be applied in an agile way.

approval

The formal confirmation that a product is complete and meets its requirements (less any concessions) as defined by its product description.

approver (*in quality context*)

The person or group (for example, a project board) who is identified as qualified and authorized to approve a (management or specialist) product as being complete and fit for purpose.

assumption

A statement that is taken as being true for the purposes of planning but which could change later. An assumption is made where some facts are not yet known or decided and is usually reserved for matters of such significance that if they change or prove not to be true, there will need to be considerable replanning.

authority

The right to allocate people and resources and make decisions (applies to project, stage, and team levels).

authorization

The point at which an authority is granted.

baseline management product

A type of management product that defines aspects of the project and, when approved, is subject to change control.

benefit

The measurable improvement resulting from an outcome that is perceived as an advantage by the investing organization and contributes towards one or more business objectives.

benefits tolerance

The permissible deviation in the benefit performance targets that is allowed before the deviation needs to be escalated to the next level of management. Benefits tolerance is documented in the business case. *See also* tolerance.

business

The organization that provides the project mandate and the structure within which the project is governed. Any use of the term 'business' within the official bookl specifically refers to this organization.

business case

The purpose of the business case is to document the business justification for undertaking a project, based on the estimated costs against the expected benefits to be gained and offset by any associated risks. It should outline how and when the expected benefits can be measured.

business layer

The layer of governance outside the project team that sets the overall objectives and tolerance levels for the project and holds the project board accountable for meeting them.

business objective

The measurable outcomes that demonstrate progress in relation to the organization's strategy and to which the project should contribute.

business opportunity

An issue that represents previously unanticipated positive consequences for the project or user organization.

capability

The completed set of project outputs required to deliver an outcome.

change

A change is defined as a modification to any of the approved management products that constitute the project baseline.

change authority

A person or group to which the project board may delegate responsibility for the consideration of requests for change or off-specifications. The change authority may be given a change budget and can approve changes within that budget.

change budget

The money or authorized constraints set aside in a plan to cover changes. It is allocated by those with delegated authority to deliver authorized changes.

change control

The process by which changes that may affect the project baseline are identified, assessed, and then approved, rejected, or deferred.

change management

The means by which an organization transitions from the current state to the target state.

checkpoint

A team-level, time-driven review of progress.

checkpoint report

A report to the project manager by a team manager of the status of the work package at a frequency defined in the work package description.

closure recommendation

A recommendation prepared by the project manager for the project board to send as a project closure notification to the business when the board is satisfied that the project can be closed.

co-creation

A specific form of collaboration involving users and key influencers in the design of products and agreed ways of working to ensure they are adopted by the project and organizational ecosystems.

collaboration

People from across the project ecosystem working together to achieve the project's objectives.

communication management approach

This explains how team members will actively engage with and support each other and how relationships will be developed between different groups within the wider project ecosystem.

concern

An issue whose timeliness and impact need to be assessed.

concession

An off-specification that is accepted by the project board without corrective action.

constraints

The restrictions or limitations by which the project is bound.

corrective action

A set of actions to resolve a threat to a plan's tolerances or a defect in a product.

cost tolerance

The permissible deviation in a plan's cost that is allowed before it needs to be escalated to the next level of management. *See also* tolerance.

culture

The set of shared attitudes, values, goals, and ways of working that characterize a group of people.

customer

The person or group from the business who commissioned the work and will benefit from the end results. The term 'customer' is only used where there is a commercial relationship between the business and the supplier.

daily log

A log used to record problems/concerns that can be handled by the project manager informally.

dashboard

A way of representing vast amounts of decision-support data that gives a current summary, usually in graphic, easy-to-read form, of key information relating to progress and performance.

data analytics

The means of using and analysing data to support effective decision-making or to bring efficiency through the automation of tasks.

deliverable

See output.

delivery method

The way in which the work of the project is to be delivered. The project may rely on one or more delivery methods to create the required products. Typical delivery methods include iterative-incremental, linear-sequential, or hybrid.

delivery model

The organizational and commercial arrangements to be deployed to meet the project objectives given the project constraints and capabilities of the user, business, and supplier organizations. It is described in the commercial management approach and reflected in the project management team structure.

dependency

A dependency means that one product is dependent on another. There are at least two types of dependency relevant to a project: internal and external.

DevOps

An organizational culture that aims to improve the flow of value to customers. DevOps focuses on culture, automation, Lean, measurement, and sharing (CALMS).

dis-benefit

The measurable decline resulting from an outcome perceived as negative by the investing organization and which detracts from one or more business objectives.

early warning indicators

Describe indicators to be used to track critical aspects of the project so that if certain predefined levels are reached, corrective action will be triggered. They will be selected for their relevance to the project objectives.

end project report

A report given by the project manager to the project board, confirming the handover of all products. It includes a review of the performance of the project, any subsequent recommendations, and request approval to close the project.

end stage report

A report given by the project manager to the project board at the end of each stage. This provides information about the project's performance during the stage and the project status at the stage end.

event-driven control

A control that takes place when a specific event occurs. This could be, for example, the end of a stage, the completion of the project initiation documentation, or the creation of an exception report. It could also include organizational events that may affect the project, such as the setting of annual budgets.

exception

A situation where it can be forecast that there will be a deviation beyond the tolerance levels agreed between the project manager and the project board (or between the project board and business layer).

exception plan

A plan that follows an exception report and explains how the project will respond to the exception within the stage.

exception report

A report from the project manager to the project board to explain where tolerances have or are forecast to be breached for the stage or project and to request direction from the project board.

external dependency

An external dependency is one between a project product and a product or activity outside the scope of the project. In these circumstances, the project team does not have complete control over the dependency.

external products

Are products developed or provided outside of the project's control but which the project is dependent on, for example, the publication of a new standard.

follow-on action recommendations

Actions to be taken by the business following the phased handover of any products during the stage.

forecast

A prediction made by studying historical data and past patterns.

governing

The ongoing activity of maintaining a sound system of internal control by which the directors and officers of an organization ensure that effective management systems, including financial monitoring and control systems, have been established to protect assets, earning capacity, and the reputation of the organization.

handover

The transfer of ownership of a set of products to the respective user(s). The set of products is known as a release. There may be more than one handover in the life of a project (phased delivery). Confirmation of the final handover takes place in the 'closing a project' process.

highlight report

A time-driven report from the project manager to the project board on stage progress.

initiation stage

The period from when the project board authorizes initiation to when it authorizes the project (or decides not to go ahead with it). The detailed planning and establishment of the project management infrastructure is covered by the 'initiating a project' process.

internal dependency

An internal dependency is one between two products of a project. In these circumstances, the project team has control over the dependency.

issue

An event relevant to the project that requires project management consideration.

issue register

A register used to capture and maintain information on all of the issues that are being managed formally. The issue register should be monitored by the project manager on a regular basis.

issue report

A report containing the description, impact assessment, and recommendations for a response to an issue. It is created only for those issues that need to be handled formally.

leadership

Motivating people to achieve a project's objectives. On projects, this is best done through collaboration across the project ecosystem, persuading, influencing, and co-creating with a focus on managing key relationships and seeking regular feedback to ensure team members remain aligned to the project's objectives and agree to joint ways of working.

lesson

A lesson is information to facilitate the future of the project or other projects and actively promote learning from experience. The experience may be positive, as in a successful test or outcome, or negative, as in a mishap or failure.

lessons log

An informal repository for lessons that apply to this project or future projects.

log

An informal repository managed by the project manager that does not require any agreement by the project board on its format and composition. PRINCE2 has two logs: the daily log and the lessons log.

management

Instructing the execution of tasks in line with agreed ways of working. Co-creating ways of working with project team members (and stakeholders) significantly improves people's willingness to be managed in line with them.

management approaches

The procedures, techniques, and standards to be applied and the responsibilities for: benefits management, change management, commercial management, communication management, data management, issue management, quality management, risk management, and sustainability management.

management product

A product that will be required as part of managing the project and establishing and maintaining quality (for example, highlight report and end stage report). The management products are constant, whatever the type of project, and can be used as described, or with any relevant modifications, for all projects. There are three types of management product: baselines, records, and reports.

milestone

A significant event in a plan's schedule, such as completion of key work packages, a development step, or a stage.

minimum viable product

Used in agile development methods to describe a product with just enough features to satisfy early customers, who can then provide feedback for future product development.

off-specification

A product that will not meet its quality specifications.

operational and maintenance acceptance

A specific type of acceptance by the person or group that will support the product after it has been delivered to the operational environment.

organizational ecosystem

The internal elements of an organization (including staff, board, owners, and other stakeholders) together with the organization's external relationships such as customers, partners, suppliers, regulators, and competitors.

outcome

The result of change, normally affecting real-world behaviour and circumstances. Changes are implemented to achieve outcomes, which are achieved as a result of the activities undertaken to facilitate the change.

outline business case

Reasons why the project is needed and the business option that is selected.

output

The tangible or intangible deliverable of an activity.

performance target

The project's performance target sets the expected success level against which the management of the project will be judged. PRINCE2 includes performance targets for benefits, cost, time, quality, scope, sustainability, and risk.

plan

A proposal that outlines the what, where, when, how, and who of the project as a whole (or a subset of its activities). In PRINCE2, there are the following types of plan: project plan, stage plan, team plan, and exception plan.

planning horizon

The period of time for which it is possible to plan accurately.

portfolio

The totality of an organization's investment (or segment thereof) in the changes required to achieve its strategic objectives.

practice

An aspect of project management that must be applied consistently and throughout the project lifecycle. The practices require specific treatment of that aspect of project management for the PRINCE2 processes to be effective.

premature closure

The PRINCE2 activity to close a project before its planned closure. The project manager must ensure that work in progress is not simply abandoned but that the project salvages any value created to date. They must check that any gaps left by the cancellation of the project are raised to the business.

prerequisites (plan)

Any fundamental aspects that must be in place, and remain in place, for a plan to succeed.

PRINCE2 principles

The guiding obligations that determine whether the project is genuinely being managed using PRINCE2 and ensure effective application and tailoring of PRINCE2 to any project.

PRINCE2 project

A project that applies the PRINCE2 principles.

probability

This is the evaluated likelihood of a particular threat or opportunity actually happening, including a consideration of the frequency with which this may arise.

problem

An issue with an immediate and negative impact.

procedure

A series of actions for a particular aspect of project management established specifically for the project (for example, a risk management procedure).

process

A structured set of activities that define the sequence of actions and their inputs and outputs to achieve a specific objective. There are seven project processes in the PRINCE2 method.

producer (in a quality context)

The person or group responsible for developing a product.

product

An input or output, whether tangible or intangible, that can be described in advance, created, and tested. PRINCE2 includes four types of products: management products, specialist products, the project product, and external products.

product backlog

Used in agile development methods to provide a list of new features for a product. The list may be made up of user stories that are structured in a way that describes who wants the feature and why.

product breakdown structure

A hierarchy of all the products to be produced during a plan.

product description

A description of a product's purpose, format, composition, derivation, quality specifications, and development responsibilities.

product flow diagram

A diagram showing the sequence of production and interdependencies of the products listed in a product breakdown structure.

product register

A component of the project log that identifies the products to be delivered by the project and records their acceptance.

product-based planning

The PRINCE2 technique leads to a plan based on the creation and delivery of the required products.

programme

A temporary structure designed to lead multiple interrelated projects and other work in order to progressively achieve outcomes of benefit for one or more organizations.

progress

The measure of the achievement of the objectives of a plan.

project

A temporary organization that is created for the purpose of delivering one or more business products according to an agreed business case.

project approach

Defines the choice of solution and delivery method that will be used in the project to deliver the business option selected from the business case, considering the operational environment into which the solution must fit.

project assurance

The project board's responsibilities to assure itself that the project is being conducted correctly. The project board members each have a specific area of focus for project assurance, namely business assurance for the executive, user assurance for the senior user(s), and supplier assurance for the senior supplier(s).

project baseline

The current version of the management products and specialist products that are subject to change control.

project board

Accountable to the business for the success of the project and has the authority to direct the project within the remit set by the business.

project brief

A statement that describes the purpose, cost, time and performance requirements, and constraints for a project. It is created before the project begins, during the 'starting up a project' process, and is used during the 'initiating a project' process to create the project initiation documentation. It is superseded by the project initiation documentation and not maintained.

project closure notification

Advice from the project board to inform all stakeholders and the host sites that the project resources can be disbanded and support services such as space, equipment, and access can be demobilized. It should indicate a closure date for costs to be charged to the project.

project definition

Explains what the project needs to achieve and should include: background context, project objectives and desired outcomes, project scope (inclusions and exclusions), constraints and assumptions, the user(s) and any other interested parties, and interfaces.

project ecosystem

Those elements of the business involved in or directly impacted by the project and the associated users and suppliers.

project executive

The individual with overall responsibility for ensuring that a project meets its objectives and delivers the projected benefits. This individual should ensure that the project maintains its business focus, that it has clear authority, and that the work, including risks, is actively managed. The executive is the chair of the project board.

project initiation documentation

A logical set of documents that brings together the key information needed to start the project on a sound basis and that conveys the information to all concerned with the project.

project initiation notification

Advice from the project board to inform all stakeholders and the host sites that the project is being initiated and to request any necessary logistical support (for example, communication facilities, equipment, and any project support) sufficient for the initiation stage.

project lifecycle

The period from initiation of a project to the acceptance of the project product.

project management

The application of methods, tools, techniques, and competencies to a project.

project management team

The entire management structure of the project board, and the project manager, plus any team manager, project assurance, and project support roles.

project management team structure

An organization chart showing the people assigned to the project management team roles to be used, their delegation, and reporting relationships.

project manager

The person given the authority and responsibility to manage the project on a day-to-day basis to deliver the required products within the constraints agreed with the project board.

project mandate

An external product generated by the authority commissioning the project that forms the trigger for starting up a project.

project office

A temporary office set up to support the delivery of a specific change initiative being delivered as a project. If used, the project office undertakes the responsibility of the project support role.

project plan

A high-level plan showing the major products of the project and when, how, and at what cost they will be delivered.

project product

What the project must deliver in order to gain acceptance.

project product description

A description of the project's major products or outcomes, including the user's quality expectations, together with the acceptance criteria and acceptance methods for the project.

project support

An administrative role in the project management team. Project support can be in the form of advice and help with project management tools, guidance, administrative services such as filing and the collection of actual data.

project team

PRINCE2 uses the term project team to cover all people required to allocate their time to the project.

quality

The degree to which a set of inherent characteristics of a product, service, process, person, organization, system, or resource fulfils its requirements.

quality assurance

A planned and systematic activity that provides confidence that products will meet their defined quality specifications when tested under quality control. Quality assurance activities are typically performed by the business ensuring they are independent of the project team.

quality control

The procedures to monitor the specific products of a project and their development or delivery activities to determine whether they comply with relevant standards and of identifying ways to minimize causes of unsatisfactory performance.

quality management approach

The description of the quality techniques and standards to be applied and the roles and responsibilities for achieving the required quality criteria and acceptance criteria during a project.

quality planning

The capturing of quality specifications for the project products and generating the associated product descriptions and quality management approach.

quality register

A component of the project log that identifies all the quality control activities that are planned or have occurred and provides information for end stage reports and the end project report.

quality review

Quality reviews assess whether a product is complete, adheres to standards, and meets its quality specifications. They may need to be conducted at multiple points in the development of a complex product.

quality specification

A description of the quality measures that will be applied by those performing quality control and the levels that a finished product must meet.

quality tolerance

The permissible deviation in a product's quality that is allowed before the deviation needs to be escalated to the next level of management.

records

Records are dynamic management products that maintain information regarding project progress. These are collectively referred to as the project log and include the daily log, issue register, lessons log, product register, quality register, and risk register.

reports

Management products providing a snapshot of the status of certain aspects of the project.

request for change

A proposal for a change to a baseline.

requirement

A need or expectation that is documented in an approved management product.

residual risk

The risk remaining after the risk response has been applied.

resource

The goods, services, equipment, materials, facilities, and funding required to complete a plan.

responsible

The person (or people) who has the authority and is expected to perform a task. Responsibility can be delegated.

reviewer (in quality context)

A person or group independent of the producer who assesses whether a product meets its requirements as defined in its product description.

risk

An uncertain event or set of events that, should it occur, will have an effect on the achievement of objectives. A risk is measured by a combination of the probability of a perceived threat or opportunity occurring and the magnitude of its impact on objectives.

risk action owner

The person who is the nominated owner of agreed actions to respond to a risk. This role is also known as the risk actionee.

risk appetite

The amount and type of risk that the business is willing to take in pursuit of its objectives.

risk budget

A sum of money to fund specific management responses to the project's threats and opportunities (for example, to cover the costs of any contingent plans should a risk materialize).

risk evaluation

The process of understanding the net effect of the identified threats and opportunities on an activity when aggregated together.

risk exposure

The degree to which a particular objective is 'at risk'. Risk exposure is a neutral concept, as exposure can be positive or negative.

risk impact

The estimated effect on objectives should a risk occur.

risk management

The systematic application of principles, approaches, and processes to the tasks of identifying and assessing risks, planning and implementing risk responses, and communicating risk management activities with stakeholders.

risk management approach

An approach describing the goals of applying risk management, as well as the procedure that will be adopted, roles and responsibilities, risk tolerances, the timing of risk management interventions, the tools and techniques that will be used, and the reporting requirements.

risk owner

The person who is assigned to take responsibility for responding to a risk to the satisfaction of the relevant governance board.

risk probability

The estimated chance that a risk will occur. Probability is often estimated by considering likelihood or frequency.

risk profile

A description of the types of risk that are faced by an organization and its exposure to those risks.

risk proximity

How near in time a risk might occur.

risk register

A record of identified risks relating to an initiative, including their status and history.

risk response

Actions that may be taken to bring a situation to a level where exposure to risk is acceptable to the organization. These responses fall into a number of risk response categories.

risk tolerance

A measurable threshold to represent the tolerable range of outcomes for each objective 'at risk', using the same units as for measuring performance for that objective.

risk velocity

How quickly a risk would have an impact on objectives should it occur.

role

The function assigned to a group or individual in a particular project. It is not the same as the position or job of a person outside of that project.

role descriptions

Describe the roles of those in the project management team and their specific responsibilities.

schedule

A graphical representation of a plan (such as a Gantt chart), typically describing a sequence of tasks together with resource allocations, which collectively deliver the plan.

scope

The sum of the product, delivery, and management activities represented by an approved plan and its product descriptions and work package descriptions.

scope tolerance

The permissible deviation in a plan's scope that is allowed before it needs to be escalated to the next level of management. *See* tolerance.

senior supplier

The project board role that provides knowledge and experience of the main discipline(s) involved in the production of the project's deliverable(s). The senior supplier represents the supplier's interests within the project and provides supplier resources.

senior user

The project board role accountable for ensuring that user needs are specified correctly and that the solution meets those needs.

specialist product

A product whose development is the subject of the plan. The specialist products are specific to an individual project (for example, an advertising campaign, a car park ticketing system, foundations for a building, or a new business process). Also known as a deliverable. *See also* output.

sponsor

The main driving force behind a programme or project. PRINCE2 does not define a role for the sponsor, but the sponsor is most likely to be the project executive on the project board or the person who has appointed the executive.

sprint

A fixed timeframe (typically of 2–4 weeks) for creating selected features from the backlog.

stage

The section of a project that the project manager is managing on behalf of the project board at any one time.

stage plan

A detailed plan used as the basis for project management control throughout a stage.

stakeholder

Any individual, group, or organization that can affect or be affected by (or perceives itself to be affected by) the project.

supplier

The organization that provides the expertise, people, and resources required by the project. They may be internal or external to the business organization.

sustainability management approach

Defines the actions, reviews, and controls that will be established to ensure that sustainability performance targets for the project are achieved.

sustainability tolerance

The permissible deviation in the sustainability performance targets that is allowed before the deviation needs to be escalated to the next level of management. Sustainability tolerance is documented in the business case. See tolerance.

tailoring

Adapting a method or process to suit the situation in which it will be used.

team manager

The person responsible for the production of products allocated by the project manager (as defined in a work package description) to an appropriate quality, timescale, and a cost acceptable to the project board. This role reports to, and takes direction from, the project manager. If a team manager is not assigned, the project manager undertakes the responsibilities of the team manager role.

team plan

A plan used as the basis for organizing and controlling the work of a team when executing a work package. Team plans are optional in PRINCE2.

threat

An uncertain event that could have a negative impact on objectives or benefits.

time

The period over which the project will run and the period over which the benefits will be realized.

timebox

A finite period of time when work performed to achieve a goal or meet an objective. The deadline should not be moved, as the method of managing a timebox is to prioritize the work inside it. At a low level, a timebox will be a matter of days or weeks (for example, a sprint). Higher-level timeboxes act as aggregated timeboxes and contain lower-level timeboxes (for example, stages).

time-driven control

A management control that takes place at predefined periodic intervals. For example, this could be producing highlight reports for the project board or checkpoint reports showing the progress of a work package.

time tolerance

The permissible deviation in a plan's time that is allowed before the deviation needs to be escalated to the next level of management. *See also* tolerance.

tolerance

The permissible deviation above and below the plan's target for benefits, cost, time, quality, scope, sustainability, and risk without needing to escalate the deviation to the next level of management. Tolerance is applied at project, stage, and team levels.

transformation

A distinct change to the way an organization conducts all or part of its business.

trigger

An event or decision that triggers a PRINCE2 process to begin.

user

The organization that will use the project products to enable it to gain the expected benefits. They may be internal or external to the business organization.

user acceptance

A specific type of acceptance by the person or group who will use the product after it has been delivered to the operational environment.

user story

A tool used to write a requirement in the form of who, what, and why.

user's quality expectations

A statement about the quality expected from the project product, captured in the project product description.

work breakdown structure

A hierarchy of all work done during a project that forms a link between the product breakdown structure and the work packages.

work package

Work assigned to a team manager requiring the delivery of one or more products.

work package description

The set of information relevant to the delivery of one or more products. It will contain a description of the activities to be performed, identification of the resources involved, the relevant product descriptions for the products to be delivered, and details of any constraints on production.



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