

How PRINCE2™ Can Complement PMBOK® and Your PMP

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Abstract

PMBOK® is the recognized (de facto) standard of project management knowledge. In the UK and Europe, PRINCE2™ is the project management methodology of choice, and is required by the UK government for all projects it commissions. This paper will provide an overview of the PRINCE2™ method and examine the similarities and differences between PMBOK® and PRINCE2™. Finally, it will suggest how these two project management approaches relate to and complement each other, and how the PRINCE2™ project management methodology provides added value to a PMBOK® knowledge base.

About PRINCE2™

PRINCE2™ (short for “PRojects IN Controlled Environments”) is the de facto standard in the UK. It was developed for and is used extensively by the UK government, and is widely used in the private sector, in the UK and internationally. PRINCE2™ is in the public domain, offering non-proprietary best-practice guidance on project management. Anyone may use this methodology, and the manual describing PRINCE2™ can be purchased through online booksellers, as well as through the UK government website, <http://www.ogc.gov.uk/prince2>. PRINCE2™ is supported by a rigorous accreditation process, including accreditation of training organizations, trainers, practitioners and consultants. (The accrediting body is the APM Group, www.prince2.org.uk; their website lists approved training organizations, consultants and practitioners.)

PRINCE2™ is a Process-based, structured project management methodology that highlights how eight particular Components, when understood and effectively addressed, can reduce risks in all types of projects. While PRINCE2™ is based in the same ground as the PMBOK®, it spotlights a number of areas to concretize PMBOK®, and answers the question “how do I apply these concepts in my projects?”

The Structure of PRINCE2™

PRINCE2™ does not claim to be as comprehensive as the PMBOK®. PRINCE2™ is based on the principles of the PMBOK®, as any project management methodology must be. PRINCE2™ extracts and focuses on the elements (“components”) which it identifies as being crucial to the successful assessment and completion of a project. It constructs a process to tie those elements together to reduce overall project risk, and provides techniques to support them. “The Guide to the PMBOK®” specifically *calls on the practitioner to apply a project management methodology* (as a tool/ technique), and PRINCE2™ provides one.

PRINCE2™ components and processes are consistent with the PMBOK®, but PRINCE2™ does not include all the knowledge areas and details specified in the PMBOK®. PRINCE2™ focuses on critical areas, so a project manager still may need to draw on the depth and range of the PMBOK® and other sources to complete some areas of project management work. The intention of PRINCE2™ is to organize and focus project management knowledge in a manner suitable for most project environments. It assumes that those learning and working with this methodology have a level of experience that enables them to fill in the details that PRINCE2™ omits. In PRINCE2™ the scale and content of its Processes, Components and Techniques should be adapted to the size and nature of the project.

PRINCE2™ Components

PRINCE2™ is comprised of 8 elements, or “components”. They are: Business Case, Organization, Plans, Controls, Management of Risk, Quality in a Project Environment, Configuration Management, and Change Control. They roughly map against the PMBOK® Areas of Knowledge as follows:

PMBOK® Knowledge Area	Comparable PRINCE2™ Components
Integration	Combined Processes and Components, Change Control
Scope, Time, Cost	Plans, Business Case
Quality	Quality, Configuration Management
Risk	Risk
Communications	Controls
Human Resources	Organization (limited)
Procurement	Not Covered

Exhibit 1 – Comparison of PMBOK® Areas of Knowledge and PRINCE2™ Components

These components are not as comprehensively defined as the Areas of Knowledge. For example, PRINCE2™ covers PMBOK®’s Time and Cost Management within its discussion of Plans — but only insofar as the development of time and cost information is necessary at the relevant plan level. The following summarizes the PRINCE2™ components:

Business Case: The existence of a viable Business Case (*project justification*) is the main control condition for a PRINCE2™ project. The Business Case is verified by the Project Board *before* a project begins and at *every* major decision point throughout the project. The project should be stopped if the viability of the Business Case disappears for any reason.

Organization: Since the Project Manager often has to direct staff who report to other management structures, some senior management oversight organization is needed to assure that those diverse resources are committed to the project. In addition, viability decisions need to be made by management with an *investment* in the project, and an *accountability* for delivering it through the Project Manager. In PRINCE2™ this oversight is the *Project Board*.

Plans: Plans are the backbone of the management information system required for any project, and require the approval and commitment of the appropriate levels of the project organization. The “Plans” component emphasizes the core concepts of planning; the major steps are highlighted in the process model, in “Planning.”

Controls: Control is about decision making: its purpose is to ensure that the project (a) is generating the required products which meet defined Acceptance Criteria; (b) is being carried out to schedule and in accordance with its resource and cost plans; (c) remains viable against its Business Case, and (d) with acceptable level of risk..

Management of Risk: As project work is inherently less predictable than non-project work, management of the risks is an essential part of project management. To contain risks during the project, they must be managed in a disciplined manner, through risk analysis and risk management (as in the PMBOK®).

Quality in a Project Environment: Quality management ensures that the quality expected by the customer is achieved through a quality system (similar to the PMBOK®). Quality requirements of the project’s deliverables (“products”) are based in *Product Descriptions*, created by the Project Manager and approved by the Project Board.

Configuration Management: Configuration Management gives the project management team control over the project’s assets (the products that it develops), and is vital to any quality system. It provides mechanisms for tracking and controlling the project’s deliverables, and a system for tracking project Issues.

Change Control: Controlling scope change means assessing the impact of potential changes, their importance, cost, impact on the Business Case, and a decision by management on whether or not to include them.

None of the above components will be alien to a user of the PMBOK® —PRINCE2™ simply highlights these elements as being central to project success, often under-addressed by project managers. The PRINCE2™ methodology organizes these components into a process model, recognizing that *flow and relationship* are critical to successful use of concepts identified in the components (and Knowledge Areas).

PRINCE2™ Process Overview

PRINCE2™ Stages

To provide the appropriate decision gates at the right level of the project, PRINCE2™ projects are broken down into Stages, much like the Phases of the PMBOK® process model. PRINCE2™ calls for decisions about the project *as a whole* to be made prior to looking at any developmental work. PRINCE2™ differentiates the start up, planning and close for the *overall* Project (“Starting a Project,” “Initiating a Project” and “Closing a Project”) from the activities to start up and close down *each of the Stages* (“Managing Stage Boundaries”).

The actual Executing and Controlling of the developmental work shows up at the *Stage* level, through “Controlling a Stage” and “Managing Product Delivery.” Project oversight (by the Project Board) occurs *throughout* the project through “Directing a Project.” “Planning” is a generalized process, accessed at all levels of the project, as needed.

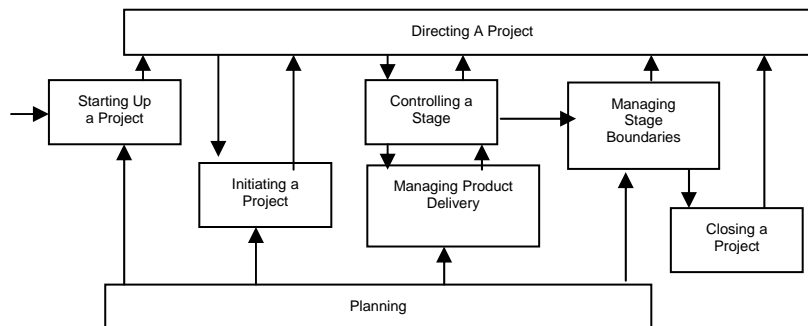


Exhibit 2 – PRINCE2™ Process Model

The PRINCE2™ Processes (refer to Exhibit 2 for the context of each process.)

“Starting Up a Project” enables a controlled start to the project. It occurs once in the project life cycle, providing the groundwork for project management and oversight, and viability evaluation. This process creates the Project Board, and ensures that resource requirements are understood and committed to the first Stage, “Initiating a Project”.

“Directing a Project” operates throughout the project, and defines the responsibilities of the Project Board in its oversight of the project. Like its location in the process model diagram, it sits *above* and interacts with many of the other processes. It provides the mechanisms for authorizing the project, approving continuity at the completion of each Stage, and closure of the project (all based on the Business Case). “Directing a Project” is the framework for supplying input to the project manager, receiving requests from the project manager for information and assistance, and making decisions. This is the only process in which the Project Board is active (other than “Starting Up a Project,” when the Board is first formed). All other processes are guided by the Project and Team Managers.

“Initiating a Project” occurs once in the project life cycle. It lays out the view of how the *overall* project is to be managed, and sets it down in a “contract” called the Project Initiation Document (PID). The intention of the PID is to provide a common understanding of the critical elements of the project (similar to the PMBOK®’s Project Scope Statement and Project Management Plan). “Initiating a Project” also calls for resource commitment by the Project Board to the first developmental Stage of the project.

“Planning” is the common process for several other processes in PRINCE2™. Plans are produced by identifying the project’s required deliverables, the activities and resources necessary to create them, and the management and quality requirements – all at a level consistent with the control requirements identified in the PID. Use of a common module highlights the concept of a consistent, coherent approach to all planning. Central network diagramming, estimating and scheduling is left in a skeleton format, as the PMBOK® covers the corresponding material thoroughly.

“Controlling a Stage” provides guidance to the Project Manager in managing the project on a day-to-day basis. It includes: work authorization and receipt of work; issue and change management; status collection, analysis and

reporting; viability consideration; corrective action; and escalation of concerns to the Project Board. “Controlling a Stage” is iterative, and is repeated for each developmental Stage of the project.

“**Managing Product Delivery**” is part of PRINCE2™’s work authorization system. It is the mechanism for the performers of technical work (teams, individuals and contractors) to agree on work to be performed, report on progress, complete the work, and return it. It occurs as frequently as work packages are authorized.

“**Managing Stage Boundaries**” manages the transition from the completion of one work Stage to the commencement of the next Stage. It includes assurance that work defined in the Stage has been completed as defined, provides information to the Project Board to assess the ongoing viability of the project (done in “Directing a Project”), develops plans for and obtains authorization for the next Stage of work, and records lessons learned.

“**Closing a Project**” is the mechanism to transition the project back to the organization. It closes out the project, whether closure is precipitated by completion of the work, or premature termination. In either event, “Closing” picks up lessons learned and project experiences for organizational records. For completed work, its goal is to ensure that (a) the work has been completed to the Customer’s and Management’s satisfaction, (b) all expected products have been handed over and accepted by the Customer, and (c) arrangements for the support and operation of project products are in place.

All PRINCE2™ components and processes are integrated into a single flow.

The Strengths of PRINCE2™

PRINCE2™ has a number of impressive and useful features that distinguish it from other project management methodologies. Its strength lies in its common-sense approach. Each of the following features supplements what the PMBOK® provides — through a very specific focus, or by offering a perspective beyond the PMBOK®.

Organization and the Project Board

Perhaps the most significant of PRINCE2™’s features is the concept of the Project Board. PMBOK® refers to a ‘project sponsor’ in general terms, and suggests the role the sponsor should be playing in supporting the project. PRINCE2™ is more specific — it calls for a *Project Board* to provide oversight and support in a clearly delineated way. (While PRINCE2™ does not *require* the use of any particular feature — such as a Project Board — it does spell out the most robust way to apply that feature, in a manner that would do most to reduce overall risk to the project.)

In most projects, “authority” (the control of resources) is separated from “accountability” (consequences of success or failure): senior management has authority (but often not held accountable for success or failure of the project), while the project manager is held accountable (with insufficient authority over the resources to ensure completion of work). PRINCE2™ calls for an accountable Project Board to *own* the project, helping to ensure their commitment to getting the work completed. At the same time, the Project Board grants authority to the Project Manager by explicitly committing resources as the project progresses. The PMBOK® suggests this will happen under *certain* organizational structures; PRINCE2™ believes it can be implemented in *most* environments.

PRINCE2™ proposes management oversight from those who are in the best position to make decisions about project viability. The Project Board is based in representation from the *Business* (speaking for how the project will benefit the organization *as a whole*), the *User* (for value and usability of the project on a functional level) and the *Supplier* (for those who will deliver the solution). These are the roles that can assure the availability of resources (if they are at the proper organizational level), *and are the kind and level of resource that a project manager needs* to resolve issues that arise during a project. Supporting the project manager is part of the Board’s role — giving the project manager access to and authority in the parts of the organization needed to ensure success.

The process model calls for the Board to be identified early on, in “Starting Up a Project”. PRINCE2™ understands that if a Project Board cannot be assembled to represent the above interests (Business, User, Supplier), it is unlikely that there is sufficient support for the project to succeed. (This is an example of how PRINCE2™ ties together *what* has to be done with *why* with *when* it should be done to be most effective.)

Business Case-based decision-making

The Business Case (focusing on the *entire* scope of change to the business that is affected by the project) is a PRINCE2™ component, but its importance cannot be overemphasized. Responsibility for the Business Case belongs to the Project Board (specifically, the Executive, who represents the Business) *and* the Project Manager. The Project Board creates and *owns* the Business Case; the Project Manager *provides the information* that enables the Project Board to evaluate the Business Case and also ensures that the Business Case is considered in project decisions. PRINCE2™ drives home the notion of explicit go/no-go decisions — *based on the Business Case* — in the start-up and initiation of the project, and at the end of each Stage (see Exhibit 3).

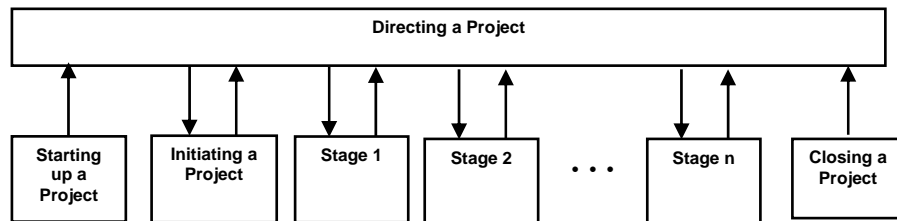


Exhibit 3 – Business Case Review (in “Directing a Project”) by the Project Board

Product-Based Planning

The Product Breakdown Structure of PRINCE2™’s Product Based Planning technique echoes PMBOK®’s Work Breakdown Structure in identifying the constituent parts of the project deliverables. PRINCE2™ continues the logic of focusing on deliverables (since *they* are the goal of the project, *not* the activities), by providing an additional step to this technique: explicating those deliverables through *Product Descriptions*. PRINCE2™ calls for a Product Description (for each product/deliverable for which it is needed), comprising these important characteristics: why it is being created; what it is made up of; the source of materials and the tasks needed to create it; what it should look like when it is done; the resources and skills needed to create it; the criteria for accepting it; any acceptable variances, and how we will make sure that it meets its criteria.

These traits shape and clarify expectations, and help assure the right product will be created the *first* time around, not shaped by afterthoughts. These elements together also serve as a baseline reference for *changes* to the Product. The thoroughness of PRINCE2™’s Product Descriptions vigorously supplements the PMBOK®’s approach. This emphasis on Product Descriptions helps ensure that a sound and agreed basis is established for scope management, earned value management, and quality management. Product Descriptions provide clarity for time and resource estimates, and risk management, and they are the core of Work Packages.

Issue Management

One core principle of quality management is that important information should not get lost; PRINCE2™ also reminds us that management of Issues is critical to any quality system. PMBOK® makes reference to the existence of issues that *need* to be managed, but no mechanism or approach for managing them (it considers an Issue Management system *outside* of the PMBOK®’s scope). PRINCE2™ recommends the use of a Log showing details of each Issue: description, evaluation, decisions about it and status. For the “when” of Issue management, PRINCE2™ particularly recommends identifying, updating and reviewing Issues during the execution process (“Controlling a Stage”) and at the completion of each Stage (“Managing Stage Boundaries”). No project methodology could qualify for “maturity” without an Issue Management process in place.

Work Packages

The Work Package is the *definitional* element of PRINCE2™’s work authorization system: the packet of information relevant to the creation of one or more deliverables (products). It contains one or more Product Descriptions as the core of the work to be performed. PRINCE2™’s Work Package also details any constraints on production such as time and cost, interfaces and confirmation (between the Project Manager and the resource slated

to deliver the Work Package) that the work can be done within those constraints. Work Package contents may go further, providing: risk information; suggested (or required) tools, techniques or standards to do the work; how work is to be reviewed, checked and approved; how work is to be returned; and how issues, problems and status are to be handled and reported. The Work Package becomes a mini-PID (Project Initiation Document), conveying the project's requirements to performers of the work. As with other PRINCE2™ tools, this product will vary in content and in degree of formality — ranging from verbal directives to formal written instructions for contractors. The recommended content provides a more comprehensive description of the work to be done than the PMBOK®, along with the mechanism to ensure that completed work will meet expectations on all levels. (PRINCE2™ also links the Work Package and associated “Authorization” into its relevant processes: “Controlling a Stage” manages Work Packages from the Project Manager's side; “Managing Product Delivery” handles them from the side of those performing the work. The PMBOK® identifies “Work Package Authorization” as *outside its scope* – and PRINCE2™ fills in this gap.)

Exception Management

In PRINCE2™, the process for handling exception situations is defined before execution, in the PID. The Project Board is not designed to micro-manage, but they will have a greater level of comfort with the Project Manager if agreement is made in advance as to where the Project Manager's discretion lies. PRINCE2™ provides for interactive communication: “Taking Corrective Action” and “Escalating Project Issues” from the Project Manager's side (“Controlling a Stage”), and “Giving Ad hoc Direction” from the Project Board's side (“Directing a Project”). The Project Board sets performance thresholds through the concept of “Tolerance,” which grants the Project Manager discretion to execute work within agreed time and costs limits, as well as clear limits on scope, quality, benefits and risk (a total of six tolerance factors). Tolerance is set when planning the overall project (“Initiating a Project”), for each Stage of the project (“Managing Stage Boundaries”), and for Work Packages; the Project Manager monitors against project and stage Tolerances while “Controlling a Stage.”

Change Control and Configuration Management

Both of these features are identified as components — PRINCE2™'s way of saying “many people overlook these because they seem complicated, but they can be straightforward and have significant value in reducing project risk.” PRINCE2™ makes both of these understandable, in what they are and how to use them. PRINCE2™ ties them together: Change Control explains and demonstrates how to manage change requests, while Configuration Management (which is *not* included in the scope of the PMBOK®) manages the cataloging, control, tracking and actual changing of the deliverable.

The basic Change Control technique can be used as-is for the simplest of projects, or enhanced to use in a complex environment. PRINCE2™'s extensive Configuration Management does more than manage the change. It provides specific techniques to control project deliverables, including suggested Configuration Item Records and the recommendation to use a Configuration Librarian. What is important is that Change Control and Configuration Management are *required* parts of any complete (ISO9001-certified) quality management system. As PRINCE2™ is consistent with ISO9001, they have been included and integrated with the rest of PRINCE2™.

Quality Reviews

The PMBOK® spends extensive time on quality control, and numerous tools and techniques for accomplishing it. They are largely geared towards a physical product environment. Virtually all internal project deliverables (those needed to manage the project itself) and many intermediate and client-centered deliverables, however, are text- or graphics-oriented (reports, web sites, specifications, etc). PRINCE2™ provides an excellent, tested technique for doing quality control on such products — the Quality Review. It lays out the steps and resources needed to assess the conformance of such deliverables, using Product Descriptions as the basis for evaluation. Techniques like this, to provide guidance on handling this challenging quality situation, are difficult to find. This technique can be lifted as a whole and used in *any* project environment (a capability shared by other aspects of PRINCE2™).

ISO9000 and Project Maturity Models

Many organizations have become focused on bringing their project management up through maturity models (such as OPM3, Capability Maturity Model, and others). At the same time, they find themselves believing they have to invent a new methodology that will provide the backbone for the project management dimension of this undertaking. PRINCE2™ was constructed to be in conformance with ISO9001 requirements from its inception, so it becomes a valuable reference — or *core* — for the development of the project management aspect required by *all* these maturity models. *Its “open” (non-fee) availability means companies do not have to make huge capital investments to build a methodology from scratch, or buy one (often very costly) from a vendor.*

Combining the Best of PMBOK® and PRINCE2™

PRINCE2™ needs experience and the depth of PMBOK® to fill it out, so it makes sense to study the PMBOK® and get a PMP. But after Project Managers receive their PMPs, they often ask “Where do I start? How do I put all of this together to actually *run* a project?” PRINCE2™ becomes useful at this point, because, as a methodology, it can shape and direct that knowledge. Here are a few approaches to getting value out of PRINCE2™. PRINCE2™ was designed in an integrated manner, so a project manager can get the most out of it when it is used in its entirety. But there are elements of PRINCE2™ that can be lifted and applied directly in *any* project environment. Neither of these approaches requires deviating from a “PMP” or “PMBOK®” environment.

Use it for its unique approaches and insights into project management. Read the PRINCE2™ manual, or read the manual and take a PRINCE2™ course. Get a grasp of how the “package” as a whole works. Focus on the elements that can be most easily transplanted into your current environment. The most straightforward elements are: Product Descriptions, Change Control, Issue Management, Quality Reviews and Work Packages (all discussed under “The Strengths of PRINCE2™”). None of these require “permission” from authorities outside the project, so they are easily implemented by the Project Manager. They can even be used by project teams or in sub-projects. As these approaches and techniques become accepted by stakeholders and others on the project, consider using other aspects of PRINCE2™. Because of PRINCE2™’s integrated approach, if you use most of PRINCE2™’s approach to a specific piece in the first round of implementation, you can *add* features in almost a plug-and-play manner. Features like Project Boards can be powerful when implemented, but require greater buy-in and commitment from stakeholders to succeed — so put these off until greater interest is shown by management.

Use it as the proven, low-cost basis for your company’s methodology. Get to know PRINCE2™ and consider using it as the core of your company’s new project management approach — perhaps along the lines of “PMBOK® and PRINCE2™ – Together”. Suggest it to management, selling it through its credibility wherever it has been implemented (internationally, including by such organizations as the United Nations Development Programme), and its open (no-fee) availability. Remind management that, when used in an integrated manner, it will support your company’s fulfillment of any future “maturity” plans. Propose that a small group create a prototype project management methodology built around PRINCE2™, to build understanding and to plan out how to integrate it into your organization’s environment. (You can do research on how PRINCE2™ has been used via the website of the accrediting body, the APM Group [www.prince2.org.uk]. They also have case studies on how to implement it.) Your core group should consider getting themselves accredited in PRINCE2™, so you are all sure your team understands how to use it most effectively. (You will also become the Project Office/ resource team for all future work under PRINCE2™.) Remember that you will need to bring pieces of the PMBOK® into this methodology to make it complete, so while you’re learning about PRINCE2™, think forward towards how you will combine the two. PRINCE2™ doesn’t have to be used “as-is” — but understanding how to implement it to cover critical quality areas will help ensure that your company will meet later “maturity” accreditation requirements.

By using the PMBOK® and PRINCE2™ together you are taking advantage of the two most respected project management approaches in the world today, and are getting the best of both!

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