Foundations of Project Management

A comprehensive introduction to project management principles, standards, organizational environments, and the tools that drive successful project delivery -- based on the ISO 21502 international standard.

ISO 21502 FRAMEWORK

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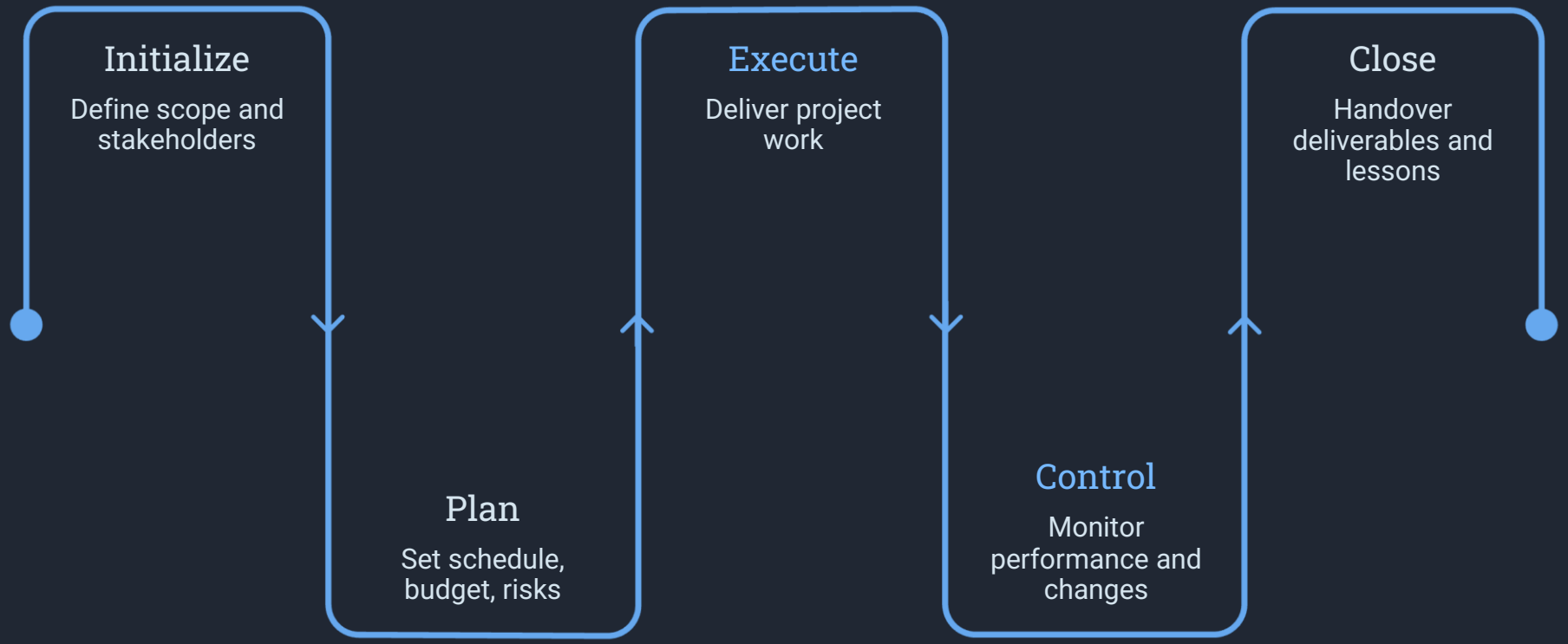
0.0 INTRODUCTION

The Universal Management Model

The general model follows the logic of **Initializing, Planning, Executing, Controlling, and Closing** activities that result in deliverables transitioned to users and knowledge transitioned to organizations. These management functions are universal -- every manager performs them in daily work.



A project is initialized when a business opportunity, a problem to be solved, or a regulatory requirement exists. If the scope exceeds a single project, work may be organized as a **program**. Pre-project methods such as a business case or feasibility study are employed, governed by portfolio management.

0.0 INTRODUCTION

Initialization and Planning

Project Initialization

The project manager may be informally nominated at this stage. Key stakeholders are identified, and two critical questions are answered: **"What do we want to achieve?"** and **"Why?"** Business requirements, strategy selection, success criteria, high-level risks, assumptions, and constraints are defined in the **project charter**, which officially creates the new temporary organization.

Planning Activities

The team gathers management requirements, reviews constraints, and defines **SMART objectives**. They determine the development lifecycle, phases, and iterations. The **project baseline** -- approved scope, budget, and schedule -- is established. Risks are identified and analyzed, responses developed, and the Project Management Plan is approved before a kick-off meeting transitions the team to execution.

0.0 INTRODUCTION

Executing, Controlling, and Closing

Managing Execution

Acquire resources, authorize and delegate work packages, lead and develop teams, manage communications, ensure quality, implement approved changes, respond to risks, and foster knowledge creation through lessons learned.

Controlling

Understand current project state, forecast cost and schedule, initiate corrective actions, address issues and changes, and control phase boundaries -- evaluating whether to proceed to the next phase.

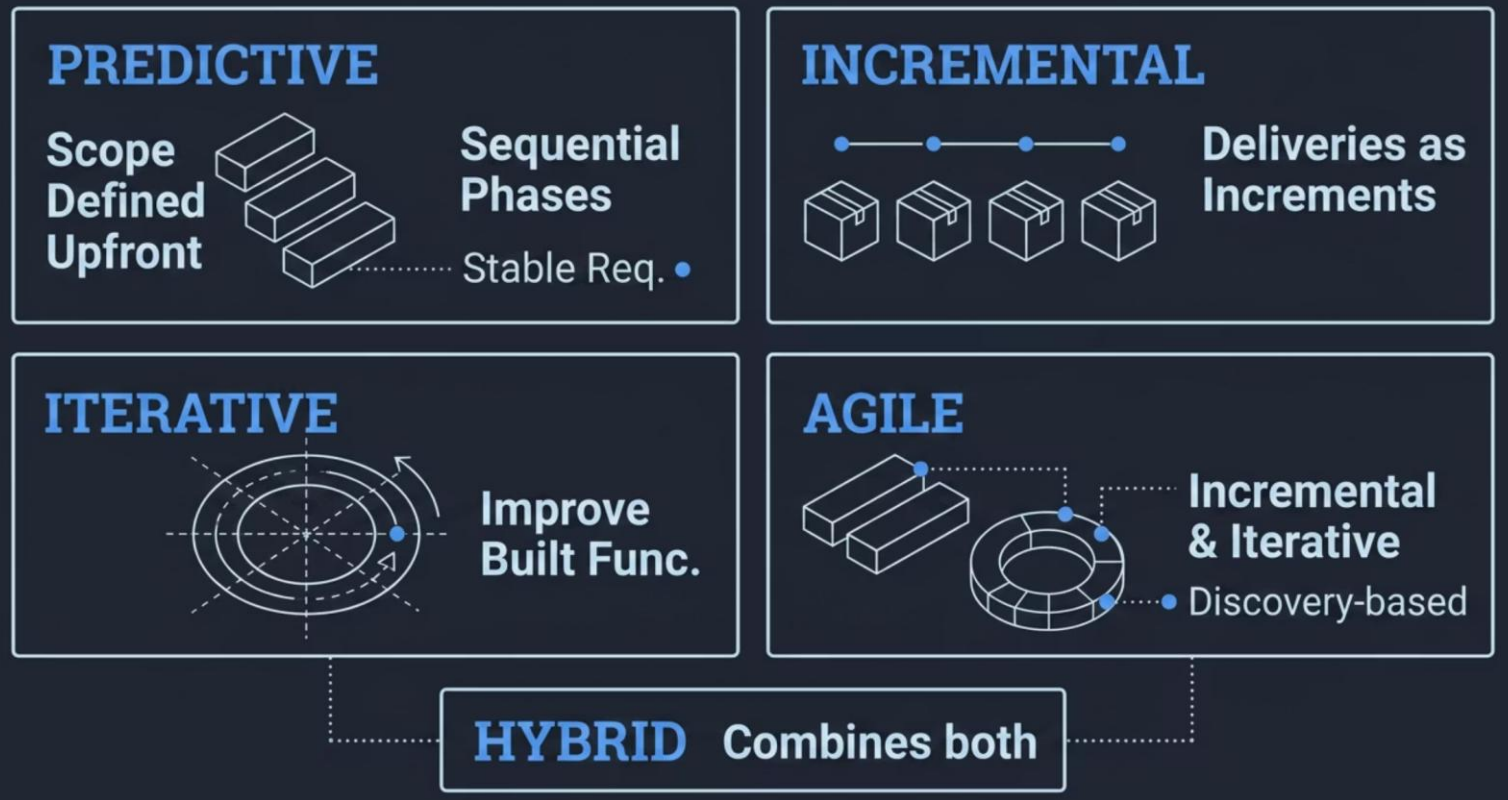
Closing

Ensure acceptance and transition of deliverables, evaluate team and supplier performance, determine project success using criteria from the charter, and prepare a project closeout report. Closure occurs at each phase end, not only at project end.

0.0 INTRODUCTION

Delivery Approaches

ISO 21502 applies to any organization, project type, or delivery approach.



In **hybrid scenarios**, some project sections are predictable while others are Agile. From the final customer's perspective, an Agile supplier's work is essentially a work package within a larger project -- so overall project management may not be entirely Agile. Irrespective of approach, initialization, planning, execution, control, and closure remain essential.

0.1 PROJECT MANAGEMENT STANDARDS

Why Use a Recognized Standard?

Project management methods have existed for centuries -- from the Golden Gate Bridge to the Eiffel Tower. As the profession matured, documented guides emerged. Key frameworks include the **PMBOK Guide** (PMI, USA), **ICB** (IPMA), and **PRINCE2** (UK government), all starting around 1995.

This course uses **ISO 21502**, published December 2020, because ISO is the preeminent international standards body -- recognized worldwide for the ISO 9000 family. All major PM associations participated in its development, making it a **consensus-based foundation** of the most recognized frameworks in project management.

ISO 21502 is organized according to process groups in its Annex A: initiation, planning, execution, monitoring and control, and closure.

0.1 PROJECT MANAGEMENT STANDARDS

Benefits of a Global Standard

Universal Applicability

Applicable to any organization -- public or private, for-profit or non-profit -- and any project type, size, complexity, or delivery approach.

Common Vocabulary

Standardized terminology facilitates understanding among all stakeholders, reducing miscommunication across teams and organizations.

Organizational Consistency

Enables companies to standardize practices across departments and even across multiple organizations or supplier companies.

Informed Customization

Knowing the rules allows project managers to customize intelligently. As the saying goes: *"To break the rules, first you have to know them."*

0.2 WHAT IS A PROJECT?

Defining a Project

> **"A project is a time-limited endeavor with a unique goal and often a financial allocation."**

Three Defining Characteristics

- **Time-limited:** A definite start and end -- it concludes when the goal is achieved
- **Unique goal:** A specific result -- product, service, capability, or outcome
- **Budget:** Financial and resource constraints, including staffing and timeframe

Project vs. Operations

Routine operations involve **repetitive tasks** generating consistent outcomes -- like running a community library. A project, by contrast, has a specific start, a unique goal, and ends when that goal is realized.
Example: Operating a library = operations. Building a social center for teenagers = a project.

The Five Core Questions

Project management involves applying knowledge, skills, tools, and techniques to achieve project objectives. It can be summarized through five fundamental questions:

1. ## What problem are you solving?

   Clearly define the intended outcome before investing time and cost.

2. ## How will you solve it?

   Choose a strategy, gather requirements, identify deliverables, and define scope.

3. ## What is your plan?

   Identify work packages, estimate timeframes, resources, costs, and create a schedule.

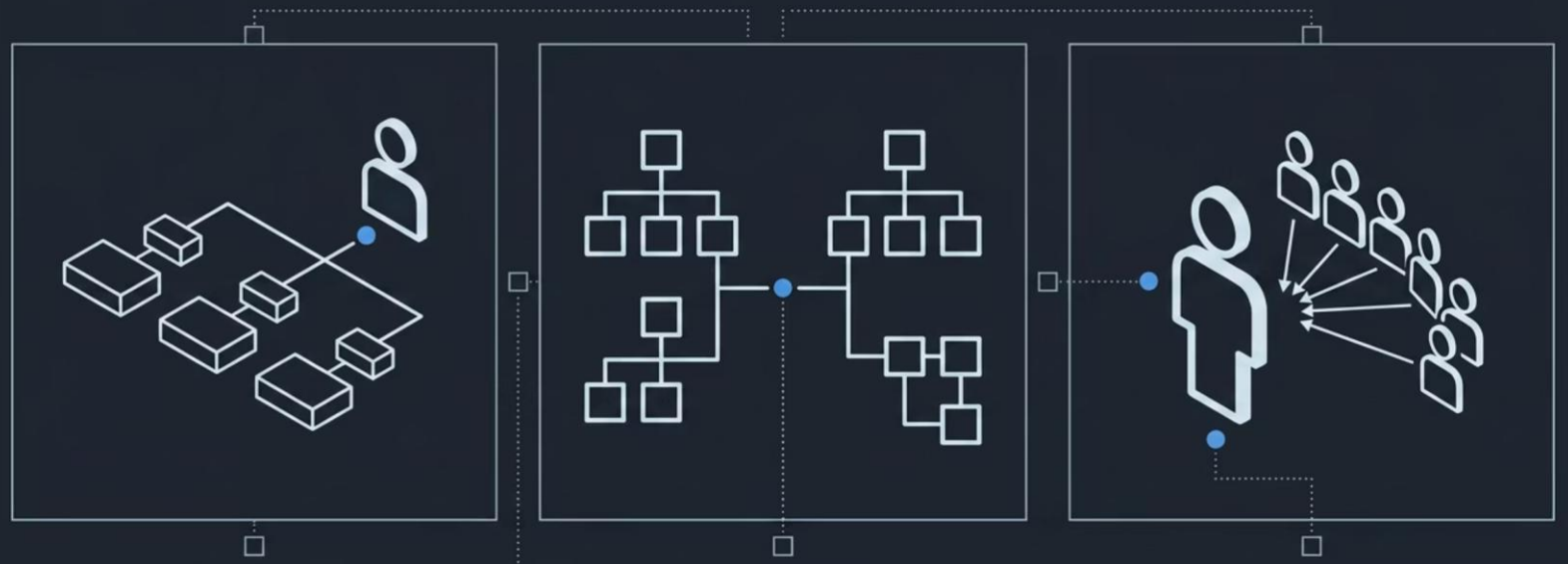
4. ## How will you know when you are done?

   Define quantifiable success criteria -- measurable indicators of project completion.

5. ## How well did the project perform?

   Conduct a comprehensive review to capture lessons learned and drive continuous improvement.

Three Organizational Models



In the real world, **hybrid situations** are common -- functional, matrix, and project-oriented structures may coexist within a single large project, utilizing full-time and part-time resources alongside external suppliers.

0.4 ORGANIZATIONAL STRUCTURE

Impact of Structure on Projects

Functional Organization

Strength: High supervisor control within one department. **Drawback:** Slow for cross-functional projects; specialized resources may be unavailable. The functional manager and project manager are the same person.

Matrix Organization

Strength: Coordinates multi-department work; allows part-time project participation. **Drawback:** Staff report to two managers simultaneously, creating priority conflicts. Strong negotiation skills are essential.

Project-Oriented Organization

Strength: High PM authority and accountability, including budget. Full-time dedicated resources. **Drawback:** Team members may have no position to return to after project completion.

The organizational structure has a significant impact on how projects are executed, how much authority the project manager holds, and ultimately how successful the project can be.

0.5 ORGANIZATIONAL CULTURE

Culture as Project Environment

Organizational culture -- shared values, beliefs, assumptions, habits, and language -- has a **tremendous influence** on how things happen within projects and how decisions are made.

Mission and Vision

Projects aligned with the company's mission receive more attention and resources. Consult mission statements when facing complicated decisions.

Leadership Style

If management delegates authority, that approach transfers to projects. If little authority is typically delegated, you must adapt and build trust.

Work Environment

A positive environment motivates teams and makes gathering lessons learned easier. A negative environment requires significantly more team management effort.

Change Management

Risk-averse cultures require many review rounds and approvals. Cultures that embrace change make change management simpler and less disruptive.

0.5 ORGANIZATIONAL CULTURE

Rules, Results, and Cross-Cultural Awareness

Rules vs. Results

Some cultures consider following rules indispensable. Others value innovation and expect employees to question past practices. Key questions: Which rules can be broken? What happens if a non-standard approach fails? Does your organization prioritize results over procedures -- or vice versa?

Cross-Cultural Considerations

When teams work across locations or countries, cultural differences significantly affect communication and reactions. For example, a leader who openly acknowledges mistakes may be seen as "very human" in some cultures but "weak" in others. Paying close attention to cultural factors increases the chances of project success.

What Makes an Exceptional Project Manager?

Technical Skills

- Project plan components
- Gantt charts and scheduling
- Critical path analysis
- Performance measurement

Business Expertise

- Align projects with organizational goals
- Assess and deliver value
- Understand operations and priorities

Problem-Solving

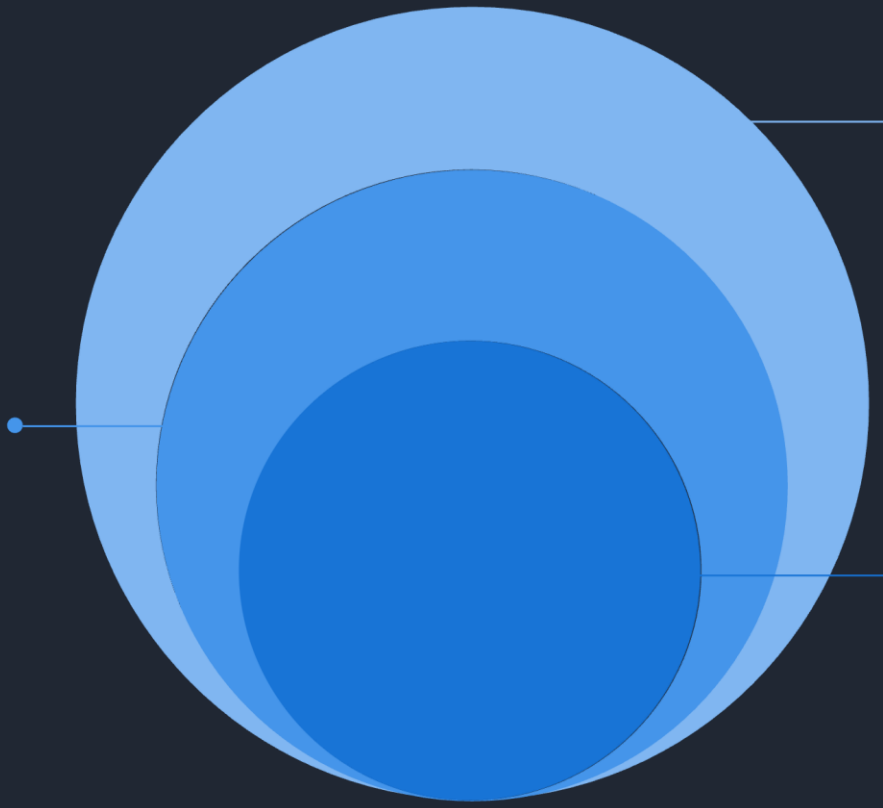
- Navigate obstacles
- Find solutions within schedule and budget
- Adapt when plans change

Interpersonal and Leadership

- Foster teamwork across departments
- Inspire and motivate team members
- Hold people accountable
- Facilitate effective communication

Strong leadership is the most critical characteristic of an exceptional project manager -- inspiring unity, guiding right actions, and motivating peak performance.

Software Options: An Overview



Collaboration Tools

Shared workspaces, chat, and version control

Scheduling Software

Gantt charts, timelines, and resource scheduling

Basic Office Tools

Spreadsheets and document editors for simple tracking

Selecting the right software requires considering not only functionality but also organizational culture, work environment, available budget, the number and complexity of projects, and the effort required for tool adoption.

Software Tools by Category

Basic Office Tools

Text processing, calculations, presentations, and email. **Microsoft Office** or open-source **Open Office** are standard options used across all job roles.

Scheduling Software

Dedicated tools link Gantt bars and visualize how delays impact the overall project. Options include **Microsoft Project, Oracle Primavera, Monday, Smartsheet**, and others -- most are cloud-based.

Collaboration Tools

Enable chat, file sharing, task delegation, and calendar sharing. Examples: **Microsoft Teams, Basecamp, Asana, Wrike**. Teams also offers video conferencing and is often included in Office 365.

Enterprise Portfolio Management

For organizations managing multiple large-scale projects. Tools like **Microsoft Portfolio Management, Primavera Enterprise, Clarity, Planview** manage initiatives from business case to benefits realization.

Key Takeaways

Universal Management Functions

Initialize, Plan, Execute, Control, and Close -- these activities apply to every type of work, not just projects.

ISO 21502 as a Foundation

A globally recognized, consensus-based standard applicable to any organization, project type, size, or delivery approach.

Projects Are Unique and Time-Limited

Defined by a specific goal, a start and end date, and resource constraints -- distinct from routine operations.

Environment Shapes Execution

Both organizational structure and culture profoundly affect how projects are managed, how much authority PMs hold, and how decisions are made.

Leadership is Central

Technical skills matter, but strong leadership -- inspiring, guiding, and motivating teams -- is the most critical trait of an exceptional project manager.

The Project Management Mindset

> **"Irrespective of the prevailing management philosophy and the chosen delivery approach, any type of work necessitates the management activities of initialization, planning, execution, control, and closure."**

By utilizing ISO 21502 as a framework, organizations ensure the effective and consistent implementation of these essential project management activities, leveraging a globally recognized standard.

5

Management Functions

Universal to every project and organization

2020

ISO 21502 Published

December 2020 -- the consensus standard

4

Delivery Approaches

Predictive, Incremental, Iterative, Agile

3

Org Structure Types

Functional, Matrix, Project-Oriented

Next Steps

You now have a solid foundation in the core concepts of project management. As you progress through this course, you will explore each of these areas in greater depth.

Study the Standard

Familiarize yourself with ISO 21502 and its process groups to build a strong conceptual foundation.

Assess Your Environment

Identify your organization's structure and culture -- understanding your environment is the first step to managing within it effectively.

Develop Your Skills

Invest in both technical project management skills and interpersonal leadership capabilities -- both are essential for success.

Choose the Right Tools

Select software that fits your project's complexity, your team's culture, and your organization's budget and adoption capacity.