
CAPM® Certification
Premium Study Guide

Domain 3

Agile Frameworks and Methodologies

37% of the CAPM Exam

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Domain 3: Agile Frameworks and Methodologies

This domain represents approximately 37% of the CAPM exam — the largest domain. It covers adaptive project management approaches including Scrum, Kanban, XP, and hybrid methods. Understanding when and how to apply agile principles is critical for exam success.

3.1 The Agile Mindset and the Agile Manifesto

The **Agile Manifesto** (2001) established four core values and twelve principles that guide adaptive project management. These values represent a shift in thinking from rigid, plan-driven approaches to flexible, people-centered ones.

The Four Core Values:

We value...	More than...
Individuals and interactions	over processes and tools
Working software	over comprehensive documentation
Customer collaboration	over contract negotiation
Responding to change	over following a plan

Key Agile Principles (Selected):

- Deliver working software (or product) frequently, from a couple of weeks to a couple of months.
- Welcome changing requirements, even late in development.
- Business people and developers must work together daily throughout the project.
- Build projects around motivated individuals. Give them the environment and support they need.
- The most efficient and effective method of conveying information is face-to-face conversation.
- Working software (product) is the primary measure of progress.
- Agile processes promote sustainable development — the team should maintain a constant pace indefinitely.
- Continuous attention to technical excellence and good design enhances agility.
- At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior.

3.2 When to Use an Adaptive Approach

Adaptive approaches work best when requirements are unclear or likely to change, the project benefits from frequent customer feedback, and the team can self-organize effectively.

Factor	Predictive (Waterfall)	Adaptive (Agile)
Requirements	Well-defined and stable	Unclear or evolving
Change tolerance	Low — changes are costly	High — changes are welcomed
Customer involvement	Primarily at start and end	Continuous throughout
Team size	Any size	Small, self-organizing teams
Delivery	Single delivery at end	Frequent incremental deliveries

Risk tolerance	Lower risk tolerance	Higher risk tolerance
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3.3 Scrum Framework

Scrum is the most widely used agile framework. It organizes work into fixed-length iterations called **Sprints** (typically 1–4 weeks). Each sprint produces a potentially shippable product increment.

Scrum Roles:

Product Owner (PO)

Represents the customer. Owns and prioritizes the Product Backlog. Defines acceptance criteria. Responsible for maximizing the value of the product.

Scrum Master

Servant-leader for the team. Removes impediments. Facilitates Scrum ceremonies. Coaches the team on agile practices. Does NOT manage the team.

Development Team

Self-organizing, cross-functional team of 3–9 members. Responsible for delivering the sprint increment. Estimates and commits to sprint work.

Scrum Artifacts:

Product Backlog

A prioritized list of all desired features, enhancements, and fixes for the product. Owned by the Product Owner. Always evolving (refined).

Sprint Backlog

The subset of Product Backlog items selected for the current sprint, plus the plan for delivering them. Owned by the Development Team.

Product Increment

The sum of all completed Product Backlog items at the end of a sprint. Must meet the Definition of Done.

Scrum Ceremonies (Events):

Ceremony	Purpose
Sprint Planning	Team selects items from the Product Backlog and plans the sprint. Defines the Sprint Goal.
Daily Scrum (Stand-up)	15-minute daily meeting. Team answers: What did I do yesterday? What will I do today? Any blockers?
Sprint Review	Team demonstrates the completed increment to stakeholders. Feedback is collected. Product Backlog is updated.
Sprint Retrospective	Team reflects on the sprint process. Identifies improvements for the next sprint. Focuses on people and process.
Backlog Refinement	Ongoing activity where the team reviews and estimates upcoming Product Backlog items. Not an official Scrum ceremony.

3.4 Kanban

Kanban is a visual workflow management method that focuses on continuous delivery without fixed-length iterations. Work items are visualized on a Kanban board and flow through columns representing stages of the process.

- **Kanban Board:** Visualizes work in columns (e.g., To Do → In Progress → Done).
- **Work in Progress (WIP) Limits:** Constraints on the number of items allowed in each column. Prevents bottlenecks and overloading the team.
- **Pull System:** Team members pull work from the queue when they have capacity, rather than being assigned work.
- **Cycle Time:** The time it takes for a work item to move from start to completion.
- **Lead Time:** The time from when a request is made to when it is delivered.

3.5 Extreme Programming (XP)

Extreme Programming (XP) is an agile framework focused on software quality and responsiveness to changing requirements. It emphasizes technical practices.

- **Pair Programming:** Two developers work together at one computer. One writes code; the other reviews.
- **Test-Driven Development (TDD):** Write automated tests before writing the code.
- **Continuous Integration:** Developers integrate code frequently (multiple times per day).
- **Refactoring:** Improving the internal structure of code without changing its external behavior.
- **Small Releases:** Deliver small, frequent releases to get early feedback.

3.6 Hybrid Approaches

A **hybrid approach** combines elements of both predictive and adaptive methodologies. Organizations use hybrid when some parts of the project benefit from structure and planning, while others benefit from flexibility.

Example: A construction project may use predictive planning for permits and foundation work, but agile sprints for interior design and technology integration.

Scaled Agile Framework (SAFe):

SAFe is a framework for scaling agile practices to large organizations. It coordinates multiple agile teams working on the same product through Program Increments (PIs) — fixed-length planning cycles typically 8–12 weeks long.

3.7 Key Agile Concepts and Terminology

User Story

A short description of a feature from the user's perspective. Format: "As a [user], I want [goal] so that [benefit]."

Story Points

A relative unit of measure for estimating the effort required to complete a user story. Not a time estimate.

Velocity

The amount of work a team completes in a sprint, measured in story points. Used to forecast future sprint capacity.

Definition of Done (DoD)

A shared understanding of what "complete" means for a work item. Ensures consistent quality across the team.

Definition of Ready (DoR)

Criteria a user story must meet before the team can commit to working on it in a sprint.

Backlog Grooming/Refinement

The process of reviewing, estimating, and prioritizing items in the Product Backlog.

Burndown Chart

A visual representation of work remaining in a sprint or project over time. Tracks progress toward the sprint goal.

Burnup Chart

Shows work completed over time, along with the total scope. Better for visualizing scope changes.

Impediment

Any obstacle that prevents the team from completing their work. The Scrum Master is responsible for removing impediments.

Spike

A time-boxed research activity to investigate a technical or design problem before committing to a solution.

Exam Tips for Domain 3

- ✓ Domain 3 is the LARGEST domain (37%). Prioritize agile concepts in your study time.
- ✓ The Scrum Master is a servant-leader — they do NOT manage or direct the team.
- ✓ The Product Owner owns the Product Backlog and prioritizes it.
- ✓ The Development Team is self-organizing — they decide HOW to do the work.
- ✓ Sprint Retrospective = improve the PROCESS. Sprint Review = demonstrate the PRODUCT.
- ✓ WIP limits in Kanban prevent bottlenecks and improve flow.
- ✓ Velocity is measured in story points, not hours.
- ✓ The Definition of Done ensures quality consistency across the team.
- ✓ In agile, changes are welcomed — even late in development.
- ✓ Agile teams are cross-functional: they have all the skills needed to deliver the product.