



Professional Scrum Master I (PSM I) Certification Study Notes

Code: scrum-org-psm-i

Scrum Theory (~30%)



Empiricism & Lean Thinking

The foundation of Scrum

What is Empiricism?

- **Knowledge comes from experience:** Decisions are based on what is observed, not speculation
- **Iterative progress:** Work is done in small increments, learning and adapting along the way
- **Continuous inspection:** Frequently examine work and processes to detect variances

Key Exam Concept

Scrum combines empiricism with lean thinking. Lean thinking reduces waste and focuses on the essentials. Together, they help teams deliver maximum value with minimum waste.

Three Pillars of Empiricism

Transparency

The emergent process and work must be visible to those performing the work and those receiving the work. Without transparency,

Analytics (📊📈)

Inspection

Scrum artifacts and progress toward agreed goals must be inspected frequently and objectively to detect potentially undetected variances or problems.

Feedback

inspection is misleading and wasteful.

Adaptation

If any aspects of a process deviate outside acceptable limits or if the resulting product is unacceptable, the process or the materials being produced must be adjusted.

Important Relationship

Inspection without adaptation is pointless. Adaptation without inspection is aimless. All three pillars work together and depend on each other.

Scrum Events Enable Empiricism

Event	Pillar Enabled	How It Enables
Sprint Planning	All three	Transparency of goals, inspection of backlog, adaptation of plan
Daily Scrum	All three	Transparent progress, inspect daily, adapt immediately
Sprint Review	Transparency & Inspection	Show work to stakeholders, gather feedback
Sprint Retrospective	Inspection & Adaptation	Reflect on process, plan improvements

The Five Scrum Values

The foundation of successful Scrum Teams

Memorize These!

The PSM I exam frequently tests the five Scrum values. Remember: C-FORCE - Commitment, Focus, Openness, Respect, Courage (or CROFF, FORCC - use whatever mnemonic works for you).

Commitment

The Scrum Team commits to achieving its goals and to supporting each other. Commitment is to the Sprint Goal, not to individual backlog items.

Focus

The primary focus is on the work of the Sprint to make the best possible progress toward the Sprint Goal.

Openness

The Scrum Team and its stakeholders are open about the work and the challenges. Team members share information freely.

Respect

Scrum Team members respect each other to be capable, independent people, and are respected as such by the people they work with.

Courage

The Scrum Team members have the courage to do the right thing and work on tough problems. This includes raising difficult issues.

Values Build Trust

- When values are embodied and lived by the Scrum Team, the **three pillars of empiricism** come to life and build trust
- The Scrum Team members learn and explore these values as they work with Scrum events and artifacts
- Success with Scrum depends on people becoming more proficient in living these values

What is Scrum?

The official definition from the Scrum Guide 2020

Official Definition

Scrum is a lightweight framework that helps people, teams and organizations generate value through adaptive solutions for complex problems.

Key Characteristics

- **Lightweight:** Simple to understand, deliberately incomplete
- **Framework:** Not a process, technique, or definitive method
- **Adaptive:** Designed to handle change and uncertainty
- **For complex problems:** Best suited when requirements are uncertain or emergent

What Scrum Is NOT

Scrum Is NOT	Why This Matters
A methodology	Methodologies are prescriptive; Scrum is a framework
A process	It is a framework within which various processes can be employed
A technique	Techniques can be used within Scrum, but Scrum itself is not one
Complete	It is deliberately incomplete - only defines what is needed to implement Scrum theory

Exam Trap

The exam often presents scenarios where someone wants to add or remove parts of Scrum. Remember: Scrum is immutable. While implementing only parts of Scrum is possible, the result is not Scrum.

Accountabilities (~25%)

The Scrum Team

The fundamental unit of Scrum

Key Characteristics

- **Small team:** Typically 10 or fewer people
- **No sub-teams or hierarchies:** It is a cohesive unit of professionals
- **Cross-functional:** Members have all the skills needed to create value each Sprint
- **Self-managing:** Internally decide who does what, when, and how

2020 Update

The Scrum Guide 2020 replaced roles with accountabilities. This emphasizes that these are not job titles but areas of responsibility.

Three Accountabilities

Accountability	Focus	Key Responsibility
Scrum Master	Effectiveness	Establish Scrum as defined in the Scrum Guide
Product Owner	Value	Maximize the value of the product
Developers	Quality	Create a usable Increment each Sprint

Whole Team Accountable For

- Creating a valuable, useful Increment every Sprint
- Meeting the Definition of Done
- Achieving the Sprint Goal
- Managing their own work

Scrum Master Accountability

Servant-leader for the Scrum Team

Core Definition

The Scrum Master is accountable for establishing Scrum as defined in the Scrum Guide. They do this by helping everyone understand Scrum theory and practice.

Service to the Scrum Team

- Coaching team members in self-management and cross-functionality
- Helping the Scrum Team focus on creating high-value Increments
- Causing the removal of impediments to the Scrum Team progress
- Ensuring all Scrum events take place and are positive, productive, and kept within the timebox

Service to the Product Owner

- Helping find techniques for effective Product Goal definition and Product Backlog management
- Helping the Scrum Team understand the need for clear and concise Product Backlog items
- Helping establish empirical product planning for a complex environment
- Facilitating stakeholder collaboration as requested or needed

Service to the Organization

- Leading, training, and coaching the organization in its Scrum adoption
- Planning and advising Scrum implementations within the organization
- Helping employees and stakeholders understand Scrum and empirical product development
- Removing barriers between stakeholders and Scrum Teams

What Scrum Master Does NOT Do

 Feedback

The Scrum Master does not assign tasks to Developers, manage the Product Backlog (that is the Product Owner), direct the team (they are self-managing), or report to management on individual performance.

Product Owner Accountability

Maximizing value of the product

Core Definition

The Product Owner is accountable for maximizing the value of the product resulting from the work of the Scrum Team. How this is done may vary across organizations.

Product Backlog Management

- Developing and explicitly communicating the **Product Goal**
- Creating and clearly communicating Product Backlog items
- Ordering Product Backlog items
- Ensuring that the Product Backlog is transparent, visible, and understood

Delegation

The Product Owner may do the above work or may delegate the responsibility to others. Regardless, the Product Owner remains accountable.

Key Characteristics

Aspect	Detail
Authority	ONE person, not a committee
Decisions	Visible in the content and ordering of the Product Backlog
Changes	Those wanting to change the Product Backlog can do so by convincing the Product Owner

Aspect	Detail
Respect	The entire organization must respect the Product Owner decisions

Common Exam Trap

The Product Owner is always ONE person. A committee or group cannot be the Product Owner. They may represent a committee, but one person is accountable.

Developers Accountability

Creating any aspect of a usable Increment

Core Definition

Developers are the people in the Scrum Team that are committed to creating any aspect of a usable Increment each Sprint.

Why Developers?

The term Developer applies to anyone doing the work of creating the product, regardless of the specific skills involved (analysts, designers, testers, engineers, etc.).

Developers are Accountable For

- Creating a plan for the Sprint, the **Sprint Backlog**
- Instilling quality by adhering to the **Definition of Done**
- Adapting their plan each day toward the **Sprint Goal**
- Holding each other accountable as professionals

What Developers Do NOT Do

Activity	Who Does It
Order the Product Backlog	Product Owner
Define the Product Goal	Product Owner
Remove organizational impediments	Scrum Master
Report to management	N/A - team is self-managing

Scrum Events (~25%)



The Sprint

The container for all Scrum work

Core Definition

Sprints are the heartbeat of Scrum, where ideas are turned into value. They are fixed length events of one month or less to create consistency.

Sprint Characteristics

- **Fixed length:** One month or less for consistency
- **New Sprint starts immediately:** No gap after previous Sprint ends
- **All work happens in Sprints:** All events, meetings, and development
- **No changes that endanger the Sprint Goal:** Quality does not decrease

During the Sprint

Allowed

Not Allowed

Refining the Product Backlog

Changes that endanger the Sprint Goal

Scope clarification and renegotiation with PO

Decreasing quality standards

Adapting Sprint Backlog as more is learned

Starting a new Sprint before current ends

Sprint Cancellation

Only the Product Owner has the authority to cancel a Sprint. A Sprint should be cancelled if the Sprint Goal becomes obsolete. When cancelled, any completed items are reviewed, and the Sprint Goal is abandoned.

Sprint Planning

Initiates the Sprint by laying out the work

Timebox

Duration

Maximum of 8 hours for a one-month Sprint. For shorter Sprints, the event is usually shorter.

Three Topics Addressed

Topic 1: Why is this Sprint valuable?

The Product Owner proposes how the product could increase its value. The whole Scrum Team then collaborates to define a Sprint Goal.

Topic 2: What can be Done this Sprint?

Through discussion with the Product Owner, the Developers select items from the Product

Backlog to include in the current Sprint.

Topic 3: How will the chosen work get done?

For each selected item, Developers plan the work necessary to create an Increment. This is often done by decomposing items into smaller work items.

Sprint Planning Outputs

Output	Description
Sprint Goal	The single objective for the Sprint (commitment)
Sprint Backlog Items	Selected Product Backlog items for the Sprint
Plan for delivering them	How the team will accomplish the work

Who Attends?

The entire Scrum Team attends Sprint Planning. Other people may be invited to provide advice.

Daily Scrum

Inspect progress toward the Sprint Goal

Key Facts

Aspect	Detail
Duration	15 minutes maximum
Frequency	Every working day of the Sprint
Location/Time	Same time and place to reduce complexity
Participants	Developers (PO and SM may attend but do not run it)

Purpose

- Inspect progress toward the Sprint Goal
- Adapt the Sprint Backlog as necessary
- Adjust upcoming planned work
- Improve communication and identify impediments

Common Misconceptions

It is NOT a status report to the Scrum Master. There is NO required format (three questions are optional). Only Developers are REQUIRED to attend. The Scrum Master does NOT run the Daily Scrum.

Exam Tip

Developers can choose whatever structure and techniques they want for the Daily Scrum, as long as it focuses on progress toward the Sprint Goal and produces an actionable plan for the next day.

Sprint Review

Inspect the outcome of the Sprint

Key Facts

Aspect	Detail
Timebox	Maximum 4 hours for a one-month Sprint
When	At the end of the Sprint
Purpose	Inspect outcome and determine future adaptations
Participants	Scrum Team and key stakeholders

What Happens

- The Scrum Team presents results of their work to stakeholders
- Progress toward the Product Goal is discussed
- Attendees collaborate on what to do next
- The Product Backlog may be adjusted to meet new opportunities

Not Just a Demo!

The Sprint Review is a working session. It is NOT limited to a presentation or demonstration. It is a collaborative meeting to inspect the Increment and adapt the Product Backlog.

Sprint Retrospective

Plan ways to increase quality and effectiveness

Key Facts

Aspect	Detail
Timebox	Maximum 3 hours for a one-month Sprint
When	After Sprint Review, before next Sprint Planning

Aspect	Detail
Purpose	Plan ways to increase quality and effectiveness
Participants	The Scrum Team only

Topics Covered

- How the Sprint went with regards to individuals, interactions, processes, tools, and Definition of Done
- What went well during the Sprint
- What problems were encountered and how they were (or were not) solved
- Identify the most helpful changes to improve effectiveness

Action Items

The most impactful improvements are addressed as soon as possible. They may even be added to the Sprint Backlog for the next Sprint.

Exam Tip

The Sprint Retrospective concludes the Sprint. The next Sprint begins immediately after, starting with Sprint Planning.

Artifacts (~20%)



Scrum Artifacts Overview

Represent work or value

2020 Update

 Feedback

Each artifact contains a commitment to ensure transparency and focus: Product Backlog has Product Goal, Sprint Backlog has Sprint Goal, Increment has Definition of Done.

Artifacts and Their Commitments

Artifact	Commitment	Purpose
Product Backlog	Product Goal	Future state of the product
Sprint Backlog	Sprint Goal	Single objective for the Sprint
Increment	Definition of Done	Quality standard for the Increment

Why Commitments Matter

- **Transparency:** Commitments reinforce empiricism and the Scrum values
- **Focus:** They give each artifact a clear purpose
- **Progress:** Allow measurement of progress against each commitment

Product Backlog

The single source of work for the Scrum Team

Key Characteristics

- **Emergent:** Constantly refined as more is learned about the product
- **Ordered:** Most valuable/important items at the top
- **Single source:** All work undertaken by the Scrum Team originates here
- **Never complete:** It is a living artifact that evolves

Product Goal (Commitment)

Definition

 Feedback

The Product Goal describes a future state of the product which can serve as a target for the Scrum Team to plan against. It is the long-term objective for the Scrum Team.

- The Product Goal is in the Product Backlog
- A Scrum Team must fulfill (or abandon) one objective before taking on the next
- The Product Goal is the commitment for the Product Backlog

Product Backlog Refinement

- Breaking down and further defining Product Backlog items
- An ongoing activity to add details and estimates
- Product Owner and Developers collaborate on refinement
- NOT a Scrum event (no timebox), but usually consumes up to 10% of Developers capacity

Sprint Backlog

The plan for the Sprint

Components

Sprint Goal (Why)

The single objective for the Sprint that provides guidance on why we are building the Increment

Selected PBI Items (What)

The set of Product Backlog items selected for the Sprint

Plan for Delivery (How)

An actionable plan for delivering the Increment

Sprint Goal (Commitment)

Key Facts

 Feedback

The Sprint Goal is created during Sprint Planning. It is the single objective for the Sprint. It provides flexibility on the exact work needed. It cannot be changed during the Sprint.

Who Owns It?

- The Sprint Backlog is owned by the **Developers**
- Developers update it throughout the Sprint
- It is a highly visible, real-time picture of the work
- Updated at least during the Daily Scrum

Increment and Definition of Done

Concrete stepping stones toward the Product Goal

The Increment

- A concrete stepping stone toward the Product Goal
- Each Increment is additive to all prior Increments
- Thoroughly verified to ensure all Increments work together
- Multiple Increments may be created within a Sprint
- May be delivered to stakeholders prior to end of Sprint

Work is NOT an Increment

Work cannot be considered part of an Increment unless it meets the Definition of Done.

Definition of Done (Commitment)

- Formal description of the state of the Increment when it meets quality measures
- Creates transparency by providing everyone a shared understanding of what work was completed
- If a Product Backlog item does not meet the DoD, it cannot be released or presented at Sprint Review
- It goes back to the Product Backlog for future consideration

Who Defines the Definition of Done?

Scenario	Who Defines DoD
Organization has a standard	That standard is the minimum; team can add more
No organizational standard	Scrum Team must create one appropriate for the product
Multiple teams on one product	They must mutually define and comply with the same DoD

Exam Tips



Common PSM I Exam Traps

Avoid these common mistakes

Top Mistakes on PSM I

Trap	Correct Answer
Scrum Master runs the Daily Scrum	Developers own it; SM ensures it happens
Product Owner is a committee	Always ONE person
Sprint length can vary each Sprint	Fixed length for consistency
Sprint Backlog can only change at Sprint Planning	Developers adapt it daily

Trap	Correct Answer
Daily Scrum must follow 3 questions format	Any format that focuses on Sprint Goal
Developers include testers and other specialists	Yes! Developer means anyone building the product
Scrum Master assigns tasks	Team is self-managing
Sprint Review is just a demo	It is a working session for collaboration

When in Doubt

Ask yourself: Does this answer support self-management? Does it align with empiricism? Does it maximize value? If not, it is probably wrong.

Timebox Quick Reference

Memorize these for the exam

Event Timeboxes (1-month Sprint)

Event	Maximum Timebox	Notes
Sprint	1 month or less	Fixed length, no gaps between Sprints
Sprint Planning	8 hours	Shorter for shorter Sprints
Daily Scrum	15 minutes	Same time and place daily
Sprint Review	4 hours	Shorter for shorter Sprints

Event	Maximum Timebox	Notes
Sprint Retrospective	3 hours	Last event of the Sprint

For a 2-week Sprint

Timeboxes are usually halved: Sprint Planning ~4 hours, Sprint Review ~2 hours, Sprint Retrospective ~1.5 hours. Daily Scrum stays at 15 minutes.

Key Phrases from the Scrum Guide

These exact phrases appear in exam questions

- **Scrum is immutable** - While parts can be implemented, the result is not Scrum
- **Self-managing** - Replaced self-organizing in 2020
- **Accountabilities** - Replaced roles in 2020
- **Developers** - Replaced Development Team in 2020
- **Commitments** - Product Goal, Sprint Goal, Definition of Done
- **Lightweight framework** - Not a process or methodology
- **Complex problems** - Scrum is best for complex, adaptive work
- **10 or fewer people** - Typical Scrum Team size
- **No sub-teams or hierarchies** - One cohesive unit

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