

Google Project Management Certificate

5 Agile Project Management

1. key project aspects

	waterfall	agile
requirements	formally approved plan, rigorous change management	dynamic, continuously growing with feedback, prioritize based on urgency
documentenation	lots of documents	mostly real-time person-to-person communication, only keep necessary documents
deliverables	release until the end	smaller but more frequent releases

2. [Agile Manifesto](#) (2001)

a. 4 values

- i. **individuals and interaction** over processes and tools
- ii. **working software** over comprehensive documentation: focus on the deliverable, avoid unnecessary effort
- iii. **customer collaboration** over contract negotiation: highest priority in customer's satisfaction, include stakeholders as much as possible
- iv. **responding to change** over *following a plan*

b. [12 principles](#)

- i. Value Delivery: deliver fast and frequently, get feedback and mitigate risk

[Solutions to value delivery issues](#)

- [More demos of the solutions](#)
- [Use Retrospectives](#)
- [Make sure that everyone understands what "done" means](#)
- [Focus on only a few user stories per Sprint](#)

- ii. Business Collaboration: get critical info quickly

[Solutions to business collaboration issues](#)

- [Addressing critical feedback and change requests by doing more demos](#) make sure feed back comes in steady pace
- [Conducting a solution design Sprint](#)
- [Ensuring changes to the Backlog are introduced only in between Sprints](#)

iii. Team Dynamics and Culture: supporting, empowering, self-organizing

Solutions to team dynamics and culture issues

- [Run a team brainstorm session](#) identify dos and don'ts
- [Change up the workflows](#)
- [Take a training class together](#)
retrospective: Six Hats Thinking Technique

iv. Retrospectives and Continuous Learning

3. Agile is about delivering value in a world with high degrees of **uncertainty, risk, and competition**

- a. **Volatility**: the rate of change and churn in a business or situation.
- b. **Uncertainty**: the lack of predictability or high potential for surprise
- c. **Complexity**: the high number of interrelated forces, issues, organizations, and factors that would influence the project
- d. **Ambiguity**: the possibility of misunderstanding the conditions and root causes of events or circumstances

4. Agile methodologies/ framework

- a. **Scrum** framework (materialize the agile philosophy, from empiricism) [Scrum Guide](#)

- i. **roles**, total of 3-9 members

1. Scrum Master: ensure execution of agile values and principles *build the thing fast (within timebox)* organization, leadership, facilitation, coach, stakeholders management
2. Product Owner: maximize value of the product value and teamwork *build the right thing* - customer focused, decisive, flexible, positive, available, collaborative
3. What is the product owner on your team responsible for?
 - a. ☒ Providing the final say on how to prioritize the work
 - b. ☒ Running the project team meetings
 - c. ☒ Owning the inventory of work
 - d. ☒ Maximizing the value of the product and the work of the team
4. Development Team: deliver product *build the thing right* cross functional, self-organizing, supportive, customer-oriented

- ii. **Product Backlog**: central artifact of Scrum, guide and roadmap of product

1. living artifact: evolving
2. owned and adjusted by the PO
3. prioritized list of features
4. best practices
 - a. description: more detailed for high priority items
 - b. value: business value, expressed in any agreed format
 - c. [relative effort estimate](#): compare among tasks than absolute effort
 - i. [T-shirt size](#): bubble sort/merge sort
 - ii. [story points](#): apply fibonacci sequence, combine risks and uncertainty
 - iii. [other techniques](#)
 - d. order: priority

- iii. [user story](#): user + action + benefit; *epic*: group of user stories

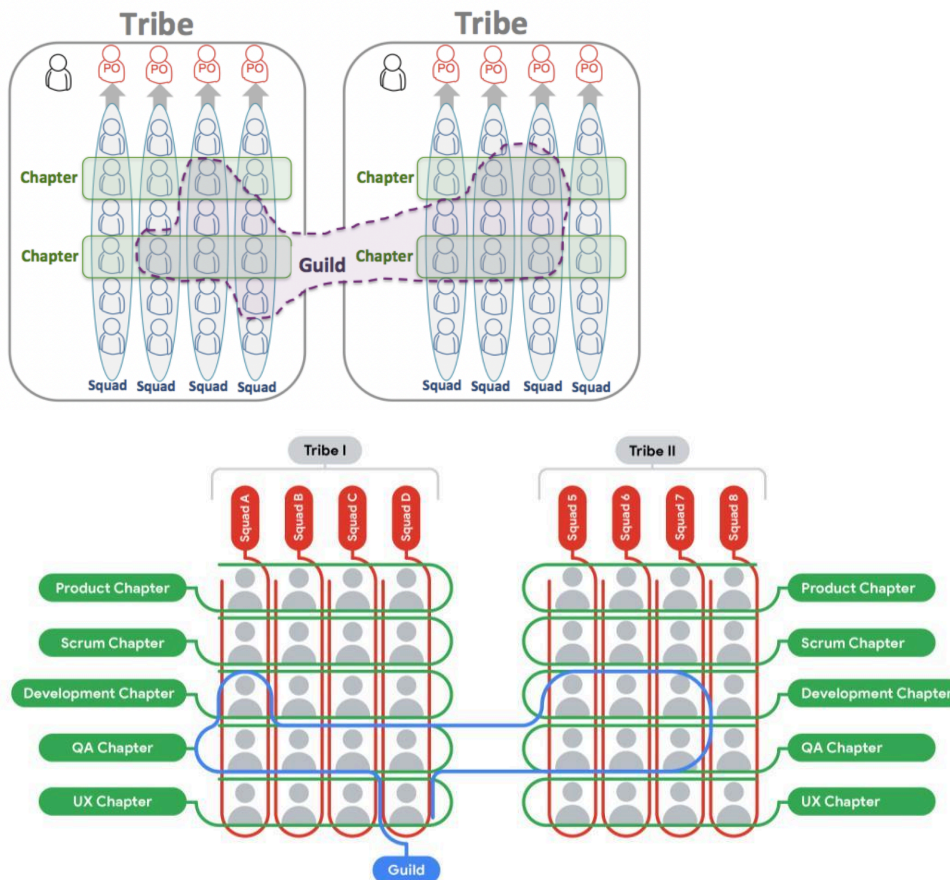
1. Independent: Avoid anchoring bias
2. Negotiable
3. Valuable
4. Estimable: clear definition of done/ acceptance criteria to estimate effort

- 5. Small: suitable for sprints
- 6. Testable
- iv. 3 pillars
 - 1. transparency: with all stakeholders
 - 2. inspection: timely checks towards sprint outcomes
 - 3. adaptation: to minimize further deviations or issues
- v. 5 values
 - 1. commitment: personally, help others to achieve team success
 - 2. courage: do the right thing, work on tough tasks
 - 3. focus
 - 4. openness
 - 5. respect
- vi. 5 events
 - 1. sprint: usually 1-4 weeks
 - 2. sprint planning: sprint backlog (subset of product backlog to be finish in this sprint), sprint goal
 - 3. daily scrum: not necessarily daily
 - 4. sprint review: at closing, demonstrate and inspect the product, give feedback. [MVP vs. product increment](#)
 - 5. sprint retrospective: blamelessness, participation
- vii. burndown chart: time against the amount of work done and the amount of work remaining, map t-shirt size to story points



- viii. velocity: measure of how many points the team burns down on average in a sprint
- ix. tools
 - 1. Jira: backlog management
 - 2. trello: kanban
 - 3. [asana](#): communication, check progress
 - 4. documentation, spreadsheets, presentations, video conferencing, emails
- b. **Kanban**: transparent visual feedback, manage flow, set Work-in-Progress WIP limit so that work is sustainable
- c. **Extreme Programming XP**:
 - i. improve product quality by taking best practices for development process to extreme levels - more is better
 - ii. e.g. test comprehensively within the test-first method
 - iii. practices: pair programming, continuous integration and continuous refactoring, avoid big design up front, write tests not requirements
- d. **Lean**
 - i. define value: everything the customer wants
 - ii. map value stream: map steps to production and challenge all waster steps
 - iii. create flow

- iv. establish pull: ensure customer is piling on product by asking for incremental deliveries
- v. pursue perfection
5. [scaling scrum](#), example: [spotify model](#)



6. value-driven delivery: satisfy customer
7. [value roadmap](#): an Agile way of mapping out the timelines and requirements for the product development process and can be used in all types of businesses
 - a. product vision: what, who, how
 - b. product roadmap: requirements, schedule
 - c. release plans: goal, backlog lists (features), date ([or no](#))
8. common coaching challenges
 - a. unstable product roadmap: too big product ambition

Product ambition solutions

- Agree up front how to handle new opportunities
- Set up regular roadmap reviews with the entire team
- Promote sharing knowledge between the Product Owner and the Development Team

too many product assumptions

Product assumptions solutions

- Document the assumptions and make them transparent
- Check assumptions against unbiased user research

- b. incomplete implementation of Scrum solutions: ensure everyone knows Scrum and their roles well
- c. lack of team stability: have shorter onboarding, use pair programming, use shorter sprints

9. interview question: difference between agile and waterfall, how did you use agile, how did you manage resistance to agile, & follow ups

Appropriate responses should demonstrate

- Agile is about more than just Scrum, Sprints, and Standups
- Agile is about founding values that include customer collaboration, value delivery, and self-organizing teams
- Understanding that all projects benefit from certain types of approaches, including Waterfall

10. When interviewing for an Agile project manager position, which questions should you ask to determine if you'll be happy in the job?
- a. What's the first thing I should know about the culture here?
 - b. What would a typical day look like for me if I were to take on this position?
 - c. How supportive is the management toward blending project management approaches?
 - d. How often will I get to hear about the needs of our users or customers?
11. [Job search project plan](#)