

Agile Software Project Management

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Agile Teams

Chapter 12

Agile Teams Overview

- Agile teams are **self-organized** and **self-directed**.
- They decide how to perform their tasks based on skills and experience.
- Work is performed under a **servant-leadership** model.
- Agile teams follow the **Define/Build/Test** cycle:
 - **Define**: Gather and prioritize requirements.
 - **Build**: Develop the product incrementally.
 - **Test**: Validate and verify the product.

Agile Team Characteristics

- **Cross-functional:** Members have multiple skills (coding, testing, databases).
- **Small-sized:** Typically, **6–10** members.
- **Collaborative:** Work closely and communicate effectively.
- **Self-managing:** Responsible for delivering value without a traditional manager.

Agile Team Magic

- The **team, not the leader**, drives the project.
- Agile teams are empowered to make decisions.
- Ownership of work increases productivity and motivation.
- Small teams ensure **face-to-face communication** for efficiency.

Collaboration in Agile Teams

- Frequent communication using:
 - Stand-up meetings.
 - Pair programming.
 - Code reviews.
- Agile fosters **shared responsibility**.
- Teams work towards a **common goal**, not individual tasks.

Collaborative Agile Games

- Agile games enhance:
 - Team bonding.
 - Problem-solving.
 - Creativity.
- Examples:
 - **Planning Poker** for estimation.
 - **User Story Mapping** for prioritization.
 - **Innovation Games** for ideation.

Communication in Agile Teams

- Open and transparent communication is key.
- Methods used:
 - **Daily Stand-ups:** Quick progress updates.
 - **Sprint Reviews:** Feedback sessions.
 - **Retrospectives:** Continuous improvement discussions.

Commitment in Agile Teams

- Agile teams commit to work within short **time-boxed iterations** (2 weeks–1 month).
- Self-estimate workload and decide how much they can deliver.
- Commitment increases responsibility and accountability.

Agile Team Size

- **6–10 members** for efficiency.
- Small teams ensure **fast decision-making**.
- Encourages high engagement and ownership.

Motivating the Agile Team

- **Autonomy:** Freedom to decide how to work.
- **Mastery:** Learning opportunities.
- **Purpose:** Aligning team goals with business value.
- Motivation leads to **higher engagement and innovation.**

Aligning the Agile Team

- Common goals
- Shared vision for all team members.
- Common **Definition of Done** (DoD) ensures quality.
- Clear objectives at **each iteration and release.**

Coaching the Agile Team

- Agile Coach or Scrum Master:
 - Removes roadblocks.
 - Guides the team, **not dictates work.**
 - Promotes **continuous learning and improvement.**

Problem Resolution in Agile Teams

- Agile teams **self-identify** and **resolve** issues.
- Regular retrospectives help uncover hidden problems.
- Early detection prevents larger project delays.

Problem Detection in Agile Teams

- Continuous feedback loops
- Monitoring sprint goals
- Identifying blockers early

Cycle Time in Agile Teams

- Time taken from work start to completion
- Measures efficiency of the team
- Helps in optimizing workflow
- $\text{Cycle Time} = \text{WIP} / \text{Throughput}$

Cycle Time in Agile Teams

- A television manufacturer makes 200 flat screen TVs a day. The average number of these types of TVs that are in production is 2,000. We need to determine the cycle time, which is the average time it takes to produce a TV.
- $WIP = 2000$
- $Throughput = 200$
- $Cycle\ time = 2,000 / 200 = 10$
- It takes 10 days to finish production of a flat screen TV

Quality in Agile Teams

- Test-driven development (TDD)
- Continuous integration
- Automated testing
- Code reviews

V & V in Agile Teams

- **Verification:** Checking if the product meets requirements.
- **Validation:** Ensuring the product fulfills customer needs.
- Ensures product reliability and usability.

Continuous Integration in Agile Teams

- Developers integrate work frequently.
- Automated testing prevents defects.
- Faster feedback loops enhance software stability.

Problem Solving in Agile Teams

- Issues are **addressed immediately** in stand-up meetings.
- Solutions involve the entire team.
- Agile promotes a **fail-fast, learn-fast** mindset.
- **Steps:**
 1. Collect information: This is done so that the entire team shares a similar perception of the identified problem.
 2. Create acumen: This is the process of the team collaborating with each other in order to make some sense of the problem.
 3. Determine actions: The final step is to make a decision(s) as to what needs to be done to solve the problem.

Chapter Summary

- Agile teams are small, **self-organized**, and **cross-functional**.
- Collaboration, commitment, and communication are key.
- Agile processes **reduce cycle time and improve quality**.
- Continuous learning and adaptation drive team success.