Agile Methodology

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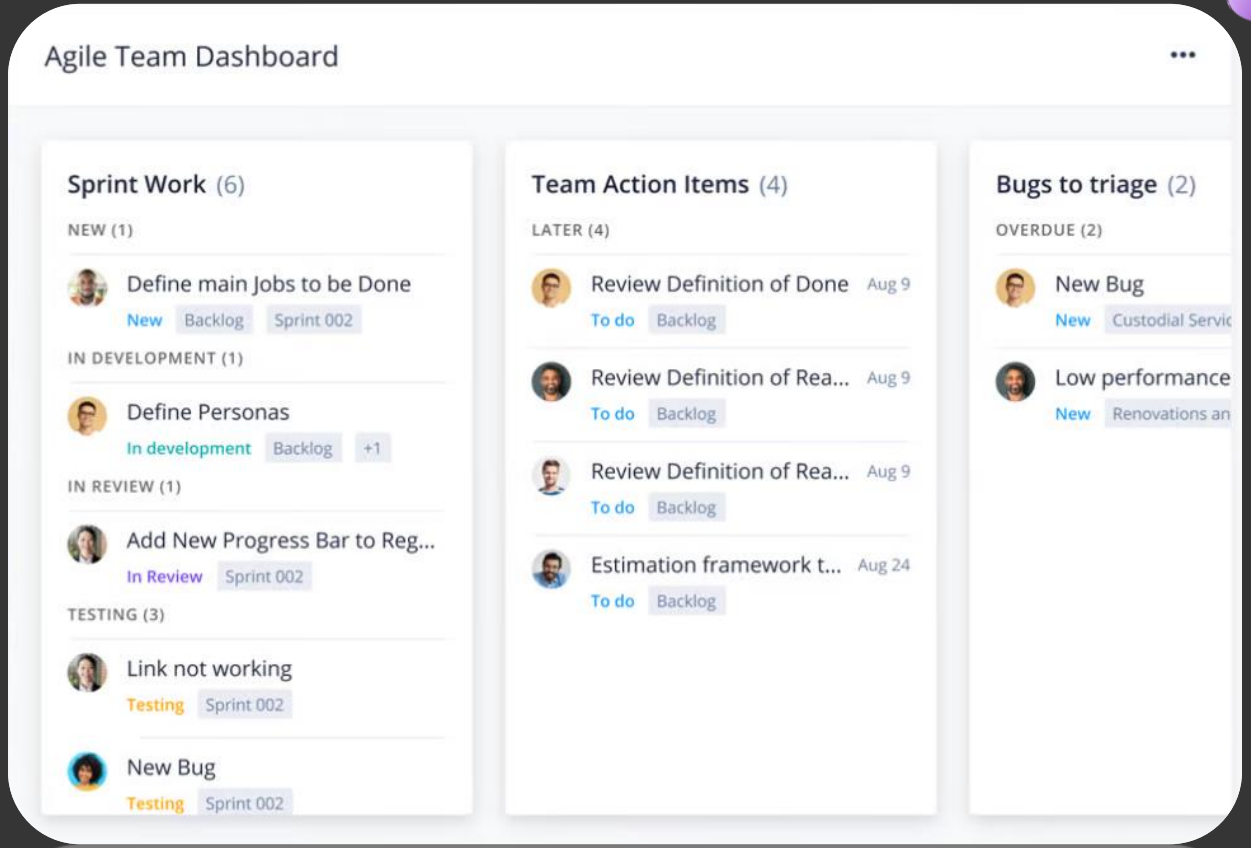
What is Agile?

Agile project management is a process for managing a project that involves constant collaboration and working in iterations. It works off the basis that a project can be continuously improved upon throughout its life cycle and adapt to changes quickly.

Agile's four main values ?

- ✓ Individuals and interactions over processes and tools
- ✓ Working software over comprehensive documentation
- ✓ Customer collaboration over contract negotiation
- ✓ Responding to change over following a plan

Agile Dashboard Example



What are the benefits of using Agile ?

Agile is one of the most popular approaches to project management because it is flexible, it is adaptable to changes and it encourages customer feedback

01
Rapid progress

By effectively reducing the time it takes to complete various stages of a project, teams can elicit feedback in real time and produce working prototypes or demos throughout the process

02
Customer and stakeholder alignment

Through focusing on customer concerns and stakeholder feedback, the Agile team is well positioned to produce results that satisfy the right people

03
Continuous improvement

As an iterative approach, Agile project management allows teams to chip away at tasks until they reach the best end result.

Types of Agile methodologies

Agile project management is not a singular framework but an umbrella term that includes a wide range of methodologies, including Scrum, Kanban, Extreme Programming (XP), and the Adaptive Project Framework (APF).

01
Scrum
It is ideal for projects with rapidly changing requirements, using short sprints.

02
Kanban
It visualizes project progress and is great for tasks requiring steady output.

03
Extreme Programming
It enhances software quality and responsiveness to customer satisfaction.

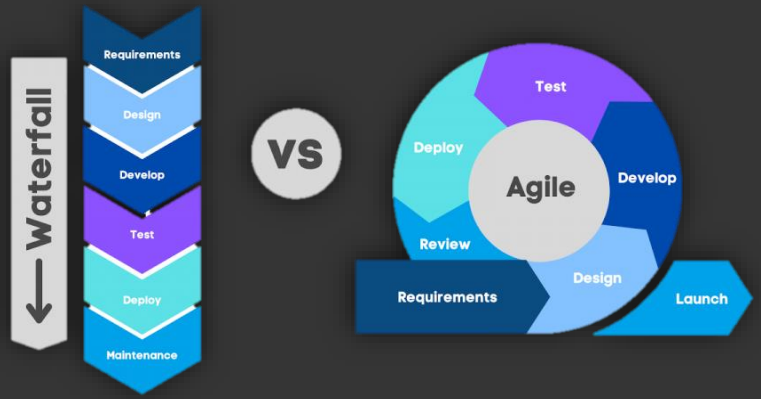
03
APF
Works well for projects with unclear details, as it adapts to constantly evolving client needs.

Agile methodologies vs. traditional approches

Let’s highlight the Waterfall approach as an example.

- When working with this traditional methodology, teams would follow a strictly linear sequence: requirements gathering, design, build, test, deliver. They are required to complete one phase before moving on to the next one. Changes are difficult to incorporate once a stage is completed and customer interactions are limited. As a result, Waterfall suits projects with fixed guidelines and minimal changes.

- By comparison, Agile methodologies are far more fluid in nature. Every Agile framework emphasizes a degree of adaptability, breaking projects into phases and embracing changing requirements. Through iterations and incremental efforts, they incorporate collaboration and customer feedback, leading to continuous improvement.



Phases of Agile Model

- **Requirements gathering :** In this phase, you must define the requirements. You should explain business opportunities and plan the time and effort needed to build the project. Based on this information, you can evaluate technical and economic feasibility.
- **Design the requirements :** When you have identified the project, work with stakeholders to define requirements. You can use the user flow diagram or the high-level UML diagram to show the work of new features and show how it will apply to your existing system.
- **Construction/ iteration :** When the team defines the requirements, the work begins. Designers and developers start working on their project, which aims to deploy a working product. The product will undergo various stages of improvement, so it includes simple, minimal functionality.
- **Testing :** In this phase, the Quality Assurance team examines the product's performance and looks for the bug.
- **Deployment :** In this phase, the team issues a product for the user's work environment.
- **Feedback :** After releasing the product, the last step is feedback. In this, the team receives feedback about the product and works through the feedback.

Disadvantages of Agile

- **Less predictable :** The flexibility at the core of the Agile method also means a much lower degree of predictability. It can be much more difficult to accurately estimate the time necessary or quantify the resources and efforts required to complete a project. Many teams fear this uncertainty, and that fear can lead to frustration and poor decision-making.
- **More time and commitment :** Communication and collaboration is great, but that constant interaction takes more time and energy for everyone involved.
- **Greater demands on developers and clients :** Commitment from everyone involved is required for Agile Methodology to be effective. Anyone who isn't on board can negatively impact the quality of a project.
- **Lack of necessary documentation :** Because tasks are often completed just in time for development under the Agile Method, documentation tends to be less thorough, which can lead to misunderstanding and difficulties down the road.
- **Projects easily fall off track :** The less-structured nature of Agile Methodology means projects can easily go astray or run beyond the original scope of the project.

Scrum

What is Scrum in Project Management?

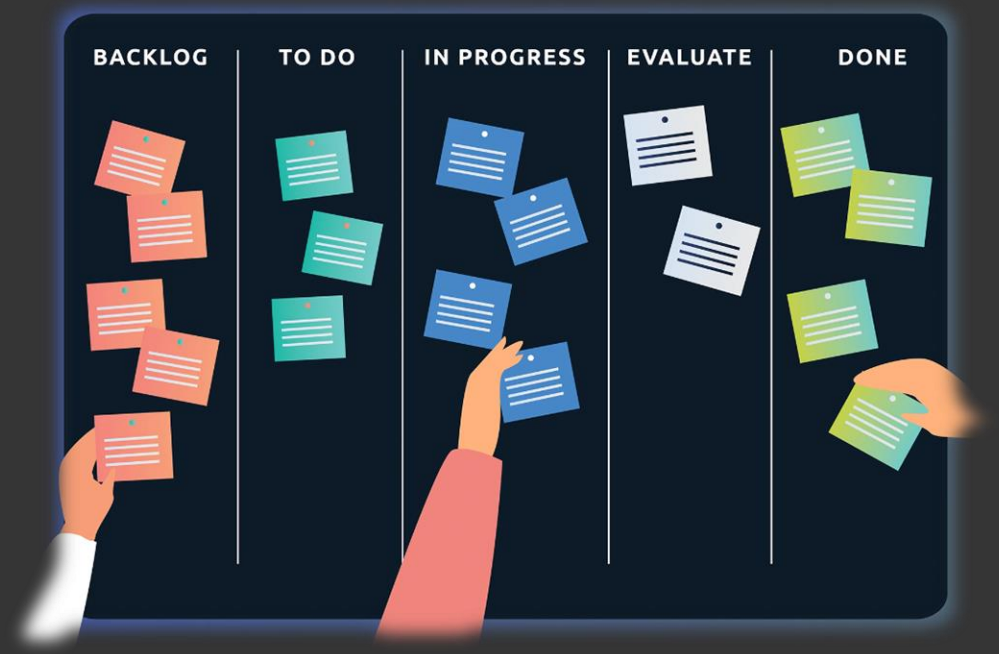
- Scrum is an Agile project management methodology involving a small team led by a Scrum master, whose main job is to remove all obstacles to getting work done. Work is done in short cycles called sprints, and the team meets daily to discuss current tasks and any roadblocks that need clearing. Scrum is a method for managing projects that allows for rapid development and testing, especially within a small team.
- The essence of Scrum is a self-organizing team delivering customer value in a time-boxed period called a Sprint. Scrum defines artifacts, roles, and events associated with each Sprint.

- To plan and execute this process, scrum relies on three specific roles :

  - The Product Owner
  - Scrum Master
  - Team Members

Scrum Tools

- Scrum tools help teams implement an agile approach while ensuring that all team members work at a steady pace.
- A scrum board can help focus on whether the outcome is consistent with what project sponsors want, and that the scrum team improves over the course of a project.



Scrum Team Roles

There are three main roles in a scrum team

Product Owner

- ✓ The product owner is a representative of all project stakeholders who is available throughout the development process to answer questions, review completed tasks and prioritize requirements.
- ✓ Including the product owner in the development process helps the team adhere to the agile approach's requirement for effective collaboration.

Scrum Master

- ✓ The Scrum Master leads the development team, ensures that everyone can focus on their work, and conducts Scrum meetings.
- ✓ Like a project manager, scrum masters act as the conductors of the scrum teams and ensure that the entire workflow runs smoothly and that the Scrum processes and rules are adhered to.

Development Team

- ✓ A development team is a group of three to nine developers who are responsible for all tasks defined and prioritized by the product owner. They work with a prioritized product backlog (list of all project requirements), which consists of user stories.

Sprints

During the sprint, Scrum teams have a daily Scrum meeting where each team member answers the following three questions:

- What did you work on yesterday?
- What will you work on today?
- Are there any issues that are preventing you from completing your tasks smoothly?

At the end of each sprint, the team conducts two meetings. The first is the sprint review, where the team presents all tasks completed during the sprint to the product owner for approval.

The second meeting is the sprint retrospective, where the scrum teams analyze the strategic planning process with the aim of improving future sprints.

The following three questions are answered by each team member for this purpose:

- What went well in this sprint?
- What could have gone better?
- What should we do differently in the next sprint?

Kanban

What is Kanban in Project Management?

- Kanban methodology is an agile method that aims at continuous improvement, flexibility in task management, and enhanced workflow. With this illustrative approach, the progress of the whole project can be easily understood in a glance.

How does Kanban work?

- Kanban method revolves around the kanban board. It is a tool that visualizes the entire project to track the flow of their project. Through this graphical approach of Kanban boards, a new member or an external entity can understand what's happening right now, tasks completed and future tasks.

Kanban board indicates :

- ✓ the current tasks that are being performed
- ✓ the tasks to do in the future
- ✓ the tasks that are completed

Kanban Board

- The divided columns are interconnected, and tasks are gradually pulled from the leftmost column (future tasks) to the rightmost column (completed tasks).

Core principles of kanban methodology

Initiate with the existing workflow:
Kanban framework emphasizes on making small and gradual changes. Therefore, the team must start with the existing workflow and continuously improve the process.

Limit the existing tasks:
It is important for the team to realize its own limits and cap the WIP accordingly. Taking on more than you can handle will only waste time and negatively affect the project.

Respect existing roles and responsibilities:
An important reason for Kanban's success is that it does not require organizations to completely overhaul the existing work culture. Many organizations resist modern methodologies because they don't feel comfortable with change.
With Kanban, efficiency is improved while staying in the confines of the existing setup.

Encourage leadership at all levels:
Project management methodologies such as the traditional method require approval from the project manager for even the smallest tasks. Kanban gives the freedom of making decisions to the individual working on the task. This grooms future leaders who continuously learn from their mistakes and improve their work.

Kanban vs. Scrum: What's the Difference?

- Kanban and Scrum are project management methodologies that complete project tasks in small increments and emphasize continuous improvement. But the processes they use to achieve those ends are different. While Kanban is centered around visualizing tasks and continuous flow, Scrum is more about implementing timelines for each delivery cycle and assigning set roles.

Methodology	Kanban	Scrum
Roles	No defined roles	Scrum master, product owner, and development team
Delivery cycle	Continuous	Sprint cycle lasts one to four weeks
Change policy	Can be incorporated any time	Generally not made during sprint
Artifacts	Kanban board	Product backlog, sprint backlog, product increments
Tools	Jira Software, Kanbanize, SwiftKanban, Trello, Asana	Jira Software, Axosoft, VivifyScrum, Targetprocess
Key concepts or pillars	Effective, efficient, predictable	Transparency, adaptation, inspection

Thank You