**Agile**

The Agile model was designed by developers to put customer needs first. This method focuses strongly on user experience and input. Plus, it makes the software highly responsive to customer feedback. Agile seeks to release software cycles quickly, to respond to a changing market. This requires a strong team with excellent communication. However, if not implemented carefully, it can also lead to a project going off-track by relying too heavily on customer feedback.

**Advantages**

* It provides a responsive approach to the development of software since it involves user and customer input.
* Agile is intended for everyone to focus on one task at a time.
* When compared to the waterfall model, the Agile model has a reduced scope which results in better time allocation and estimation.

**Disadvantages**

* The final product depends on the customer. If the customer is not clear on what is needed, the development team may move in the wrong direction.
* If not implemented properly, it could lead to inadequate documentation which hinders technology transfer to new members.

**What are the 4 core values of Agile?**

The Agile Manifesto outlines 4 Core Values and 12 Guiding Principles which serve as a North Star for any team adopting an Agile methodology.

The 4 Core Values of Agile are:

* Individuals and interactions over processes and tools
  + As sophisticated as technology gets, the human element will always serve as an important role in any kind of project management
  + Relying too heavily on processes and tools results in an inability to adapt to changing circumstances.
* Working software over comprehensive documentation
  + As important as documentation is, working software is more. This value is all about giving the developers exactly what they need to get the job done, without overloading them.
* Customer collaboration over contract negotiation
  + Your customers are one of your most powerful assets.
  + Whether internal or external customers, involving them throughout the process can help to ensure that the end product meets their needs more effectively.
* Responding to change over following a plan
  + This value is one of the biggest departures from traditional project management.
  + Historically, change was seen as an expense, and one to be avoided.
  + Agile allows for continuous change throughout the life of any given project. Each sprint provides an opportunity for review and course correction.

**Key components of Agile project management**

* User stories
  + Put simply, a user story is a high-level definition of a work request.
  + It contains just enough information so the team can produce a reasonable estimate of the effort required to accomplish the request.
  + This short, simple description is written from the user’s perspective and focuses on outlining what your client wants (their goals) and why.
  + The user story follows the general format "As a *user* I want to *functionality* so that *motivation.*
    - Example: As a manager, I want to be able to understand my team members' progress, so I can better report our success and failures.
* Sprints
  + Sprints are a short iteration, usually between one to three weeks to complete, where teams work on tasks determined in the sprint planning meeting. As you move forward, the idea is to continuously repeat these sprints until your product is feature ready.
  + Once the sprint is over, you review the product see what is and isn’t working, make adjustments, and begin another sprint to improve the product or service.
  + Sprints are implemented in the Agile framework Scrum but not in some other frameworks like Kanban.
* Stand-up meetings
  + Daily stand-up meetings (under 10 minutes), also known as “daily Scrum meetings,” are a great way to ensure everyone is on track and informed.
  + These daily interactions are known as “stand up” because the participants are required to stay standing, helping to keep the meetings short and to the point.
* Agile board
  + An Agile board helps your team track the progress of your project.
  + This can be a whiteboard with sticky notes, a simple Kanban board, or a function within your project management software.
* Backlog
  + As project requests are added through your intake system, they become outstanding stories in the backlog.
  + During Agile planning sessions, your team will estimate story points to each task.
  + During sprint planning, stories in the backlog are moved into the sprint to be completed during the iteration.
  + Managing your backlog is a vital role for project managers in an Agile environment.

**What are steps in the Agile methodology?**

The goal of Agile is to produce shorter development cycles and more frequent product releases than traditional waterfall project management. This shorter time frame enables project teams to react to changes in the client’s needs more effectively.

You can use a few different Agile frameworks—Scrum and Kanban are two of the most common. Each framework implements Agile in different ways. For example, Kanban teams use visuals to improve work-in-progress while Scrum teams reflect on wins-and-losses to continuously improve.

However, each Agile methodology tends to follow the same basic process, which includes:

* Project planning
  + Like with any project, before beginning your team should understand the end goal, the value to the organization or client, and how it will be achieved.
  + You can develop a project scope here, but remember that the purpose of using Agile project management is to be able to address changes and additions to the project easily, so the project scope shouldn’t be seen as unchangeable.
* Product roadmap creation
  + A roadmap is a breakdown of the features that will make up the final product. This is a crucial component of the planning stage of Agile, because your team will build these individual features during each sprint.
  + At this point, you will also develop a product backlog, which is a list of all the features and deliverables that will make up the final product. When you plan sprints later on, your team will pull tasks from this backlog.
* Release planning
  + In traditional waterfall project management, there is one implementation date that comes after an entire project has been developed.
  + When using Agile, however, your project uses shorter development cycles (called sprints) with features released at the end of each cycle.
  + Before kicking off the project, you’ll make a high-level plan for feature releases and at the beginning of each sprint, you’ll revisit and reassess the release plan for that feature.

Some Agile frameworks, like Scrum, implement the following processes:

* Sprint planning
  + Before each sprint begins, the stakeholders need to hold a sprint planning meeting to determine what will be accomplished by each person during that sprint, how it will be achieved, and assess the task load.
  + It’s important to share the load evenly among team members so they can accomplish their assigned tasks during the sprint.
  + You’ll also need to visually document your workflow for team transparency, shared understanding within the team, and identifying and removing bottlenecks.
* Daily stand-ups
  + To help your team accomplish their tasks during each sprint and assess whether any changes need to be made, hold short daily stand-up meetings.
  + During these meetings, each team member will briefly talk about what they accomplished the day before and what they will be working on that day.
  + These daily meetings should be only 15 minutes long. They aren’t meant to be extended problem-solving sessions or a chance to talk about general news items. Some teams will even hold these meetings standing up to keep it brief.
* Sprint review and retrospective
  + After the end of each sprint, your team will hold two meetings:
    - First, you will hold a sprint review with the project stakeholders to show them the finished product.
      * This is an important part of keeping open communication with stakeholders.
      * An in-person or video conference meeting allows both groups to build a relationship and discuss product issues that arise.
    - Second, you will have a sprint retrospective meeting with your stakeholders to discuss what went well during the sprint, what could have been better, whether the task load was too heavy or too light for each member, and what was accomplished during the sprint.
      * If your team is new to Agile project management, don’t skip this essential meeting.
      * It helps you gauge how much your team can tackle during each sprint and the most efficient sprint length for future projects.