Agile vs Waterfall: The Great Project Methodology Debate

Agile and waterfall are two common project management terms, but what do they really mean? Learn how to choose between these agile vs waterfall methodologies.

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No two projects are exactly alike. Every project has its own unique requirements, timeframes, deliverables, and team structures that affect the outcome. Therefore, it's important to know which methodologies and strategies will work best for whatever project is thrown your way.

Two of the most popular project management methodologies used today are agile and waterfall. Both are extremely popular, and there is a long-running debate over which system is superior.

However, I'd like to suggest that neither is superior to the other; actually, both methodologies have their benefits and drawbacks depending on the type of project you're looking to plan and execute.

But before we get into that, let's establish what both agile and waterfall are.

What is agile methodology?

Agile methodology is a flexible style of project management that is useful for fast-paced and iterative projects. This methodology prioritizes individual responsibility, short timescales between deliverables, consistent communication, feedback, and sustainable development.

Agile was created with software development in mind, but it has crept its way into all kinds of industries, such as content marketing and IT project management.
I've written a guide providing an in-depth look into agile project management, where I explore everything you need to know, from scrum masters to software.

**Advantages of agile methodology**

Some projects are experimental, while others require constant deliverables, such as marketing project management. Agile is the perfect project methodology in these circumstances thanks to the following advantages.

- **The means to pivot:** The shorter timescales and iterative process of agile give project teams the ability to make changes faster, even while in the later stages of the project. If demands are forever changing, agile can provide the flexibility to make those changes.

- **Improved communication:** Agile methodology is all about prioritizing consistent communication, especially one-on-one communication. Embracing the shorter timescales between deliverables also gives teams the incentive to discuss any new changes to the project plan, ensuring fewer issues due to a lack of communication.

**Disadvantages of agile methodology**

The go-with-the-flow mentality of agile gives project teams the freedom to try new things, but for some projects, this can create headaches.

- **Lack of predictability:** The iterative process of agile is great for the continuous development of software, but it offers less predictability than other methodologies when dealing with projects that have a specific beginning and end. The ability to shift the direction of a project on a dime leads to more unknowns regarding expected time, cost, and effort for finalizing a project with a hard deadline.

- **Hard to maintain:** Agile only works so long as you commit to maintaining a certain level of communication, collaboration, and iteration. As soon as these aspects begin to fall off, the process suffers from unmet expectations, miscommunication, and longer periods between deliverables. Accountability is key when implementing agile methodologies into your project.
What is waterfall methodology?

Waterfall methodology embodies more of a strict, linear process for project management and execution. Everything is mapped out ahead of time in your project management plan and completed in a linear fashion that requires each phase to be completed before moving on to the next one.

This methodology also relies on project managers to collect any and all stakeholder expectations before development. Once that information is gathered, stakeholders are generally not consulted until the project is completed, at which point any concerns are addressed during a follow-up maintenance period.

Advantages of waterfall methodology

The uncertainty of agile doesn’t bode well for some projects, and that’s where waterfall truly shines. There are two great advantages of adopting the waterfall model.

- **A clear path forward**: Waterfall allows project managers to set up a quantifiable plan from the start, allowing for a sense of predictability and the ability to clearly measure progress.
- **Better risk assessments**: This ability to set a schedule based on quantifiable information also gives project managers the ability to conduct more thorough risk assessments.

Disadvantages of waterfall methodology

Making a plan and sticking to it through its execution is an age-old strategy that certainly has its merits. This adherence structure is helpful for projects that need it, but it also comes at a cost.

- **Little room for uncertainty**: All requirements and expectations for the project must be thoroughly laid out before planning and execution can begin. Otherwise, issues will arise that the project manager can’t address until the deliverables are complete and have moved into the maintenance period.
- **Low flexibility**: Everything from deliverables to deadlines is difficult to change midstream without compromising the expectations of the project when using the waterfall method.
Agile vs. waterfall methodology: What’s the difference?

It’s clear that agile is more flexible, and waterfall is more rigid. Each methodology has its pros and cons, meaning these methodologies are better suited for different project types.

When to use agile methodology

Agile is just that; it’s all about agility. It’s about the freedom to experiment, try new things, and make the necessary changes to a project on short notice. This methodology works best when:

- **Expectations are undefined**: If your project stakeholders aren’t entirely sure about the details of what they are looking for in the deliverables, the agile methodology provides an iterative process complete with trial, error, feedback, and eventual success.
- **Business needs are dynamic**: Some industries require a more flexible approach in order to meet changing demands. Agile methodologies give you the ability to revisit deliverables and improve on them based on those changing needs.
- **The cost of making changes is minimal**: Agile is more prone to budget overages due to the continual loop of delivery and feedback. Therefore, if the cost of making changes to the project is presumed to be minimal, Agile will give you the flexibility you need.

When to use waterfall methodology

Since the waterfall methodology is far more rigid than agile, it’s best suited for structured projects that are understandable and predictable. This system only works so long as:

- **Expectations are clearly defined**: Waterfall works best when the project manager knows exactly what the stakeholders want since there will be no regular consultations during the execution process.
- **Stakeholders insist on being hands-off**: Some stakeholders don’t have time to participate in the execution process. Waterfall works as long as they clearly establish
what their needs are and they insist on performing evaluations at the end of the project life cycle.

- **Money is no object:** Good, fast, and cheap: A combination of these three is impossible, but the waterfall methodology gives project managers the ability to quickly produce deliverables that are good, provided there is no financial barrier.

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### Should you use agile or waterfall methodology for project management?

To choose between agile and waterfall methodologies requires that you know the type of project you’re working on, the structure of your team, and the breadth of knowledge you and your stakeholders share during the ideation phase.

If your project needs are somewhat vague from the start, or your stakeholders are counting on needing additional deliverables in the future, agile is likely a better fit for your team.

However, if the needs of your project are clearly defined from the beginning, and your team members are confident in their ability to deliver, the waterfall methodology will provide a clear path forward.

No matter which methodology you choose, you should always follow the project management basics in order to successfully deliver what you promise to your stakeholders.

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### Project management is more than methodologies

Now that you understand the difference between agile and waterfall, you can decide which one is best for you, your team, and your project.
If you’re looking to learn more about project management, from the five project management steps to project management software, there’s so much more we can offer you here at The Blueprint.

If you enjoyed this guide, here are a few other instructional pieces that’ll help you improve as a project manager:

- The 10 Most Important Project Manager Responsibilities
- A Guide to Writing a Statement of Work
- How to Spot and Mitigate Scope Creep

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