Waterfall Vs. Agile: Must Know Differences

What is Waterfall methodology?

Waterfall Model methodology which is also known as Liner Sequential Life Cycle Model. Waterfall Model followed in the sequential order, and so project development team only moves to next phase of development or testing if the previous step completed successfully.

What is the Agile methodology?

Agile methodology is a practice that helps continuous iteration of development and testing in the software development process. In this model, development and testing activities are concurrent, unlike the Waterfall model. This process allows more communication between customers, developers, managers, and testers.

(/images/1/111517_1049_WaterfallVs1.png)

Advantages of Waterfall Model:

- It is one the easiest model to manage. Because of its nature, each phase has specific deliverables and a review process.
- It works well for smaller size projects where requirements are easily understandable.
- Faster delivery of the project
- Process and results are well documented.
- Easily adaptable method for shifting teams
- This project management methodology is beneficial to manage dependencies.

Advantages of the Agile Model:

- It is focused client process. So, it makes sure that the client is continuously involved during every stage.
- Agile teams are extremely motivated and self-organized so it likely to provide a better result from the development projects.
- Agile software development method assures that quality of the development is maintained
- The process is completely based on the incremental progress. Therefore, the client and team know exactly what is complete and what is not. This reduces risk in the development process.

Limitations of Waterfall Model:

- It is not an ideal model for a large size project
- If the requirement is not clear at the beginning, it is a less effective method.
- Very difficult to move back to makes changes in the previous phases.
- The testing process starts once development is over. Hence, it has high chances of bugs to be found later in development where they are expensive to fix.

Limitations of Agile Model

- It is not useful method for small development projects.
- It requires an expert to take important decisions in the meeting.
- Cost of implementing an agile method is little more compared to other development methodologies.
- The project can easily go off track if the project manager is not clear what outcome he/she wants.

Difference between Agile and Waterfall Model:

Agile	Waterfall
It separates the project development lifecycle into sprints.	Software development process is divided into distinct phases.
It follows an incremental approach	Waterfall methodology is a sequential design process.
Agile methodology is known for its flexibility.	Waterfall is a structured software development methodology so most times it can be quite rigid.
Agile can be considered as a collection of many different projects.	Software development will be completed as one single project.

Agile	Waterfall
Agile is quite a flexible method which allows changes to be made in the project development requirements even if the initial planning has been completed.	There is no scope of changing the requirements once the project development starts.
Agile methodology, follow an iterative development approach because of this planning, development, prototyping and other software development phases may appear more than once.	All the project development phases like designing, development, testing, etc. are completed once in the Waterfall model.
Test plan is reviewed after each sprint	The test plan is rarely discussed during the test phase.
Agile development is a process in which the requirements are expected to change and evolve.	The method is ideal for projects which have definite requirements and changes not at all expected.
In Agile methodology, testing is performed concurrently with software development.	In this methodology, the "Testing" phase comes after the "Build" phase
Agile introduces a product mindset where the software product satisfies needs of its end customers and changes itself as per the customer's demands.	This model shows a project mindset and places its focus completely on accomplishing the project.
Agile methdology works exceptionally well with Time & Materials or non-fixed funding. It may increase stress in fixed-price scenarios.	Reduces risk in the firm fixed price contracts by getting risk agreement at the beginning of the process.
Prefers small but dedicated teams with a high degree of coordination and synchronization.	Team coordination/synchronization is very limited.
Products owner with team prepares requirements just about every day during a project.	Business analysis prepares requirements before the beginning of the project.
Test team can take part in the requirements change without problems.	It is difficult for the test to initiate any change in requirements.
Description of project details can be altered anytime during the SDLC process.	Detail description needs to implement waterfall software development approach.
The Agile Team members are interchangeable, as a result, they work faster. There is also no need for project managers because the projects are managed by the entire team	In the waterfall method, the process is always straightforward so, project manager plays an essential role during every stage of SDLC.

Conclusion:

Agile and Waterfall are very different software development methodologies and are good in their respective way.

However, there are certain major differences highlighted below -

- Waterfall model is ideal for projects which have defined requirements, and no changes are expected. On the other hand, Agile is best suited where there is a higher chance of frequent requirement changes.
- The waterfall is easy to manage, sequential, and rigid method.
- Agile is very flexible and it possible to make changes in any phase.
- In Agile process, requirements can change frequently. However, in a waterfall model, it is defined only once by the business analyst.
- In Agile Description of project, details can be altered anytime during the SDLC process which is not possible in Waterfall method.

YOU MIGHT LIKE:

SOFTWARE TESTING

(/embedded-software-testing.html) (/embedded-software-testing.html)

What is Embedded Testing in Software Testing?

(/embedded-software-testing.html)

AGILE TESTING

(/bug-defect-triage.html) (/bug-defect-triage.html)

Why Bug/Defect Triage is Important in Software Testing

(/bug-defect-triage.html)

SOFTWARE TESTING

(/automation-testing-interview-questions.html) (/automation-testing-interview-questions.html)

Top 15 Automation Testing Interview Questions & Answers

(/automation-testing-interview-questions.html)

SOFTWARE TESTING

(/iot-testing-challenges-tools.html) (/iot-testing-challenges-tools.html)

IoT Testing Tutorial: What is, Process, Challenges & Tools

(/iot-testing-challenges-tools.html)

SOFTWARE TESTING

(/test-case-vs-test-scenario.html) (/test-case-vs-test-scenario.html)

Test Case vs Test Scenario: What's the Difference?

(/test-case-vs-test-scenario.html)

SOFTWARE TESTING

(/crowdsourced-testing-companies.html) (/crowdsourced-testing-companies.html)

13 Best Crowd Testing (Crowdsource) Companies in 2019

(/crowdsourced-testing-companies.html)

Agile Testing Tutorials

f [(https://www.facebook.com/guru99com/)](https://www.facebook.com/guru99com/)
🐦 [(https://twitter.com/guru99com)](https://twitter.com/guru99com) **▶**
[(https://www.youtube.com/channel/UC19i1XD6k88KqHlET8atqFQ)](https://www.youtube.com/channel/UC19i1XD6k88KqHlET8atqFQ)
✉
[(https://forms.aweber.com/form/46/724807646.htm)](https://forms.aweber.com/form/46/724807646.htm)

About

About Us [(/about-us.html)](/about-us.html)
Advertise with Us [(/advertise-us.html)](/advertise-us.html)
Write For Us [(/become-an-instructor.html)](/become-an-instructor.html)
Contact Us [(/contact-us.html)](/contact-us.html)

Career Suggestion

SAP Career Suggestion Tool [(/best-sap-module.html)](/best-sap-module.html)
Software Testing as a Career [(/software-testing-career-complete-guide.html)](/software-testing-career-complete-guide.html)

Interesting

Books to Read! [(/books.html)](/books.html)
Blog [(/blog/)](/blog/)
Quiz [(/tests.html)](/tests.html)
eBook [(/ebook-pdf.html)](/ebook-pdf.html)

Execute online

Execute Java Online [(/try-java-editor.html)](/try-java-editor.html)
Execute Javascript [(/execute-javascript-online.html)](/execute-javascript-online.html)
Execute HTML [(/execute-html-online.html)](/execute-html-online.html)
Execute Python [(/execute-python-online.html)](/execute-python-online.html)